HB 763 cont..

APPENDIX G

DEVELOPMENT OF AN ALASKAN BOTTOMFISH INDUSTRY AND STATE TAXES

A Report to the Legislative Affairs Agency
and the House Interim Resources Committee

by

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The purpose of this report is to present preliminary analysis of the probable economic consequences of State taxation policy upon the development of an Alaska bottomfish fishery. In addition to a general review of present and possible alternative tax laws directly effecting fisheries and their economic importance, the contract also asked that "to the extent that data and knowledge exist, the consultant should identify the levels at which a taxation policy would have a significant effect on the development of bottomfish processing facilities or commercial fishing operations." This requires that in addition to a general theoretical discussion of probable consequences of tax changes, the analysis be reduced to realistic and concrete terms which uses as its elements recognizable forms of harvesting and processing gear and equipment, blocks of investment dollars, and manpower inputs.

I. ALASKA BOTTOM FISH FISHERIES - PRESENT AND POTENTIAL

To put State taxation into perspective with the other factors which condition or determine development decisions, the first part of the report deals with existing and potential domestic and foreign bottomfish fisheries in the waters off Alaska. The "historical" review deals with the most relevant period, the 1970's through 1977, and the proposed catch allotments for 1978. The broad potential for the development of an Alaskan fishery is treated in short-term and long-term schedules, the

first being what could be done immediately through conversion or more intensive use of existing physical means of harvesting and processing and the second suggesting the probable range of increase likely from new investment.

Domestic and Foreign Bottomfish Fisheries Off Alaska*

For purposes of management planning, the North Pacific Fishery Management Council (NPFMC) has divided the waters off Alaska into two major regions: the eastern Bering Sea and Aleutian Islands (the "fishery conservation zone" (FCZ) established by the Fisheries Conservation and Management Act of 1976 seaward 200 miles from the Bering Sea coasts of Alaska and the Aleutian Islands west of 170 degrees west and the continental shelf up to the line between Alaska and the USSR) and the Gulf of Alaska (the FCZ between the eastern Aleutian Islands at 170 degrees west and Dixon Entrance at 132 degrees west). The Gulf of Alaska is further subdivided into five areas following the International North Pacific Fisheries Commission (INPFC) statistical units (Figure 1):

(a) Bering Sea/Aleutian Islands:

Sea mammals (whales, sea otters, fur seals) were the first major commercial developments in the Bering Sea/Aleutian region. Some commercial harvesting of cod occurred in the last half of the 19th and first

*This section has been abstracted primarily from the sources listed in Table 1, following.

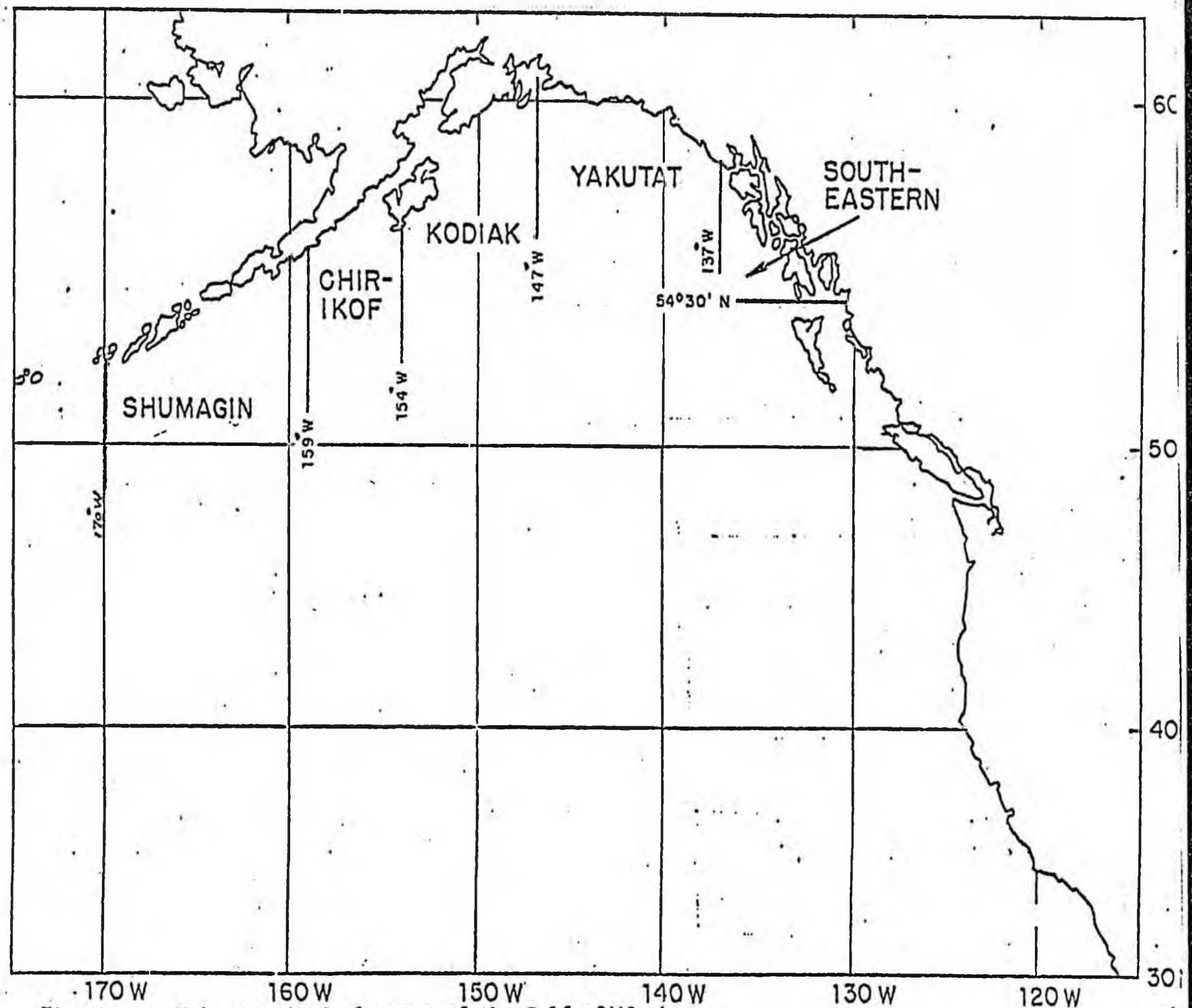

Figure / --Major statistical areas of the Gulf of Alaska.

decade of the 20th centuries and the North American (U.S. and Canada) halibut fishery commenced in 1928. Present domestic and Canadian fisheries are confined to a small longline fishery for halibut and subsistence herring fisheries by Alaskan Natives. Between World Wars I and II, Japan operated cod and trawl bottom fisheries in the region. Japan resumed operations in 1954, and catches increased to about one and three quarters million metric tons annually for 1971 through 1973. The USSR initiated flatfish and herring fisheries off Alaska in 1959, South Korea commenced operations in 1967, and Poland and Taiwan began in 1973 and 1974 respectively.

The catch of the contemporary domestic and foreign fisheries in the region (1970-77) are summarized in Tables 1 and 2. Japan dominates the region with annual catches ranging from slightly more than one million metric tons in 1976 and 1977 to almost two million metric tons in 1972, most of this being accounted for by the harvest of Pacific Pollock. USSR annual catches have ranged from 232 thousand metric tons in 1970 to 436 thousand metric tons in 1974, approximately half the 1970 harvest being flounder but shifting to Pollock as the dominant species in the following years. The harvests of South Korea have increased steadily from 5 thousand metric tons in 1970 to 117 thousand metric tons in 1974. Catches of Poland and Taiwan have been insignificant, although their 1977 allotments were 13 and 10 thousand metric tons respectively. The catches of the United States and Canada generally did not exceed 500 metric tons per year.

The United States and Canada fisheries consist of small longline vessels which deliver their catches to ports in Alaska, British Columbia

TABLE 1--CATCHES (APPROXIMATE) OF BOTTOMFISH OFF ALASKA BY COUNTRY AND INPFC AREAS--1970-77

	United States	Canada	USSR	Japan	South Korea	Poland	Taiwan	Total	Area Distribution Percent	U.S. as Percent Tot
1970				(1,000 metric tons, round weight)						
Bering Sea, Aleutian	*	1	232	1.480	5	------	------	1.718	93.5	*
Shumagin	1	1	2	8	-----		------	12	0.7	8.3
Chirikof	2	4	2	9	-----	------	------	17	0.9	11.8
Kodiak	6	2	5	20	-----	------	------	33	1.8	18.2
Yakutat	1	2	*	21	-----	------	------	24	1.3	4.2
Southeastern	5	1	----	27	-----	------	------	33	1.8	15.2
TOTAL	15	11	241[a]	1.565	5	------	------	1.837	100.0	0.8
PERCENT	0.8	0.6	13.1	85.2	0.3	------	------	100.0		
1971										
Bering Sea, Aleutian	*	*	397	1.806	10	------	------	2.213	94.1	*
Shumagin	1	1	8	10	-----	------	------	20	0.8	5.0
Chirikof	2	3	5	8	-----	------	------	18	0.8	11.1
Kodiak	5	3	17	23	-----	------	------	48	2.0	10.4
Yakutat	1	2	1	23	-----	------	------	27	1.1	3.7
Southeastern	4	1	----	24	-----	------	------	29	1.2	13.8
TOTAL	13	10	428[a]	1.894	10	------	------	2.355	100.0	0.6
PERCENT	0.6	0.4	18.2	80.4	0.4	------	------	100.0		
1972										
Bering Sea, Aleutian	*	*	412	1.917	9	------	------	2.338	92.0	*
Shumagin	1	1	17	16	1	------	------	36	1.4	2.8
Chirikof	1	3	12	7	-----	------	------	23	0.9	4.3
Kodiak	5	2	37	26	-----	------	------	70	2.8	7.1
Yakutat	1	2	3	30	-----	------	------	35	1.4	2.8
Southeastern	4	1	----	33	-----	------	------	38	1.5	10.5
TOTAL	12	9	481[a]	2.029	10[b]	------	------	2.541	100.0	0.5
PERCENT	0.5	0.4	18.9	79.8	0.4	------	------	100.0		

TABLE 1--Page 2

	United States	Canada	USSR	Japan	South Korea	Poland	Taiwan	Total	Area Distribution Percent	U.S. as Percent Total
				(1,000 metric tons round weight)						
1973										
Bering Sea, Aleutian	*	*	348	1,755	7	*	------	2,110	91.5	*
Shumagin	1	*	14	10	3	--------	------	28	1.2	3.6
Chirikof	1	1	16	15	-----	-----	------	33	1.4	3.0
Kodiak	4	2	28	25	-----	*	------	59	2.6	6.8
Yakutat	1	1	4	35	-----	-----	------	41	1.8	2.4
Southeastern	4	1	----	29	1	-----	------	35	1.5	11.4
TOTAL	11	5	410	1,869	11[b]	*	------	2,306	100.0	0.5
PERCENT	0.5	0.2	17.8	81.0	0.5	*	------	100.0		
1974										
Bering Sea, Aleutian	1	*	436	1,574	34	------	*	2,045	91.5	*
Shumagin	*	*	20	12	3	------	*	35	1.6	*
Chirikof	1	*	8	15	-----	------	------	24	1.1	2.9
Kodiak	2	*	46	31	-----	*	------	79	3.5	2.5
Yakutat	1	1	3	19	-----	------	------	24	1.1	4.2
Southeastern	3	1	----	19	3	------	------	26	1.2	11.5
TOTAL	9	2	513	1,670[c]	40[b]	*	*	2,233	100.0	0.4
PERCENT	0.4	0.1	23.0	74.8	1.8	*	*	100.0		
1975 (preliminary)										
Bering Sea, Aleutian	*	*	334	1,254	8	------	3	1,599	84.9	*
Gulf of Alaska	10	2	134	124	10	4	------	284	15.1	3.5
TOTAL	10	2	468	1,378	18	4	3	1,883	100.0	0.5
PERCENT	0.5	0.1	24.9	73.2	1.0	0.2	0.1	100.0		

TABLE 1--Page 3

	United States	Canada	USSR	Japan	South Korea	Poland	Taiwan	Total	Area Distribution Percent	U.S. a: Percent
				(1.000 metric tons round weight)						
1976 (preliminary and incomplete)										
Bering Sea, Aleutian	*	*	320	1.199	94	------	2	1.615	86.8	*
Gulf of Alaska	8	2	107	105	23	------	------	245	13.2	3.3
TOTAL	3	2	427	1.304	117	------	2	1.860	100.0	0.4
PERCENT	0.4	0.1	23.0	70.2	6.3	------	0.1	100.0		
1977 (total allowable catch - NPFMC)										
Bering Sea, Aleutian	*	*	251	1.032	43	5	10	1.341	82.9	*
Gulf of Alaska	17	2	108	105	38	7	------	277	17.1	6.1
TOTAL	17	2	359	1.137	81	13	10	1.618	100.0	1.1
PERCENT	1.1	0.1	22.2	70.2	5.0	0.8	0.6	100.0		

* Less than 500 tons or 0.05%

a) Sources give USSR catch for "Gulf of Alaska" only. Allocation to INPF areas calculated on basis of 1973 and 1974 distributions.

b) Sources give South Korea catch for "Gulf of Alaska" only. Allocation to INPF areas calculated on basis of fleet movements reported by NMFS Law Enforcement Branch.

c) "Gulf of Alaska" catch by Japan by INPF areas 96 thousand metric tons as compared with 112 thousand metric tons as reported by species.

SOURCES: See next page.

SOURCES: 1970-1975: International North Pacific Fisheries Commission, Vancouver, B.C.
--Statistical Yearbook (annual).
--Report on the sub-committee on Bering Sea Groundfish (1975)

Food and Agriculture/Organization, Rome
--Yearbook of Fisheries Statistics (annual)

NMFS, Law Enforcement Branch
--Foreign Fishing Operations off Alaska (monthly)

Alaska Department of Fish and Game, Juneau
--AK Catch and Production, Commercial Fisheries Statistic (annual)

North Pacific Fisheries Management Council, Anchorage
--Management Plan for the Groundfish and Herring
--Fisheries of the Bering Sea and Aleutian Islands, 1977
--Management Plan for the Groundfish Fisheries of the Gulf of Alaska, 1977
--Report of the Halibut Working Group, August 16, 1977

1976: Ikuo Ikeda, "1978 allowable catches for the Ground Fishes in the Bering Sea and Gulf of Alaska," Far Seas Fisheries Research Laboratory, Japan. July 1977. (Includes statistics on Japan and USSR fisheries not elsewhere published at this date).

"Foreign Fishing Operations off Alaska, March 1976 and 1977." NMFS Law Enforcement Branch, March 15, 1977 (contains tables summarizing estimated 1976 catch and 1977 allocations for USSR, Japan and Korea based on observers' reports and other sources).

1977: "Foreign Fishing Allocations off Alaska by Countries" NMFS, Alaska Region, March 3, 1977 (single table summarizing allocations for total Bering Sea/Aleutians and Gulf of Alaska by country and species).

Data included in the above and following tables can only be taken as approximations of probable catches actually made. Basic sources of published data do not appear always to be reliable and principal documents consulted differed in a number of specific instances (some significantly). Halibut catch reported in dressed weight adjusted to estimated round weight by author. 1975 and 1976 data in part estimated by author from incomplete source data.

TABLE 2--CATCHES (APPROXIMATE) OF BOTTOMFISH EASTERN BERING SEA AND ALEUTIAN ISLANDS AREAS, BY PRINCIPAL SPECIES AND COUNTRY, 1970-77

	United States	Canada	USSR	Japan	South Korea	Taiwan	Total
	(1,000 metric tons, round weight)						
1970							
Sablefish (black cod)	-	-	3	10	-	-	13
Flatfish (other than halibut)	-	-	115	124	-	-	239
Halibut	*	1	*	2	-	-	3
Pacific Cod	-	-	-	75	-	-	75
Pacific Ocean Perch	-	-	53	23	-	-	76
Other Rockfish	-	-	-	2	-	-	2
Pacific Pollock	-	-	45	1,232	5	-	1,282
Other	-	-	16	12	-	-	28
Total	*	1	232	1,480	5	-	1,718
%	*	0.1	13.5	86.1	0.3		100.0
1971							
Sablefish	-	-	3	16	-	-	19
Flatfish (other than halibut)	-	-	143	184	-	-	327
Halibut	*	1	*	5	-	-	6
Pacific Cod	-	-	4	46	-	-	50
Pacific Ocean Perch	-	-	7	25	-	-	32
Pacific Pollock	-	-	236	1,515	10	-	1,761
Other	-	-	4	15	-	-	19
Total	*	1	397	1,806	10	-	2,214
%	*	*	17.9	81.6	0.5		100.0
1972							
Sablefish	-	-	2	14	a	-	16
Flatfish (other than halibut)	-	-	61	177	-	-	238
Halibut	*	*	*	1	-	-	1
Pacific Cod	-	-	7	40	-	-	47
Pacific Ocean Perch	-	-	25	14	a	-	39
Other Rockfish	-	-	-	1	a	-	1
Pacific Pollock	-	-	215	1,617	9	-	1,841
Other	-	-	102	53	-	-	155
Total	*	*	412	1,917	9	-	2,338
%	*	*	17.6	82.0	0.4	-	100.0

TABLE 2 - page 2

	United States	Canada	USSR	Japan	South Korea	Taiwan	Total
1973							
Sablefish	-	-	*	9	*	-	10
Flatfish (other than halibut)	-	-	21	180	-	-	201
Halibut	*	*	*	1	-	-	1
Pacific Cod	-	-	13	41	-	-	54
Pacific Ocean Perch	-	-	4	13	-	-	17
Pacific Pollock	-	-	290	1,483	7	-	1,780
Other	-	-	19	28	-	-	47
Total	*	*	348	1,755	7	-	2,110[b]
%	*	*	16.5	83.2	0.3	-	100.0
1974							
Sablefish	-	-	*	7	a	*	7
Flatfish (other than halibut)	-	-	39	226	a	*	265
Halibut	*	*	*	*	-	-	*
Pacific Cod	-	-	17	48	a	-	65
Pacific Ocean Perch	-	-	33	30	a	-	63
Pacific Pollock	-	-	331	1,253	26	*	1,610
Other	-	-	16	10	8	-	34
Total	*	*	436	1,574	34	*	2,044[b]
%	*	*	21.3	77.0	1.7	*	100.0
1975							
Sablefish	-	-	*	6	a	*	6
Flatfish (other than halibut)	-	-	50	138	-	*	188
Halibut	*	*	*	*	-	-	*
Pacific Cod	-	-	21	35	-	-	56
Pacific Ocean Perch	-	-	39	12	a	-	51
Pacific Pollock	-	-	220	1,053	6	3	1,282
Other	-	-	25	10	2	-	37
Total	*	*	355	1,254	8	3	1,620[b]
%	*	*	21.9	77.4	0.5	0.2	100.0

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	United States	Canada	USSR	Japan	South Korea	Taiwan	Total	
1976 (preliminaty and incomplete)								
Sablefish	-	-	*	5	-	*	5	
Flatfish (other than halibut)	-	-	50	152	-	*	202	
Halibut	*	*	-	-	-	-	*	
Pacific Cod	-	-	21	35	-	-	56	
Pacific Ocean Perch	-	-	19	13	-	-	32	
Pacific Pollock	-	-	210	984	94	2	1,290	
Other	-	-	20	10	-	-	30	
Total	*	*	320	1,199	94	2	1,615	
%	*	*	19.8	74.3	5.8	0.1	100.0	
1977 (Total Allowable Catch 0 NPFMC)								Unassigned Foreign Catch
Sablefish	-	-	0.8	5.6	0.6	-	7.2	0.2
Flatfish (other than halibut)	-	-	81.2	123.6	-	-	211.0	6.2
Halibut	*	*	-	-	-	-	*	-
Pacific Cod	-	-	17.2	38.1	-	-	58.0	2.7
Pacific Ocean Perch	-	-	11.6	9.3	-	-	21.5	0.6
Pacific Pollock	-	-	112.7	792.3	40.0	5.0	920.0	-
Other	-	-	27.3	63.5	2.5	0.3	93.6	-
Total	*	*	250.8	1,032.4	43.1	5.3	1,341.3	9.7
%	*	*	18.7	77.0	3.2	0.4	100.0	0.7

*Catch less than 500 tons or 0.05%.

[a]Catch included in "Other."
[b]Total includes minor catches by Poland in 1973 and 1974.

Sources: Same as Table 1.

and Washington for on-shore processing. In contrast, the other nations utilize large catcher vessels which either process their catch at sea on board or transfer them to factoryships (motherships) for processing. The flotillas from Japan and USSR include a variety of support vessels and are self-sufficient and supporting. In all cases there has been major upgrading of the Japanese and Soviet fleets in recent years in terms of vessel size, power, efficiency of fishing gear, navigation equipment and fish finding devices. The differences in intensity and efficiency of fishing effort are reflected in the relative distribution of total catch among participating nations. For the 1970's Japan has accounted for three-quarters or more of the total Bering Sea/Aleutian catch (86.1 percent in 1970 to a low of 74.3 percent in 1976), followed by USSR (13.5 percent in 1970 to 19.8 percent in 1976) and South Korea in a very distant third place (less than 1 percent until 1976 when the relative catch rose to 5.8 percent). Taiwan is a recent entry, only registering on the relative comparison scale since 1973, and the catches of the United States and Canada fall below one-tenth of 1 percent of the total regional catch (Table 2).

(b) Gulf of Alaska:

The principal bottomfish species in the Gulf of Alaska fishery include Alaska pollock, true cod, sablefish, Pacific Ocean perch, halibut, turbot, flathead sole, rock sole and Atka mackerel. Aside from Native subsistence fisheries, the oldest commercial fishery by U.S. fishermen was for cod in 1867 with later development of halibut and sablefish. Since 1930 halibut has been managed by the International Pacific Halibut Commission. The Asian trawl fisheries began in 1962 with the appearance

of a Soviet fleet targeting on Pacific Ocean perch, followed the next year by a Japanese fleet fishing for perch and sablefish. The combined efforts of these fleets expanded rapidly, resulting in excessive annual catches reaching peaks of 380,000 metric tons in the mid-1960's. South Korea entered the fishery in 1972 longlining for sablefish but also engaging in some trawl operations. Small fisheries efforts were conducted by Poland and Taiwan starting in 1974.

The United States currently participates in the North American halibut fishery, a sablefish setline and trap fishery, a bait fishery, and small fisheries for pollock, flounders and rockfish. The mainstay of the U.S. halibut fleet are schooners and seine vessels in the 20-39 net ton category that can be used for trawling and seining in other fisheries. A larger number of small gillnet boats participate in the habibut fishery briefly before salmon seasons. The U.S. sablefish fishery centers in the inside waters of Southeast Alaska as an off-season activity of halibut fisheries and some crab and salmon fishermen. The bait fishery is an adjunct of the crab fishery, and other groundfish are primarily incidental catch of halibut and sablefish fisheries. In 1976 a new fishery for flounders and pollock started based at Petersburg. The United States Gulf of Alaska bottomfish fishery has been heaviest within the Kodiak and Southeast areas where the United States catch has also registered significant portions of the total foreign-domestic catch, 10 percent or more in most years in each area (Table 1). This catch has almost been entirely based upon halibut, other species of bottomfish amounting to less than 500 metric tons in most years (Table 3). Canada has been almost exclusively engaged in the North American

TABLE 3--CATCHES (APPROXIMATE) OF BOTTOMFISH, GULF OF ALASKA BY PRINCIPAL SPECIES AND COUNTRY, 1970-77

	United States	Canada	USSR	Japan	South Korea	Poland	Total
	(1,000 Metic Tons, Round Weight)						
1970							
Sablefish (Black Cod)	*	------	b	24	------	------	24
Flatfish (other than halibut)[a]	*	*	b	4	------	------	4
Halibut	15	11	----	-----	------	------	26
Pacific Ocean Perch	------	-------	b	44	------	------	44
Other Rockfish	------	-------	b	1	------	------	1
Pacific Pollock	------	-------	b	9	------	------	9
Other	------	*	9	3	------	------	12
Total	15	11	9	85	------	------	120
%	12.5	9.2	7.5	70.8	------	------	100.0
1971							
Sablefish	1	------	*	25	------	------	26
Flatfish (other than halibut)	*	*	*	2	------	------	4
Halibut	11	9	----	-----	------	------	20
Pacific Ocean Perch	*	------	30	46	------	------	76
Other Rockfish	*	------	----	2	------	------	2
Pacific Pollock	------	------	1	10	*	------	11
Other	*	*	1	3	------	------	4
Total	13	10	32	88	*	------	143
%	9.1	7.0	22.4	61.5	*	------	100.0
1972							
Sablefish	1	------	1	36	------	------	38
Flatfish (other than halibut)	*	*	2	8	------	------	10
Halibut	10	9	----	-----	------	------	19
Pacific Ocean Perch	*	------	24	52	------	------	76
Other Rockfish	*	------	----	2	------	------	2
Pacific Pollock	-----	------	20	14	1	------	35
Other	*	*	22	2	------	------	25
Total	12	10	69	113	1	------	205
%	5.9	4.9	33.7	55.0	0.5	------	

TABLE 3 - page 2

	United States	Canada	USSR	Japan	South Korea	Poland	Total
1973							
Sablefish	1	------	1	27	1	*	30
Flatfish (other than halibut)	*	*	1	19	-----	*	20
Halibut	9	5	*	-----	-----	------	14
Pacific Cod	------	------	3	3	-----	------	6
Pacific Ocean Perch	*	------	4	50	b	*	55
Other Rockfish	*	------	-----	4	b	*	4
Atka Mackerel	------	------	9	-----	-----	*	9
Pacific Pollock	------	------	30	7	1	*	38
Other	------	------	5	4	2	------	11
Total	11	5	53	114	4	*	187
%	5.9	2.7	28.3	61.0	2.1	*	100.0
1974							
Sablefish	1	------	*	24	3	*	28
Flatfish (other than halibut)	*	*	2	7	*	*	9
Halibut	6	3	*	-----	-----	*	9
Pacific Cod	-----	------	2	3	-----	*	5
Pacific Ocean Perch	*	------	11	36	b	*	47
Other Rockfish	*	------	6	5	b	*	11
Atka Mackerel	-----	------	18	-----	-----	*	18
Pacific Pollock	*	------	31	30	*	*	61
Other	*	*	8	7	3	*	18
Total	7	3	78	112c	6	*	206
%	3.4	1.5	37.9	54.3	2.9	*	100.1
1975 (preliminary)							
Sablefish	1	------	*	22	2	b	25
Flatfish (other than halibut)	*	*	2	2	*	*	4
Halibut	9	2	*	-----	*	b	11
Pacific Cod	-----	------	2	4	*	b	6
Pacific Ocean Perch	*	------	10	32	b	b	42
Other Rockfish	*	------	2	9	b	b	11
Atka Macherel	-----	------	20	-----	-----	1	21
Pacific Pollock	*	------	40	13	b	b	53
Other	*	*	7	5	7	3	23
Total	10	2	83	87	18		

TABLE 3 - page 3

	United States	Canada	USSR	Japan	South Korea	Poland	Total
1976 (preliminary and incomplete)							
Sablefish	1	------	*	23	3	-------	27
Flatfish (other than halibut)	*	------	*	5	------	-------	5
Halibut	7	2	*	*	*	-------	9
Pacific Cod	*	------	2	3	------	-------	5
Pacific Ocean Perch	*	------	10	51	------	-------	61
Other Rockfish	*	------	----	-----	------	-------	-----
Atka Mackerel	-----	------	50	-----	------	-------	50
Pacific Pollock	*	------	40	13	20	-------	73
Other	*	------	5	10	------	-------	15
Total	8	2	107	105	23	-------	245
%	3.2	0.8	43.7	42.9	9.4	-	100.0
1977 (total allowable catch - NPFMC)							
Sablefish	2.5	------	----	14.0	1.6	-------	18.1
Flatfish (other than halibut)	3.0	------	1.8	18.7	*	-------	23.5
Halibut	4.0	2.0	*	*	*	-------	6.0
Pacific Cod	4.0	------	0.6	1.6	-----	0.1	6.3
Pacific Ocean Perch	1.0	------	8.7	19.8	0.5	-------	30.0
Other Rockfish	1.0	------	1.2	2.7	0.1	-------	5.0
Atka Mackerel	-----	------	21.0	------	-----	1.0	22.0
Pacific Pollock	1.0	------	63.1	44.1	35.8	6.0	150.0
Other	-----	------	11.8	4.2	0.1	0.1	16.2
Total	16.5	2.0	108.2	105.1	38.1	7.2	277.1
%	6.0	0.7	39.1	37.9	13.7	2.6	100.0

*Catch less than 500 tons or 0.01%.

[a]Yellow sole, other flounders.
[b]Catch included in "Other."
[c]Catch reported by areas in Table 1, totals 96 thousand tons.

Source: Same as Table 1.

halibut fishery, and its operations have been similar to those of the United States and, in fact, are generally combined with the United States in analysis by Japan of these fisheries.

As in the case of the Bering Sea, the foreign fisheries present a marked contrast to the United States and Canadian fisheries. In the Gulf of Alaska, Japan operates a trawl fishery carried out by factory stern trawlers (average size about 2,500 gross tons), offloading their processed catches to refrigerator transports or delivering the catches to Japan themselves. The principal species taken has been ocean perch from the Kodiak, Yakutat and Southeastern areas. Japan's sablefish fishery uses longlines and traps and vessels of about 500 gross tons. The catch is almost entirely from the Southeastern area, the primary site of the U.S. sablefish fishery (Tables 1 and 3). In recent years, the USSR has been phasing out the use of side trawlers and placed increased reliance upon large factory stern trawlers. The new "supertrawler" classes now scheduled for production will be from 4,000 to 5,500 gross tons with 7,000 horsepower and double the daily fish production and freezing capacity of those now in use. Despite efforts by the Soviets to maintain their catches in the Gulf through investment in larger and more efficient vessels and equipment and diversification of species catch, catches in the 1970's remain far below the peaks of the mid-1960's (e.g., 340,000 metric tons in 1965). Improvements have been made, however, both in absolute and relative terms since 1974 (Table 3). South Korea vessels use longline gear similar to the Japanese. Data on their catches has been sketchy until they began providing reports on their catches during 1975. As the major builder of vessels for the

USSR, Poland has ~~used~~ applied the experience gained ~~in~~ to developing their own factory stern trawlers for use off Alaska. Their operations ~~are patterned on~~ follow the Soviet pattern.

Potential for Expansion of a Domestic Bottomfish Fishery Off Alaska

The first obvious requirement for expansion of a domestic fishery is the availability of unexploited stocks (difference between actual harvests and maximum sustainable yield or the optimum yield of the stock), or legal or economic means of reducing the catch of foreign fisheries based on the same resource. In the eastern Bering Sea/Aleutian Islands, the NPFM management plans for 1977 and 1978 describe only "other flounders" as being "slightly underfished as a complex," adding, however, "some species or stocks may now be over-exploited." Halibut is described as "commercially extinct," Pollock "overfished...recruitment looks poor," Yellowfin sole "greatly overexploited," Pacific Ocean perch "greatly overexploited...remains depressed," Pacific cod "fully utilized," Sablefish "overfishing for 15 years has caused gradual decline," Atka mackerel "unknown but appears weak." Despite this evaluation, the 1978 management proposals provide for some expansion of domestic harvests of Pollock, Pacific cod and Yellowfin sole (Table 4).

Because of stock limitations in the Bering Sea/Aleutian Islands and indications that the domestic interests are not looking to these areas for significant expansion, this discussion will be limited to the Gulf only. Physical capacity already exists here for some immediate expansion and interest in future investment for further expansion centers in these areas. Pacific halibut stock has suffered the effects of heavy past fishing by United States and Canadian fleets, and intensive foreign

trawling has caused high incidental mortality of juveniles. Heavy foreign fishing during the 1960's has reduced the catch rates of other species, most particularly perch and sablefish, but the short-term outlook for overall stock conditions is rated as "good." Very little is known on causes of long-term changes in population sizes (e.g., decrease in perch and corresponding increase in pollock over the past 10-15 years).

Although room appears to exist in some stocks for domestic expansion, any significant future expansion of the magnitude justifying the investments required will have to be by allocations of allowable harvest between foreign and domestic fisheries under the Fisheries Conservation and Management Act of 1976. This provides that the total foreign allowable catch (FAC) is computed each season by deducting from optimum yield of the stock (OY) the anticipated domestic harvest for the year (DAH). This last is a measure of existing physical capacity to harvest and process a species, modified by other factors which will determine what the domestic fishermen and industry are willing and planning to harvest. A review of the process by which the 1978 DAH was estimated will provide an estimate of the short-run potential for domestic fishery expansion and insights into the factors determining the longer run potentials.

The first step taken by the groundfish management team of the NPFMC was to estimate existing physical capacity which could be made available to harvest, process, freeze and hold additional quantities of groundfish from the Gulf without the necessity of further capital investment and without diversion from present primary uses. In estimating harvesting capacity, it was assumed the most likely available source of expansion

would be from vessels in the Alaska shellfish fishery in the combination crabber-trawler group. Data was drawn from a 1976 University of Washington Sea Grant study (NORFISH, NR26, Technical Report 61, August 5, 1976), updated and augmented by initial results of a similar study currently in progress by the Alaska Commercial Fisheries Entry Commission under contract to NMFS. Making allowance for use of these vessels in their regular shellfish harvest, run time and weather conditions in the periods they could target on groundfish, it was estimated the current groundfish catches could be increased by 396 thousand metric tons during the 1978 season. No increase was assumed as being available from the present longline fisheries.

Estimates of capacity of shore facilities were based on information from interviews with officials of 16 companies operating processing plants at 27 locations on the Gulf of Alaska. The firms in the sample provided information on the amount of raw product that could be processed during the off season (when other species such as crab, halibut and salmon were not being delivered) and concurrently with other species during the peak of their seasons. Making allowances for shut-downs due to weather and other conditions, it was estimated that the physical capacity existed to process 203,250 metric tons of additional groundfish during 1978. On a similar basis, annual freezing capacity was estimated as 300 thousand metric tons. Additional plant holding capacity was quite small (11,386 metric tons) compared with processing capacity, but given industry schedules for moving product steadily to markets was adequate to accomodate the estimated production increases.

These estimates suggest that the domestic fishing industry currently has the capacity to take and process something in excess of 200 thousand

metric tons of groundfish annually as compared with the 8 to 16 thousand metric tons taken annually for the period of the 1970's (Table 3). This suggests also that the existance of physical capacity in itself has little relationship to actual or expected domestic harvest. This is because these harvesting capacity estimates make no assumptions as to the willingness of vessel owners and crew to work on a year round basis, thereby foregoing present off-season employment and activities. No analysis is made of the costs of using converted equipment under less than optimum conditions (e.g., when available rather than when harvest yields might be maximized). When the processing industry representatives who provided the basis for the plant capacity estimates were asked to make projections for actually moving into groundfish fisheries during 1978, market conditions and their lack of experience cut total expected maximum harvest to 44,500 metric tons for Gulf groundfish other than halibut, a significant increase over any past domestic harvests but far below the substantial portion of the total allowable catch the estimated capacity could physically harvest.

Half the firms in the sample were planning to develop new groundfish processing capacity and techniques in 1978, but capacity and schedules were not given. Although delivery of United States caught groundfish to foreign processing vessels will not be permitted during at least the first six months of 1978, the lifting of this ban could increase domestic harvest later in the year. Because these factors made forecasting next year's domestic groundfish fishery difficult, the recommended management plan sets aside 30 percent of the optimum yield (OY) in a special reserve to be apportioned between the foreign and domestic fisheries as the

TABLE 5--PROPOSED ALLOWABLE CATCH ALLOCATIONS OFF ALASKA - 1978 (As of October 15, 1977)

Species	Harvest Allocation	Gulf of Alaska Areas							Bering Sea and Aleutian Is.	
		Shumagin	Chirikof	Kodiak	Yakutat	Southeast	Total	%		%
		(1.000 metric tonns, round weight)								
Pollock	OY	57.1	54.4	40.8	12.5	4.0	168.8	100.0	850.0	100.0
	Reserve	17.1	16.3	12.2	3.8	1.2	50.6	30.0	-	-
	DAH	4.8	4.6	3.4	1.1	0.3	14.2	8.4	8.0	0.9
	TAC	35.2	33.5	25.2	7.6	2.5	104.0	61.6	842.0	99.1
Cod	OY	9.6	4.1	15.3	4.3	1.5	34.8	100.0	58.0	100.0
	Reserve	2.9	1.2	4.6	1.3	0.4	10.4	29.9	-	-
	DAH	4.3	1.8	6.8	1.9	0.7	15.5	44.5	1.0	1.7
	TAC	2.4	1.1	3.9	1.1	0.4	8.9	25.6	57.0	98.3
Flounders	OY	10.4	2.8	11.9	6.3	2.1	33.5	100.0	245.0[b]	100.0
	Reserve	3.1	0.8	3.6	1.9	0.6	10.0	29.9	-	-
	DAH	2.2	0.6	2.6	1.4	0.4	7.2	21.5	1.0	0.4
	TAC	5.1	1.4	5.7	3.0	1.1	16.3	48.6	244.0	99.6
Pacific Ocean Perch	OY	2.7	2.7	5.2	8.0	6.5	25.0	100.0	21.5	100.0
	Reserve	0.8	0.8	1.6	2.4	2.0	7.6	30.4	-	-
	DAH	0.1	0.1	0.2	0.4	0.3	1.1	4.4	-	-
	TAC	1.8	1.8	3.4	5.2	4.2	16.3	65.2	21.5	100.0
Other Rockfish	OY	0.3	0.2	0.6	3.4	3.1	7.6	100.0	-	-
	Reserve	0.1	0.1	0.2	1.0	0.9	2.3	30.3	-	-
	DAH	0.1	*	0.2	0.9	0.8	2.0	25.3	-	-
	TAC	0.1	0.1	0.2	1.5	1.4	3.3	43.4	-	-
Sablefish	OY	1.6	1.1	1.8	2.7	2.8	10.0	100.0	6.5	100.0
	Reserve	0.5	0.3	0.6	0.8	-	2.2	22.0[c]	-	-
	DAH	0.1	*	0.1	1.0	2.8	4.0	40.0	-	-
	TAC	1.0	0.8	1.1	0.9	-	3.8	38.0	6.5	100.0

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Species	Harvest Allocation	Gulf of Alaska Areas							Bering Sea and Aleutian Is.	
		Shumagin	Chirikof	Kodiak	Yakutat	Southeast	Total	%		%
Atka Mackerel	OY	4.4	3.6	15.8	1.0	-	24.8	100.0	24.8	100.0
	Reserve	1.3	1.1	4.7	0.3	-	7.4	29.8	-	-
	DAH	-	-	-	-	-	-	-	-	-
	FAC	3.1	2.5	11.1	0.7	-	17.4	70.2	24.8	100.0
Other Species	OY	3.9	3.2	4.5	1.9	1.0	14.5	100.0	82.8	100.0
	Reserve	1.2	1.0	1.4	0.6	0.3	4.5	31.0	-	-
	DAH	0.1	0.1	0.2	0.1	*	0.5	3.4	-	-
	FAC	2.6	2.1	2.9	1.2	0.7	9.5	65.6	82.8	100.0
Halibut[a]	OY	0.1	0.4	1.5	0.8	2.2	5.0	100.0	-[d]	100.0
	United States	0.1	0.2	1.3	0.4	1.8	3.8	76.0	-	100.0
	Canada	*	0.2	0.2	0.4	0.4	1.2	24.0	-	-
Total	OY	90.1	72.5	97.4	40.9	23.2	324.0	100.0	1288.6	100.0
	Reserve	27.0	21.6	28.9	12.1	5.4	95.0	29.3	-	-
	DAH	11.8	7.4	14.8	7.2	7.1	48.3	14.9	10.0	0.8
	FAC	51.3	43.5	53.7	21.6	10.7	180.7	55.8	1278.6	99.2

OY = Optimum yield (total allowable catch for the year)
Reserve = Thirty percent reserve of OY to allow in-season adjustments between domestic and foreign fisheries.
DAH = Expected domestic annual harvest based on available domestic fleet, processing and holding capacities and markets.
FAC = Foreign allowable catch (OY-DAH).

*Less than 50 tons or 0.005 percent.

[a] 1977 allowable catch. 1978 management plan not available at date of writing. Area and United States-Canada allocation on basis of 1975 catch
[b] Includes yellowfin sole (OY = 106 thousand tons, FAC = 105 thousand tons).
[c] Total Gulf less than 30 percent because no reserve made in Southeast area where proposed and recent DAH exceeds OY for area.
[d] Status of Bering Sea halibut described by IPHC as "commercially extinct" because of adverse impact of trawling upon juvenile stocks.

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Sources:

Fishery Management Plan and Environmental Impact Statement for the Gulf of Alaska Groundfish Fishery During 1978, North Pacific Fishery Management Council, Anchorage, September 23, 1977, Table 64.

Supplement to the Environmental Impact Statement/Preliminary Management Plan, Trawl Fisheries and Herring Gillnet Fishery of the Bering Sea and Aleutian Islands, NMFS Juneau, September 1977. (Contains revisions and adjustments to be made to the 1977 plan report to reflect 1978 proposals.)

Report of the Halibut Working Group to the North Pacific Fishery Management Council, August 16, 1977.

season progresses on the basis of continuing reappraisals of the actual domestic harvest (Table 4).

In summary, for the immediate future (1978) the potential increase in the Alaska groundfish fishery probably will range from 44,500 metric tons (the amount the industry anticipates harvesting and processing) to a high of 139,500 metric tons (initial 1978 DAH plus the full amount of the NPFMC reserve). Development of a domestic fishery beyond these initial ranges is a long-range proposition and faces a number of serious handicaps. Foreign imports of fish products from these resources dominate present domestic markets, and any drastic curtailment of foreign harvest to make room for domestic fishery development could result in a period of diminished supply and higher prices to American consumers. The 1976 law requires that management of the fisheries "provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities," which almost mandates that replacement of foreign by domestic fisheries be carried out without cost to the consumer. This would appear to rule out legally any attempt at an "infant industry" protective tariff as a means of promoting domestic development.

In competition for markets, the foreign fishery has several important advantages. They have had a decade or more experience on the grounds and established specialized and efficient operations which result in economies beyond those of lower labor costs. They have strong United States and international marketing connections and organizations, none of which are presently possessed by Alaskan developers. Foreign exploitation of virgin stocks

(excepting Pacific halibut) in the Bering Sea and Gulf of Alaska during the 1960's resulted in extremely high catch rates which helped offset much of the development costs. Alaskan fishermen seeking to enter the bottomfish fishery at its present state of depressed catch rates will not enjoy this "natural subsidy," and will have to absorb or pass on to the consumer their full development costs.

Alaskan fishermen may, on the other hand, have some cost advantages in that they might be able to learn from the foreign experience and experiments and avoid some of the costs of the innovator. Operating from shore bases could provide further economies as compared with the use of factory ships and distant water fleets. This advantage becomes increasingly important in terms of comparative energy consumption by foreign off-shore and domestic on-shore processors.

II. BASIC DEVELOPMENT REQUIREMENTS FOR AN ALASKAN BOTTOMFISH FISHERY

The previous section has dealt with the availability of an adequate resource base for the development of an Alaskan bottomfish fishery. Although knowledge of stock conditions and population dynamics is fragmentary, for most species it appears from evaluations in NPFMC groundfish management plans that stocks are presently fully utilized or in some cases overutilized. Development of an Alaskan bottomfish fishery, therefore, would require that management plans make reallocations of total allowable catch (OY) for each species from allowable foreign catch to domestic catch. Under provisions of the 1976 extended

Jurisdiction Act this requires a demonstration not only of the existance of the physical means to harvest and process an expanded domestic catch (estimated for 1978 at about 200 thousand metric tons in the Gulf of Alaska), but a firm estimate of the intent of fishermen and processors to utilize the expanded allowance (for 1978 this was set at 27,500 metric tons above the 1977 allowable domestic catch with a reserve of an additional 95,000 metric tons from which in-season allocations could be made). This section will review the strategic factors which would influence development investment decisions in harvesting and processing.

Domestic processors have demonstrated real interest in getting into the handling of bottomfish. According to the NPFMC 1978 Gulf of Alaska groundfish management plan (September 23, 1977) eight processing companies have plans to develop in the 1977 and 1978 seasons additional processing capacity and techniques for bottomfish at 16 plants in the region and a similar report has been made by John Williams to the Chairman of the Interim Resources Committee (September 12, 1977). Most of these plans involve use of or expansion of existing facilities. The Development Officer for NEFCO, furthermore, predicted that within the next two years five new plants for processing bottomfish will be operating in the Gulf and that in a longer run view plants would be processing Bering Sea bottomfish catches at Dutch Harbor or on St. Paul Island (John B. Harris, October 26, 1977). These and other sources consulted indicate that capital availability for processing is not a critical factor. The development of an assured and adequate supply of fish is the

strategic factor in investment. This also applies to various joint ventures with foreign processors which have received some attention.

To date, response from the harvesting sector has been limited in spite of various incentives offered by processors in the form of higher than market prices and willingness to accept small quantities. The reasons for lack of response are fairly obvious. Very few domestic vessels are equipped for trawling, and these are mainly in the shrimp fishery and are somewhat undersized for the type of bottomfish fisheries contemplated. The most suitable source for conversions today are from the crab fleet, most of which are of the appropriate size (between 100 to 200 gross tons and 85-120 feet in overall length), power (800 or more horsepower), and design. Some of these vessels have been designed to permit conversion to dragger operations in the future. Most of the fleet, however, is fully committed to crabbing operations and time for changing gear, etc., would not leave enough for a reasonable groundfish season. Also, cost of trawling conversions are high. Depending upon the type of navitional and fish finding equipment, horsepower and hull design included in the existing crabbing vessel, the costs could range from $150,000 to over $500,000.

Most importantly, owners of vessels engaged in crabbing have been experiencing very favorable financial returns and new capital is still flowing into the constructing and equipping of additional vessels. One source indicated that 32 new crab vessels are currently under construction. A NMFS study of a sample of king and tanner crab vessels for the 1974 season

reported rates of return on investment (after deducting opportunity costs for operator's management and labor from the net revenue) of 11% for vessels in a class averaging 51 gross tons, 15% in a class averaging 140 gross tons, and 20% in a class averaging 198 gross tons (Bruno G. Noetzel, "Revenues, Cost, and Returns from Vessel Operations in Major U.S. Fisheries," NMFS, 1976, page 21). Williams notes that from 1970 to 1975 the quantity of king crab harvested increased 87% while ex-vessel value increased 190%, tanner crab harvest increased 223% and value 400%, and shrimp harvest increased 33% and value of catch 163% (Williams, September 17, 1977, page 4). Coupled with this record of highly attractive and apparently increasing returns on investment, this is a fishery in which Alaskan fishermen have developed considerable experience and for which there is a growing body of basic knowledge. The reverse is true in bottomfish fisheries.

The expansion of harvesting of bottomfish might be accomplished in several different ways with different types of fleets and delivery systems (refer to Williams, op.cit. pp.5-6 for a review). Fisheries off Southease Alaska might be served by smaller vessels in the 80 foot class operating in pairs or teams, but the major fisheries of the northern and western Gulf would require much larger vessels capable of operating over long distances, during winter months and under the generally severe sea and weather conditions of these areas. Capital investment required to build and equip vessels capable of meeting these conditions would range from more than two million dollars per vessel in the 120 foot class up to five million dollars for

larger vessels with preliminary processing capability.

Investments of this magnitude remove most of the harvesting development from the individual to the corporate level, which in turn requires that there be a basis for making reasonably reliable estimates of return on the capital to be committed to such enterprises. Although considerable information might be obtained from the experience of domestic shellfish fisheries in the Gulf and some from observation of foreign harvesting experience, the efforts of the NPFMC to produce groundfish management plans demonstrates that it would be very difficult to estimate something as basic as the annual catch of a harvesting unit, what species would make up the catch and in which areas the unit would have to operate in order to accomplish this. Assuming this were possible, the next problem is projecting the marketable of the catch and prices which could be expected. Williams, in reviewing marketing considerations concludes,

> "Much more information needs to be developed before we can understand the market place implications of the development of the Alaska groundfishery. There is very little known about the consumer of bottomfish products, the relationship of these products to replacement products such as chicken and red meat, and the price elasticity of groundfish." (Williams, op.cit. page 8).

Another critical lack noted by some sources consulted was the limited body of Alaskan fishermen and skippers who had the experience to embark immediately upon a new fishery undertaking of this sort and magnitude. In addition to investment in vessels and gears, a corresponding investment in generating to require manpower is also required.

Consideration of tax and other incentives to development of an Alaskan bottomfish fishery, therefore, must be primarily

addressed to the harvesting sector and within that sector to reducing and eliminating the barriers to capital flow represented by uncertainties arising from lack of information and experience.

III. ALASKA FISHERIES TAXES AND LICENSES AND DEVELOPMENT OF BOTTOMFISH FISHERY

Prior to the enactment of an income tax and general business license tax by the 1949 Legislature, Alaska's revenue system was a patchwork of specialized levies on a narrow selection of businesses and activities. The backbone of the system was the severance taxes on mining and the canned salmon pack. With the virtual disappearance of mining during and after World War II, the principal source of revenue other than federal grants was the pack on canned salmon. This was levied on the number of cases packed, not the value of the pack, and the amount of the levy was determined jointly by the Legislature and representatives of the Alaska Salmon Industry, Inc. in the final days of each biennial session at a level estimated to be sufficient to provide the required revenue to meet projected budgets for the coming two year period. With very minor change (e.g., the tax on canned salmon is now levied on "value" of raw fish arbitrarily priced according to statutory provision), the obsolete Territorial tax system survives in the commercial fisheries sector of the current State system.

Three sets of taxes are levied on processors. The "Raw Fish Tax" is set at 3% of value for salmon, 2% of value for crab and razor clams, and 1% of value for herring and butter clams. "Value" is rather arbitrarily calculated according to formula

in the statutes. For salmon canneries, the value is determined fr each species of salmon as the average wholesale price for the finished cannery product during the last five calendar months of the last five years immediately proceeding the license year. For other processors of salmon, "value" for tax purposes is the average prevailing price on the fresh fish market. "Value" for clam, crab and herring processing plants is the actual price paid for the raw materials. The "Cold Storage Tax" is levied on all shore-based cold storage plants and all other processors not covered by the "Raw Fish Tax" at 1% of raw material value. The "Freezer Ship Tax" of 4% of raw material value covers all freezer ships and other floating cold storage plants. The "value" for these taxes is the actual value of the raw materials.

A schedule of fixed license fees or taxes are levied on fishermen, vessels and gear. These are specific as to type of gear and for some vary according to size or length (e.g., fathoms of drift gill net). All differentiate between resident and non-resident units and are nominal (e.g., resident vessel licenses are $10 and non resident licenses $30). These licenses are primarily for purposes of regulation and data gathering, rather than income raising, as are the fees for issuance or annual renewal of entry permits under the Commercial Fisheries Entry Act. Finally, all income earned by operating units in harvesting and processing are subject to the Alaska income tax and in some cases to local governmental property tax levies. No attempt has been made here to assess true revenues.

Table 5 summarizes the State of Alaska revenues from taxes and licenses specifically levied on commercial fisheries for

the period 1972-76 and estimates the proportion probably accounted for by present domestic bottomfish fisheries. At the level of harvesting and processing for this five year period, all bottomfish including halibut probably accounted for less than five percent of the revenues from all fisheries and bottomfish exclusive of halibut for less than two percent. This reflects the present relatively unimportant position of these fisheries in the total Alaska commercial fisheries picture, but assuming the 1978 proposed DAH plus the full amount of the reserve (Table 4) had been the five-year average, these fisheries would have accounted for 69% of total revenues from all fisheries. If the domestic allowable catch for 1978 (DAH) only had been the average for this same period, the revenues might have been 41% of the total from all fisheries. Although this is a very crude calculation (all other fisheries activities are assumed to remain constant at the 1972-76 average levels and the inflation reflects quantity expansion only), it does demonstrate that development of the Alaska bottomfish fishery to the 1978 DAH alone would result in a major revolution in the composition of revenues from State fisheries taxes.

The first specific question given in the project contract is to assess the probable economic consequences of "retaining existing fish taxation laws as they are at the present time." It is significant that in none of the sources consulted or in contacts made was the present tax system raised as a subject of concern in the promotion of investment in the new fisheries. The license fees levied on the harvesting sector are nominal in the light of expected returns and the taxes on processors are

tied to the value of raw materials used or some proxy calculation of such a value. Relating the estimated taxes in Table 5 to the total wholesale value of finished products and total value of catch for the period, the processor taxes amounted to only 0.7% of the average product value and the harvesting license to 0.2% of the average catch value. When placed in the context of the magnitude of total gross revenues (the sum of the raw materials which are taxed and the untaxed value added and profits) and investment, fisheries taxes would appear to be relatively neutral as to overall economic consequences.

This should not be interpreted, however, as a recommendation that the present system be retained. For the reasons implied in the above discussion -- the obsolete nature of the system inherited from a by now distant past and the certainty that the industry will be drastically altered from its present structure and composition if any sizeable Alaskan bottomfish fishery materializes -- there is an urgent need for a complete review of the present system for the purpose of designing a new total system which more adequately reflects present and anticipated conditions in the fisheries, is coordinated with other general taxes (which were not in existance when the original of the system was devised in early Territorial days), and properly serves intended revenue, regulatory and development purposes.

The next two stated questions deal with tinkering with the present system -- raising or lowering the raw fish tax on bottomfish, eliminating the differential taxation of shore-based and floating processors, and imposing a value-added tax in addition to the raw fish tax. Although raising taxes would tend

TABLE 5 - STATE OF ALASKA REVENUE FROM DOMESTIC FISHERIES TAXES AND LICENSES* F.Y. 1972-76, ANNUAL AVERAGES

	TYPE OF REVENUE	ALL FISHERIES TOTAL**	BOTTOMFISH Including Halibut***	FISHERIES Excluding Halibut***
		(thousands of dollars)		
1.	Raw Fish Tax	1,835.5	---	---
2.	Cold Storage and Freezer Ship Taxes	1,053.1	120.1	50.7
3.	Licenses (fishermen, vessels, gear)	897.3	55.3	7.5
	TOTAL	3,795.9	175.4	58.2
	Percentage	100.0	4.6	1.5

* Excludes income tax and other general levies.
** Alaska Revenue Sources (annual), Department of Revenue at Department of Administration.
*** Estimated on basis of relative catch values and/or number of units engaged.

to add to the costs of development and lowering or eliminating taxes would tend to have the reverse effect, the magnitude of the adjustments is the critical factor. This is recognized in the contract which asks that "to the extent that data and knowledge exists" the levels should be established "at which a taxation policy would have a significant effect.

Adequate data as to investment and operating costs of possible new harvesting and processing units are not available to make such findings, but in view of the magnitude of other factors affecting investment decisions such findings probably would have little relevance in any case. In the light of only two such factors, uncertainty as to the amount of annual catch and the certainty of high returns in established crab fisheries, the complete elimination of all taxes probably would have no consequences as an investment incentive. Such action would reduce costs by a small fraction of one percent in the case of harvesting, for example. Taxes could be raised high enough, on the other hand, to discourage investment if that were a policy objective, which it is not. The effects of the differential tax on shore-based and floating need further study to determine whether or not they have in fact contributed to fostering shore-based facilities over floaters or if more basic economic factors have determined the present composition of processors. The imposition of a value-added tax simply would revise the processor tax base from a raw fish to a finished product or gross income level, comparable to the base used in the General Business licenses. Due to the generally arbitrary character of all commercial fisheries taxes (e.g., the use of an average wholesale

product price as the basis for computing the salmon "raw fish" value) no real purpose would appear to be served by such action. Again, the probable magnitude of such an adjustment in relation to other factors affecting investment decisions (assuming prohibition of bottomfishing is not a policy objective) would be of minor importance.

A fourth question relates to the probable consequences of granting investment credits for purchase of "specialized gear or machinery for bottomfish harvesting or processing." This action would apply only in the event the enterprise would be expected to be profitable and subject to the State income taxes, or could be made profitable by a sufficient credit. In view of the apparent profitableness of alternative investment opportunities in crab fisheries, the credit would have to be substantial to achieve the objective of diverting a significant portion of this capital flow into bottomfish fisheries. Because it would be tied to specific forms of investment it would not allow the desirable flexibility required by highly experimental and exploratory undertakings to be promoted (i.e., experience might demonstrate that the wrong types of gear and equipment were being encouraged.) Benefits would be limited only to those given the credits with no sharing of information which might be used by other investors.

A final catch-all question of the contract was to assess the economic consequences of "any other taxation policies that might tend to induce Alaska entry and participation in bottomfishing." The State of Alaska has experimented with State and local tax exemptions or reductions as a means of inducing new economic development. This experience would not recommend such an approach

in the present case. The tax exemptions given were not demonstrably related to real need (i.e., as long as the program was in existance all new enterprises made application and many received the maximum allowable tax relief), there was opportunity for fraud and mis-administration, etc. This once more raises the effectiveness and desirableness of tax incentives as a means of fostering development as compared with the use of more direct and directed forms of incentive which deal with the real barriers of uncertainty, lack of knowledge, and the need for exploration and experimentation to remove them.

IV. OTHER FORMS OF INCENTIVES FOR DEVELOPMENT OF AN ALASKAN BOTTOMFISH FISHERY

There may be a place for tax incentives in a general plan for the promotion of economic development, but it should not be relied upon as either the sole or major element in such a plan. The impact of the existing fisheries tax system on investment appears to be very small and this would be affected in only a limited degree by revisions. There appears to be a need, however, for complete revision of the entire system for other reasons. Alternative means of promoting the development of these fisheries are already being experimented with and others have been proposed. The Alaska Department of Commerce and Economic Development has contracts with NEFCO at Kodiak and Icicle Seafoods, Inc. at Petersburg for groundfish processing pilot projects under which the State guarantees against market loss for the first year for up to three cents per pound, with a $145,000 ceiling, in return for which all information generated by the projects will

be made available to the State. The NEFCO project in addition has a matching $150,000 from the U.S. Economic Development Administration for fishermen and plant employee training programs. Such combination of time-certain price support programs and manpower training grants not only provide the developers with a public subsidy over the initial period of establishment but have the added advantage over a public subsidy in the form of a tax incentive of adding to the fund of knowledge which should ease the problem of creating a flow of private investment into further development.

NEFCO has also proposed to the U.S. Department of Commerce and the North Pacific Fisheries Management Council a joint private-public sponsored Alaska trawl fishing demonstration in the amount of five million dollars (shared approximately fifty-fifty by government and the industry). This demonstration would be conducted over a full year by two well equipped trawlers (converted from modern crabbers) in the Northern Gulf of Alaska and by three trawlers off Southeast Alaska (one of the size used in the northern Gulf and two of the smaller size currently engaged in trawling operating as a team). The program would also include bringing from Europe five outstanding Englishing speaking trawler captains experienced in the use of advanced fish finding and trawl monitoring systems and the maintenance and operation of mid-water and bottom trawls to act as advisors and coaches aboard the demonstration trawlers. The immediate objectives of the project would be to recruit and train trawl skippers and to attract a significant number of existing qualified vessels into the bottomfish fishery. Longer range objectives would be to

acquire knowledge and experience upon which investors could make estimates of annual catch and income from engaging in these fisheries and establish criteria for the design of a new generation of American vessels matching or exceeding the efficiency and technological advances of foreign competition.

Costs are involved in all forms of incentives, tax incentives in revenues foregone which must be borne by other taxpayers. These examples are cited not only to give some indication of the amount of these costs (in the first $150,000 to $300,000 and in the demonstration example $2.5 million or the public share of the costs), but to point out that the non-tax incentives bring with them a return in the form of knowledge and shared experience which the indirect tax incentives do not provide. Finally, these examples focus directly on the most critical barrier to investment while tax incentives provide only a gift in return for doing something which might be done in any case.

Alaska State Legislature

House

JUNEAU ALASKA

APPENDIX H

INTERIM RESOURCES COMMITTEE

Rep. Alvin Osterback
Chairman

Pouch V, State Capitol
Juneau, Alaska 99811
(907) 465-3715

10 October 1977

TO: Rep. Alvin Osterback, Chairman
Interim Resources Committee

FR: Kathy Hathaway, Staff
Interim Resources Committee

RE: Bottomfish project - community development

The following is a summation of my research dealing specifically with the community development aspects of an expanding Alaskan bottomfish fishery, with recommended State involvement in the planning process. Included is an infrastructural comparison of communities which are possible locations for on-shore bottomfish processing facilities, and a regional comparison of unemployment recipients for occupations relevent to the fishing industry.

With the 200-mile limit in effect, U.S. involvement in fisheries which have been dominated by the foreign fleets is beginning to appear economically feasible. The Fisheries Management & Conservation Act of 1976 specifically mentioned bottomfish off the coast of Alaska, and the challenge of planning for an expanding fishing industry is an immediate concern in the State's fishery policy.

As a bottomfish industry develops in Alaska, the State is faced with two immediate choices - the encouragement of either shore-based or floating processors. From a practical standpoint, Alaska's position on this matter will depend largely on whether the North Pacific Fisheries Management Council will recommend joint domesti/foreign ventures for floating bottomfish processing facilities. However, with the basic premise that planning on the State and local level is desirable for the orderly growth of industry, a close examination of the State's role in the development of both on-shore and off-shore bottomfish processing facilities is necessary. These divergent possibilities require different sorts of plans, depending on whether the greatest initial impact will be felt by the community, the local fisherman, or the State. Although the issue revolves around the social, economic, and political desirability of each choice, in Alaska it is presently complicated by the interests of foreign fishing nations, by the maneuvers among countries for a greater share of the international bottomfish market, by

the uncertainty as to whether the U.S. can be competitive within this market, and in the long-term whether there will be conflicts between an expanding fishing and/or processing industry with future OCS activity. Another complication is the question of what real benefits accrue to Alaska with foreign vs. domestic processors, Alaskan vs. Outside processors.

For the purpose of this Committee, one method of dealing with the question of how most effectively to expand into an Alaskan bottomfish fishery is to determine how the development of an underutilized fishery fits into the historic nature of Alaska's fishing industry. It is also necessary to investigate the possible benefits and drawbacks of off-shore and on-shore processing facilities for the Alaskan communities likely to be affected by the development of the industry. From this point it will be possible to discover what State involvement in the community planning process is desirable.

My report is divided into three sections: 1) The past and present community impact of Alaska's fisheries, 2) Community resource considerations for industrial activity, and 3) Perceived community benefits & drawbacks of Alaskan expansion into a bottomfish fishery.

I. Community Impact

Virtually all Alaskan coastal communities have a history of fishing activity. In Western Alaska, the activity historically centered around fur seals -- St. Paul is an example of a community which existed for 180 years to man the fur seal industry. In Southeast, original Tlingit and Haida fish camps became locations for cold storage and processing facilities in the early 20th century - Craig is an example. Even in coastal towns like Cordova, founded as a result of mining activity, fishing and fish processing have been constant.

Fishing and preserving fish have been major activities in Alaska by both the indigenous peoples and by those who came later - especially the Americans and the Canadians. However, even though fishing activity has been constant in Alaska since ancient times, the industry itself has had a history of instability. Since the 1870's, when the first salmon canneries began operation in Alaska, whole towns moved their sites to be closer to the canneries. As recently as 1970, when the cannery operators in Yakutat went bankrupt, welfare was the main source of income for many area fishermen until the community operated cold storage plant and associated dock were completed in April, 1971.

Bottomfish have been commercially harvested in Alaska since the 1860's by United State longliners, and since the early 1900's by trawlers. There was steady groth in the domestic Pacific trawl fishery, especially from Northern California to the Hecate Straits, until the end of WWII, when the demand for bottomfish decreased.

Except for some Japanese fishing activity in the Eastern Bering Sea since the 1920's, American fishermen caught almost all the bottomfish harvested in Alaska - except for Halibut - until the early 1960's, when the Japanese, and Soviet fleets moved in.

While the initial exclusion of the foreign fleets from Alaskan waters offers the opportunity of expansion into underutilized fisheries, one question facing this Committee is whether the State's expansion into bottomfish can be more orderly and stable than fisheries growth in Alaska has been in the past. It appears that the obvious way to ensure this would be to incorporate community planning for fisheries development into community planning for other industrial development, especially OCS-related development. By incorporating plans for development of under-utilized fisheries into the Coastal Zone Management Plans, orderly development of both Alaska's fishing and oil industries will be encouraged. This should maximize benefits to the State, Alaskan communities, and the Alaskan fishermen.

Alaskan towns have been born and have died with the vagaries of the fishing industry. Planning is necessary to ensure that Alaskan communities are able to break the pattern of over-dependence on what has been an undependable industry.

II. Community Resource Considerations

Community suitability as a location for on-shore bottomfish processing facilities can be defined from both the view-point of the fisherman and the processor. Both desire certain services and community characteristics which play a part in attracting industry to a locality.

Especially in an underutilized fishery such as bottomfish presently are in Alaska, the fisherman may have little choice in which community he will deliver his catch. But while support services may not be necessary to attract a fisherman to a community, they assist a town in handling increased traffic in an orderly manner. Important support services for a transient fishing fleet range from the availability of boat maintenance facilities and rapid delivery of replacements for damaged gear from the nearest major supply center, to the presence of such personal services as showers, laundry facilities, and entertainment. It is assumed that many of these support services would appear as demand increases, however their availability needs to be considered in the planning process.

Industry's community resource requirements differ somewhat from those of fishermen. Although they have an interest in a community's personal services, processors' interests range from the capacity of local utilities to the available local labor pool, from docking facilities to entertainment.

Figure #1 is a table of community utility requirements of processors before the start-up of a bottomfish processing plant. These requirements are based on a shore-based fish-processing facility receiving about 30 million pounds of round-weight fish per year, and operating for approximately 230 working days with two eight-hour shifts and three lines. Such a plant would produce approximately 10 million pounds of frozen fish meat per year. Because there is little definite data available on processing utility requirements for bottomfish in Alaska, the figures cited in Figure #1 are approximate.

It is likely that the first on-shore plants to begin processing bottomfish in Alaska will be located in communities which already have a well-rooted fish-processing industry, which have a fairly large permanent population,

and which are reasonably near bottomfish grounds. However, other pertinent aspects are the effects of fish migration on bottomfish grounds, what species are present on the grounds, and the age of the fish present. Because only about three or four Alaskan communities are obvious near-term locations for shore-based bottomfish processing plants, full utilization of the bottomfish resources available in Alaskan waters demands that processing plants be operating in other locations in the near future.

It is possible to divide Alaskan coastal communities into three classifications of suitability for development of on-shore bottomfish processing plants. The first classification would be of prime immediate locations for plants - Petersburg, Cordova, Kodiak, and Dutch Harbor. PFI (Icicle Seafoods) has already begun processing bottomfish at its plant in Petersburg, and it appears that NEFCO (New England Fish Company) will begin operations in Kodiak in the near future. Although these first locations would give coverage from Southeast to the Aleutians, it would be sparse, especially considering how quickly many species of bottomfish lose their marketable qualities.

	Plant	Million pounds/ bottomfish
Electricity	700,000 KWH	23,333 KWH
Water	3 million gals. fresh	400,000 gals. fresh
Labor	46 workers/ shift	5,642 man/hours

Figure #1 - Processors' Community Utility Requirements

The second classification would be of locations which seem to have real possibilities for development within the next 10-15 years. This includes communities ranging from Kuskokwim Bay to the Dixon Entrance, which have between approximately 65-100 people available for permenant long-term employment (or are able to accomodate that many new residents) and which have at least some of the facilities and resources which industry considers necessary in a community before the advent of a new fish-processing plant/

Many communities which fit into this second classification appear to be ripe for development and have the potential for cooperative processing ventures without industry involvement.

The third classification would be of communities which for reason of location or lack of community resources seem unlikely near-term locations for shore-based bottomfish processing plants, although there are long-term possibilities. This includes fairly large communities on the Seward Peninsula and farther north where there has not been a full resource assessment to find out how many and what kinds of fish are there. Another problem with northern loca-

tions is the short period of ice-free waters. Although bottomfish are being caught by subsistence ice-fishermen, it does not seem economically feasible at this time for commercial bottomfishermen to deliver to an on-shore processor north of Kuskokwim Bay.

This third classification presently includes the Pribilof Islands, although indications are that the Pribilofs are in an extremely attractive location for developing a bottomfish fishery. It appears that the recommendation of the North Pacific Fisheries Management Council that the Corps of Engineers finish dredging operations in the St. Paul harbor will enable the Pribilofs to accomodate anticipated growth in its commercial fishing fleet and make it an attractive location for fisheries expansion.

The second classification of communities which have near term possibilities for industrial development is of immediate interest to this Committee. Figure #2 is comprised of tables comparing coastal communities in each Native region which fit into this second classification. These tables are comparisons of community resources to be considered before further community development is planned. They show both those resources of primarily industrial interest and those resources of human services.

III. Community Benefits & Draw-backs

It is evident that with the goal of orderly community development, an immediate concern of the State is that there be as little change to the essential local life and heritage as possible.

It appears that shore-based processing operations have the greatest community impact - offering increased economic opportunities at the local level and the possibility of expanded human services. If indeed, as figures released by the North Pacific Vessel Owners Association indicate, greatest profit for the fisherman comes from delivering to a floating processor - that profit is limited to a few fishermen.

It is in the interest of the State for an expanding bottomfish fishery to be based on delivery to shore-based operations, or possibly to a comination of a shore plant with mother-vessels. The State's greatest concern at this time is that community industrial development proceed with the smallest adverse impact possible.

Appendix

COMMUNITY INFRASTRUCTURE COMPARISON, page 1 of 3

	REGION	POPULATION	DOCKS	SCHOOLS	HOUSING	HEALTH	POLICE	FIREFIGHTERS	FIRE INS. CODE	WATER	SEWER	ELECTRICITY	TELEPHONE	COMMUNITY HALL	LIBRARY	TRAD. SUBSISTENCE AREA	POSSIBLE OCS ACTIVITY	MAIN INDUSTRY
Alakanuk	Calista	495	N.A.		47 units 2 vac	PHS visit	Trooper from St. Mary	27 volunteer	10	N.A.	honey-bucket	diesel	earth station	yes	no	yes		N.A.
Angoon	Sealaska	400	city dock	Elem H.S.	84 units 8 vac	1 LPN PHS visit	1 local Trooper fr.Sitka	23 volunteer	10	creek	outfall	diesel	yes	yes	no	yes	no	fisheries
Cold Bay	Aleut	280	N.A.	Elem	75 units 0 vac	1 RN	Trooper from Sand Pt.	27 volunteer	10	wells	outfall	diesel	yes	N.A.	yes	yes		gov't
Cordova	Chugach	2500	2 city dock	Elem H.S.	523 units 50 vac	hospital clinic	6 local 1 trooper	20 volunteer	10	lake, falls& wells	sec. treatment	diesel	yes	N.A.	yes	yes	yes	fisheries gov't
Craig	Sealaska	467	2	Elem H.S.	82 units 8 vac	clinic PHS visit	2 local 1 trooper	15 volunteer	6-9	wells	aeration	diesel	yes	N.A.	yes	yes	no	fisheries forestry
Eek	Calista	195	none	Elem N.S.	40 units 4 vac	clinic PHS visit	Trooper from Bethel	10 volunteer	9	well, river, rain	privies, septic tanks	diesel	radio phone	N.A.	no	yes		N.A.
Egegik	Bristol Bay	150	cannery dock	Elem	35 units 4 vac	clinic PHS visit	Trooper from Naknek	N.A.	10	wells	privies, honey-bucket	diesel	radio phone	N.A.	no	yes		fisheries
Emmenak	Calista	502	none	Elem N.S.	93 units 13 vac	clinic PHS visit	Trooper from St. Mary	N.A.	10	N.A.	N.A.	diesel	radio phone	N.A.	no	yes		N.A.
Goodnews Bay	Calista	228	none	Elem	41 units 5 vac	clinic PHS visit	Trooper from Bethel	10 volunteer	10	wells	outfall	diesel	radio phone	yes	no	yes		N.A.
Homer	Cook Inlet	1243	city dock	Elem H.S.	N.A.	hospital clinics 2 doctors	4 local 1 trooper	18 volunteer	8-9	wells	C.L. & oxidation	diesel	yes	yes	yes	no		fisheries trade
Hydaburg	Sealaska	214	city dock	Elem H.S.	63 units 4 vac	clinic PHS visit	Trooper from Craig	30 volunteer	10	creek	outfall	diesel	yes	yes	no	yes		fisheries
Juneau	Sealaska	16600	5	Elem H.S.	4223 units 296 vac	hospital clinic 16 doctors	32 local 11 trooper	19 pd. 146 volunteer	5-6	reservoir, wells	secondary treat.	hydro & diesel	yes	N.A.	yes	yes		gov't

COMMUNITY INFRASTRUCTURE COMPARISON, page 2 of 3

	REGION	POPULATION	DOCKS	SCHOOLS	HOUSING	HEALTH	POLICE	FIRE FIGHTERS	WATER	SEWER	ELECTRICITY	TELEPHONE	COMMUNITY HALL	LIBRARY	TRAD. SUBSISTENCE AREA	POSSIBLE SITE OF OCS ACTIVITY	MAIN INDUSTRY
Kake	Sealaska	551	city dock	Elem H.S.	165 units 1 vac	PHS visit	Trooper fr. Petersburg	10 volunteer	creek	aeration	diesel	yes	N.A	yes	yes	no	N.A.
Kenai	Cook Inlet	12000	cannery dock	Elem H.S.	1176 unit 204 vac	3 doctors	7local trooper fr Soldotna	9 pd. & volunteer	artesian wells & wells	tertiary treat	diesel	yes	N.A	yes	no	yes	oil fisher fish. forest gov't
Ketchikan	Sealaska	7534	3	Elem H.S.	2315 units 147 vac	hospital clinic doctors	22 local 5 trooper	11 pd. 147 volunteers	lakes	outfall	diesel hydro	yes	yes	yes	yes	no	
Kipnuk	Calista	325	none	Elem	52 units 1 vac	clinic PHS visit	trooper fr. Bethel	7 volunteer	well	privies &septic tanks	diesel	yes	yes	no	yes		
Klawock	Sealaska	290	city dock	Elem	52 units 4 vac	RN PHS visit	trooper fr. Craig	12 volunteers	creek	outfall	diesel	yes	yes	no	yes	no	
Kodiak	Koniag	3923	3	Elem H.S.	1200 units 99 vac	hospital doctors	21 local	4 pd. 28 volunteer	creek	outfall	diesel	yes	N.A	yes	yes	yes	fish.
Kongiganak	Calista	190	none	Elem H.S.	32 units 5 vac	clinic PHS visit	trooper from Bethel	5 volunteer	lakes, streams, wells	privies &septic tanks	diesel	radio phone	N.A	no	yes		N.A.
King Cove	Aleut	338	cannery dock	Elem H.S.	61 units 0 vac	clinic PHS visit	trooper from Sand Pt.	N.A.	reservoir	outfall	diesel	N.A.	N.A	no	yes	yes	fish.
Naknek	Bristol Bay	350	cannery docks	Elem H.S.	48 units 3 vac	PH nurse 2 RN	1 local 1 trooper	12 volunteer	wells, lake	septic tanks privies	diesel	yes	yes	yes	yes		fish.
Ninilchik	Cook Inlet	134	N.A.	N.A.	62 units 26 vac	LPN PHS visit	1 trooper	N.A.	N.A.	none	diesel	yes	N.A.	yes	yes		fish. gov't.
Old Harbor	Koniag	327	state dock		57 units 3 vac	clinic PHS visit	1 local trooper fr. Kodiak	15 volunteer	stream	comm. septic tank	diesel	radio phone	N.A.	yes	yes	yes	N.A.

COMMUNITY INFRASTRUCTURE COMPARISON, page 3 of 3

	REGION	POPULATION	DOCKS	SCHOOLS	HOUSING	HEALTH	POLICE	FIRE-FIGHTERS	FIRE INS. CODE	WATER	SEWER	ELECTRICITY	TELEPHONE	COMMUNITY HALL	LIBRARY	TRAD. SUBSISTENCE AREA	POSSIBLE SITE OF OCS ACTIVITY	MAIN INDUSTRY
Pelican	Sealaska	169	cannery dock	Elem H.S.	55 units 0 vac	PHS visit	1 local trooper fr. Sitka	51 volunteer	10	reservoir	outfall	hydro &diesel	yes	yes	yes	no		fisheries
Petersburg	Sealaska	2126	3	Elem H.S.	701 units 76 vac	hospital doctor	7 local 1 trooper	27 volunteer	7	reservoir	outfall	hydro &diesel	yes	N.A.	yes	yes		fisheries forestry
Port Lions	Koniag	227	N.A.	N.A.	67 units 4 vac	clinic doctor PHS	trooper from Kodiak	17 volunteer	10	stream	septic tanks	diesel	yes	yes	yes	yes	yes	N.A.
Quinhagak	Calista	340	none	Elem	72 vac 7 vac	clinic PHS visit	Trooper from Bethel	9 volunteer	10	river & lakes	privies & septic	diesel	radio phone	N.A.	no	yes		N.A.
St. Paul	Aleut	488	N.A.	Elem H.S.	93 units 8 vac	clinic PHS visit	Trooper from Kodiak	6 volunteer	10	wells	septic tanks	diesel	radio phone	N.A.	no	yes	yes	N.A.
Sand Pt.	Aleut	474	N.A.	Elem H.S.	42 units 4 vac	clinic PHS visit	1 trooper	7 volunteer	10	reservoir	aeration	diesel	yes	yes	yes	yes		fisheries
Saxman	Sealaska	272	none	none	29 units 0 vac	PHS visit	trooper from Ktn.	28 volunteer	10	dam	aeration	see Ktn.	yes	yes	no	yes		N.A.
Seldovia	Cook Inlet	612	3	N.A.	29 units 0 vac	hospital PHS visit	1 local trooper fr. Homer	23 volunteer	9	N.A.	outfall	diesel	yes	N.A.	yes	yes		fisheries forestry
Seward	Chugach	1823	3	Elem H.S.	153 units 21 vac	hospital doctors	6 local 1 trooper	1 pd. 33 volunteer	5	wells	outfall	diesel	yes	N.A.	yes	no	yes	N.A.
Soldotna	Cook Inlet	1303	none	Elem H.S.	587 units 97 vac	hospital doctors	5 local 5 trooper	3 paid 19 volunteer	7-9	wells	sludge	diesel	yes	yes	yes	yes		N.A.
Teller	Bering Straits	215	lighter to beach	Elem H.S.	397 units 43 vac	clinic PHS visit	trooper from Nome	N.A.	10	river, ice snow	surface	diesel	radio phone	yes	no	no		N.A.
Unalaska	Aleut	510	N.A.	Elem H.S.	65 units 20 vac	clinic PHS visit	1 local trooper fromKodiak	2 pd. 7 volunteer	6-10	well	outfall	diesel	yes	N.A.	yes	yes		fisheries
Yakutat	Sealaska	354	3	Elem H.S.	72 units 23 vac	clinic PHS visit	1 local 1 trooper	22 volunteer	10	well	aeration	diesel	yes	yes	N.A.	yes		fisheries forestry

ALASKA UNEMPLOYMENT BENEFITS RECIPIENTS

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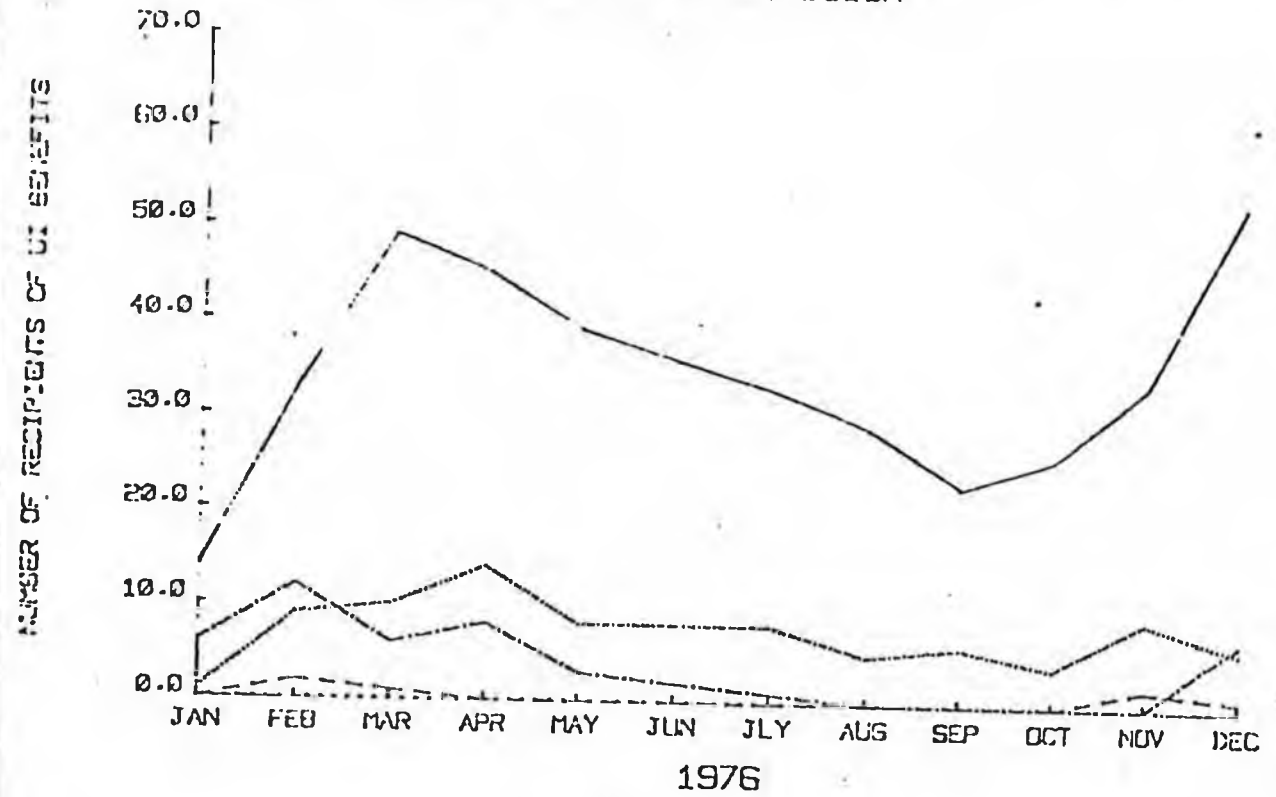

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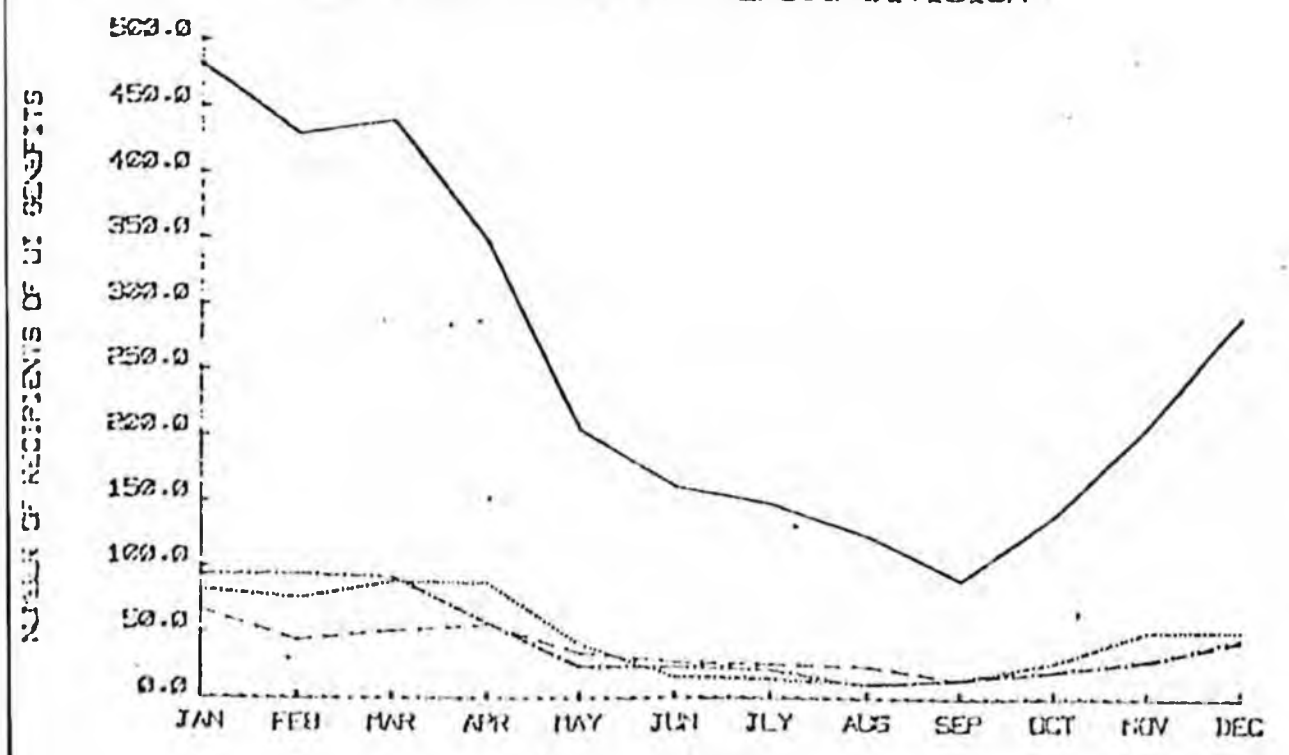

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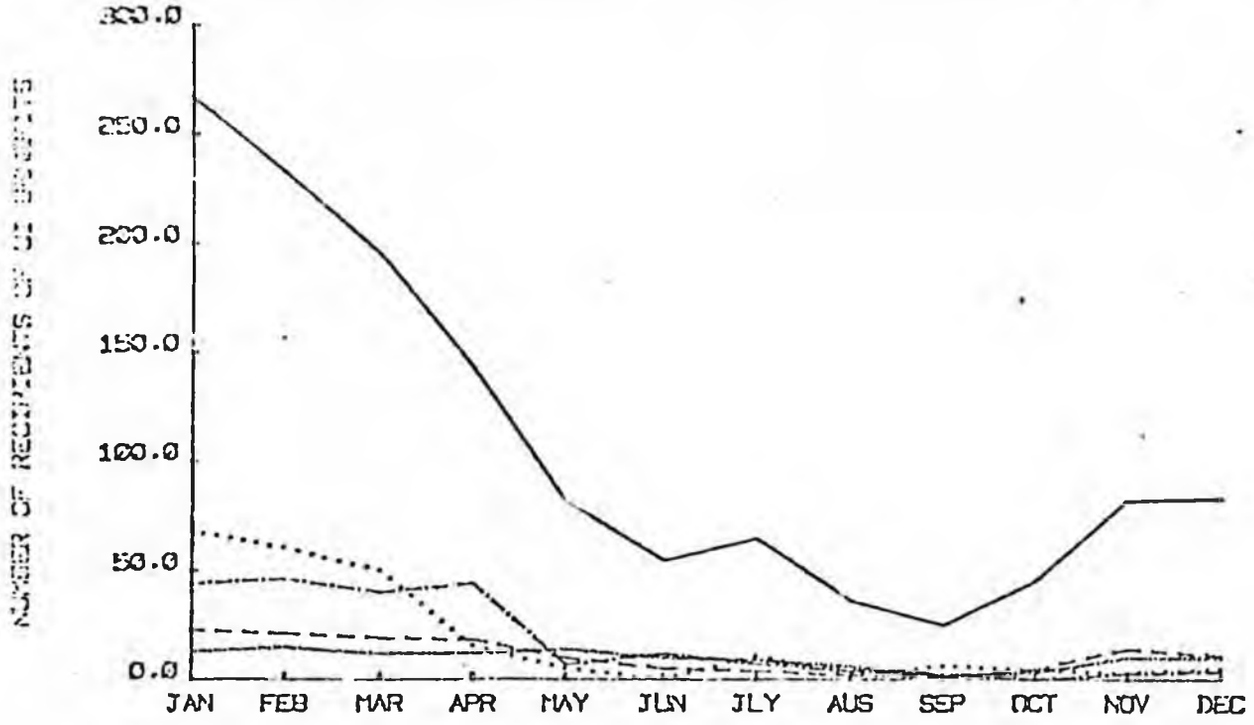

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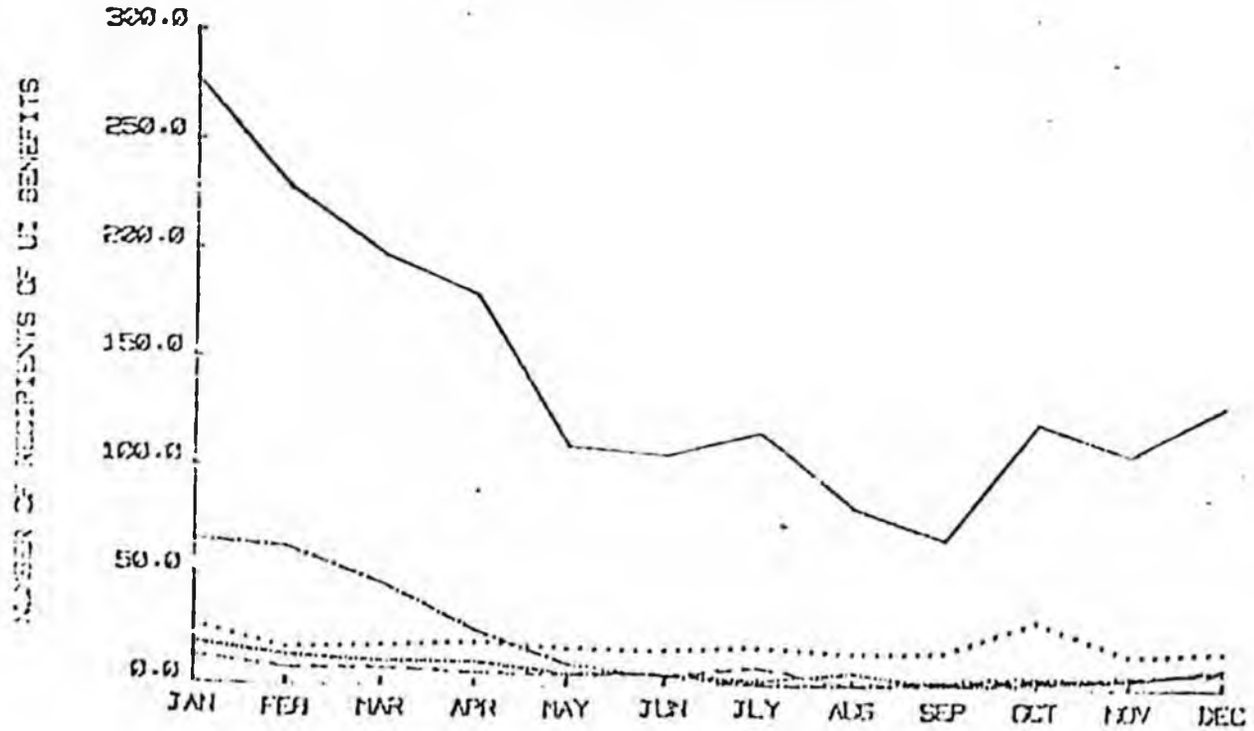

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ALASKA UNEMPLOYMENT BENEFITS RECIPIENTS

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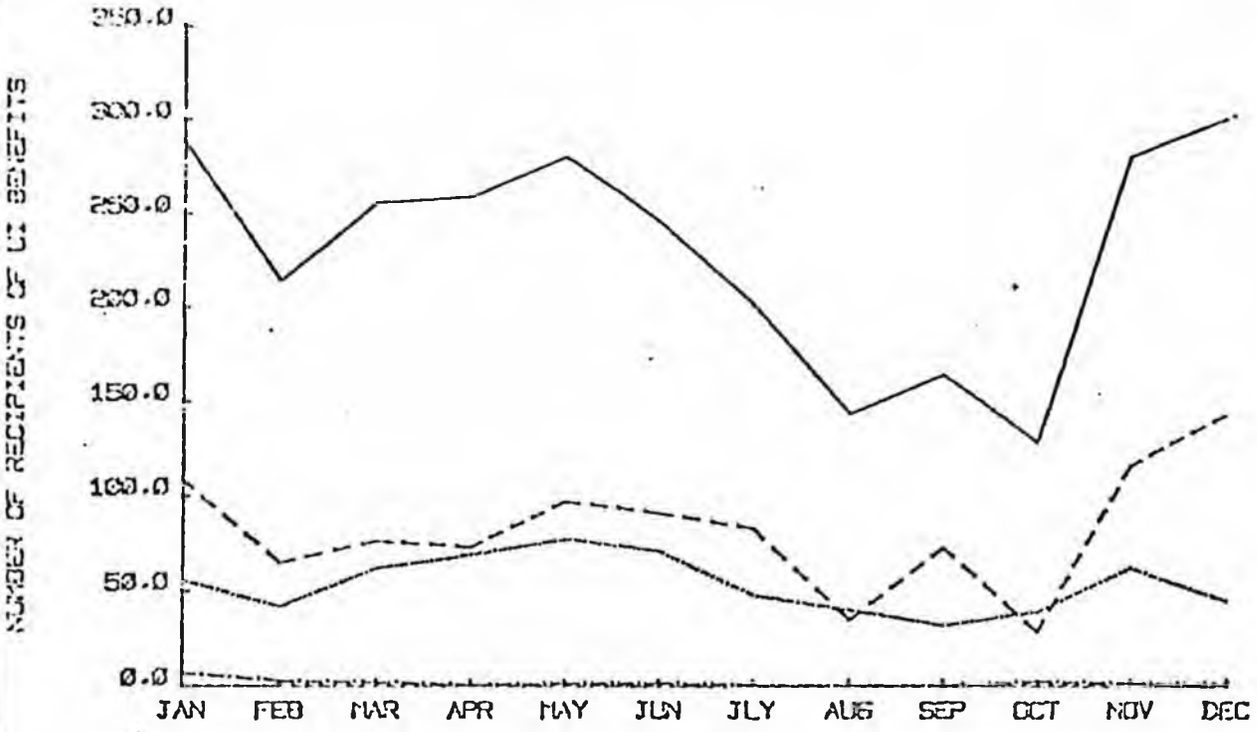

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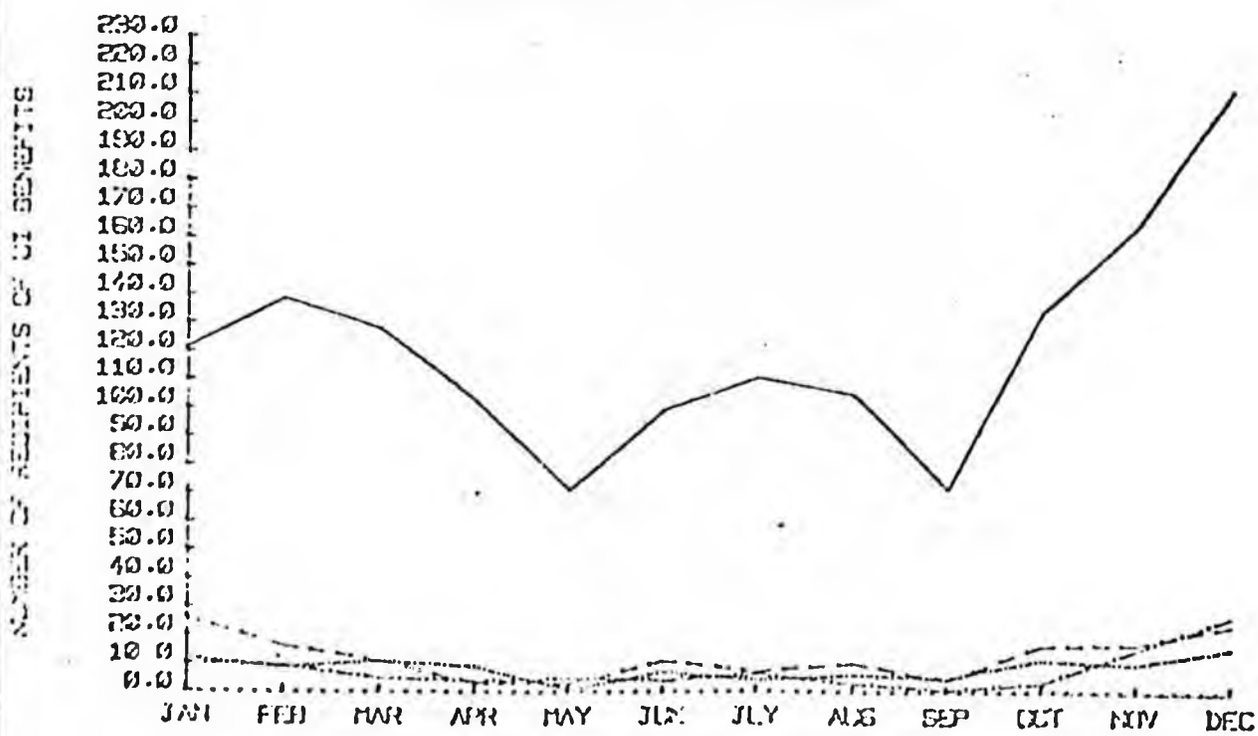
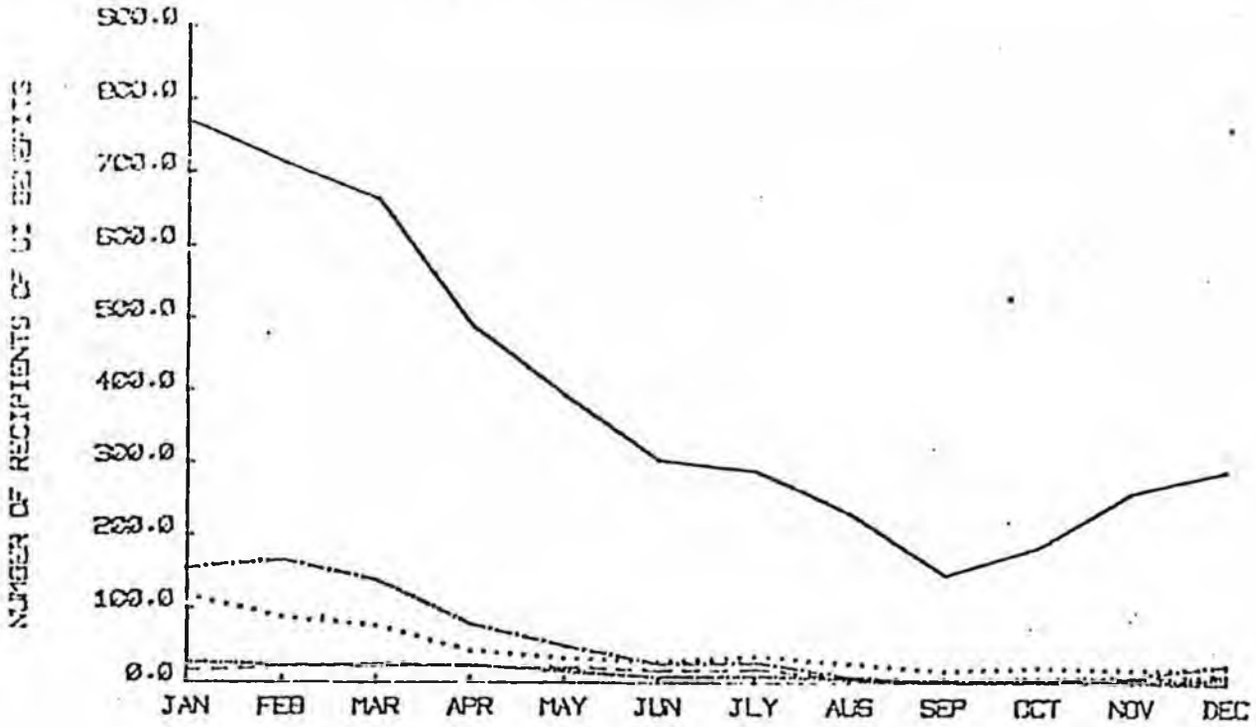


ALASKA UNEMPLOYMENT BENEFITS RECIPIENTS
KETCHIKAN CENSUS DIVISION



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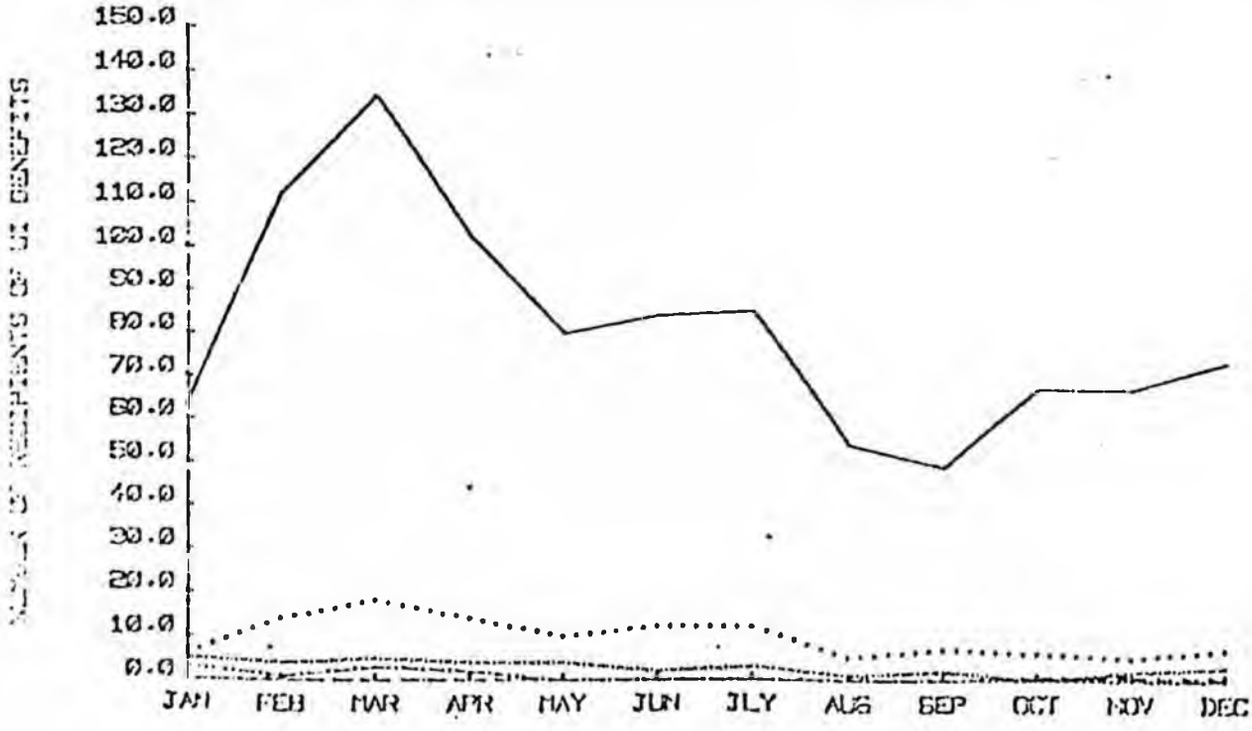

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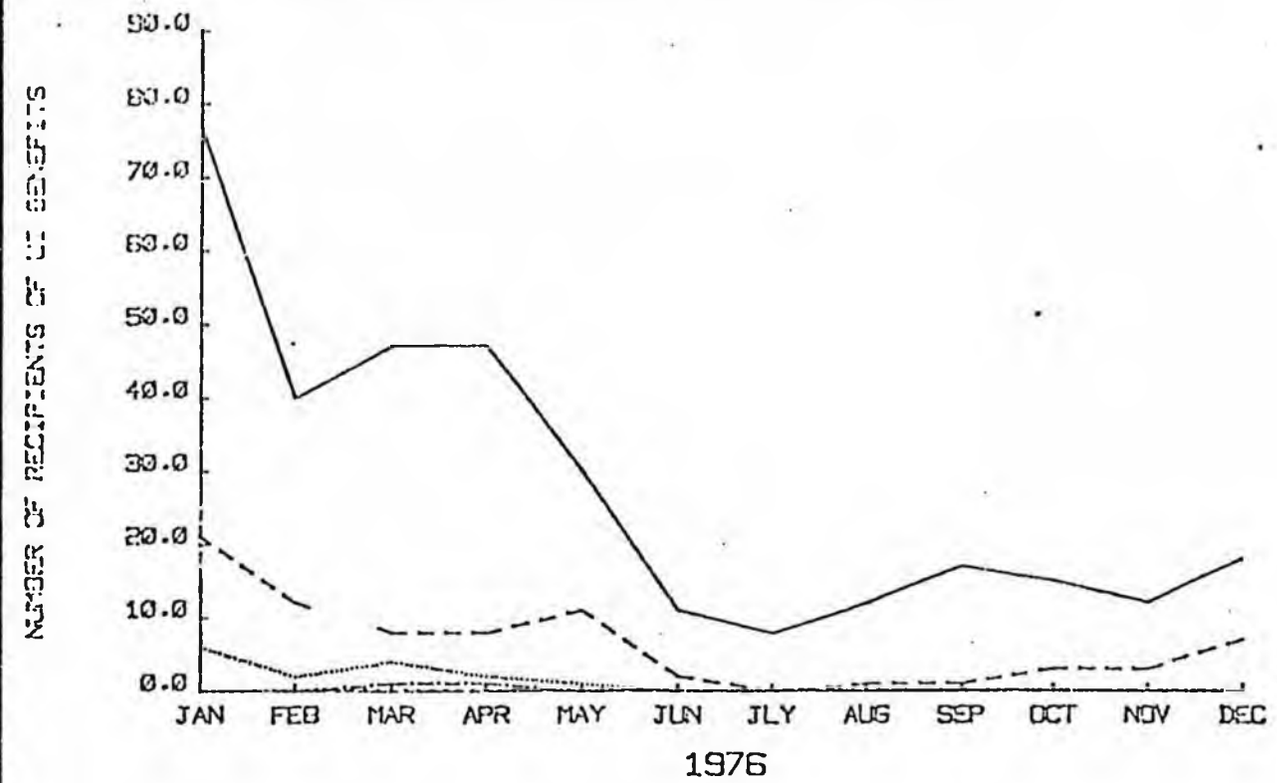

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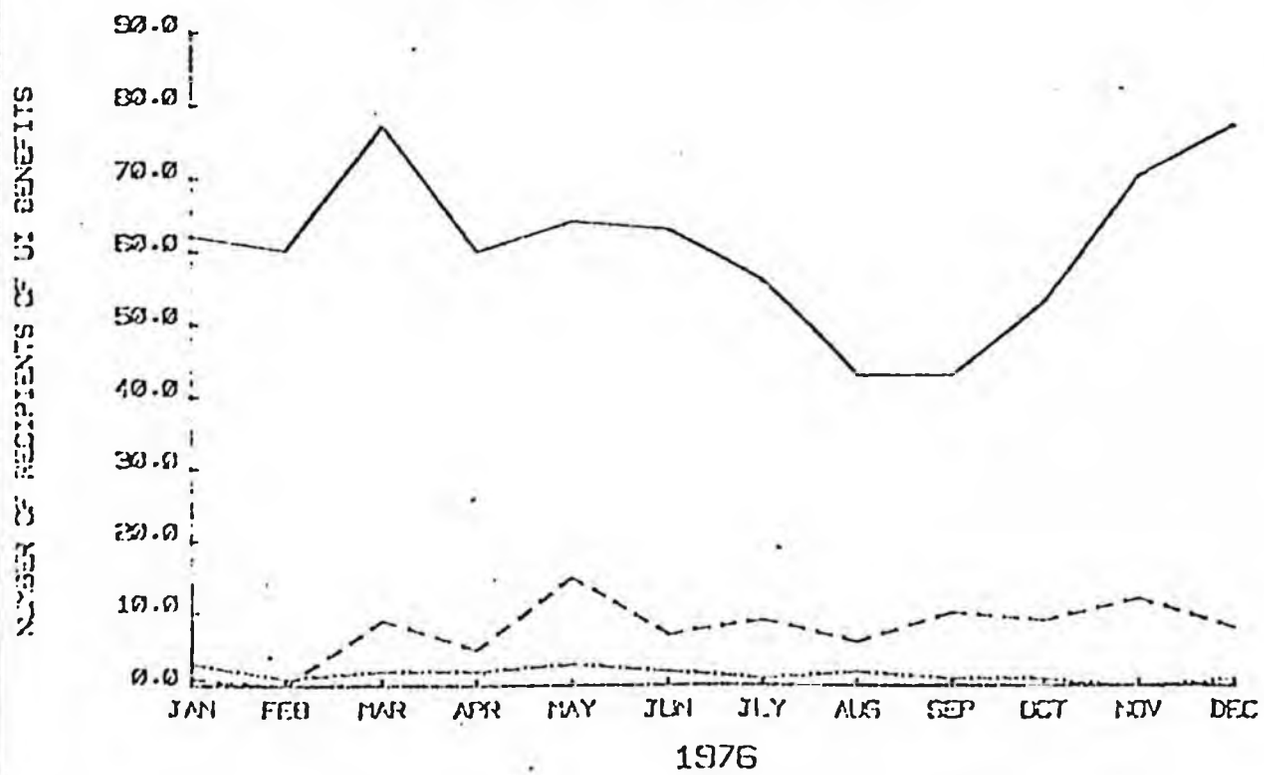

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ALASKA UNEMPLOYMENT BENEFITS RECIPIENTS

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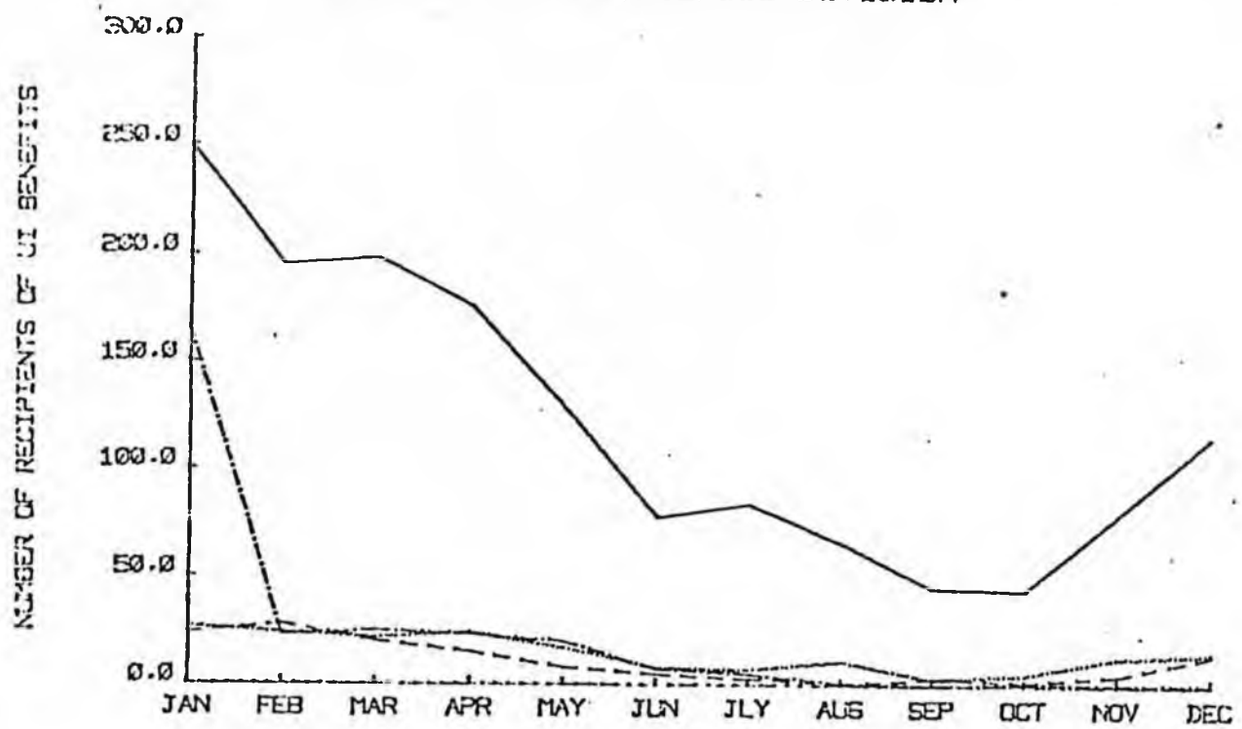

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ALASKA UNEMPLOYMENT BENEFITS RECIPIENTS

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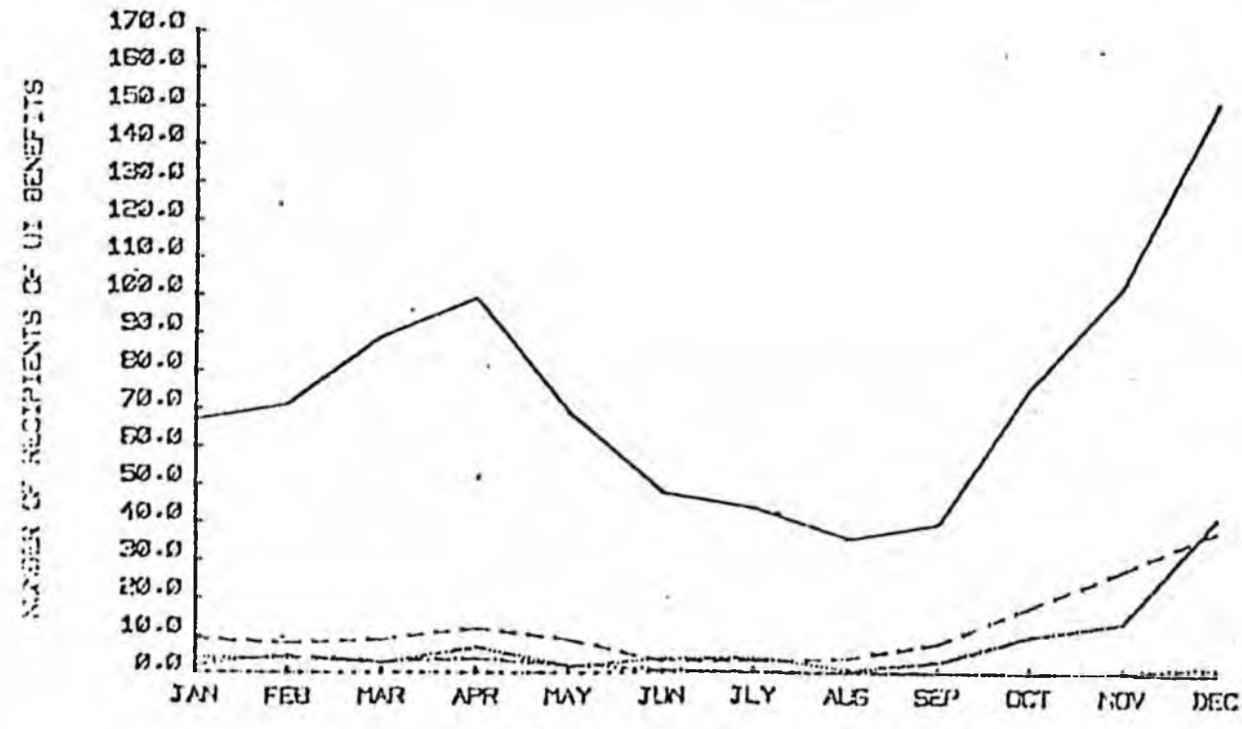

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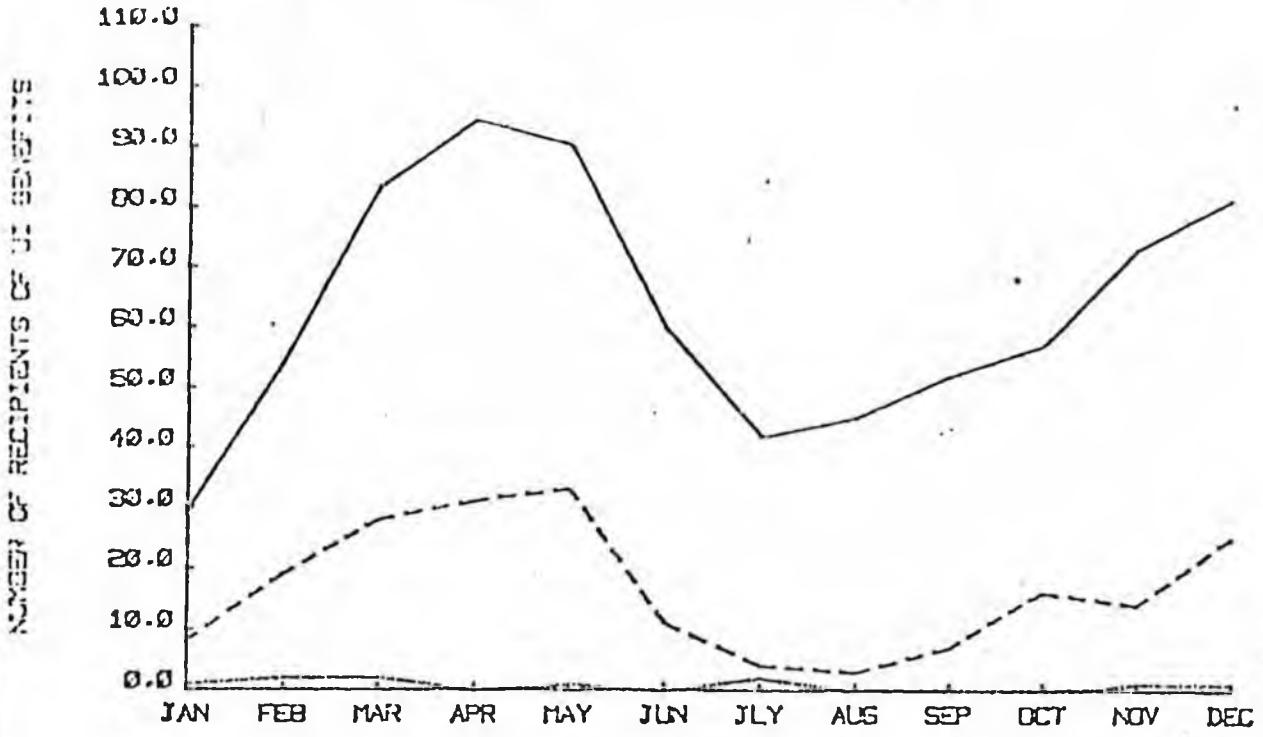

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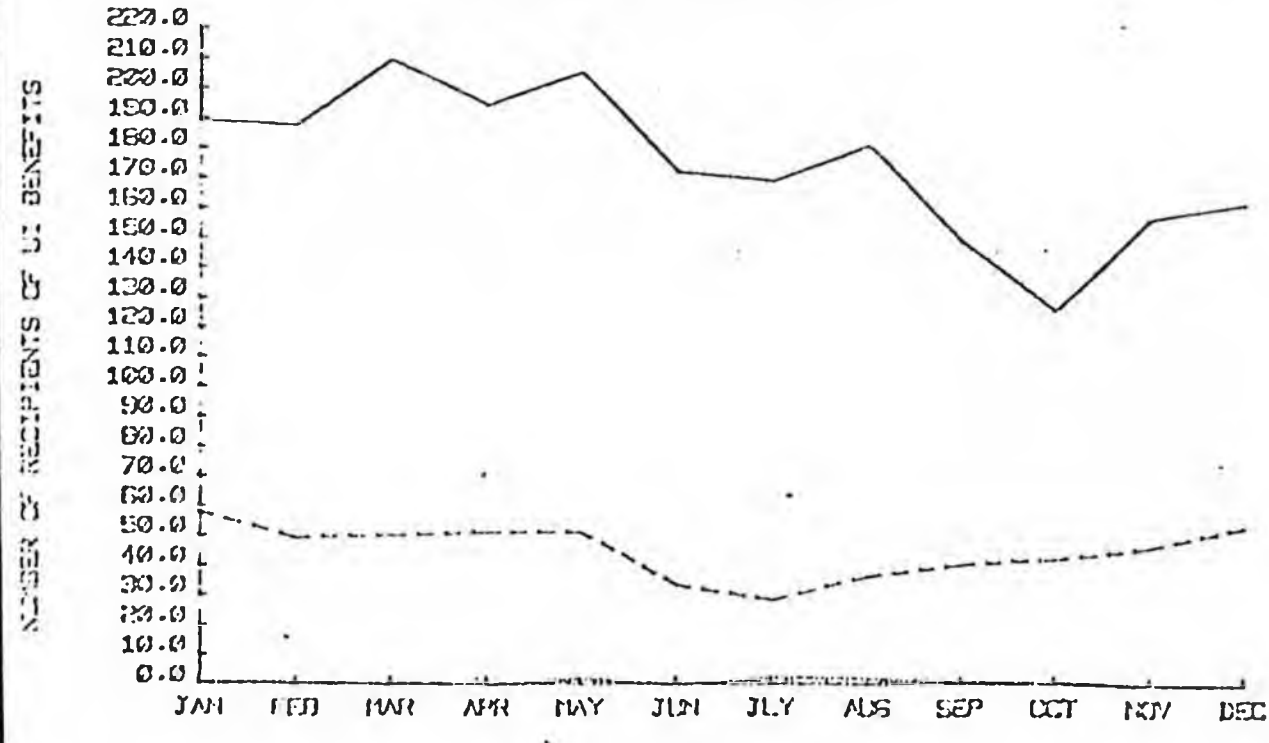

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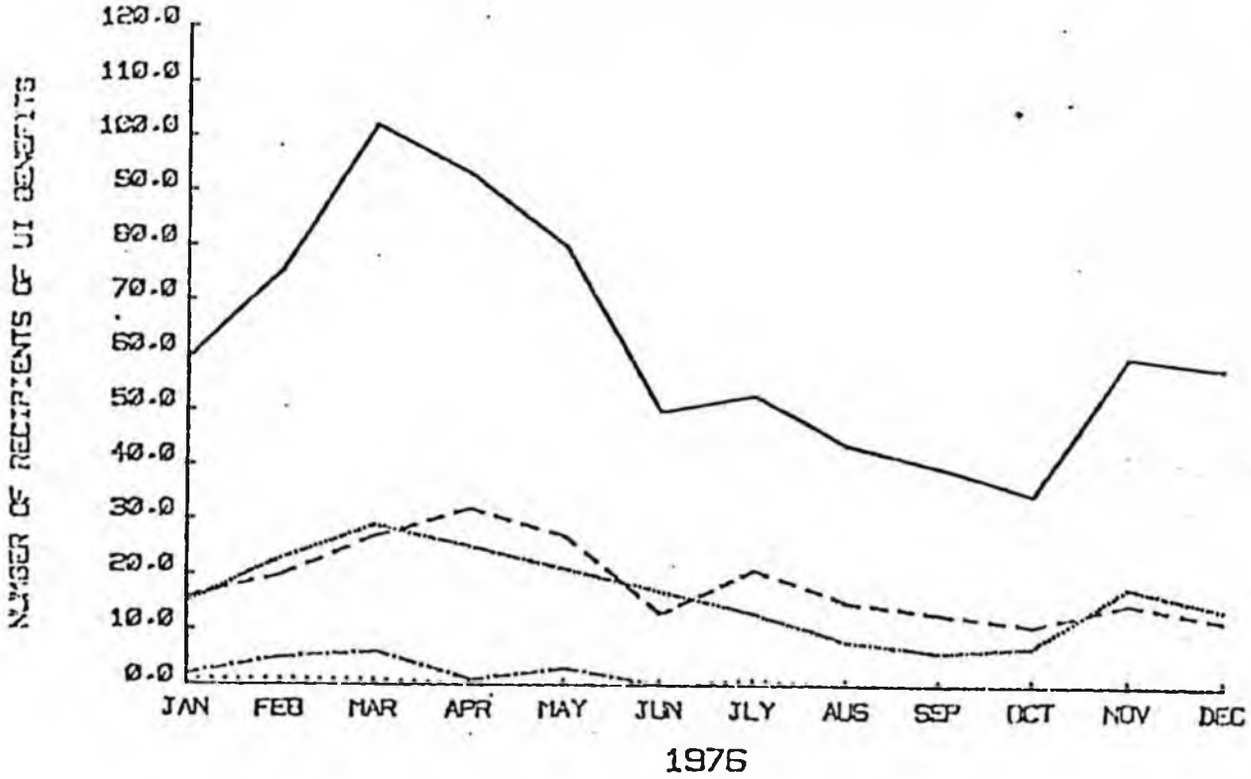

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Frank Glass

APPENDIX I

INTRODUCTION

Following is my report, admittedly brief, on some of the matters I considered while working for the Interim Resources Committee.

The Fishery Conservation and Management Act of 1976 is noted as the most important law in regard to the development of a domestic bottomfish fishery. Where there previously had been no management of bottomfish resources off Alaska's coast, the United States now has management authority within a 200 mile fishery conservation zone. Where foreign fishing had been the rule, domestic fishermen, if they enter this fishery, have a priority over foreign fishermen in the allocation of the total allowable catch.

Much of the state's role in the development of the bottomfish fishery will be in the form of input to those with legal authority to manage the resource, the United States government through the Department of Commerce and the regional fishery council. Since the major bottom-fishing areas lie beyond the state's jurisdiction, the state is limited to input and to inducements to those trying to enter and succeed in this fishery.

For the most part, the development of the bottomfish fishery will depend on the role of the participants in the market economy. The state can do little or nothing to encourage the development of a fishery that cannot sustain itself in the economy. If the state were to try to do so, the result would probably be increased costs to the state without any corresponding return in benefits.

Time, an increased demand for fish products, and an increased price may be the most important factors in whether this fishery can develop. The world price for bottomfish products will be a determinant of whether the domestic industry can develop. If minimum production costs exceed the current price, the industry could not profit by getting into this fishery. Increasing demand for fish products will probably remain limited by price. These products will have to be able to compete with other low-cost protein products, especially in terms of the United States market.

Some of the present financial assistance programs from state and federal sources are mentioned and commented upon. The federal programs, the Capital Construction Fund and Title XI of the Merchant Marine Act should, at the present time, be adequate devices for a prospective bottomfish fisherman--however, additional assistance from the state could result, depending on the eventual economic feasibility of the fishery, in Alaskans getting a headstart in entering the fishery and, hopefully, with the fishery becoming predominantly Alaskan. I suggested some legislation that would aid in this process.

I did not discuss matters pertaining to the processing aspect of the development of this fishery. John Williams' report will, I'm sure, adequately cover the subject.

An area for study that is crucial to the entire proposal for state involvement in the development of this fishery involves the truth of frequently heard assertions:

1) that the fish processing industry pays little or no Alaskan corporate income tax;

2) that participation in a fishery by Alaskan residents brings more benefits to the state than do non-resident participants.

Research by the Department of Revenue should be able to answer these questions.

When all of the separate areas of research on the bottomfish fishery are completed and compiled, I'm confident that important legislative actions will be the result.

THE FCMA AND LIMITATIONS OF STATE AUTHORITY

The Fishery Conservation and Management Act of 1976, P.L. 94-265, 16 U.S.C. 1801 et seq., extended United States fishery management jurisdiction to a fishery conservation zone 200 nautical miles from the seaward boundary of the coastal states. The United States thereby assumed fishery management jurisdiction over all bottomfish resources within 200 miles from Alaska's coast. In addition to this extended jurisdiction over fish, the United States assumed jurisdiction over various organisms of the appurtenant continental shelf such as corals, crabs, mollusks and sponges, even if the shelf extends beyond the 200 mile fishery conservation zone. A significant stated purpose of the Act is "to encourage the development of fisheries which are currently underutilized or not utilized by United States fishermen, including bottom fish off Alaska."

The Act established eight regional fishery management councils. The North Pacific Fishery Management Council has authority over that portion of the fishery conservation zone seaward from Alaska. The North Pacific Council has 11 voting members, six of whom will always be Alaskan. The "principal State official with marine fishery management responsibility and expertise in each constituent state" is an ex officio voting member, plus five Alaskans chosen by the Secretary of Commerce from a list of qualified individuals submitted by the Governor of Alaska.

The regional council establishes a scientific and statistical committee and an advisory panel to assist it in the preparation of its fishery management plans.

The regional council prepares a fishery management plan for each fishery in its geographic area. If approved by the Secretary of Commerce, the fishery management plan is published in the Federal Register and may be, after compliance with promulgation procedure, be implemented by regulation.

It should be noted that although Alaskans represent a majority on the North Pacific Fishery Management Council, the Act does not extend (nor diminish) the fishery jurisdiction of the State of Alaska. The state's territorial jurisdiction extends three miles seaward from the coast. However, the Act does empower the Secretary of Commerce to preempt any state action which would impair the implementation of a fishery management plan. In terms of jurisdictional authority, the management of most of the stocks of bottomfish resources would occur in an area beyond three miles from the coast and, therefore, be outside the jurisdiction of the state.

Jurisdictional limitations on the activities of the state have been covered in a memorandum from Ken Vassar. Here, I will only mention limitation on state authority over the development of bottomfish resources stemming from the characterization of commercial fishing as interstate commerce. While the state may manage the resources within its jurisdiction and require licenses of those engaged in fishing activities, it cannot prohibit or unduly restrict a fishery from participation by non-Alaskans.

It appears to follow that the state role in the development of a bottomfish fishery would be most successful in the form of inducements to participation. At present, the probability of success in this fishery is uncertain. It should be assumed, however, that domestic participation in the fishery will become successful as the demand and price for the product increases and the bottomfish industry becomes fully developed. If it appears, as is likely to be the case, that the state receives more benefit from its fishermen being residents than it does from non-resident fishermen, it would be to the state's interest to induce participation by giving the Alaskan resident a competitive advantage over a similarly situated non-resident fisherman seeking capital for his entry into the fishery.

PRESENT ASSISTANCE PROGRAMS

The following state and federal programs are currently available to those individuals or corporations planning to enter the bottomfish fishery. The eligibility requirements and scope of each program is briefly outlined. The adequacy of each program in terms of bottomfishing is noted.

Alaska Commercial Fishing Loan Act AS 16.10.300 et seq.

Scope: Loans up to $150,000
Duration of up to 15 years
Interest rate of 7%
Used for the construction of vessels, for the purchase of vessels, gear and entry permits, and for the restoration and upgrading of existing vessels and gear.
Up to 75% of the value of the collateral

Requirements: Individual applicants only.
Applicant must have been a resident of Alaska for five years and a licensed commercial fisherman for three years.
Loan must be secured by a first lien on the vessel or other property.

The state fishing loan program was never designed to be an aid to entering the bottomfish fishery. Multiple owners and operators of a vessel valued well over $150,000 can be expected for the bottomfish fishery.

However, a person planning to enter bottomfishing could find some benefit from this program. Some costs of conversion or for the purchase of gear could be met by a fishing loan. The applicant for such a loan would be required to have some property to cover the first lien requirement.

Nevertheless, to aid in the goal of maximizing participation by Alaskan fishermen, an additional loan program would be beneficial. The program should be available to multiple owners of a single vessel and have a ceiling high enough to allow the purchase of the type of trawler most suitable for bottomfishing. The interest rate should be low enough to give a resident Alaskan a competitive advantage over a non-resident attempting to obtain financing from other sources. However, a primary criteria in granting a loan should be the reasonable probability of success of the venture.

Alaska Small Business Loan

Scope: Loans up to $300,000
Duration of up to years
Interest rate of 8%
Up to 75% of the value of the collateral

Requirements: Any legal entity can apply (except
Applicant must have been an Alaskan resident for one year.
Loan must be secured by a first lien.

The Small Business Loan program is in some ways more suitable for entering bottomfishing. Loans may be made to a corporation or partnership,

and the ceiling on a loan is $300,000. This amount is probably too small.

It is possible, under both the Fishing Loan program and the Small Business Loan program, for the state to enter into an agreement with a private financial institution and jointly share a first lien on collateral. This would allow the applicant a loan in excess of $150,000 or $300,000, depending on the program, and would more closely approximate the minimum cost of a new bottomfishing vessel. However, to meet the goal of an Alaskan owned, technologically advanced fishing fleet, a new program with a higher ceiling would be beneficial.

Fishing Vessel Obligation Guarantee Title XI of the Merchant Marine Act.

Scope: Used for the construction, reconstruction or reconditioning of a fishing vessel of over two net tons.
U. S. Government guarantees bonds issued to finance project.
Applicant, with approval from Department of Commerce, determines bond interest rate, amount, and duration.
Up to 75% of the actual cost of the project.

Requirements: Any legal entity can apply.
Applicant must be U. S. citizen.
Mortgage given to U. S. government.
Conditional fishery restriction.

Note that this program does not cover the purchase of an existing fishing vessel.

The Title XI program appears to be particularly suitable for the bottomfish fishery. The Secretary of Commerce is directed by regulation to give highest priority to those projects "which most facilitate the following:

(1) Increasing the productivity or efficiency of fishing vessels, either through technical advances or otherwise.

(2) Fostering the development of underutilized fisheries resources and/or stimulating the shifting of vessels from overutilized to less utilized fisheries resources.

(3) Protecting, preserving, or improving national utilization of presently international fisheries resources by strengthening the domestic fishing fleet in competition with foreign vessels. 50 CFR 255.2(b)

Domestic entry into the bottomfish fishery would, of course, facilitate each of the listed priority categories.

It seems unnecessary for the state to duplicate programs that already exist on the federal level unless it were shown that the state equivalent was slightly more beneficial and would result in benefits for proportionately more state residents.

The Title XI program seems more than adequate for financing up to 75 percent of the cost for the construction, reconstruction or reconditioning of a fishing vessel. And, in addition, the purpose of the Title XI program is to benefit not only the fishing industry but the U. S. shipbuilding industry. It does not appear, on first impression, that an extensive Alaskan shipbuilding industry is feasible, so it follows that a state equivalent to the Title XI program would be unnecessary

However, the 25 percent owner's equity requirement in a Title XI project could be a major factor affecting the number of Alaskans who might otherwise qualify under such a program.

The state could either loan a portion of the owner's equity requirement, or guarantee a loan obtained privately. The state would be unable, however, to obtain a first lien on the vessel being financed. While the owner's equity requirement is imposed by the Title XI program, the fact that it is put up by someone other than the applicant is not a disqualification. It would, however, be considered as a factor in the evaluation of the applicant's overall financial integrity.

Capital Construction Fund 46 USC 1114

Program: After entering into a Capital Construction Fund agreement, the fisherman may put up to 100% of his otherwise taxable fishing income into a Capital Construction Fund. The fund is to be used for the construction, reconstruction, or acquisition of a fishing vessel. The income placed in the fund is not taxed. It does, however, decrease the basis for depreciation of the newly acquired vessel.

There is a conditional fishery limitation on this program.

The primary advantage of the Capital Construction Fund is that it allows a more rapid accumulation of capital than would be the case if the fisherman were subject to income taxation on that portion of his fishing earnings that he would plan to save for acquiring a new vessel.

The Capital Construction Fund may be used in conjunction with other financial assistance programs.

Administration: U. S. Department of Commerce, Financial Assistance Division of the National Marine Fisheries Service.

A NOTE ON CONDITIONAL FISHERIES:

Two Alaskan fisheries, the salmon fishery and the king crab fishery have been designated by the Secretary of Commerce as conditional fisheries. The status of conditional fishery means that an applicant for a Title XI project or for a Capital Construction Fund agreement could not use either program for a vessel to be used in either the Alaska salmon fishery or the Alaska king crab fishery unless the applicant "causes...to be permanently removed from all fishing, or placed permanently in a fishery not then adopted as restricted [as a conditional fishery]...a vessel...which has during the previous 18 months operated substantially

in the same fishery as the vessel constructed or to be constructed and which has a fishing capacity substantially equivalent to the vessel constructed or to be constructed."

The conditional fishery status of the two fisheries may have some effect on the development of the bottomfish fishery, especially as it is related to the king crab fishery. ~~I believe John Williams has discussed this matter in his report to the Committee.~~

SUGGESTIONS FOR LEGISLATION

An important policy decision for the state involves the question of whether the risk of developing a bottomfish fishery justifies the commitment of the state's finances. The question is essentially whether the domestic processing industry and fishermen can participate profitably in this fishery. It is uncertain whether, at this time, they would be able to do so. However, for the purposes of this report, it will be assumed that entry and participation in this fishery would be economically feasible on a long-term basis.

If this assumption is true, it would follow that private capital should become available to finance entry and participation in this fishery. If this were the case~~, and since the state cannot mandate the residency of fishermen and processors~~, the state could induce an increase in state residents in this fishery by providing them capital on terms better than the private market could offer. The Alaskan resident would therefore be at a competitive advantage vis-a-vis non-Alaskans equally interested in entering this fishery.

There are separate methods for the state to assist fishermen in financing entry into this fishery: supplementary assistance to those who receive approval for a Title XI project; providing the primary supply of capital for entry via a state loan program; or guaranteeing privately obtained financing. Each will be discussed separately below.

Each of the proposed programs should have certain basic characteristics. First would be a residency requirement. This requirement is based on the assumption, and is only as good as the assumption, that resident fishermen bring more economic benefit to the state than non-resident fishermen. A durational residency requirement is more easily administered than a residency test involving intention to remain in the state.

Loans should be available to any legal entity. In addition to the sole owner-operator, it may be presumed that partnerships or corporations would be a common mode of bottomfish vessel ownership and operation.

Third, ~~there~~ should not be ~~any requirement of a~~ failure to obtain financing from the private sector. The fundamental underlying assumption should be that the state should not be risking capital that the private financial sector would not similarly be willing to risk. The loan should be considered for the sole purpose of giving a prospective ~~Alaskan bottomfish~~ resident fisherman a competitive advantage in terms of financing over an equivalent non-resident fisherman.

It follows that, with one exception, loans should be granted at an interest rate slightly lower than that offered on the private money market. This is essential to give the competitive advantage to the

Alaskan fisherman.

Finally, the concept of an underutilized fishery should be made part of the law, and this characterization of a fishery as underutilized would determine whether the special inducement programs could be used. An underutilized fishery could be defined either: 1) as a fishery, the major species of which are not currently harvested, or are harvested predominantly by a foreign nation. Determining an acutal percentage of the total allowable catch allocated to United States fishermen in the applicable fishery management plan could be used to automatically define an underutilized fishery. Or, 2) a state agency could be given the authority to determine, by regulation, the species to be deemed as underutilized.

When a species or fishery is no longer underutilized, the special financial assistance programs should cease to be available. By that time the fishery should have developed to the extent that special benefits to state residents would no longer be able to substantially affect the character of the fleet. There should remain, however, those generalized programs to assist residents in financing entry into any fishery.

TITLE XI SUPPLEMENT

A supplement to a Title XI project in the form of a state loan could assist many Alaskan fishermen, but such a program would not have the benefit of a first lien security program. The United States government must be given this first lien in order for a project to qualify under Title XI. This does not mean, however, that the state would have no security interest in the Title XI collateral. A second security interest would afford some protection to the state's loan, albeit subordinate to the interests of the United States government.

The financial integrity of a Title XI applicant is, of course, an important factor in the evaluation of the application. A complete supplement of 25 percent of the cost of a Title XI project would be unwise; the applicant should probably always be required to advance his own capital in the project. A 15 percent supplement to the actual cost of a Title XI project seems most reasonable. It should be noted, however, that there is presently before the United States Congress a proposal to increase the amount of a Title XI guarantee to 87 1/2 percent instead of the present 75 percent of actual cost. In the event that the proposal becomes law, the state's supplement should be reduced to 2 1/2 percent. The total of the Title XI guarantee and the state supplement should not exceed 90 percent of the actual cost of the project.

For the purpose of giving a competitive advantage to Alaskan residents, the availability of a supplement to a Title XI project should, in itself, be sufficient. A loan secured by a second lien would probably be unavailable privately. The interest rate on this type of loan should be equivalent, or perhaps even higher, than the current interest rates in the private market.

Legislation for a supplementary loan to Title XI projects should expressly allow and direct the administrators of the state program to enter into cooperative agreements with the administrators of the Title XI program.

LOAN PROGRAM FOR COMMERCIAL FISHING FOR UNDERUTILIZED SPECIES

An additional, or perhaps alternative, proposal would be a state loan for the purchase, construction, or reconstruction of a fishing vessel to be used for the harvesting of species of an underutilized

fishery. The program should also be available for the purchase of gear to be used in the underutilized fishery.

An important advantage of this program over a Title XI project would be that it allows the purchase of a used vessel. The Title-XI program is available only for the construction, reconstruction or reconditioning of a vessel. Given a state interest in maximizing Alaskan participation in this fishery, and given the absence of a major Alaskan shipbuilding industry, it appears that an absence of some state provision to allow the purchase of a used vessel would be a serious defect.

Bottomfish vessels will be costly, ~~well~~ perhaps in excess of $1 million.. It would appear, therefore, that the ceiling on such a loan program should be correspondingly high. An alternative to be considered would be to place a $1 million maximum on such a loan program, but allow the state to jointly loan money with a private lender. Both could share a first lien on the property.

A loan program of this type ~~should, of course,~~ could come from the permanent fund. Perhaps, if the fund develops this way, it should be within a special loan category within the overall state loan program. Within this special category, the loans for acquiring a vessel or gear to be used to harvest underutilized species ~~should~~ could be designed so as to allow interest rates at less than the market rates. It should also be sufficient to allow loans in an amount sufficient for a substantial amount of the cost of a bottomfishing vessel. It appears reasonable to allow the financing of up to 90 percent of the cost of the vessel.

An important caveat is whether a state operated loan program could result in the granting of less prudent loans than those granted from the private sector. If a loan program were to be operated on the principles that it makes loans:

1) that have a reasonable probability of repayment;

2) that would probably be granted by the private sector; and therefore,

3) are made on better than market terms in order to give a competitive advantage to Alaskan residents,

the program would serve to replace private capital to the degree that it increases the proportion of resident Alaskans in the fishery.

GUARANTEES OF PRIVATE LOANS

An alternative to a lending program which nevertheless can lead to a similar result in benefiting Alaskan fishermen is a program allowing the state to guarantee privately obtained financing. This type of program does not require the direct expenditure of state funds. A guarantee fee would provide the state a small amount of revenue. In case of default, the collateral would first be available to satisfy the debt obligations. If sound loans were made, the cost to the state of such a program would probably be minimal.

Given the cost of a bottomfishing vessel, the guarantee should be available to an amount equivalent to this projected expense, perhaps to $1.5 million or $2 million.

The guarantee program should be tied to the characterization of an "underutilized fishery" as mentioned above. While used for financing entry into an underutilized fishery, the amount of the guarantee could be for as much as 90 percent of the value of the collateral.

In the event of default it seems reasonable to allow default proceedings to be instituted by the lending institution instead of the state. The purpose of giving a competitive advantage to Alaskan fishermen would be better served by making the guarantee program as attractive as possible to private lenders. The state could, of course, make reasonable regulations pertaining to the method of the default proceedings.

INFORMATION AND APPLICATION ASSISTANCE

In conjunction with the state's interest in maximizing Alaskan participation in the bottomfish fishery, and given the various financial assistance programs presently and prospectively available, it might be helpful to have a state program of information and assistance to Alaskans desiring to enter bottomfishing. Such a program would require only the publication of information on available programs and a small number of personnel who could, in addition to other duties, provide technical assistance to persons seeking financial assistance for entering bottomfishing.

GRANTS FOR EXPERIMENTAL PROGRAMS

Although bottomfishing has occurred off Alaska's coast for several years, the fishing gear and methods used by foreign fleets may not be directly usable by domestic fishermen. The fishery could develop, at least in part, through the use of presently existing vessels that were originally designed for some other use. Furthermore, it may be possible to utilize fish resources that have not yet been exploited by any nation.

Or, it may be possible to develop new, marketable fishery products from presently harvested species. Innovation in methods and uses usually comes from the private sector.

It may be useful for the state to support those fishermen and processors who are willing to experiment with new methods of fishing, new types of gear, or new methods of production. Grants or low interest loans could be made.

The criteria for receiving this type of aid would not necessarily have to be limited to Alaska residency. Rather, the criteria would be the potential benefit to the Alaskan fishing industry. Consider the development of the seine power block as an example of an innovation by a non-resident that resulted in great benefits to the Alaskan purse seine fishermen.

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