

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 86 / 2

571 SCOMM17: JOINT INTERIM COMM. ON LIMITED ENTRY 1979

1976

2.

SOUTHWEST REGION (cont.)

RESIDENCE CENSUS DIV.	FISHERY		UNITS of GEAR
	AREA	GEAR	
KODIAK (cont.)	C.I.	DRIFT GILL NET	1
	B.B.	" " "	14
	YAKA.	SET GILL NET	2
	C.I.	" " "	5
	KOD	" " "	111
	B.B.	" " "	7
	KUSKO.	" " "	36
	S.E.	LONG LINE GEAR	1
	C.I.	" " "	22
	KOD.	" " "	119
	PEN. AL	" " "	6
	S.E.	OTTER TRAWL	2
	P.W.S.	" "	2
	KOD.	" "	38
	PEN. AL.	" "	28
	S.E.	POT GEAR	1
	P.W.S.	" "	2
	C.I.	" "	5
	KOD.	" "	351
	Chig.	" "	1
	PEN. AL	" "	37
	Dut. Hb.	" "	10
	BER. SEA	" "	58
	ADAK	" "	3
	WERN AL	" "	3
	S.E.	POWER TROLL	1
	KOD.	BEAM TRAWL	10
	PEN. AL.	" "	1

'BRISTOL ¹⁹⁷⁶ BAY DIVISION'

1976
ARCTIC - YUKON - KUSKOKWIM REGION

RESIDENCE CENSUS DIV.	FISHERY		UNITS of GEAR
	AREA	GEAR	
BETHEL	S.E.	DRIIFT GILL NET	1
	C.I.	" " "	2
	B.B.	" " "	86
	C.I.	SET GILL NET	1
	B.B.	" " "	3
	KUSKO.	" " "	790
	LOW. Y.	" " "	1
KOBUK	B.B.	DRIIFT GILL NET	5
	KOTZ.	SET GILL NET	203
	LOW. Y.	" " "	1
	S.E.	POWER TROLL	1
KUSKOKWIM	B.B.	DRIIFT GILL NET	1
	Up. Y.	SET GILL NET	3
	KUSKO.	" " "	8
	LOW. Y.	" " "	8
NOME	B.B.	DRIIFT GILL NET	2
	C.I.	SET GILL NET	1
	Up. Y.	" " "	4
	KOTZ.	" " "	4
	LOW. Y.	" " "	17
	Nor. Sch.	" " "	238
WADE HAMPTON	S.E.	PURSE SEINE	1
	PEN. AL	" "	2
	P.W.S.	DRIIFT GILL NET	1
	C.I.	" " "	1
	PEN. AL.	" " "	16
	B.B.	" " "	8
	C.I.	SET GILL NET	2
	KOD	" " "	2
	PEN. AL.	" " "	15
	Up. Y.	" " "	3

(continued)

1976

12.

ARCTIC-YUKON-KUSKOKWIM (cont.)

RESIDENCE CENSUS DIV.	FISHERY		UNITS of GEAR
	AREA	GEAR	
WADE HAMPTON	B.R.	SET GILL NET	3
(Cont.)	KUSKO	" " "	13
	KOTZ.	" " "	1
	LOW V.	" " "	622
	Non. sd.	" " "	2
	S.E.	HAND TROLL	7
	S.E.	LONG LINE GEAR	6
	C.I.	POT GEAR	1
	KOD.	" "	1
	PEN. AL.	" "	3
	Dut Hb.	" "	4
	BER. SEA	" "	9
	W'ERN AL.	" "	1

1975
ANCHORAGE REGION

RESIDENCE CENSUS DIV.	FISHERY		UNITS & GEAR
	AREA	GEAR	
ANCHORAGE	P.W.S.	PURSE SEINE	6
	C.I.	" "	2
	KOD.	" "	5
	Chig.	" "	6
	PEN. AL.	" "	1
	S.E.	DRIFT GILL NET	3
	P.W.S.	" " "	15
	C.I.	" " "	62
	PEN. AL.	" " "	4
	B.B.	" " "	98
	YAKA.	SET GILL NET	2
	P.W.S.	" " "	1
	C.I.	" " "	173
	KOD.	" " "	4
	PEN. AL.	" " "	3
	Up. Y.	" " "	2
	B.B.	" " "	46
	LOW. Y.		7
	S.E.	HAND TROLL	3
	S.E.	LONG LINE GEAR	3
	P.W.S.	" " "	22
	C.I.	" " "	45
	KOD.	" " "	2
	C.I.	OTTER TRAWL	1
	P.W.S.	POT GEAR	1
	C.I.	" "	4
	KOD.	" "	1
	PEN. AL.	" "	1
	Out Hd.	" "	1
	BER. SEA	" "	2
	S.E.	POWER TROLL	3

(continued)

1475

ANCHORAGE REGION (cont.)

PRESIDENCE SENATE DIV.	FISHERY	UNITS & GEAR
	AREA	GEAR
ANCHORAGE (CONT.)	P.W.S.	SHOVEL
MATUNSKA / SUSITNA	P.W.S.	PURSE SEINE
	C.I.	DRIFT GILL NET
	B.B.	" " "
	C.I.	SET GILL NET
	KUSKO.	" " "
	C.I.	LONG LINE GEAR

TABLE 7 ALL GEAR OPERATORS AND GROSS EARNINGS BY STATE AND ALASKA
CENSUS DIVISION OF RESIDENCE

Two sets of tables are presented here which give the number of all gear operators and their gross earnings from fish harvesting by State and Alaska census division of residence. Census division data for other States are also available from the sources used, but have not been summarized here. Table 7, a) summarizes the data by State and those reporting operators for which area is unknown and gross earnings for which operator is unknown. Table 7, b) summarizes numbers and earnings by census division arranged in terms of the six major fisheries areas, the Anchorage area and other census divisions not in these categories. These tables can be used directly with Table 6 above, which presents the number of gear operators by census division of residence and fishery (area and gear) participated in.

This data was developed by the CFEC by the following method. The total pounds of fish landed by each vessel was obtained from Alaska Department of Fish and Game fish ticket files and was multiplied by an average price per pound for that species, area and gear type to estimate the gross earnings received by each vessel. This earnings data was then matched with zip codes from vessel license renewal forms to determine the area in which the fishermen receiving these payments resided. The total value of payments made to fishermen in a particular census division was finally derived by matching zip codes to census divisions.

Although the estimates of gross earning by census division are a valuable indicator of the importance of fishing in each area of the state and of the geographic distribution of earnings from Alaska's fisheries, the data has significant limitations which are repeated here:

1. Gross earnings are not based upon actual earnings, but rather upon annual catch values attributed to each gear license holder. Annual catch values are computed by multiplying the average price for each species of commercial fish times the pounds of each species harvested by the gear license holder. Average prices are compiled by regulatory fishing areas and gear type, and represent the average price paid during the calendar year for each species in that regulatory area.
2. Gross earnings are only the value a fisherman receives for his catch. No account is taken of fishing costs, which vary considerably between species, gear types, and areas. Census divisions with similar gross earnings could have very different net earnings, which is what a fisherman retains after paying all his expenses, because of the variability in fishing costs.
3. The total annual catch value belonging to a gear license holder in one year is assigned to the census district for his domicile. The information here does not allow conclusions to be made about the amount of income expended in a census district. Significant expenses, such as operating expenses, crew shares, and boat payments may be paid outside of a particular census district.

4. The confidentiality laws of Alaska preclude the disclosure of earnings information which could be associated with an individual fisherman. Therefore, if there were fewer than four fishermen in a census division their numbers have been listed in the Statewide Tabulations by Census Division for Alaska, California, Oregon and Washington, while their total gross earnings and average gross earnings have been blanked out. Both the number and gross earnings of these fishermen, however, have been included in the Yearly Summary by State.
5. Because of the same confidentiality laws, the numbers and gross earnings for the Southeast Fairbanks and Upper Yukon Divisions have been included in the figures for the Fairbanks Division where noted. This accounted for a very slight change in the figures for the Fairbanks Division.
6. The earnings of fishermen who could not be matched to a particular census division are grouped in the category titled "AREA UNKNOWN" in the Yearly Summary by State.
7. In addition to the unmatched earnings mentioned in item 3 above, a substantial amount of catch on the fish ticket file could not be matched to licensed fishermen. This was due mainly to errors in vessel identification numbers on the fish tickets. The total amount of gross earnings not matched for this reason appears as the last item, labeled "OPERATOR UNKNOWN" in the Yearly Summary by State.
8. A few outlying areas of Alaska use an Anchorage zip code. This erroneously increases the amount of earnings attributed to Anchorage and decreases earnings for those outlying areas.
9. A minor amount of fish caught in Alaskan waters was landed outside the State and was not recorded.
10. Gear operators include hand trollers in Southeastern Alaska. The numbers of licensed hand trollers who landed fish in 1975 and 1976 was 1,094 and 1,240 respectively, the only years for which information is available. The majority of these sell relatively few fish which increases the number of gear operators and reduces average earnings for that area. Census districts most affected are Ketchikan, Sitka, and Juneau.

1969
YEARLY SUMMARY BY STATE

State	Gear Operators Reporting	Gear Operators Percent of Total Excluding Unknown	Gross Earnings	Gross Earnings Percent of Total Excluding Unknowns
Alaska	6,146	76.5%	\$36,007,178	63.3%
California	304	3.8	2,613,714	4.6
Oregon	213	2.7	1,329,902	2.3
Washington	1,277	15.9	16,125,611	28.3
Other States and Countries	93	1.2	839,165	1.5
Area Unknown	392	---	2,111,708	---
Total	8,425		\$59,027,278	
Operator Unknown	---		9,429,631	
GRAND TOTAL			\$68,456,909	

1970
YEARLY SUMMARY BY STATE

State	Gear Operators Reporting	Gear Operators Percent of Total Excluding Unknown	Gross Earnings	Gross Earnings Percent of Total Excluding Unknowns
Alaska	6,806	75.9%	\$49,566,130	59.7%
California	324	3.6	6,217,002	7.5
Oregon	226	2.5	2,756,586	3.3
Washington	1,493	16.6	23,300,011	28.1
Other States and Countries	119	1.3	1,146,931	1.4
Area Unknown	200	---	2,409,251	---
Total	9,168		\$85,395,911	
Operator Unknown	---		11,580,104	
GRAND TOTAL			\$96,976,015	

1971
YEARLY SUMMARY BY STATE

State	Gear Operators Reporting	Gear Operators Percent of Total Excluding Unknown	Gross Earnings	Gross Earnings Percent of Total Excluding Unknowns
Alaska	6,245	76.9%	\$44,476,646	62.9%
California	306	3.8	3,472,760	4.9
Oregon	204	2.5	1,404,601	2.0
Washington	1,278	15.7	20,337,827	28.8
Other States and Countries	91	1.1	1,024,864	1.4
Area Unknown	386	---	2,615,758	---
Total	8,510		\$73,332,456	
Operator Unknown	---		4,070,246	
GRAND TOTAL			\$77,402,702	

Note: For the year 1971 only, earnings from halibut fishing (which amounted to approximately \$7,000,000 in that year) are not available on computerized files and are therefore excluded from the 1971 tables.

1972
YEARLY SUMMARY BY STATE

State	Gear Operators Reporting	Gear Operators Percent of Total Excluding Unknown	Gross Earnings	Gross Earnings Percent of Total Excluding Unknowns
Alaska	6,710	77.7%	\$46,550,747	65.0%
California	293	3.4	1,565,801	2.2
Oregon	202	2.3	1,250,342	1.7
Washington	1,346	15.6	21,654,852	30.2
Other States and Countries	85	1.0	627,798	0.9
Area Unknown	287	---	2,662,725	---
Total	8,923		\$74,312,265	
Operator Unknown	---		11,809,222	
GRAND TOTAL			\$86,121,487	

1973
YEARLY SUMMARY BY STATE

State	Gear Operators Reporting	Gear Operators Percent of Total Excluding Unknown	Gross Earnings	Gross Earnings Percent of Total Excluding Unknowns
Alaska	8,241	80.3%	\$89,946,286	66.3%
California	325	3.2	966,708	0.7
Oregon	208	2.0	2,174,307	1.6
Washington	1,407	13.7	41,324,742	30.5
Other States and Countries	81	0.8	1,239,793	0.9
Area Unknown	330	---	5,965,134	---
Total	10,592		\$141,616,970	
Operator Unknown	---		4,653,544	
GRAND TOTAL			\$146,270,514	

1974
YEARLY SUMMARY BY STATE

State	Gear Operators Reporting	Gear Operators Percent of Total Excluding Unknown	Gross Earnings	Gross Earnings Percent of Total Excluding Unknowns
Alaska	7,372	83.3%	\$88,010,662	67.0%
California	93	1.1	1,531,085	1.2
Oregon	144	1.6	2,718,330	2.1
Washington	1,193	13.5	38,284,316	29.1
Other States and Countries	49	0.6	841,107	0.6
Area Unknown	219	---	4,514,121	---
Total	9,070		\$135,899,621	
Operator Unknown	---		13,590,343	
GRAND TOTAL			\$149,489,964	

1975
YEARLY SUMMARY BY STATE

State	Gear Operators Reporting	Gear Operators Percent of Total Excluding Unknown	Gross Earnings	Gross Earnings Percent of Total Excluding Unknowns
Alaska	7,149	81.3%	\$71,179,842	63.9%
California	240	2.7	2,387,329	2.1
Oregon	187	2.1	2,729,817	2.5
Washington	1,137	12.9	34,334,055	30.8
Other States and Countries	82	0.9	760,121	0.7
Area Unknown	192	---	4,276,870	---
Total	8,987		\$115,668,034	
Operator Unknown	---		13,131,138	
GRAND TOTAL			\$128,799,172	

1976
YEARLY SUMMARY BY STATE

State	Gear Operators Reporting	Gear Operators Percent of Total Excluding Unknown	Gross Earnings	Gross Earnings Percent of Total Excluding Unknowns
Alaska	7,332	80.0%	\$136,782,678	63.6%
California	251	2.7	4,048,386	1.9
Oregon	208	2.3	5,118,467	2.4
Washington	1,292	14.1	67,728,253	31.5
Other States and Countries	81	0.9	1,518,305	0.7
Area Unknown	188	---	6,255,790	---
Total	9,352		\$221,451,879	
Operator Unknown	---		21,635,846	
GRAND TOTAL			\$243,087,725	

TABLE 7-B

1969
STATEWIDE TABULATION BY CENSUS DIVISION

ALASKA

Census Division	Gear Operators Reporting	Gross Earnings	Average Gross Earnings
<u>Southwest</u>			
Aleutian Islands	164	\$3,887,445	\$23,704
Kodiak	502	10,911,759	21,737
TOTAL	666	14,799,204	22,221.03
<u>Anchorage</u>			
Anchorage	392	1,271,426	3,243
Matanuska/Susitna	7	27,282	3,897
TOTAL	399	1,298,708	3,254.91
<u>Southeast</u>			
Angoon	35	152,710	4,363
Haines	50	336,340	6,727
Juneau	416	861,597	2,071
Ketchikan	354	1,300,822	3,675
Outer Ketchikan	43	220,700	5,133
Prince of Wales	100	311,817	3,118
Sitka	454	2,251,577	4,959
Skagway/Yakutat	120	221,546	1,846
Wrangell/Petersburg	494	2,065,193	4,181
TOTAL	2,066	7,722,299	3,737.80
<u>Arctic-Yukon-Kuskokwim</u>			
Bethel	482	779,992	1,618
Kobuk	61	105,754	1,734
Kuskokwim	17	15,552	915
Nome	161	130,709	812
Wade Hampton	434	710,989	1,638
TOTAL	1,155	1,742,996	1,509.09
<u>Bristol Bay</u>			
Borough	164	612,504	3,735
Division	725	2,501,485	3,450
TOTAL	889	3,113,989	3,502.80
<u>Prince William Sound</u>			
Cordova/McCarthy	330	3,218,580	9,753
Valdez/Whittier/Chitina	44	420,131	9,548
TOTAL	374	3,638,711	9,729.17
<u>Cook Inlet</u>			
Kenai/Cook Inlet	482	2,403,116	4,986
Seward	49	1,163,494	23,745
TOTAL	531	3,566,610	6,716.78
<u>Other</u>			
Fairbanks	23	78,233	3,401
Upper Yukon	3	---	--
Yukon/Koyukuk	38	40,771	1,073
Other	2	---	--
TOTAL	66	119,004	1,803.09

1970
STATEWIDE TABULATION BY CENSUS DIVISION

ALASKA

Census Division	Gear Operators Reporting	Gross Earnings	Average Gross Earnings
<u>Southwest</u>			
Aleutian Islands	161	\$5,462,681	\$33,930
Kodiak	511	11,824,518	23,140
TOTAL	672	17,287,199	25,725.00
<u>Anchorage</u>			
Anchorage	587	3,511,093	6,050
Matanuska/Susitna	17	50,881	2,993
TOTAL	604	3,561,974	3,254.91
<u>Southeast</u>			
Angoon	35	221,284	6,322
Haines	55	508,880	9,252
Juneau	504	1,369,804	2,718
Ketchikan	409	1,840,408	4,500
Outer Ketchikan	42	418,088	9,954
Prince of Wales	136	618,389	4,547
Sitka	493	1,414,706	2,870
Skagway/Yakutat	123	282,536	2,297
Wrangell/Petersburg	504	2,687,763	5,333
TOTAL	2,301	9,361,858	3,737.80
<u>Arctic-Yukon-Kuskokwim</u>			
Bethel	482	1,111,078	2,305
Kobuk	81	334,548	4,130
Kuskokwim	19	21,931	1,154
Nome	122	191,053	1,566
Wade Hampton	472	1,042,344	2,208
TOTAL	1,176	2,700,954	1,509.09
<u>Bristol Bay</u>			
Borough	156	1,304,426	8,362
Division	738	5,112,333	6,927
TOTAL	894	6,416,759	3,502.80
<u>Prince William Sound</u>			
Cordova/McCarthy	391	3,918,159	10,021
Valdez/Whittier/Chitina	43	291,939	6,789
TOTAL	434	4,210,098	9,729.17
<u>Cook Inlet</u>			
Kenai/Cook Inlet	577	4,116,779	7,135
Seward	72	1,612,158	22,391
TOTAL	649	5,728,937	6,716.78
<u>Other</u>			
Fairbanks*	38	195,863	5,154
Upper Yukon	3	---	--
Yukon/Koyukuk	34	20,277	596
Other	1	---	--
TOTAL	76	216,140	1,803.09

*includes Southeast Fairbanks

1971
STATEWIDE TABULATION BY CENSUS DIVISION

ALASKA

Census Division	Gear Operators Reporting	Gross Earnings	Average Gross Earnings
<u>Southwest</u>			
Aleutian Islands	179	\$4,960,467	\$27,712
Kodiak	420	9,135,013	21,750
TOTAL	599	14,095,480	23,531.69
<u>Anchorage</u>			
Anchorage	451	1,696,717	3,762
Matanuska/Susitna	12	36,954	3,080
TOTAL	463	1,733,671	3,744.43
<u>Southeast</u>			
Angoon	16	241,478	15,092
Haines	60	413,282	6,888
Juneau	405	1,013,896	2,503
Ketchikan	345	1,775,465	5,146
Outer Ketchikan	60	514,913	8,582
Prince of Wales	102	731,954	7,176
Sitka	427	1,837,088	4,302
Skagway/Yakutat	102	262,075	2,569
Wrangell/Petersburg	417	2,620,252	6,284
TOTAL	1,934	9,410,403	4,865.77
<u>Arctic-Yukon-Kuskokwim</u>			
Bethel	496	946,941	1,909
Kobuk	92	231,062	2,512
Kuskokwim	32	44,805	1,400
Nome	138	197,184	1,429
Wade Hampton	537	1,957,972	3,646
TOTAL	1,295	3,377,964	2,608.47
<u>Bristol Bay</u>			
Borough	154	735,479	4,776
Division	736	4,390,218	5,965
TOTAL	890	5,125,697	5,759.21
<u>Prince William Sound</u>			
Cordova/McCarthy	361	4,224,824	11,703
Valdez/Whittier/Chitina	44	552,664	12,561
TOTAL	405	4,777,488	1,178.98
<u>Cook Inlet</u>			
Kenai/Cook Inlet	528	4,147,804	7,856
Seward	60	1,618,293	26,972
TOTAL	588	5,766,097	9,806.29
<u>Other</u>			
Fairbanks	34	155,386	4,570
Upper Yukon	4	7,266	1,817
Yukon/Koyukuk	33	27,194	824
TOTAL	71	189,846	2,673.89

1972
STATEWIDE TABULATION BY CENSUS DIVISION

ALASKA

Census Division	Gear Operators Reporting	Gross Earnings	Average Gross Earnings
<u>Southwest</u>			
Aleutian Islands	205	\$4,569,662	\$22,291
Kodiak	521	12,120,079	23,263
TOTAL	726	16,689,741	22,988.62
<u>Anchorage</u>			
Anchorage	443	1,538,851	3,474
Matanuska/Susitna	12	66,618	5,552
TOTAL	455	1,605,469	3,528.50
<u>Southeast</u>			
Angoon	41	272,208	6,639
Haines	66	634,078	9,607
Juneau	455	1,709,870	3,758
Ketchikan	460	2,806,816	6,102
Outer Ketchikan	57	618,833	10,857
Prince of Wales	127	915,589	7,209
Sitka	428	2,400,500	5,609
Skagway/Yakutat	121	351,384	2,904
Wrangell/Petersburg	481	3,683,310	7,658
TOTAL	2,236	13,392,588	5,989.53
<u>Arctic-Yukon-Kuskokwim</u>			
Bethel	452	579,320	1,282
Kobuk	101	270,635	2,680
Kuskokwim	31	48,391	1,561
Nome	141	126,812	899
Wade Hampton	571	1,523,662	2,668
TOTAL	1,296	2,548,820	1,966.68
<u>Bristol Bay</u>			
Borough	144	174,604	1,213
Division	746	1,458,484	1,955
TOTAL	890	1,633,088	1,834.93
<u>Prince William Sound</u>			
Cordova/McCarthy	357	2,927,354	8,200
Valdez/Whittier/Chitina	49	278,429	5,682
TOTAL	406	3,205,783	7,896.02
<u>Cook Inlet</u>			
Kenai/Cook Inlet	579	5,403,972	9,333
Seward	64	2,010,823	31,419
TOTAL	643	7,414,795	11,531.56
<u>Other</u>			
Fairbanks*	17	25,950	1,526
Yukon/Koyukuk	40	32,422	811
Other	1	---	--
TOTAL	58	58,372	1,006.41

*Includes Southeast Fairbanks, Upper Yukon

1973
STATEWIDE TABULATION BY CENSUS DIVISION

ALASKA

Census Division	Gear Operators Reporting	Gross Earnings	Average Gross Earnings
<u>Southwest</u>			
Aleutian Islands	17	\$9,727,919	\$55,272
Kodiak	526	23,427,095	44,538
TOTAL	702	33,155,014	47,229.36
<u>Anchorage</u>			
Anchorage	529	2,457,273	4,645
Matanuska/Susitna	12	78,852	6,571
TOTAL	541	2,536,125	4,687.85
<u>Southeast</u>			
Angoon	37	424,760	11,480
Haines	68	1,163,535	17,111
Juneau	578	2,818,091	4,876
Ketchikan	502	4,519,736	9,003
Outer Ketchikan	95	839,384	8,836
Prince of Wales	125	1,448,475	11,588
Sitka	519	5,232,836	10,083
Skagway/Yakutat	158	834,488	5,282
Wrangell/Petersburg	612	8,756,540	14,308
TOTAL	2,694	26,037,845	9,665.12
<u>Arctic/Yukon/Kuskokwim</u>			
Bethel	573	1,042,735	1,820
Kobuk	137	861,064	6,285
Kuskokwim	21	43,774	2,084
Nome	183	439,462	2,401
Wade Hampton	625	2,114,278	3,383
TOTAL	1,539	4,501,313	2,924.83
<u>Bristol Bay</u>			
Borough	130	192,300	1,479
Division	1,295	2,114,655	1,656
TOTAL	1,425	2,306,955	1,618.92
<u>Prince William Sound</u>			
Cordova/McCarthy	429	7,868,832	18,342
Valdez/Whittier/Chitina	51	693,371	13,596
TOTAL	480	8,562,203	17,837.92
<u>Cook Inlet</u>			
Kenai/Cook Inlet	715	9,864,552	13,797
Seward	60	2,832,920	47,215
TOTAL	775	12,697,472	16,383.83
<u>Other</u>			
Fairbanks*	33	66,208	2,006
Upper Yukon	4	4,658	1,165
Yukon/Koyukuk	47	45,084	959
Other	1	--	--
TOTAL	109	448,622	4,115.80

*includes Southeast Fairbanks

1974
STATEWIDE TABULATION BY CENSUS DIVISION

ALASKA

Census Division	Gear Operators Reporting	Gross Earnings	Average Gross Earnings
<u>Southwest</u>			
Aleutian Islands	102	\$8,014,904	\$46,598
Kodiak	531	24,553,882	46,241
TOTAL	703	32,568,789	46,323.29
<u>Anchorage</u>			
Anchorage	396	2,431,768	6,141
Matanuska/Susitna	20	106,432	5,322
TOTAL	416	2,538,200	6,101.44
<u>Southeast</u>			
Angoon	34	301,629	8,871
Haines	73	981,755	13,449
Juneau	573	2,648,309	4,622
Ketchikan	502	4,552,194	9,068
Outer Ketchikan	115	847,733	7,372
Prince of Wales	138	1,582,111	11,465
Sitka	498	3,596,122	7,221
Skagway/Yakutat	153	965,009	6,307
Wrangell/Petersburg	604	7,456,749	12,346
TOTAL	2,690	22,931,611	8,524.76
<u>Arctic/Yukon/Kuskokwim</u>			
Bethel	663	1,169,472	1,764
Kobuk	186	1,632,362	8,776
Kuskokwim	28	99,990	3,571
Nome	189	497,093	2,630
Wade Hampton	612	2,674,426	4,370
TOTAL	1,678	6,073,343	3,619.39
<u>Bristol Bay</u>			
Borough	97	712,875	7,349
Division	464	3,041,573	6,555
TOTAL	561	3,754,448	6,692.42
<u>Prince William Sound</u>			
Cordova/McCarthy	378	6,163,239	16,305
Valdez/Whittier/Chitina	25	232,761	9,310
TOTAL	403	6,396,000	15,870.97
<u>Cook Inlet</u>			
Kenai/Cook Inlet	715	10,239,372	14,321
Seward	62	2,977,535	48,025
TOTAL	777	13,216,907	17,010.18
<u>Other</u>			
Fairbanks	31	136,486	4,403
Upper Yukon	9	4,896	544
Yukon/Koyukuk	103	389,976	3,786
Other	1	---	--
TOTAL	144	531,358	3,689.99

1975
STATEWIDE TABULATION BY CENSUS DIVISION

ALASKA

Census Division	Gear Operators Reporting	Gross Earnings	Average Gross Earnings
<u>Southwest</u>			
Aleutian Islands	144	\$6,974,980	\$48,437
Kodiak	526	18,529,020	35,226
TOTAL	670	25,504,000	38,065.67
<u>Anchorage</u>			
Anchorage	442	2,437,106	5,514
Matanuska/Susitna	16	106,943	6,684
TOTAL	458	2,544,049	5,554.69
<u>Southeast</u>			
Angoon	35	262,054	7,487
Haines	64	645,092	10,080
Juneau	402	2,022,992	5,032
Ketchikan	446	2,682,067	6,014
Outer Ketchikan	104	696,668	6,699
Prince of Wales	118	735,461	6,233
Sitka	388	2,778,184	7,160
Skagway/Yakutat	105	543,910	5,180
Wrangell/Petersburg	521	6,353,834	12,195
TOTAL	2,183	16,720,262	7,659.30
<u>Arctic-Yukon-Kuskokwim</u>			
Bethel	679	1,072,220	1,579
Kobuk	231	1,327,150	5,745
Kuskokwim	19	48,281	2,541
Nome	213	452,003	2,122
Wade Hampton	661	2,414,086	3,652
TOTAL	1,803	5,313,740	2,947.17
<u>Bristol Bay</u>			
Borough	120	522,408	4,353
Division	605	2,735,663	4,522
TOTAL	725	3,258,071	4,493.89
<u>Prince William Sound</u>			
Cordova/McCarthy	354	6,629,006	18,726
Valdez/Whittier/Chitina	27	286,478	10,610
TOTAL	381	6,915,484	18,150.88
<u>Cook Inlet</u>			
Kenai/Cook Inlet	649	9,178,935	14,143
Seward	48	1,298,452	27,051
TOTAL	697	10,477,387	15,032.12
<u>Other</u>			
Fairbanks*	62	166,272	2,682
Upper Yukon	8	6,112	764
Yukon/Koyukuk	162	274,465	1,694
TOTAL	232	446,849	1,926.07

*includes Southeast Fairbanks

1976
STATEWIDE TABULATION BY CENSUS DIVISION

ALASKA

Census Division	Gear Operators Reporting	Gross Earnings	Average Gross Earnings
<u>Southwest</u>			
Aleutian Islands	160	\$14,780,142	\$92,376
Kodiak	629	38,816,826	61,712
TOTAL	789	53,596,968	67,930.25
<u>Anchorage</u>			
Anchorage	476	4,919,600	10,335
Matanuska/Susitna	21	187,203	8,914
TOTAL	497	5,106,803	10,275.26
<u>Southeast</u>			
Angoon	37	160,272	4,332
Haines	67	1,787,581	26,680
Juneau	425	3,748,094	8,819
Ketchikan	440	4,986,140	11,332
Outer Ketchikan	96	1,214,112	12,647
Prince of Wales	131	1,487,464	11,355
Sitka	440	5,822,575	13,233
Skagway/Yakutat	124	978,262	7,889
Wrangell/Petersburg	489	10,781,965	22,049
TOTAL	2,249	30,966,465	13,768.99
<u>Arctic-Yukon-Kuskokwim</u>			
Bethel	642	2,312,044	3,601
Kobuk	202	449,163	2,224
Kuskokwim	19	41,499	2,184
Nome	209	451,163	2,159
Wade Hampton	660	3,471,496	5,260
TOTAL	1,732	6,725,365	3,883.01
<u>Bristol Bay</u>			
Borough	118	867,229	7,349
Division	639	7,666,657	11,634
TOTAL	777	1,633,886	2,102.81
<u>Prince William Sound</u>			
Cordova/McCarthy	377	11,677,119	30,974
Valdez/Whittier/Chitina	33	584,025	17,698
TOTAL	410	12,261,144	29,905.23
<u>Cook Inlet</u>			
Kenai/Cook Inlet	717	15,990,043	22,301
Seward	52	3,153,382	60,642
TOTAL	769	19,143,425	24,893.92
<u>Other</u>			
Fairbanks*	35	278,332	7,952
Upper Yukon	10	56,358	5,636
Yukon/Koyukuk	64	113,932	1,780
TOTAL	109	448,622	4,115.80

*includes Southeast Fairbanks

TABLE 8 ESTIMATES OF ANNUAL GROSS EARNINGS, COSTS AND NET EARNINGS BY FISHERY, 1969-77.

This table contains estimates of gross earnings, costs, and net earnings by fishery from 1969 through 1977. In combination with the gear operator data in Tables 6 and 7 above, this data can be used to estimate net earnings of gear operators and the income effects of changes in the levels and composition of harvesting activities.

1. Average gross earnings. This is the average value which fishermen in each fishery received for their catch.
2. Bonus payments. These are usually season-end payments to the vessel skippers. Some fisheries have no bonuses.
3. Total earnings. The sum of (1) and (2).
4. Operating costs. This category includes the costs of fuel and engine lubricants, food, special clothing, bait and ice, and gear repairs.
5. Fixed costs. These costs include vessel repairs, insurance, moorage, utilities, administrative, freight and transportation, and other.
6. Capital costs. This category consists of depreciation (calculated over a 15 year period with no salvage value), the opportunity cost of vessel and gear investment (calculated at 10%), and the opportunity cost of holding an entry permit (calculated at 12%) for 1975, 1976, and 1977. These costs do not enter into the monetary income calculations.
7. Total costs. The sum of (5), (6), and (7).
8. Net earnings. This is the sum remaining after total costs are deducted from total earnings, and represents the earnings of both captain and crew.
9. Crew share. Most crew are paid on a share system rather than on a wage basis. The crew generally receives a percentage of gross earnings and this sum is split among them.
10. Return to operator. This is the value which the skipper receives for his labor, management, and investment.

The primary source document for this series of estimates is a 1974 CFEC publication entitled: "Costs and Earnings of Alaskan Fishing Vessels-An Economic Survey". This report presents the results of a comprehensive survey of most of the state's fisheries at that time and is based on the 1973 fishing season. More recent cost information is available for only the shellfish fisheries and three drift gillnet fisheries - Bristol Bay, Cook Inlet, and Prince William Sound. Shellfish has not been considered here because of time constraints and the focus of the Limited Entry Study Committee on limited fisheries, mainly salmon. The drift gillnet surveys have been incorporated in the analysis, as explained below.

Because detailed cost information is available for most fisheries only for the year 1973, it was necessary to develop a rather complex methodology for updating this data for the years 1974-1977, and "postdating" the data for 1969-1972. Not only did a series of inflation and deflation factors have to be calculated to account for changes in prices, but also consideration had to be given to changes in fishing time between years, the increasing value of entry permits, and the correction of biases in the original 1973 survey.

The first step was to ensure that the data reported in the 1973 CFEC survey was actually representative of costs and earnings in the various fisheries. By comparing CFEC files on average gross earnings with the earnings reported in the survey, it was found that most of the fishermen interviewed in 1973 had gross earnings significantly higher than the average earnings for their fishery. It was therefore necessary to adjust the 1973 cost data downward or, in two fisheries, upward so that the data would more accurately reflect the average costs and earnings of each fishery.

This adjustment procedure was complicated by the fact that costs do not usually vary in direct proportion to gross earnings, but rather are usually a decreasing percentage of gross earnings as gross earnings increase (within a particular fishery). For example, the average vessel in a fishery may have gross earnings of \$15,000 and costs of \$10,000, or two-thirds of the gross. In most cases, the vessels in that fishery which gross, say \$30,000, will have costs of less than two-thirds of gross earnings, perhaps only one-half or less. The significance of this phenomenon for our purposes is that costs had to be adjusted by a smaller amount than gross earnings to account for the trend. Through analysis of costs and earnings ratios obtained from the 1976 CFEC drift gillnet surveys, it was found that on average, costs decreased by about 60% of a given decrease in gross earnings, and increased by about 40% of a given increase in gross earnings.

These ratios were then used to adjust the 1973 cost data to correct for the bias in gross earnings. For instance, in a fishery in which average gross earnings were 10% below the average of the surveyed sample, costs were deflated by 6%, or 60% of the gross earnings bias. The principal weakness of this technique is that costs/earnings ratios could be calculated only for the three drift gillnet fisheries surveyed in 1976. These ratios vary somewhat between fisheries, thus introducing an unknown, but probably small degree of error into our estimates.

The next step involved the calculation of inflation indexes to adjust for rising prices. Because fuel prices have increased more rapidly than the general cost of living and fuel is a major fishing cost, a separate index was prepared for fuel costs and for other expenses. The two indexes were calculated from the Consumer Price Index series published by the U.S. Department of Labor, Bureau of Labor Statistics. The fuel index was based on the third quarter CPI for fuel oil and coal in Anchorage, the only Alaska city included in the SPI series. The index for other expenses was based on the Anchorage third quarter CPI for all items. These indexes are displayed in appendix table A.

The duration of fishing seasons varies considerably from year to year in accordance with fluctuations in the strength of the salmon runs. Although some fishing costs, such as insurance, administrative expenses, and capital costs, do not vary with the length of time spent fishing, the operating costs (fuel, bait, gear repairs, etc.) do fluctuate. Therefore, a set of multiplier factors was developed to adjust operating expenses according to the length of the season for each fishery in each year. These factors were derived from CFEC information on the average number of days of fish landings per vessel. 1973 was used as the base year and the days of landings for other years were divided by the days of landings in 1973 to obtain a percentage of increase or decrease in time spent fishing. Appendix table B lists these multiplier factors.

Permanent entry permits were first issued in 1975. Permit prices have risen rapidly in most fisheries and it is necessary to include the costs of holding an entry permit along with other fishing costs. The CFEC surveys everyone who buys or sells a permit to determine the transfer price and other information. The opportunity cost of owning a permit is assumed to be 12% of the average permit price in each fishery for 1975, 1976, and 1977. For those not familiar with the terminology, opportunity cost is an economic term which is used to describe the cost of foregoing a particular opportunity. In this case, the owner of an entry permit is foregoing the income he or she could receive by selling the permit and investing the money elsewhere. Even though a permit holder does not pay out this amount, it is a real cost of doing business.

It should be noted that the opportunity costs of permit ownership were reduced by the percentage of interim-use permits held in each fishery. Since interim-use permits cannot be sold, there is no cost associated with holding one. This adjustment is most significant for 1975, when a large percentage of permits issued were of the interim-use type. These percentages are listed in Appendix table C.

The 1976 cost surveys for the drift gillnet fisheries in Bristol Bay, Cook Inlet, and Prince William Sound have been used in place of the 1973 survey for estimating the 1976 and 1977 costs and earnings of these three fisheries. In addition, the crew share percentages from the 1976 surveys were used for all years because they are believed to be more accurate than the 1973 figures.

The 1976 surveys were also used to check the accuracy of the estimation methodology used in Table V and clearly revealed its limitations. The primary problem is that no quantitative information was available on changes in investment, efficiency, or fishing techniques. Thus, the estimates are quite accurate for fisheries in which the above changes have been relatively minor since 1973, but may be considerably in error for rapidly changing fisheries. The effect of the error would be to understate costs and overstate net earnings and the return to vessel operators.

This problem is demonstrated by a comparison of the Bristol Bay and Prince William Sound drift gillnet fisheries. When checked against the 1976 surveys, the net earnings estimates for Bristol Bay were within seven percent, but the Prince William Sound estimates were substantially overstated because costs had risen much faster than estimated. One indicator of increases in capital investment and operating costs is vessel horsepower. Between 1973 and 1976 average vessel horsepower increased by 11 percent in Bristol Bay and by 49 percent in Prince William Sound, suggesting a much larger change in investment and costs in the latter fishery. Additional research will be done in the next two months to identify to some extent the nature of some of these changes in the fisheries.

TABLE 8

Average Gross Earnings, Costs, and
Net Earnings by Fishery (1969-1977)

Southeastern Purse Seine

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	9,549	19,490	23,576	29,071	41,010	31,869	19,801	36,653	69,155
Plus:									
Bonus Payments at 19% of Gross	1,868	3,813	4,612	5,687	8,022	6,234	3,873	7,170	13,528
TOTAL EARNINGS	11,417	23,303	28,188	34,758	49,032	38,103	23,674	43,823	82,683
Less:									
Operating Costs	2,987	6,868	5,375	7,520	4,601	5,102	3,769	5,056	5,863
Fixed Costs	4,122	4,278	4,411	4,524	4,700	5,239	6,004	6,437	6,925
Capital Costs	6,756	7,012	7,229	7,415	7,703	8,586	10,909	11,633	13,335
TOTAL COSTS	13,866	18,159	17,015	19,459	17,004	18,927	20,682	23,126	26,123
Net Earnings	2,449	5,144	11,173	15,299	32,044	19,176	2,992	20,697	56,560
Less Crew Share at 49.1% of Net Stock*	2,771	5,161	8,126	9,446	17,184	12,373	7,303	14,751	30,192
Return to Operator	-322	-17	3,047	5,853	14,860	6,803	-4,311	5,946	26,368

*Net Stock is equal to the gross earnings minus the crew's portion of fuel, food, and clothing expenses. In this fishery these expenses are commonly shared among the crew and captain. The crew's portion of these costs have been deducted from the gross crew share, so that the crew share figure represents net return to the crew.

Southeastern Drift Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	6,842	8,993	7,045	9,828	12,943	9,503	7,823	18,401	23,558
Plus Bonus Payments at 9.2% of Gross	629	827	648	904	1,191	874	720	1,693	2,167
TOTAL EARNINGS	7,471	9,820	7,693	10,732	14,134	10,377	8,543	20,094	25,725
LESS:									
Operating Costs	1,830	2,049	2,086	2,112	1,784	1,719	1,413	2,206	2,598
Fixed Costs	1,499	1,556	1,604	1,645	1,709	1,905	2,183	2,341	2,518
Capital Costs	2,604	2,703	2,786	2,858	2,969	3,309	4,725	5,201	6,269
TOTAL COSTS	5,933	6,308	6,476	6,615	6,462	6,933	8,321	9,748	11,385
Net Earnings	1,538	3,512	1,217	4,117	7,672	3,444	222	10,346	14,340
Less Crew Share of 4.59% of Gross	314	413	323	451	594	436	359	845	1,081
Return to Operator	1,224	3,099	894	3,666	7,078	3,005	-137	9,501	13,259

Southeastern Power Troll

	1973	1975	1976	1977
Average Gross Earnings	8,629	4,858	10,673	13,049
PLUS:				
Bonus Payments at 2.6% of Gross	227	126	277	339
TOTAL EARNINGS	8,906	4,984	10,950	13,388
LESS:				
Operating Costs	1,946	2,676	3,696	4,111
Fixed Costs	1,060	1,354	1,452	1,562
Capital Costs	3,272	4,752	5,058	5,881
TOTAL COSTS	6,278	8,782	10,206	11,554
Net Earnings	2,628	-3,924	744	1,834
Less Crew Share of 7.5% of Gross	647	364	800	979
Return to Operator	1,981	-4,288	-56	855

Southeastern Hand Troll

	1973	1975	1976	1977
Average Gross Earnings	1,238	501	1,182	1,768
PLUS:				
Bonus Payments at 0.6% of Gross	7	3	7	11
TOTAL EARNINGS	1,245	504	1,189	1,779
LESS:				
Operating Costs	491	1,063	1,549	2,185
Fixed Costs	452	577	619	666
Capital Costs	906	1,157	1,241	1,335
TOTAL COSTS	1,849	2,797	3,409	4,186
Net Earnings	-604	-2,293	-2,220	-2,407
Less Crew Share of 5.77% of Gross	71	29	68	102
Return to Operator	-675	-2,322	-2,288	-2,509

Prince William Sound Purse Seine

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	13,487	8,195	19,448	*	20,762	3,757	21,500	23,520	34,498
Less:									
Operating Costs	2,538	1,919	3,240	*	1,861	1,313	3,360	3,575	4,576
Fixed Costs	2,430	2,522	2,600	*	2,770	3,087	3,538	3,794	4,081
Capital Costs	3,187	3,308	3,411	*	3,634	4,050	5,314	6,102	8,694
TOTAL COSTS	8,155	7,749	9,251	*	8,265	8,450	12,212	13,471	17,351
Net Earnings	5,332	446	10,197	*	12,497	-4,693	9,288	10,049	17,147
Less Crew Share of 35% of Gross	4,720	2,868	6,807	*	7,267	1,315	7,525	8,232	12,074
Return to Operator	612	-2,422	3,390	*	5,230	6,009	1,763	1,817	5,073

Prince William Sound Drift Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976*	1977*
Average Gross Earnings	3,863	4,708	4,052	5,234	6,803	10,953	6,661	19,523	17,829
Plus Bonus Payments at 2.4% of Gross	93	113	97	126	164	263	160	470	429
TOTAL EARNINGS	3,956	4,821	4,149	5,360	6,967	11,216	6,821	19,993	18,258
LESS:									
Operating Costs	1,014	1,250	1,108	1,382	1,471	2,001	1,825	3,264	3,047
Fixed Costs	1,366	1,417	1,461	1,499	1,557	1,735	1,989	2,183	2,348
Capital Costs	1,304	1,354	1,396	1,431	1,487	1,657	2,213	3,122	4,430
TOTAL COSTS	3,684	4,029	3,965	4,312	4,515	5,393	6,027	8,569	9,825
Net Earnings	272	729	184	1,048	2,452	5,823	794	11,424	8,433
Less Crew Share of 2.4% of Gross**	94	114	98	127	165	265	161	484	442
Return to Operator	178	678	86	921	2,287	5,558	633	10,940	7,991

*1976 and 1977 estimates are based on a 1976 CFEC survey by June Baker and Ben Muse.

**The 1976 crewshare percentage is more accurate than the 1973 figure and has been used for all years.

Yakutat Set Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	1,714	1,750	2,547	2,893	4,760	4,059	3,910	8,622	12,601
Less:									
Operating Costs	1,933	1,633	2,331	1,932	2,145	2,142	2,526	3,361	4,250
Fixed Costs	1,147	1,191	1,228	1,259	1,308	1,458	1,671	1,791	1,927
Capital Costs	2,956	3,068	3,163	3,244	3,370	3,756	4,367	5,322	5,800
TOTAL COSTS	6,036	5,892	6,722	6,435	6,823	7,356	8,564	10,474	11,977
Net Earnings	-4,322	-4,142	-4,175	-3,542	-2,063	-3,297	-4,654	-1,852	624
Less Crew Share of 10% of Gross	171	175	255	289	476	406	391	862	1,260
Return to Operator	-4,493	-4,317	-4,430	3,831	-2,539	-3,703	-5,045	-2,714	-636

Cook Inlet Purse Seine

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	3,269	6,965	9,930	4,306	15,353	3,406	22,522	9,676	35,610
Plus Bonus Payments at 0.4% of Gross	14	29	41	18	64	14	94	40	148
TOTAL EARNINGS	3,283	6,994	9,971	4,324	15,417	3,420	22,616	9,676	35,758
LESS:									
Operating Costs	1,725	2,076	1,373	957	1,748	617	2,649	1,834	3,951
Fixed Costs	1,422	1,476	1,521	1,560	1,621	1,807	2,071	2,220	2,388
Capital Costs	2,262	2,348	2,420	2,483	2,579	2,875	3,294	4,250	4,919
TOTAL COSTS	5,409	5,900	5,314	5,000	5,948	5,299	8,014	8,304	11,258
Net Earnings	-2,126	1,094	4,657	-676	9,469	-1,879	14,602	1,372	24,500
Less Crew Share of 38.6% of Gross	1,262	2,688	3,833	1,662	5,926	1,315	8,693	3,719	13,745
Return to Operator	-3,388	-1,594	824	-2,338	3,543	-3,194	5,909	-2,347	10,755

Cook Inlet Drift Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976*	1977*
Average Gross Earnings	2,251	3,308	2,579	4,978	8,709	6,661	8,320	15,323	20,112
Plus Bonus Payments at 2.9% of Gross	65	95	74	143	251	190	240	441	579
TOTAL EARNINGS	2,316	3,403	2,653	5,121	8,960	6,801	8,560	15,764	20,691
LESS:									
Operating Costs	904	1,055	493	946	1,158	1,012	1,335	1,959	2,440
Fixed Costs	938	974	1,004	1,030	1,070	1,193	1,367	2,817	3,031
Capital Costs	1,514	1,571	1,620	1,661	1,726	1,924	2,476	5,321	6,191
TOTAL COSTS	3,356	3,600	3,117	3,637	3,954	4,129	5,178	10,097	11,662
Net Earnings	-1,040	-197	-464	1,484	5,006	2,672	3,382	5,667	9,029
Less Crew Share of 19% of Gross**	428	629	490	946	1,655	1,256	1,581	2,911	1,233
Return to Operator	-1,468	-826	-954	538	3,351	1,416	1,801	2,756	7,796

*1976 and 1977 estimates are based on a 1976 CFEC survey by June Baker and Ben Muse.

**The 1976 crewshare percentage is more accurate than the 1973 figure and has been used for all years.

Cook Inlet Set Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	2,120	2,590	1,899	3,560	4,676	5,612	4,225	8,754	13,209
Plus Bonus Payments at 0.2% of Gross	5	6	4	8	11	13	10	20	30
TOTAL EARNINGS	2,125	2,596	1,903	3,568	4,687	5,625	4,235	8,774	13,239
LESS:									
Operating Costs	1,485	1,917	1,242	1,568	1,349	1,563	1,685	2,039	1,953
Fixed Costs	546	567	585	600	623	694	796	853	918
Capital Costs	3,718	3,859	3,978	4,080	4,239	4,725	5,587	6,017	6,823
TOTAL COSTS	5,749	6,343	5,275	6,248	6,211	6,982	8,068	8,909	9,694
Net Earnings	-3,624	-3,747	-3,372	-2,680	-1,524	-1,357	-3,833	-135	3,545
Less Crew Share of 33.0% of Gross	700	855	627	1,175	1,543	1,852	1,394	2,889	4,359
Return to Operator	-4,324	-4,602	-3,999	-3,855	-3,067	-3,209	-5,227	-3,024	-814

Kodiak Purse Seine

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	24,594	19,687	11,178	9,058	6,147	22,028	14,867	48,577	45,848
Plus Bonus Payments at 1.9% of Gross	480	384	218	177	120	430	290	947	894
TOTAL EARNINGS	25,074	20,071	11,396	9,235	6,267	22,458	15,157	49,524	46,742
LESS:									
Operating Costs	5,011	4,439	3,029	3,405	1,675	3,418	3,134	7,502	6,018
Fixed Costs	2,105	2,185	2,252	2,310	2,400	2,675	3,066	3,287	3,536
Capital Costs	3,286	3,411	3,517	3,607	3,747	4,176	5,178	6,194	7,561
TOTAL COSTS	10,402	10,035	8,798	9,322	7,822	10,269	11,378	16,983	17,115
Net Earnings	14,672	10,036	2,598	-87	-1,555	12,189	3,779	32,541	29,627
Less Crew Share of 42.8% of Gross	10,523	8,424	4,783	3,876	2,630	9,425	6,361	20,785	19,617
Return to Operator	4,149	1,612	-2,185	-3,963	-4,185	2,764	-2,582	11,756	10,010

Kodiak Set Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	3,431	4,290	2,959	2,481	1,558	4,834	4,639	16,046	19,656
Plus Bonus Payments at 5% of Gross	172	215	148	124	78	242	232	804	985
TOTAL EARNINGS	3,603	4,505	3,107	2,605	1,636	5,076	4,871	16,850	20,641
LESS:									
Operating Costs	3,701	3,900	1,880	2,315	965	1,726	2,061	4,518	4,358
Fixed Costs	521	541	557	572	594	662	759	814	875
Capital Costs	2,222	2,306	2,377	2,438	2,533	2,823	3,628	3,909	4,503
TOTAL COSTS	6,444	6,747	4,814	5,325	4,092	5,211	6,448	9,241	5,736
Net Earnings	-2,841	-2,242	-1,707	-2,720	-2,456	-135	-1,577	7,609	14,905
Less Crew Share of 28.2% of Gross	968	1,210	834	700	439	1,363	1,308	4,525	3,084
Return to Operator	-3,802	-3,452	-2,541	-3,420	-2,895	-1,498	-2,885	3,084	11,821

Chignik Purse Seine

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	23,632	40,024	35,968	12,573	38,803	32,068	20,694	70,337	180,776
Plus Bonus Payments at 4.5% of Gross	1,063	1,801	1,619	566	1,746	1,443	931	3,165	8,135
TOTAL EARNINGS	24,695	41,825	37,587	13,139	40,549	33,511	21,625	73,502	188,911
LESS:									
Operating Costs	4,499	5,496	5,355	3,774	5,096	5,515	5,494	8,148	7,411
Fixed Costs	2,864	2,972	3,064	3,143	3,265	3,639	4,171	4,472	4,811
Capital Costs*	6,828	7,087	7,306	7,494	7,785	9,154	10,841	11,905	15,007
TOTAL COSTS	14,191	15,555	15,725	14,411	16,146	18,308	20,506	24,525	27,229
Net Earnings	10,504	26,270	21,862	-1,272	24,403	15,203	1,119	48,978	161,682
Less Crew Share of 42.3% of Gross	9,993	16,925	15,210	5,317	16,408	13,560	8,751	29,743	76,443
Return to Operator	511	9,345	6,652	-6,589	7,995	1,643	-7,632	19,234	85,239

*Information on Chignik permit transfer prices is confidential because of the small number of transfers and could not be used in this analysis to determine the opportunity cost of permit ownership. Prince William Sound purse seine permit prices have been substituted for this purpose, as they are the highest in the state for the years covered here, but the opportunity costs of holding a Chignik permit, and thus capital costs, are probably higher than estimated.

Bristol Bay Drift Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976*	1977*
Average Gross Earnings	5,617	14,606	8,691	3,175	3,085	7,148	7,720	13,150	16,628
LESS:									
Operating Costs	903	1,338	1,125	793	677	1,170	1,055	1,320	1,469
Fixed Costs	743	771	795	815	847	944	1,082	1,780	1,915
Capital Costs	1,153	1,196	1,233	1,265	1,314	1,465	1,888	2,573	3,173
TOTAL COSTS	2,799	3,305	3,153	2,873	2,838	3,579	4,025	5,673	6,557
Net Earnings	2,818	11,301	5,538	302	247	3,569	3,695	7,477	10,071
Less Crew Share at 31.7% of Gross	1,782	4,634	2,757	1,007	979	2,268	2,449	4,172	5,275
Return to Operator	1,036	6,667	2,781	-705	-732	1,301	1,246	3,305	4,796

*1976 and 1977 estimates are based on a 1976 CFEC Survey by June Baker and Ben Muse.

**Although the 1973 CFEC Cost Survey found that 38% was the average crew share in this fishery, the 1976 CFEC Bristol Bay survey indicated that the average crew share was 31.7%. The 1976 crew share figure was determined to be more accurate and has been used for calculating the crew share for all years.

Bristol Bay Set Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	1,930	2,741	2,972	609	614	3,235	2,113	3,628	4,782
LESS:									
Operating Costs	947	1,297	1,238	792	633	1,090	1,207	1,538	1,778
Fixed Costs	216	224	231	237	246	274	314	337	362
Capital Costs	867	899	927	951	988	1,101	1,472	1,682	1,773
TOTAL COSTS	2,030	2,420	2,396	1,980	1,867	2,465	2,993	3,557	3,913
Net Earnings	-100	321	576	-1,371	-1,253	770	-880	125	869
Less Crew Share of 21.6% of Gross	416	591	641	131	132	698	456	782	1,031
Return to Operator	-516	-270	-65	-1,502	-1,385	72	-1,336	-657	-162

Penninsula - Aleutians Purse Seine

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	10,191	21,602	14,065	7,399	7,166	9,975	7,732	33,837	28,210
LESS:									
Operating Costs	1,301	1,545	1,916	1,238	928	860	519	1,890	2,529
Fixed Costs	381	395	407	418	434	484	554	594	639
Capital Costs*	1,501	1,558	1,606	1,647	1,711	1,907	2,656	3,491	4,634
TOTAL COSTS	3,183	3,498	3,929	3,303	3,073	3,251	3,729	5,975	7,802
Net Earnings	7,008	18,104	10,136	4,096	4,093	6,724	4,003	27,862	20,408
Less Crew Share of 34.2% of Gross	3,486	7,389	4,811	2,531	2,451	3,412	2,645	11,575	9,650
Return to Operator	3,522	10,715	5,325	1,565	1,642	3,312	1,358	16,287	10,758

*Because no data on permit transfers was available, Kodiak permit prices were substituted for the calculation of permit opportunity costs.

Penninsula - Aleutians Set Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	2,122	4,668	3,467	2,091	4,073	4,930	3,277	6,545	10,104
LESS:									
Operating Costs	710	818	832	730	545	456	472	891	891
Fixed Costs	381	395	407	418	434	484	554	594	639
Capital Costs	1,910	1,983	2,044	2,097	2,178	2,428	2,985	3,531	3,816
TOTAL COSTS	3,001	3,196	3,283	3,245	3,157	3,368	4,011	5,016	5,346
Net Earnings	-879	1,473	184	-1,154	916	1,562	-734	1,529	4,758
Less Crew Share of 38.5% of Gross	817	1,798	1,335	805	1,569	1,899	1,262	2,521	3,891
Return to Operator	-1,696	-326	-1,151	-1,959	-653	-337	-1,996	-992	867

Penninsula - Aleutians Drift Gill Net

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Average Gross Earnings	8,466	9,469	9,409	7,707	7,283	7,000	7,771	17,041	19,075
LESS:									
Operating Costs	1,603	1,662	1,842	1,740	1,389	1,319	1,505	2,622	2,191
Fixed Costs	1,108	1,150	1,185	1,216	1,263	1,408	1,613	1,730	1,861
Capital Costs	2,027	2,104	2,169	2,225	2,311	2,576	3,278	3,915	4,623
TOTAL COSTS	4,738	4,916	5,196	5,181	4,963	5,303	6,396	8,267	8,675
Net Earnings	3,728	4,553	4,213	2,526	2,320	1,697	1,375	8,774	10,400
Less Crew Share of 23.4% of Gross	1,984	2,219	2,204	1,806	1,706	1,640	1,821	3,993	4,469
Return to Operator	1,744	2,334	2,009	720	614	57	-446	4,781	5,931

TABLE A

Inflation Indexes Used in Adjusting
1973 Survey Fishing Expenses

	<u>FUEL</u>	<u>OTHER EXPENSES</u>
1969	.8877	.8771
1970	.9289	.9103
1971	.9563	.9385
1972	.9700	.9626
1973	1.0	1.0
1974	1.5596	1.1146
1975	1.6984	1.2774
1976	1.7626	1.3696
1977	1.9666	1.4734

Source: Consumer Price Indexes for Anchorage Fuel Oil
and Coal (fuel), and All Items (other expenses).
U.S. Department of Labor, Bureau of Labor Statistics.

TABLE B

AVERAGE DAYS OF LANDINGS PER VESSEL MULTIPLIER FACTORS*

FISHERY	1969	1970	1971	1972	1973	1974	1975	1976	1977
Southeast Purse Seine	.7380	1.6313	1.2387	1.6945	1.0:17.2485 days	.9023	.5912	.7472	.7363
Prince Wm. Sound Purse Seine	1.5523	1.1291	1.8497	**	1.0:10.1385 days	.5971	1.3462	1.3440	1.5884
Cook Inlet Purse Seine	1.1213	1.2977	.8331	.5676	1.0: 9.1837 days	.2867	1.0923	.7129	1.4110
Kodiak Purse Seine	3.3955	2.8888	1.9131	2.1056	1.0: 7.0032 days	1.5902	1.3019	2.9492	2.1639
Chignik Purse Seine	1.0045	1.1809	1.1162	.7683	1.0:25.8987 days	.9123	.8014	1.1158	.9363
Penn. Aleutians Purse Seine	1.5911	1.8164	2.1860	1.3822	1.0: 8.3000 days	.7295	.3925	1.3513	1.6553
Southeastern Drift Gill Net	1.1665	1.2557	1.2405	1.2276	1.0:20.8796 days	.7900	.5755	.8458	.9161
Prince Wm. Sound Drift Gill Net	.7835	.9350	.7992	.9741	1.0:22.3230 days	1.1121	.8989	1.1806	1.0153
Cook Inlet Drift Gill Net	.8874	.9974	.4522	.8475	1.0: 9.7987 days	.7346	.8551	.9649	1.1033
Penn. Aleutians Drift Gill Net	1.3113	1.3061	1.4048	1.2979	1.0:13.1899 days	.7605	.7715	1.2683	.9726
Bristol Bay Drift Gill Net	1.5162	2.1613	1.7635	1.2143	1.0: 7.6561 days	1.4195	1.1335	1.4205	1.4767

(continued)

(continued)

FISHERY	1969	1970	1971	1972	1973	1974	1975	1976	1977
Yakutat Set Gill Net	1.0258	.9679	1.1548	.9346	1.0:17.8250 days	.8499	.8823	1.1010	1.2861
Prince Wm. Sound Set Gill Net	1.2365	.4957	**	1.5676	1.0:14.3684 days	1.1646	**	**	.7697
Cook Inlet Set Gill Net	1.2519	1.5550	.9970	1.2057	1.0: 9.3607 days	.9590	.9149	1.0411	.9183
Kodiak Set Gill Net	4.3684	4.4311	2.0728	2.4905	1.0: 4.4917 days	1.5344	1.6250	3.3349	2.9783
Penn. Aleutians Set Gill Net	1.4793	1.6421	1.6203	1.3898	1.0:11.6418 days	.6862	.6276	1.1167	1.0270
Upper Yukon Set Gill Net	1.1162	.9575	.7635	.4995	1.0: 7.3913 days	1.1628	.8876	.8402	1.0711
Bristol Bay Set Gill Net	1.7043	2.2481	2.0798	1.3002	1.0: 6.1158 days	1.4999	1.4568	1.7368	1.8603
Kuskokwim Set Gill Net	.9299	.8217	.4697	.6036	1.0:12.7217 days	.9144	.5717	.6978	.7836
Kotzebue Set Gill Net	.9147	1.4083	1.2190	1.2510	1.0:12.9180 days	.9842	1.2744	.8865	.9174
Lower Yukon Set Gill Net	.7972	.8035	.8479	.8280	1.0:16.0648 days	.9548	.7719	.5398	.8920
Norton Sound Set Gill Net	1.9844	2.2438	1.7504	1.3489	1.0: 7.6808 days	1.0782	1.2997	1.3444	1.5992

*Multiplier factors were prepared by using 1973 as the base year and dividing the days of landings for other years by the 1973 base figure for each fishery.

**Fishery was not opened.

Source: CFEC printout R01-03B-4550: Catch Data Tabulation from Gross Earnings file.

TABLE C

Percentage of Interim-Use permits
Issued in Limited Fisheries.

FISHERY	1975			1976			1977		
	Permanent	Interim	% of Total	Permanent	Interim	% of Total	Permanent	Interim	% of Total
Southeast Purse Seine	398	77	16.21%	409	9	2.15%	409	3	0.73%
Prince Wm. Sound	210	90	30.0%	247	35	12.41%	255	18	6.59%
Cook Inlet	49	51	51.0%	63	16	20.25%	72	10	12.2%
Kodiak	334	134	28.63%	358	36	9.14%	363	13	3.46%
Chignik	85	6	6.59%	90	3	3.23%	90	1	1.1%
Penn. Aleutians	108	18	14.29%	112	2	1.75%	113	0	0%
Southeastern Drift Gill Net	431	80	15.66%	451	36	7.39%	459	14	2.96%
Prince Wm. Sound	494	89	15.27%	514	25	4.64%	523	8	1.51%
Cook Inlet	453	331	42.22%	514	82	13.76%	538	36	6.27%
Penn. Aleutians	152	21	12.14%	153	2	1.29%	152	2	1.3%
Bristol Bay	1416	645	31.3%	1,621	99	5.76%	1,657	65	3.77%

(continued)

FISHERY	1975			1976			1977		
	Permanent	Interim	% of Total	Permanent	Interim	% of Total	Permanent	Interim	% of Total
Yakutat Set Gill Net	148	68	31.48%	156	3	1.89%	157	1	0.63%
Prince Wm. Sound	26	1	3.7%	28	0	0%	28	1	3.45%
Cook Inlet	657	376	36.4%	711	7	0.97%	729	2	0.27%
Kodiak	139	90	39.3%	176	11	5.88%	180	5	2.7%
Penn. Aleutians	82	27	24.77%	105	10	8.70%	106	2	1.85%
Upper Yukon	Not limited in 1975			35	83	70.34%	44	25	36.23%
Bristol Bay	716	205	22.26%	759	5	0.65%	819	16	1.92%
Kuskokwim	Not limited in 1975			1177	489	41.55%	749	75	10.01%
Kotzebue	"	"	"	118	196	62.42%	173	60	25.75%
Lower Yukon	"	"	"	678	263	27.95%	675	8	1.02%
Norton Sound	"	"	"	169	131	45.48%	171	34	19.88%

202

APPENDIX A

AN ANALYSIS OF THE LEGISLATIVE OPTIONS UNDER
CONSIDERATION BY THE LIMITED ENTRY STUDY GROUP

Prepared by: Jack Kreinheder
Research Economist
Commercial Fisheries Entry Commission

SUMMARIES:

I. CAPITAL GAINS TAX OPTION

The Capital Gains Tax is intended to provide access to limited entry permits for individuals who are unable to afford a permit at today's high open market prices. This would be accomplished by setting a statutory ceiling on permit prices and taxing any sale price above that level at 100 percent.

ADVANTAGES: Permits would still be freely transferable. Permit holders could select the transferee and no interference with intra-family transfers would occur. Fishermen could still change from one fishery to another without difficulty. Depending on the magnitude of the tax, permit holders who bought their permits would be able to recoup at least part of the purchase price of their permit. State compensation could provide for complete recovery of the purchase price. Administrative costs would be higher than under the present system, but lower than those associated with an apprenticeship program.

DISADVANTAGES: Reduction of permit prices would have a dampening effect on the transfer of permits, since less incentive would exist for a permit holder to sell his permit. Although permits would be more affordable fewer would be available for purchase, so that access to permits would not necessarily be improved. In order to prevent a black market in entry permits, a strict system of auditing and enforcement would be required, with its associated costs. The determination of statutory permit prices would be complex and subject to controversy. Fishermen who have purchased entry permits could lose much of their permit investment unless compensation were provided by the state, but such compensation could total many millions of dollars.

II. LOAN PROGRAM OPTION

The primary purposes of the proposed changes to the current Commercial Fishing Loan Program are to give preference for such loans to applicants with substantial financial need and dependence on fishing, to provide for hardship in loan repayments, and to encourage the purchase of permits by providing grants for a portion of the loan amount.

ADVANTAGES: This option has the fewest legal and administrative problems and would probably be the most acceptable to present permit holders.

The loan program appears to offer the only constitutional means of openly favoring Alaska residents over non-residents, since non-residents can be completely excluded from the program without causing legal problems. It may be possible to further increase resident participation in the limited fisheries by providing preferential loan terms for the purchase of non-resident permits.

DISADVANTAGES: It is unclear whether this option would accomplish its objectives without more specific legislative guidelines for the administration of loans. The majority of fishing loans to low-income persons have been for vessel upgrading rather than for entry into the fisheries. Specific criteria may have to be enacted if such entry is to be given priority in the loan program. Easier access to loan money could bid up permit prices even further if price controls are not enacted. Giving priority to the purchase of entry permits may discourage diversification into bottomfish and other developing fisheries.

III. APPRENTICESHIP OPTION

The purposes of this option are fully explained in the apprenticeship proposal.

ADVANTAGES: An apprenticeship system would provide fishermen who have limited financial resources with an opportunity to obtain an entry permit at no cost. Access to permits would be based on fishing experience, or dependence, or hardship criteria rather than on the open market bidding process. The system would ensure that a trained and qualified group of persons would be entering the limited fisheries. The system would allow for a natural progression from crewman to skipper.

DISADVANTAGES: There appear to be a number of unresolved legal questions concerning the proposed apprenticeship system. As currently worded, permit holders still have control over entrants to the fisheries, because experience as a crew member is a requisite for admission to the apprenticeship program. Such control was ruled unconstitutional in 1969 by a Federal court. However, the separate apprenticeship supplement may circumvent this problem by basing future admission to the apprenticeship program on dependence or hardship criteria, instead of solely on experience.

No provision has been made for permit holders to switch from one fishery to another without completing another period of apprenticeship, thus locking permit holders into one fishery. An apprenticeship system would be expensive to administer because a continual stream of applicants, which would be much larger than the number of initial applicants for permits under the present program, would have to be evaluated by the Commission. Current permit holders would either lose their purchase investment when they leave the fisheries, or expensive state compensation would be necessary to obtain permits for the system. And finally, most fishermen would probably object to the requirement of taking on a complete stranger in a situation where mutual trust and responsibility are important, not only for business reasons, but for personal safety as well.

IV. AMORTIZATION OPTION

The apparent purposes of the amortization option are to place a time limit on the entry permit and to allow permit holders to recover their investment in either vessel and gear (option A), or in the entry permit (option B), in the event that the apprenticeship option or other transferability system is enacted. The purpose behind the time limit is unclear, since the permit holder would be able to renew his permit indefinitely. A simple use requirement would seem to be more effective. Little justification can be seen for the amortization of vessel and gear, since the individual retains possession of these under any of the proposed transferability options. It is also questionable whether original issues should be allowed to amortize the fair market value of their permits, since they received them for only an administrative fee. In addition, the amortization proposal for entry permits does not seem to be the most equitable method of compensating those permit holders who did buy their permits for their purchase investment.

Rather than allowing a fixed 10 percent write-off each year, it may be more desirable to relate the amount of amortization to the net return on the permit investment at the time the permit reverts to the state, which would be when the permit is no longer fished. Under this type of system, those permit holders whose net fishing earnings during the time of permit ownership equaled or exceeded the purchase price of the permit, plus a "reasonable" return on the investment in permit, vessel, and gear (10-15 percent per year), would be considered to have received "their money's worth" and no amortization would be allowed.

On the other hand, permit holders who had not recovered their permit investment, plus a reasonable return, would be allowed to amortize the difference between this value and the purchase price of their permit, not to exceed the purchase price. A more specific definition of amortization is also needed, so that it is clear whether the former permit holders would qualify for a tax credit, or just a tax deduction from gross income. This requires a policy decision on the degree of compensation to be given to current permit holders. The cost to the state of the amortization option would depend on this decision, and on the earnings of permit holders, the length of permit ownership, and the purchase prices of permits reverting to the state. Amortization would be less expensive than straight compensation for the permit purchase price, because consideration is given to the earnings derived from the permit during the duration of permit ownership. An amortization system would also be more equitable than compensating permit holders for a set percentage of the purchase price, even though the cost to the state may be the same, because the system takes account of each individual's economic situation.

The purpose of the proposed participation or "use it or lose it" requirement is to ensure that entry permits would revert to the state when they are no longer used by the holder. It should be noted that this requirement could be enacted independently of any of the transferability options, but that the effect would be somewhat different. If the participation requirement were enacted without any restriction on permit transferability, it is probable that very few permits would revert to the State, since

fishermen who no longer used their permits would be much better off to sell them. However, speculation would be prevented and more permits would be available for purchase.

If permits were made non-transferable, unused permits would have to be returned to the state, but most fishermen would probably stop renewing their permits anyway when they no longer fished, and permits are already revoked under current law when not renewed for two consecutive years. The effectiveness of the participation requirement is therefore uncertain, but the cost of administration would be low, and the law would ensure that permits were held only by active fishermen.

DISCUSSION:

A more detailed analysis of the limited entry legislative options summarized above is provided in the following pages. The comments focus primarily on the economic, social, and administrative implications of the various options and, for the sake of brevity, only the more important problems and impacts are discussed.

I. CAPITAL GAINS TAX OPTION

The four most important areas of concern regarding this option are the effect of such a tax on the rate of permit transfers, the compensation question, the setting of permit prices, and enforceability. With regard to the establishment of statutorily fixed permit prices, it would seem desirable to have the permit price in each fishery bear some relationship to the potential economic value of using that permit. For example, a Kodiak purse seine permit should clearly have a higher value than a Kodiak set gill net permit, since a much larger income can be realized in the purse seine fishery.

The problem lies in determining the potential economic value of each fishery and type of permit. The great variability in the yearly salmon runs and in the vessels used in each fishery makes it quite difficult to calculate an average permit value on this basis. It may therefore be necessary to use a less precise, but more workable method of setting permit prices.

One such method would be to use the average permit prices in each fishery over the past year, two years, or several years, and reduce this value by a given amount to arrive at a set of "reasonable" statutory permit prices. The obvious catch in this approach is in the definition of a reasonable permit price. A fisherman who has just spent \$80,000 for a permit would tend to favor a statutory price close to that amount, while a fisherman who was issued a permit for only the application fee might support a lower, or even zero price. Similarly, current permit holders would have an incentive to favor higher permit prices, whereas crew members or others trying to obtain a permit would want permit prices as low as possible. So, a "reasonable" permit price could run from zero to \$80,000 or more, depending on who is defining the term.

An additional factor which must be considered is the compensation question. The legal implications of reducing or eliminating the value

of entry permits are still not completely clear, but there seems to be a general feeling among the Committee members that from an equity or fairness standpoint, compensation for permit expenditures should at least be considered. I am under the further impression that most Committee members feel that if a compensation program were to be adopted, the program should reimburse permit holders for the amount each holder paid for his permit(s), or a percentage of that value, rather than for the amount which could have been received for the permit on the open market. The apparent consensus is that the state has no obligation, legal or ethical, to compensate those permit holders who were originally issued their permits for free, even though a higher value could have been received for the permits if the value were not reduced by legislative action.

The compensation issue is closely related to the capital gains tax option, as well as to any option which would limit transferability of entry permits. Decisions about compensation would have a major impact on the setting of permit prices under the capital gains tax option, and vice versa. The fundamental purpose behind this option, as I understand it, is to allow easier access to entry permits for those fishermen who would like to run their own boats but are unable to afford a permit at today's prices. At first glance, it might appear that this purpose would best be served by the setting of permit prices at very low levels, so that almost anyone with enough initiative could afford an entry permit.

But although such a plan may make permits more affordable, it would also reduce the number of permits available for sale, unless complete compensation were provided. One of the most basic principles of economics is that of supply and demand relationships, and the implication of this principle for this case is that if permit prices are statutorily reduced, fewer permits will be offered for sale, other things being equal. Considering the extreme case, if the legislature declared that permits could not be sold at all but must be transferred for free, the number of permits transferred would be much lower than current levels. Since no economic gain could be realized from permit transfers, permit holders would have no incentive to pass on their permit, even if they were no longer fishing. A "use it or lose it" requirement could free up some permits, but the number would be small in relation to the demand for permits.

It should be mentioned that permit transfers would not cease entirely if the value of the permit were eliminated. Based on the Entry Commission's permit transfer survey, it is estimated that 25 to 33 percent of transfers to date have not involved money in the transaction, and an additional percentage have been substantially below market value. The majority of these transfers were probably to relatives or close crew members and would continue with reduced or eliminated permit values, but such transfers would not increase access to entry permits in comparison to the present situation.

If entry permit values were statutorily reduced, rather than eliminated, the drop in permit transfers would be less severe, with the decrease in

transfers expected to correspond roughly to the degree by which values were reduced. If permit prices are lowered by only 10% of their open market value, the impact of this action on the number of transfers would be fairly minor, but the improvement in access to permits by low-income fishermen would also be small. Unless a compensation program is implemented, there will always be this trade-off between permits available for transfer and permit affordability.

The effects of a compensation plan in conjunction with the capital gains tax option are fairly predictable, and depend primarily on the extent of compensation offered and the amount by which permit prices are reduced. If compensation is limited to the amount paid for a particular permit, there is still likely to be a marked decrease in permit transfers associated with a major statutory reduction in permit prices. Those original permit issuees who might sell their permits in coming years would have less incentive to do so if permit prices were limited by statute, since they paid nothing for their permits and would not be eligible for compensation under such a plan. Those most likely to sell their permits would be fishermen who purchased permits just before the legislation limiting prices was enacted, because they could receive nearly full value for their permits.

It is possible that a compensation program could increase the number of permits for sale in some fisheries above that of an open market situation. This could occur if a series of poor harvests and/or low fish prices reduced the profitability of a particular fishery. In this situation, permit prices would probably drop, but if permit holders were entitled to recover their purchase price, they could avoid the loss caused by lower prices and more permits would be for sale than if an open market existed.

Except for the situation just discussed, it is uncertain whether a capital gains tax system will actually improve access to entry permits, even if compensation is provided. Although permits may be more affordable, the possible reduction in permit transfers could outweigh the benefit of lower permit prices. The only compensation plan that would appear likely to maintain current transfer rates would be one which duplicated the open market situation; permit holders would have to be compensated for the difference between the statutory price and the fair market value of their permit. This is an expensive proposition, even if no further inflation in permit values occurs. I have calculated the total average market value of all permanent entry permits (including herring) to be over \$360 million as of June, 1979.* This is a conservative estimate and the total value has probably increased by now. Given the magnitude of this total value, it is doubtful that the legislature would adopt a fair market value compensation plan.

A compensation program which reimbursed permit holders for the difference between the amount paid for a permit and the statutory price, or some fraction of that difference, would be much less expensive but could still run into many millions of dollars, and would still have the dampening effect on permit transfers discussed above. I have estimated the total value expended for entry permits since 1975 (not including multiple purchases of the same permit) to be approximately \$38 million.*

*Based on the Commercial Fisheries Entry Commission Permit Transfer Survey.

Thus if permits were completely devalued and a decision were made to reimburse permit holders for the purchase price of their permits, a state expenditure in the neighborhood of \$40 million would be required. If permit prices were fixed at 50 percent of their 1979 averages, roughly \$15 million would be necessary to make up the difference between the purchase prices and the statutorily set permit values. The alternative amortization approach discussed later would reduce the compensation cost significantly, but at least several million dollars could be required to compensate permit holders for a 50 percent price reduction. The Interim Committee must consider whether this funding could be more effective in achieving its goals if used for one of the other options, such as the loan program. The question which was raised about the resident/non-resident effects of the capital gains tax option is a very salient one, but it will be discussed below in the section on the loan program option.

The section on implementation options for the capital gains tax seems fairly complete, with the exception of a method for verifying the value of vessels, gear, or other equipment included in the permit sale. It may be desirable to add a section requiring that current certified appraisals or surveys be required of vessels, gear, etc., which are combined with the permit in the transaction. Such appraisals should also be required of any in-kind compensation which is used to purchase the permit.

Permit holders will have an obvious incentive to circumvent any price control system. The proposal, if strictly enforced, appears to be workable (though I still question its cost effectiveness), but I have little experience in the price control area. Considering the high values at stake here, the Committee may want to hire an economist and/or lawyer familiar with price control methodology to draft the enabling legislation if this option is pursued.

In reading through Commission files, I came across a transcript of a discussion with Dr. James Crutchfield of the University of Washington, one of the leading economists in the fisheries area and also a former price control economist. Dr. Crutchfield was adamantly opposed in the transcript to any method of controlling entry permit prices. He did not go into much detail about the reasoning behind his view, but his comments indicate that there may be more severe problems regarding enforceability than are readily apparent. He stated that he "could think of a dozen ways to avoid (price controls) without even trying." Crutchfield suggested higher landing taxes and/or permit fees as better ways to keep permit prices to reasonable levels. Fisherman resistance would be the principal problem with Crutchfield's suggestion.

II. LOAN PROGRAM OPTION

The proposed changes to the Commercial Fishing Loan Program appear to be one of the more feasible and effective options under consideration. It has been asked whether statutorily set permit prices would make permits more available to Alaska residents than non-residents. It is possible that some advantage would be given to Alaskans by fixed prices, but the loan program appears to give Alaskans a much greater advantage, since non-residents can legally be excluded from eligibility for state

loans. Statutorily reduced permit prices would put entry permits within the reach of more Alaskans, but would also do the same for lower-income non-residents, and it is therefore unlikely that Alaska residents would be given greater access to entry permits than non-residents.

Of all the options under consideration, expansion of the loan program is likely to encounter the least resistance from present entry permit holders. The program offers the potential for low-income fishermen to obtain permits, without affecting the ability of permit holders to transfer their permits as they wish and to recover their purchase price. The state appears to have considerable legal freedom in the structure of its loan programs, thus allowing the modification of the current fishing loan program to meet specific needs.

However, it appears that the present loan program has not met the needs of low income fishermen desiring to purchase entry permits. Preliminary research has indicated that 75 percent of the commercial fishing loans have been to individuals with a net worth of over \$100,000. Although a sizable number of loans have been made to rural and lower-income fishermen, almost all of these loans have been for the purpose of upgrading vessels, rather than the purchase of entry permits. The proposed loan option provides that "priority shall be given to those applicants who demonstrate substantial financial need, and who substantially depend upon fishing as a source of livelihood." This wording may not be strong enough. If the Committee resolves that more emphasis should be given in the loan program to the acquisition of entry permits, as opposed to vessel improvement, specific legislative standards to this effect may be required.

One possible addition to the loan program option would be a section providing that fishermen acquiring entry permits previously held by non-residents would receive more favorable terms on their loans. This could be accomplished through lower interest rates, partial grants, or other provisions. The obvious intent of such a policy would be to increase resident participation in the limited fisheries. The additional cost to the state of preferential loan terms for the purchase of non-resident permits can be justified because the benefits to the state and its residents are substantially greater than the benefits resulting from the purchase of resident permits.

The acquisition of a non-resident permit by an Alaskan fisherman means that a larger percentage of the income generated by the use of that permit is likely to be spent in Alaska, thus providing more income for other Alaskans (this is known as the multiplier effect). In addition, the crew members are more likely to be Alaska residents, further adding to the benefits derived from the use of an entry permit by an Alaskan fisherman.

The probable effect of the preferential loan terms on the market for entry permits would be that non-residents would have an added incentive to sell their permits to Alaskans, since those resident fishermen qualifying for loans could afford to pay more for a non-resident permit than a resident one because of the better loan terms. The resident permit holders, on the other hand, should have less incentive to sell their permits, because fishermen obtaining loans would rather purchase a non-

resident permit and would pay less for a permit from an Alaska resident. The market for entry permits is complex and there are other factors at work, but in general, these are the results that could be expected from the implementation of preferential loan terms for purchasing non-resident entry permits. It should be noted that the preceding discussion would not apply if permit prices were also statutorily fixed, since fishermen would not be allowed to pay more for one permit than another (within the same fishery). However, if it were constitutional, legislation could be enacted which would provide a supplementary payment to non-residents selling their permits to Alaskans. These supplementary payments would have the same effect, and would take the place of the preferential loan terms.

The loan program is not, it should be stressed, an easy answer to the current problems of the limited entry program. The high cost of entry permits would require substantial expenditures by the state if the loan program is to be the primary vehicle for improving access to entry permits. As a case in point, an estimated 109 permits were purchased in the Bristol Bay drift gill net fishery during the first nine months of this year. Financing of these permit purchases through the Commercial Fishing Loan Program would require an estimated \$5.9 million in this one fishery alone.*

It is true that funds expended for the loan program are eventually returned to the state, with interest, but the low interest rates on fishing loans represent a major opportunity cost to the state, because the state foregoes the much higher return that could be realized from alternative investments in bonds, etc.

An additional problem is that extensive use of state loans for permit purchases could contribute to further inflation in permit prices if price controls are not enacted. Loan recipients would be able to pay more for permits than if they had not received state financing, and this would have a tendency to push permit prices higher. The extent of this impact would depend primarily on the number of loans issued and the degree to which the loan terms increased the purchasing power of resident permit buyers. Further increases in permit prices would reduce the effectiveness of the loan program by making permits less affordable, so this possible impact should be given careful consideration.

The effect of the proposed loan program option on the development of bottomfish, herring, and other fisheries must also be assessed. While it may be desirable to encourage resident entry into the limited fisheries, an emphasis on this aspect of the loan program could discourage diversification into developing and non-limited fisheries. The limited salmon and herring fisheries are, for the most part, a fully exploited resource, in contrast to other fishery resources which are just beginning to be commercially harvested in Alaska. A careful balance must therefore be struck between the use of loan funds for the purchase of entry permits and the use of funds for developing fisheries.

III. APPRENTICESHIP OPTION

The basic idea behind an apprenticeship system is an attractive one: Entry permits would be issued to those individuals who had demonstrated

*Based on the CFEC Permit Transfer Survey.

their competence in and commitment to fishing by serving as a crew member on a vessel for a given number of years. This system would continue the natural progression from crewman to skipper that generally characterized the fishing industry prior to limited entry. An apprenticeship program would also ensure that persons obtaining entry permits were experienced fishermen and were able to use those permits in an efficient and safe manner.

Although the idea is a sound one, legal, economic, and administrative complications make it difficult to transform the idea into a workable apprenticeship program. The first stumbling block is a 1969 Federal court decision which overturned an apprenticeship program enacted by the Alaska legislature in 1968. The basis of the decision was that the program allowed fishermen to choose the apprentices involved, and that this act violated the Fourteenth Amendment of the U.S. Constitution. The decision stated in part: "Under the scheme, entry into the salmon fishing industry is controlled not by the state but by local fishermen in each area...whose own benefit would ordinarily not be served by assisting potential competition to qualify."

The first requirement of any apprenticeship program is therefore that the state, and not the fishermen, must determine the participants in the program. This requirement creates a substantial administrative burden, but also creates a more serious problem within the fishing industry by disrupting the conventional hiring practices employed in the fisheries. The idea of having to accept a complete stranger of unknown ability for a crewman is not likely to go over well with the majority of permit holders, particularly those that usually employ family members as crew.

In addition, the 1969 court decision gives the impression that it may be unconstitutional to use fishing experience in any standards of qualification for an apprenticeship program. The legal problems involved have not been sufficiently clarified, but it appears that using crewman experience as a prerequisite for admission to the program would create the same situation addressed in the 1969 decision, just one step removed. In other words, the fishermen would not be choosing the apprentices, but would still be choosing individuals who in the future would qualify for the program on the basis of their previous experience as a crew member. To avoid this legal problem, a separate set of eligibility requirements have been developed to supplement the apprenticeship option. Under this plan, crewmember experience accrued prior to the enactment of the program would still be used as a determinant of apprenticeship eligibility, but the experience requirements would be supplemented with economic hardship criteria that did not rely on fishing experience. It appears that this modification would circumvent the constitutional difficulties discussed above, but not without altering the future distribution of entry permits and the corresponding equity of the apprenticeship program.

The alternative economic hardship and dependence criteria which have been developed are intended to provide a means by which greater consideration can be given to hardship on the community level, rather than just the individual level. This issue is explored in detail in Dr. Rogers' paper. It is important to note that the alternative hardship criteria are intended to supplement, not replace, the criteria by which

individual hardship and dependence are evaluated. Fishing involvement, in terms of both participation and fishing income, was the major factor used in the ranking of applicants during the initial issuance of entry permits. While it may be desirable to supplement criteria based on fishing involvement with more broadly based criteria which consider the community situation, it is questionable whether such criteria alone would result in the most equitable distribution of entry permits under an apprenticeship program or any other system of permit transfer. The resolution of the legal issues surrounding the use of crewman experience as a basis for apprenticeship eligibility is therefore one of the most important tasks remaining if the apprenticeship option is to be pursued.

There are a number of other problems with the apprenticeship option. One of these is that the number of new entrants to the limited fisheries under an apprenticeship system would probably be much lower than current levels unless complete compensation for the fair market value of permits were provided to permit holders who returned their permits to the state. This issue is explored more thoroughly in the discussion of the capital gains tax option, but the basic difficulty is that without the profit incentive for transferring a permit, far fewer permits will be returned to the state than are presently transferred to other individuals. Thus, the state may be forced to buy permits if sufficient permits are to be available for the apprenticeship program.

A second problem is that it would be impossible for permit holders to switch to another limited fishery without serving another period of apprenticeship. And if a provision were drafted which would allow trades between permit holders, only permits from low income fisheries would ever return to the state, since fishermen holding permits for high value fisheries who wished to leave fishing would find many persons wanting to trade a permit of lesser value. An incentive would be created for the development of a black market in permit trades.

An apprenticeship program would also eliminate intra-family transfers unless some sort of "qualified transferee" list is created, from which permit holders are free to choose when they desire to transfer their permit. Over 25 percent of permit transfers to date have been estimated to be between family members, so substantial weight should be given to the continuance of this pattern in any alternative system of permit transfer.

Besides the possible compensation costs discussed earlier, an apprenticeship program would have considerable administrative costs. The number of applicants and potential qualifiers would be many times larger than the number of applicants during the issuance of the original entry permits, for there are many more crewmen than there were gear license holders during the original eligibility period. In addition, the application process for an apprenticeship program would not be a one-time affair, but would continue indefinitely into the future as more persons qualified and more permits became available. The Commercial Fisheries Entry Commission or other administering agency would require a significant permanent increase in staff and funding.

IV. AMORTIZATION OPTION

The amortization option is apparently intended to establish a time

limit on entry permits. It would also provide an alternative method of compensation for current permit holders in the event that an apprenticeship program or other system of transferability is enacted and permit holders can no longer sell their permits. However, in its present form the purposes of the option are too vague and it does not appear to be the best answer to the compensation problem. After the discussion of the amortization option as drafted, a different amortization approach which may be a more effective method of compensation will be presented for consideration.

The logic behind option A is difficult to follow. This option would allow the amortization of vessels and gear at 10 percent per year, after which the entry permit would revert to the state, unless renewed by the original permit holder, who would have to demonstrate consistent use of the permit. In the first place, it is unclear why permit holders should be compensated, through amortization, for vessels and gear, since the individual would retain possession of these under any option and is free to sell them at any price and to any individual he chooses. Perhaps it is thought that because a permit holder could no longer sell his boat and permit together under this option, his boat and gear would be of lesser value without a permit included. But in both 1978 and 1979, only an estimated 13 percent* of permit transfers included vessels and/or gear in the transaction, so the cessation of combined transfers should not cause significant hardship.

With regard to the time limit inherent in both option A and B, it would seem that a simple participation or use requirement would be more effective. Since the permit holder is given the right to renew his permit at the end of the amortization period, the time limit is really superfluous. The only time when permits would revert to the state would be when permits were no longer used, regardless of the time limit. Dropping the time limit and substituting the use requirement would result in permits reverting to the state as soon as they were no longer fished, rather than at the end of the time limit.

Option B is a more reasonable approach to the compensation question than option A, because it addresses the value of the permit, which is the item being devalued, rather than the vessel and gear. However, it is questionable whether permit holders who were originally issued their permits by the state should be allowed to amortize the fair market value of their permits, since they received them for only an administrative fee. Compensation of this type would appear to be a windfall gain and difficult to justify. One argument for such compensation is that some permit holders are counting on the value of their permits as a retirement nest egg. If this is a major problem, some type of special exception should be made for these persons, instead of giving compensation to all of the original issuees regardless of financial standing.

Neither of the amortization options presented appear to be the most equitable and cost effective method of compensating those permit holders who did buy their permits for their purchase investment. Both of the proposed options would establish a fixed 10 percent per year amortization schedule, so that the amount of amortization would depend solely on the

*Based on the CFEC Permit Transfer Survey.

purchase price of the vessel and gear (option A), or of the permit (option B).. Such a system takes no account of the length of time which a permit has been held or of the earnings derived from the use of the permit. Instead of allowing a fixed 10 percent write-off each year, it would be more desirable to relate the amortization schedule to the net return on the permit investment at the time when the permit is no longer fished and reverts to the state.

Incorporating the return which a permit holder has realized on his investment into the amortization option would provide a more equitable system of compensation, because consideration would be given to each fisherman's individual economic position, rather than relying on an arbitrary formula or schedule. Under this type of system, those permit holders whose net fishing earnings during the time of permit ownership equaled or exceeded the purchase price of the permit, plus a "reasonable" return on the investment in permit, vessel, and gear (10-15 percent per year), would be allowed no amortization or other compensation, since they had received "their money's worth" from the use of the entry permit.

On the other hand, permit holders who had not recovered their permit investment, plus a reasonable return, would be allowed to amortize the difference between this value and the purchase price of their permit, with the amortization amount not to exceed the permit purchase price. For example, take the case of a fisherman who had bought a permit for \$50,000, a boat and gear for another \$50,000, and fished for three years. If a "reasonable" rate of return were determined to be 10 percent, then a reasonable net fishing income for the example fisherman for the three years would be \$80,000 (permit price of \$50,000 + return on investment of \$30,000 ($\$100,000 \times 10\% \times 3 \text{ years}$)).

Therefore, if the fisherman made \$80,000 or more during the three years he fished his permit, he would receive no compensation when his permit reverted to the state. A net fishing income of less than \$80,000 would make the fisherman eligible to amortize the difference between his income and \$80,000, not to exceed \$50,000. If his earnings were \$50,000, the fisherman could amortize \$30,000 over a specified period of time.

Three major problems can be foreseen with this alternative approach to compensation. The first is that it is necessary to determine a "reasonable" rate of return. This determination would take into account current market rates of interest, the high degree of risk in fishing, and historical earnings in the limited fisheries. Although difficult, this obstacle does not appear to be insurmountable.

The second problem is that a permit holder is not just an investor, but is also the skipper of the fishing operation. It is therefore necessary to account for the portion of the permit holders' income which is earned from skippering the vessel, apart from the return on his investment. I am not familiar enough with fishermen's bookkeeping practices to know just how this would be done, but it should be feasible.

The third need is to define the meaning of amortization more precisely, so that it is clear whether the former permit holders would qualify for a tax credit, or just a tax deduction from gross income. This requires a policy decision on the degree of compensation to be given to current

permit holders, since a tax credit would entitle the former permit holders to save the entire amount of amortization, while a tax deduction would only save them a fraction of the amortization amount. The cost to the state for a tax credit would of course be much greater, but it would still be less than compensating fishermen for the entire purchase price of their permits.

ECONOMIC HARDSHIP - DEFINITION AND MEASUREMENT

George W. Rogers, Ph. D.
University of Alaska

There is no single, universal definition for a term such as "economic hardship". Its meaning is related to the specific context in which it is used. In this case the purpose of the Alaska Commercial Fisheries Entry Act of 1973 and the regulations of the Commission established by the act will first be analyzed to discover this relevant meaning of "economic hardship". From an analysis of the latest draft of the "State Entity Limited Entry Apprenticeship Program" and the transferability alternatives which have been considered by the Limited Entry Study Group, the purpose or purposes of the proposed amendments to the fisheries entry program will then be determined. This will provide a reference from which further definitions of "economic hardship" will be suggested along with means of measuring its key elements.

Economic Hardship in the Act of 1973

The Alaska Commercial Fisheries Entry Act of 1973 has two purposes or sets of purposes: to promote (1) "the conservation and the sustained yield management of Alaska's fishery resource" and (2) "the economic health and stability of commercial fishing in Alaska". The first relates to the management of natural resources and the second to the welfare of an economic activity, commercial fishing. The findings of the Legislature are that "economic welfare of the fisheries...efficiency of the harvest, and the...management of the fishery resource" all are impaired or in danger of being impaired by present levels of participation in commercial fishing.

The primary economic orientation of the Act, therefore, is to health (or welfare) and efficiency of the "industry" of commercial fishing and its participants as of the effective date. It makes no reference to economic welfare or health of communities and does not extend its economic tests and standards to any fisheries group other than the existing gear operator. This is made specific by the definitions section of the Act (Sec. 380). As used in the Act, "fishery" means the "commercial taking of a specific fishery resource in a specific administrative area with a specific type of gear". The regulations implementing the Act provide code schedules for each of these dimensions of this economic activity: the species being taken, gear type and geographically defined areas. A second basic definition relates to the economic condition of each fishery so determined. An "economically healthy fishery" means a fishery, (a specific combination of specific gear, species and area) that yields a sufficient rate of economic return to the fishermen participating in it to provide for both the maintenance and the improvement of vessel and gear and the opportunity to experiment with new techniques. Health is measured, therefore, in something more than mere survival of the participants.

Not included in the definition section (but defined nonetheless) is the "distressed fishery", the opposite of a "commercially healthy fishery". These are fisheries for which the Commission "estimates that the optimum number of permits will be less than the highest number of units of gear fished in that fishery during any one of the four years immediately preceding January 1, 1973" (Sec. 230). The optimum number of units of gear for a fishery is to be estimated "based upon a reasonable balance" of the number of units necessary and/or sufficient to (1) maintain "an economically healthy fishery" (here defined as one which "will result in a reasonable average rate of return to the fishermen participating in that fishery"), (2) harvest the allowable commercial take, and (3) "avoid serious economic hardship to those currently engaged in the fishery" (i.e. as of January 1, 1973). The meaning of "economic hardship" is not given in the section dealing with optimum numbers, although it is to be one of the standards to be used in estimating such numbers. Clues to its meaning, however, can be found in other sections setting forth the basic duties of the Fisheries Entry Commission.

The Commission has been charged with three basic duties which when discharged determine the total number of units of gear and who will be allowed to fish in each designated fishery. The first is establishment of the maximum number of entry permits for initial entry. This is a simple statistical task of calculating the highest number of units of gear fished in the subject fishery during any one of four years immediately preceding January 1, 1973 (Sec. 240). Following establishment of the maximum number of units of gear for the fishery, the Commission then determines which applicants from those currently engaged in the fishery shall receive entry permits. This is to be done by ranking applicants for entry permits according to the degree of hardship which they would suffer from exclusion from the fishery. Sec. 250 of the law provides that this shall be accomplished by a "reasonable balance of the following hardship standards:

- (1) degree of economic dependence upon the fishery, including but not limited to percentage of income derived from the fishery, reliance on alternative occupations, availability of alternative occupations, investment in vessels and gear;
- (2) extent of past participation in the fishery including but not limited to the number of years participation in the fishery, and the consistency of participation during each year.

The Commission then designates those applicants who would suffer significant economic hardship by exclusion and those who would suffer only minor economic hardship. (Sec. 250).

The third step to be taken by the Commission is to establish the optimum numbers which are to take the place of the maximum numbers of units of gear licenced in each fishery. This also presumably would take the place of any estimated optimums used in the initial decision to declare the subject fishery a distressed fishery and the standards to be used have been discussed above. (Sec. 290). The article title states

the essence of this final step, "Reduction to Optimum Number of Entry Permits" (Article 5). As this is a reduction from the maximum number of permits outstanding, the Commission is also to institute a buy-back program at this point (Sec. 310). Although several abortive starts have been made, the Commission has yet to determine any optimum numbers and in the light of pending court challenges and the almost impossible nature of the task is unlikely to do so.

The Commission's interpretation of "economic hardship" can be traced in a review of its implementation of the first two tasks. The maximum number of units of gear for each designated fishery was determined and regulations drawn up in 1974 setting up a point system for measuring the degree of economic dependence upon fishing (percentage of total income from fishing, investment in vessel and gear, and population of census district or county of domicile) and past participation (years fished as a gear operator 1969-72, number of weeks in each year, additional years fished as a gear operator 1965-68, and any year as a crewman 1965-72). A total of 40 possible points was divided equally between economic dependence and past participation. Any applicant scoring 20 or more points was considered to have demonstrated that they would suffer "significant hardship" from exclusion and all such applicants would automatically receive entry permits even if the total permits so issued for the fishery exceeded the maximum determined by the first step.

The point system is the key to "economic hardship" as defined in the Act and interpreted by the Commission. It was designed to determine the eligibility priority only of those who were actual gear operators as of January 1, 1973, and economic hardship was primarily measured in terms of loss of past investment of time and money in gear operation. Although one point was available for any year served as a crewman during the period 1965-72, the applicant still was required to be an actual gear operator as of the cut off date, and years fished and consistency of participation as a gear license holder carried the most weight (16 out of a possible 20 points).

The economic dependence standards were weighted similarly in favor of percentage of income from fishing and monetary investment (together a possible maximum of 16 points out of a total 20 points for economic dependence). Additional points were available for applicants domiciled in census divisions or counties with a 1970 population of less than 25,000 persons (4 points for such areas with less than 10,000 and 2 points for areas with more than 10,000 but less than 25,000 population in 1970). This was the proxy measure for "availability of alternative occupations". It is the only standard of hardship which has any relation to something other than the fishery itself and it can only support a maximum of four points as compared with a maximum of 36 points from investment of time and money.

Further Dimensions of Economic Hardship in Amendment Proposals

New entrants into the fisheries via permit transfers presently are not subject to any economic hardship test. The transferee is only required to "establish present ability to participate actively in the fishery" (Sec. 160). Beyond a review by the Commission to assure that the transferee indeed has this intent and ability and that the terms and conditions of transfer do not violate the provisions of Section 150 of the Act, permits are freely transferable without any further legislative or administrative regulation. Free market factors determine subsequent entries into the fisheries, except those made through inheritance or gift. Because the permit is a limited asset and there have been continuing increases in the value of catch in the designated fisheries, the value of permits has risen to levels where ability to pay rather than economic hardship has become the test of eligibility for entry through purchase. This has and will increasingly become a bar to future entry of young persons and crew members into a fishery as gear operators. Study of transfer patterns of permit holders under free transferability for 1975-79 also indicates changes in residence allocation patterns from those initially resulting under the criteria of the Act in 1973 (Steve Langdon, "Preliminary Report on Transfer Patterns of Alaskan Limited Entry Fisheries Permit Holders"). If some of these changes become continuing trends, future geographic allocation of permit holders could undermine the basic economies of coastal communities dependent upon fisheries and the employment and income sources of their residents.

If the proposals being considered by the Limited Entry Study Group are put into final form as a single bill, the statement of findings probably would focus on these two developments taking place under the present program: (1) the trend (or potential trend) towards increasing exclusion of the traditional recruits into a fisheries (young persons and crew members), and (2) alteration in patterns of holders of permits which represent a withdrawal of the means of access to fisheries from communities traditionally dependent upon participation in the fisheries. Only the first is addressed in the present draft of the apprenticeship bill, but the second is implied (e.g. the use of lists of fishermen for each administrative area and references to families and the spreading of the permits "over as many families as possible").

The draft of the "State Entity Limited Entry Apprenticeship Program" does not use the term economic hardship, but it is concerned with the economic hardship caused by exclusion of a particular group, the young persons with "the predisposition and other fishery related attitudes" who would have been the traditional source of new entrants in the pre-limited entry permit period (Section II. A). Unless these persons inherit an entry permit from a member of their family, they must be able to raise substantial sums of money today to purchase a permit. For this reason, one of the stated purposes of the program is "to terminate the monetary value of the permit through adoption of one of the transferability alternatives." These alternatives are not spelled out in the draft, but from the language in the other sections it is clear that with two exceptions it would be the State Entity rather than a current permit holder who determines how and to whom transfer is to be made. These two exceptions are "one who has fished as a crewmember and/or helper of a permit holder... for 4-7 years, shall be termed a qualified transferee" and transference by a "legally drafted will from the permit holder to the child" (Section VIII).

pages 11
All other pending transfers are to be by means of the State Entity administered apprenticeship program. (The proposal is silent as to whether the crew member transfer can require a financial consideration).

"The number of apprentices set for each administrative area shall be determined by the estimated number of permits available for that particular area within the succeeding two years" (Section V). From a list of active fishermen in each area, individual fishermen will be chosen by lottery to take an apprentice. The State will provide appropriate incentives to the chosen fishermen. (Sections V and VI). This is the means by which one of the key purposes is to be served: "To relate the future supply of apprentices to the probable number of future permits determined and made available for that particular administrative area, for a two year period from that determination" (Section II. E).

Eligibility requirements for being considered as an apprentice relate to experience, training and a special category for license holders who failed to obtain an entry permit (Section IV). Where the number of crewmembers or helpers selected exceeds the number of pending permits available, priority shall be given to "heads of households or...members of families, who presently don't own permits, but who substantially depend on fishing as a source of livelihood" (Section VII). This implies a measure of relative economic hardship similar to the dependency allowances in income taxes, namely that the exclusion of a head of a household in favor of a single person adversely affects the economic wellbeing of a greater number of persons. The preference for members of families dependent upon fishing (persons who are not necessarily heads of households) is related to the purpose of "spreading a limited asset, the entry permit, over as many families as possible" (Section II. C). Again, this relates to an objective of sharing the economic benefits to be derived from an economically healthy and growing fishery over as many people as possible and to give a favored treatment to those who have been dependent upon fisheries. Although forms of relative economic hardship, or the avoidance of this, are involved in these purposes, there is no need to define the term. It is not used directly as a standard for eligibility although it is part of the justification for such treatment.

As it is now drafted, the apprenticeship program bill requires the addition of some statement of findings as to the economic hardship considerations involved in its statement of purposes and the standards to be used in their implementation. There is no need for a technical definition of the term in the body of the bill as it is now constituted. In contrast, definitions of economic hardship are central to the two research contracts being conducted. The objective of the socio-economic research project is "to assess the relative economic wellbeing of Alaska's fishing communities and thereby identify areas of particular hardship," and the study of transfer patterns is directed not only to analysis of characteristics of the permit holders in each fishery but also the place of residency using five classifications (Nonresident, Alaska rural local, Alaska urban local, Alaska rural nonlocal and Alaska urban nonlocal).

This is an attempt to document geographic shifts in residence of permit holders and, in connection with the socio-economic project, provide a means for measuring and projecting relative economic hardship imposed upon communities by these changes. This suggests that the Limited Entry Study Group will be considering further proposals which will expand the present Act's focus upon the fishery (the resource and the economic activity) as the basis for determining economic hardship to include the fishing community. A number of measures and definitions of economic hardship or wellbeing on this basis have been available and in constant use for many years.

Economic Hardship and Wellbeing of Communities and Areas

The basis for determination of relative economic hardship and/or wellbeing which are generally recognized and measurable are (1) per capita personal income received by residents of the subject community, area or region (this is compared with other areas or with Federally established priority level thresholds for example), (2) level of employment and rate of participation of the total resident population in the workforce, and (3) the industrial composition of the subject economy and the degree of diversification of its basic or primary sector. The meaning and definition of these measures is well understood and established in Federal, State and even international statistical series, reports and studies. These standard definitions or references can be incorporated directly into any legislation which might be drafted. The socio-economic project of the Limited Entry Study Group is primarily devoted to the generation of appropriate statistics for the construction of these three sets of measurement, and modifications required to more precisely serve the fisheries objectives.

Per capita personal income: The U.S. Dept. of Commerce has for several decades calculated annual personal income and per capita income estimated for the nation and each state. Several attempts have been made to calculate similar measures for sub-regional units within Alaska (the MAP regional models, the Dept. Commerce census division). For application to the commercial fisheries entry permit question, however, these are not entirely appropriate. The sub-regional allocation of the State totals has simply been on the basis of the relative distribution of annual payroll data as reported by the Alaska Dept. of Labor. This does not include fish harvesting income or take into account the variation in composition of income received from wages and salaries, fish harvesting, and transfer payments. Each of these elements assumes a different relative importance in the composition of total income in each census division. A basis for allocating each is available from Dept. of Labor (wage and salary income), Dept. of Social Services (transfer payments) and Commercial Entry Commission (gross income from fisheries). We have been compiling data from these sources. The remaining task is to devise a means of reducing gross fisheries income to a net figure. For Alaska's rural census divisions, the total per capita personal income is not appropriate.

We are advocating the use of a non-governmental personal income calculus. For example, the presence of the Adak naval base in the Aleutian division completely overshadows the income condition of the other residents of the division. In other low population divisions, the earnings of school teachers, public health personnel and air force technicians similarly distort the usual per capita calculation.

Population: Dept. of Labor and Dept Comm. & Reg. Affairs make joint estimates of annual population of census divisions (total and civilian). These need to be adjusted to reflect non-government population for purposes of per capita calculations.

Economy structure: Monthly and annual employment estimates by industrial classification provide the best measures of the economic structure of each division. Wage and salary employment and income data by industry and by division are provided monthly by Dept. of Labor. Military personnel by division are provided annually by Dept. Defense sources. Fisheries employment is presently not provided, but can be estimated from fish ticket data. We are presently completing such estimates of fisheries employment. These series together provide the basis for determining the level of employment (and economic activity), the diversification of the basic sectors of the economy (in particular, the degree to which it is dependent upon fisheries) and alternative employment opportunities. The data also needs to be broken down by resident and non-resident workers. At present, published sources provide us with this data only for fisheries and means of estimating this division for other sectors have been developed.

[illegible]

[illegible]

>

[illegible]

UNITS OF GEAR FISHED BY FISHERY AND RESIDENCE OF OPERATOR - 1972

[illegible]

9

[illegible]

UNITS OF GEAR FISHED BY FISHERY AND RESIDENCE OF OPERATOR - 1974

[illegible]