

M E M O R A N D U M

TO: Council, SSC, and AP members
FROM: Jim H. Branson
Executive Director
DATE: July 14, 1982
SUBJECT: Halibut Limited Entry Study

ACTION REQUIRED

Review progress on Phase I tasking and give further guidance to contractor.

BACKGROUND

The Halibut Limited Entry Workgroup met with the contractor in Seattle on July 9 to review progress on the Council's limited entry study. A report of this meeting and the workgroup's recommendations is given as item C-1(a).

The contractor's work to date covers the seven tasks of Phase I. The tasks are described in Attachment A to the workgroup report and basically are as follows:

1. Identify how many fishermen will qualify for initial shares under various schemes.
2. Determine unit share size and distribution.
3. How does a requirement for a minimum poundage landed in the qualifying years affect the distribution of shares?
4. Describe the population of successful entrants in terms of residency, vessel size and participation in other fisheries.
5. Determine the areal distribution of catch and landings.
6. What area restrictions should be placed on individual fishermen holding quotas?

The contractor, Dr. Robert Stokes of Northwest Resources Analysis, will be at the Council meeting to report on his work on the above topics. A written progress report will be distributed also.

The workgroup suggested that a small steering committee be appointed to work closely with the contractor during Phase II of the project.

Sociocultural Study

To augment our information on how limited entry may affect the fishing industry and local communities, a small group of sociocultural analysts has been brought together to outline a study of industry perceptions of limited

entry and its impacts. This study would help fulfill the requirement of MFCMA Section 303(b)(6) for the Council to consider the cultural and social framework relevant to the fishery. The first phase of this study would identify and describe interest groups potentially affected by any halibut limited entry scheme, identify public interest issues concerning limited entry, and determine positions of relevant interest groups and the potential types and intensity of conflict over halibut limited entry schemes. A draft report on Phase I would be completed by September 3, 1982. The Council would provide a nominal amount up to \$5,000 from its administrative budget for FY82 to support this first phase of the study.

The second phase would begin in October and provide the Council with a socio-cultural description of halibut areas 2c, 3 and 4 and analysis of possible impacts of limited entry upon halibut fishermen and processors. This phase would be completed in December with a draft report to the Council by Thanksgiving. Funding for this phase is still being worked out.

A draft outline of this study is available in the Council's office for those interested.

MEETING SUMMARY
HALIBUT LIMITED ENTRY WORKGROUP
July 9, 1982 - Seattle

On July 9, 1982, members of the Halibut Limited Entry Workgroup met at the International Pacific Halibut Commission offices in Seattle to review progress on Phase I of the North Pacific Council's Halibut Limited Entry Study (Contract No. 82-4). The following people attended:

<u>Name</u>	<u>Representing</u>
Robert Alverson	FVOA, Seattle
Greg Baker	ALFA
Dorothy Boyett	Kodiak Halibut Fisherman's Assoc.
Jim H. Branson	NPFMC
Rick Deriso	IPHC
Peter Fricke	NOAA/NMFS, Washington, D.C.
Marvin Gjerde	FVOA, Seattle
Rick Lauber	Pacific Seafood Processors Assoc.
Arne Lee	FVOA, Seattle
Harold Lokken	NPFMC
Macgill Lynde	CFEC
Rich Marasco	NWAFMC
Don McCaughran	IPHC
Ed Miles	NPFMC
Marc Miller	Institute for Marine Studies, UW
Ron Miller	CFEC
Dick Myhre	IPHC
Clarence Pautzke	NPFMC
Gordon Peltonen	IPHC
Thorn Smith	NOAA General Counsel
Tom Stewart	Petersburg Vessel Owners
Robert Stokes	Northwest Resources Analysis
Clem Tillion	NPFMC
Pat Travers	NOAA General Counsel

The contractor for the study, Bob Stokes, distributed and explained a written report covering the tasks under Phase I (see Attachment A, an extract of tasking from the Council's contract). These tasks deal mainly with determining the number of initial entrants into the fishery and the initial distribution of shares of the catch quota.

The workgroup's discussions and recommendations were as follows:

Task 1: It was Travers' opinion that data must be collected and analyzed on the 1982 fishery. Section 303(b)(6) of MFCMA requires the Secretary to take the present participation in the fishery into account when establishing a limited access system. However, Travers stated that the 1982 participation need not be weighted equally to prior years. IPHC indicated that 1982 data would be available in late October. The workgroup recommended that NMFS proceed with implementation of a moratorium before the 1983 fishery.

The workgroup also recommended that the contractor drop qualifying schemes (b), (c) and (d) of Task 1 and concentrate on the following schemes:

- (1) 1979-81; greater than 0 lbs in at least one of the years.
- (2) 1979-81; deliveries greater than 0, 200, 500, and 1,000 lbs in each of the three years.
- (3) 1979-82; deliveries greater than 0, 200, 500, and 1,000 lbs in two of four years.
- (4) 1978-81; deliveries in three of four years.

The workgroup recommended that the number of shares granted initially to a fisherman be based on his best not average catch, where multiple years are used in determining share size.

Task 2: The workgroup recommended using 200 lbs as a working unit share size for preliminary comparisons and descriptions of qualifying populations of fishermen. However the workgroup felt that it was somewhat too early in the study to determine an appropriate unit share size. The concerns expressed included accountability of shares, transferability, and conformity with the Canadian system.

Task 3: No formal recommendations were made though one comment was received that establishing a minimum qualifying poundage of say 1,000 lbs would not be compatible with then establishing a unit share size of lesser poundage, for example 200 lbs.

Task 4: No formal recommendations were made.

Tasks 5 and 6: The workgroup discussed the pros and cons of restricting fishermen to just one area in any given fishing season. The main concern was enforcement and ensuring that catches were correctly reported. No formal recommendations were made as this would be covered more thoroughly in the design of the system required in Phase II.

The workgroup concluded that the contractor had done an excellent job on the tasking of Phase I and with some minor modification was ready to go before the Council at the July meeting for further guidance. The workgroup recommended that a small steering committee be appointed to work closely with the contractor during Phase II.

ATTACHMENT A

Phase I Tasking - Halibut Limited Entry Study (Contract No. 82-4)

1. Identify the number of fishermen who would be included in the fishery if they had landed halibut at least once in the following periods listed in order of increasing restrictiveness:
 - a. 1979, 1980 or 1981
 - b. 1980 or 1981
 - c. 1981
 - d. 1980 and 1981
 - e. three out of four years: 1978-1981
 - f. 1979, 1980 and 1981
2. Having determined the number of fishermen for each alternative in Task 1 and using the IPHC catch quota for 1982, determine an appropriate poundage per share and suitable alternative approaches for dividing the annual quota among the fishermen. Then describe the distribution of these shares (i.e. shares per individual) over the population of successful entrants to the fishery. Share size could be based on poundage landed per individual in the past, either for one specific year like 1981 or as an average over two or more years as examined in Task 1. The poundage in a share cannot be so small so as to preclude one fish from being landed nor so large as to require fractional shares for some individual fishermen.
3. Determine how the number of entrants and the distribution of shares would be affected by denying participation to those fishermen who in the past had not landed a minimum poundage of halibut, for example, at least the poundage of a single share? What are the merits of allowing all fishermen with a history of past participation to gain entry to the fishery?
4. Using the various qualifying schemes analyzed above, describe the population of successful entrants in terms of residency, vessel size, participation in other fisheries, and any other characteristics deemed necessary for the evaluation of the ramifications of halibut limited entry. Compare these demographic characteristics with the present fishery.
5. For the various alternative qualifying schemes, determine the areal distribution of catch and landings. The geographic areas of interest are IPHC areas 2c, 3 (all subareas) and 4 (all subareas). Determine how many fishermen would gain entry to more than one area. (If this incidence is significant, the Council workgroup may propose a different area system or request the contractor to evaluate how access to more than one area would affect implementation and operation of the system as part of the analysis required in Phase II.)
6. Evaluate the merits of allowing fishermen to fish in all areas versus restricting them by area. Should quotas by area or just an overall quota for Alaska be used?
7. Meet with the Council and its workgroup to present results from Phase I and receive future guidance on participation criteria and area restrictions.

HALIBUT LIMITED ENTRY STUDY
PHASE I REPORT

NORTHWEST RESOURCES ANALYSIS
Seattle, Washington

July, 1982

I. INTRODUCTION

This report is the first of several to be prepared for the North Pacific Fisheries Management Council as part of the Halibut Limited Entry Study. That study is one stage in an effort by the Council, and its Limited Entry working group, to advance economic and conservation objectives by designing a limited entry program for the Pacific Halibut Fishery.

The primary limited entry alternative being considered is the individual quota or share system. Under such a system individual fishermen would be assigned quantitative shares of the total allowable halibut catch.

The individual quota system has found increasing favor with Fisheries managers in recent years. In particular, Canada has also designed such a system for its Pacific Halibut Fishery. A major reason for the increasing popularity of the individual quota system is its theoretical superiority over more conventional limited entry programs based on license limitation. Under license limitation all qualifying fishermen are permitted to catch unlimited amounts of fish, subject to season closures and other conservation regulations. Extensive experience with license limitation in the Pacific Salmon Fisheries, as well as elsewhere, reveals that effort continues to increase within the licensed fleet. The reason for this is that each fisherman has an incentive to add fishing power in order to compete for his share of the fixed total harvest.

By contrast the individual quota system determines shares through initial allocation and subsequent market transfers, rather than through competition on the fishing grounds. Hence, it is hoped that effort can be effectively controlled. Further more, voluntary exchanges of quotas among fishermen should lead to reductions in effort, permitting a more orderly year round fishery with lower fishing and processing costs and improved product quality and prices.

This report addresses the first essential step in designing an individual quota system---the initial allocation of fishing rights. The allocation rules described in Figure 1 were adapted from guidance provided in the Councils request for proposals. Each rule was applied on a management area [2c,3,4] basis. Assignment of quotas by individual management area, rather than on an Alaska-wide basis, seems the most compatible with International Pacific Halibut Commission [IPHC] conservation objectives. An Alaska-wide system would presumably allow fishermen to overharvest some management areas and underharvest others. In particular, one would expect an Alaska-wide system to concentrate fishing effort in Area 2c [southeast Alaska], where weather conditions and shoreside facilities are the best. This tendency to concentrate effort in southeast Alaska would increase if longer halibut seasons create opportunities to market fresh halibut by air shipment or direct delivery to Seattle.

In each management area the six qualification rules were applied to historic catches in order to determine which fishermen qualified at catches greater than 0 and 1,000 pounds per year. The latter threshold might be applied to eliminate casual, and possibly speculative, participants without excluding more committed fishermen.

The question of how to divide the total allowable halibut catch [TAC] among qualifying fishermen is a difficult one. All the possible methods, including the two proposed here, are admittedly somewhat arbitrary. In one case the fisherman's permanently assigned quota, or entitlement, is the best catch he made in any of the years required for qualification. Alternatively, in cases where two or more years are required to qualify, entitlement was also set equal to the fisherman's average catch during all qualifying years. There is no particularly good basis for choosing between these alternatives. However, it should be noted that averaging base year catches will generally favor the more consistent, and thus presumably more committed, fisherman.

FIGURE 1 SCHEMATIC REPRESENTATION OF QUALIFICATION AND ALLOCATION RULES

QUALIFICATION AND ALLOCATION RULE	AREA			QUALIFICATION AND ALLOCATION RULE	AREA		
	2C	3	4		2C	3	4
FISHERMEN WHO MADE LANDINGS IN 1981	10	30	50	FISHERMEN WHO MADE LANDINGS IN 3 OF THE YEARS 1978 TO 1981 GREATER THAN			
FISHERMEN WHO MADE LANDINGS IN 1979, 1980 OR 1981 GREATER THAN				0LBS(BEST YEAR)	16	36	56
0 LBS(BEST YEAR)	11	31	51	1000LBS(BEST YEAR)	26	46	66
1000 LBS(BEST YEAR)	21	41	61	0LBS(AVERAGE)	17	37	57
FISHERMEN WHO MADE LANDINGS IN 1980 OR 1981 GREATER THAN				1000(LBS)AVERAGE	27	47	67
0 LBS(BEST YEAR)	12	32	52	FISHERMEN WHO MADE LANDINGS IN 1979, 1980 AND 1981 GREATER THAN			
1000 LBS(BEST YEAR)	22	42	62	0LBS(BEST YEAR)	18	38	58
FISHERMEN WHO MADE LANDINGS IN 1981 GREATER THAN				1000LBS(BEST YEAR)	28	48	68
0 LBS	13	33	53	0LBS(AVERAGE)	19	39	59
1000 LBS	23	43	63	1000LBS(AVERAGE)	29	49	69
FISHERMEN WHO MADE LANDINGS IN 1980 AND 1981 GREATER THAN							
0 LBS(BEST YEAR)	14	34	54				
1000 LBS(BEST YEAR)	24	44	64				
0 LBS(AVERAGE)	15	35	55				
1000 LBS(AVERAGE)	25	45	65				

Before discussing the implications of these rules for the Pacific Halibut Fishery it may be useful to illustrate the mechanics of their application with a simple example. Table 1 describes a hypothetical Fishery in which 4 fishermen harvest quotas established in 3 regulatory areas. Total harvest before and after implementation of an individual quota system is 20,000 pounds in area 2c, 100,000 pounds in area 3, and 10,000 pounds in area 4. Under open access conditions (1979, 1980 and 1981) the four fishermen divide those totals as indicated in the table.

We now consider how the catch might be divided by applying 3 of the allocation rules described in Figure 1. The three rules chosen range from least to most restrictive, where restrictive refers to the number of fishermen expected to be excluded. Hence, they usefully bracket the expected impacts of all the allocation rules examined in this report. The first allocation formula corresponds to cases 11, 31 and 51 in Figure 1. To qualify a fisherman must have made landings in 1979, 1980 or 1981, a condition all four fishermen satisfy. Each qualified fisherman is then granted a permanent entitlement equal to his best annual catch in the base period. For fisherman 1 this implies an entitlement of 10,000 lbs in area 2c, 50,000 lbs in area 3 and 5,000 lbs. in area 4. Summing these permanent entitlements over all four fishermen yields total entitlements of 23,500 lbs. in area 2, 120,000 lbs. in area 3 and 16,000 lbs. in area 4.

As these amounts exceed the corresponding quotas, an adjustment must be made to keep the actual harvest within conservation determined area quotas. The simplest way to do this is to multiply each fisherman's entitlement by an adjustment factor equal to the ratio of area quotas to entitlements. In area 2 this adjustment factor is $20/23.5 = .851$. As long as the area 2 quota and total entitlements remain the same each fisherman's annual quota would be determined as follows: Fisherman 1, $.851 \times 10 = 8.510$; Fisherman 2, $.851 \times 8 = 6.808$; Fisherman 3, $.851 \times 2.5 = 2.128$; Fisherman 4, $.851 \times 3 = 2.553$. With this adjustment the sum of individual annual quotas equals the permitted quota ($8.510 + 6.808 + 2.128 + 2.553 = 19.999$)

Historic Catch	Fisherman 1			Fisherman 2			Fisherman 3			Fisherman 4			Total			
	2c	3	4	2c	3	4	2c	3	4	2c	3	4	2c	3	4	
1979	10	30	3	7	40	2	0	20	2	3	10	3	20	100	10	
1980	9	30	2	8	40	4	2	20	4	1	10	0	20	100	10	
1981	10	50	5	7	30	2	2.500	10	1	.500	10	2	20	100	10	
Rule A																
Qualified fishermen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	4	4	4
Permanent entitlement	10	50	5	8	40	4	2.500	20	4	3	10	3	23.500	120	16	
Annual adjust. factor														.851	.833	.625
Annual quota	8.510	41.650	3.125	6.808	33.320	2.500	2.128	16.660	2.500	2.553	8.330	1.875	19.999	99.960	10.000	
Rule B																
Qualified fishermen	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	3	4	3
Permanent entitlement	10	50	5	8	40	4	-	20	4	3	10	-	21	120	13	
Annual adjust. factor														.952	.883	.769
Annual quota	9.520	41.650	3.845	7.616	33.320	3.076	-	16.660	3.076	2.856	8.330	-	19.992	99.960	9.997	
Rule C																
Qualified fishermen	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	N	2	4	3	
Permanent entitlement	9.667	36.667	3.333	7.333	36.667	2.667	-	16.667	2.333	-	10	-	17	100.001	8.333	
Annual adjust. factor														1.176	1	1.200
Annual qta.	11.368	36.667	4	8.624	36.667	3.204	-	16.667	2.800	-	10	-	19.992	100.001	10.004	

Table 1 Illustration of Qualification and Allocation Rules

A = 1979, 1980 or 1981 catch greater than zero.

B = 1979, 1980 and 1981 catch greater than zero.

C = 1979, 1980 and 1981 catch greater than 1000 lbs.

The next rule corresponds to cases 18, 38 and 58 in Figure 1. Now a fisherman must have made landings in all 3 years to qualify. Again each qualifying fisherman's entitlement is his best annual catch during the base period. In this case Fisherman 3 does not qualify in area 2c and Fisherman 4 does not qualify in area 4. The calculation of permanent entitlements for qualifying fishermen and their adjustment to annual quotas is performed in the same manner as before. Note, however, that the adjustment factors in area 2c and 4 are now higher because entitlements in those areas are lower.

The final example (cases 29, 49, 69 in Figure 1) differs from the above in two respects. Fishermen must land at least 1,000 lbs. in each base year, and their entitlement is the average catch over all base years rather than the best years catch. Now Fisherman 4 also fails to qualify in area 2c. Entitlements are the lowest under this rule, both because it excludes the most fishermen, and because average catch is generally lower than the best years catch. Hence, adjustment factors are the highest, making each unit of entitlement worth the most in terms of actual fishing rights.

Performing the above calculations on the actual halibut fleet for all the rules listed in Figure 1 required the assembly of vessel and catch descriptors for each fisherman who landed halibut during the period 1978 to 1981. The data base from which these descriptions were obtained included vessel, permit and fish ticket files maintained by the Alaska Commercial Fisheries Entry Commission and the IPHC. A total of 5710 separate records were established, one per fisherman who landed halibut in the base period.*

Fifty-seven separate SPSS programs were then applied to this data base. Each described the distribution of catch and effort under status quo (1981) conditions, or one of the allocation rules cited in Figure 1. Tables reporting results for the 12 cases discussed below are appended to this report. The full set of programs and results are reported elsewhere.

* Confidential data were accessed only by a representative of the Commercial Fisheries Entry Commission who provided non-confidential summaries to Northwest Resources Analysis.

II. EMPIRICAL RESULTS

Fleet size and distribution

The effect of various allocation rules on the total number of fishermen as well as their distribution by vessel size and region is reported in table 2. In 1981 3067 fishermen reported catches of halibut in Alaska waters. Area totals of 1453 for area 2c, 1683 for area 3 and 56 for area 4 sum to a larger figure because many fishermen made landings in more than one area.

Under the least restrictive rule (landings in 1979, 1980 or 1981) the qualifying fleet would be much larger---5091 fishermen. This is because fishermen who made landings in 1979 or 1980 but not 1981 would qualify under that rule. When landings are required in 1979, 1980 and 1981 the number of qualifying fishermen drops rather dramatically to 1006. Requiring landings of at least 1000 lbs. in each of those years produces another significant reduction to 468 fishermen.

The numbers of fishermen falling into each size class and region follows the same pattern, increasing relative to 1981 under the most liberal rule and then declining sharply under more restrictive rules. The following results are somewhat inflated because they double count fishermen qualifying in more than one area.

A total of 3444 fishermen with smaller vessels (less than 5 net tons) qualify under the most liberal rule compared with 1905 participating in 1981. Their numbers decline to 502 and 167 under the two more restrictive rules. But, under all rules, fishermen with vessels less than 5 tons remain the most numerous group.

Under the most liberal rule 4832 Alaska residents would qualify, compared with 2779 participating in 1981. Under the two more restrictive rules the number of qualifying Alaska residents would decline to 888 and 403. Finally 733 lower 48 residents would qualify under

Table 2 Effect of Alternative Qualification Rules on the Number of Fishermen by Vessel Size and Arm

	2c				3				4				Alaska*			
	1981	A	B	C	1981	A	B	C	1981	A	B	C	1981	A	B	C
All Fishermen	1453	2616	541	199	1683	2851	477	277	56	98	10	9	3067	5091	1006	468
0-5 Net Tons	871	1622	274	81	1001	1768	227	86	33	54	1	0	1905	3444	502	167
6-15 Net Tons	419	680	190	74	388	628	125	83	3	7	1	1	810	1315	316	158
16-25 Net Tons	96	178	46	26	114	189	49	38	2	4	1	1	212	371	96	65
26-35 Net Tons	50	100	21	12	98	151	40	37	8	15	1	1	156	266	62	50
36-45 Net Tons	9	20	4	2	41	51	23	21	7	9	4	4	57	80	31	27
46-55 Net Tons	2	6	2	2	13	22	8	8	2	5	2	2	17	33	12	12
56 + Net Tons	6	10	4	2	28	42	5	4	1	4	0	0	35	52	9	6
Alaska	1263	2215	484	187	1479	2553	402	215	37	64	2	1	2779	4832	888	403
Lower 48	190	401	57	12	186	298	75	12	19	34	8	8	395	733	140	32
Kodiak	1	9	0	0	246	342	48	16	1	5	0	0	248	356	48	16
Anchorage	9	13	1	0	335	593	103	57	0	2	0	0	344	608	140	57
Juneau	181	333	70	21	53	99	20	12	1	1	0	0	235	433	90	33
Homer	0	4	0	0	122	206	39	26	0	0	0	0	122	210	39	26
Sitka	159	322	57	22	38	63	17	16	1	2	0	0	198	387	74	38
Petersburg	135	238	54	33	42	56	12	11	0	1	0	0	177	295	66	44
Wrangell	86	136	39	21	6	15	6	6	0	0	0	0	92	151	45	27
Angoon	53	74	25	6	3	3	2	2	0	0	0	0	56	77	27	8
Ketchikan	130	247	42	7	22	30	3	3	1	2	0	0	153	279	45	10
Seattle	26	59	6	0	43	61	28	27	7	15	4	4	76	135	38	31
ake	66	83	33	21	4	6	1	1	0	1	0	0	70	90	34	22

A = 1979, 1980 or 1981 catch greater than zero
 B = 1979, 1980 and 1981 catch greater than zero
 C = 1979, 1980 and 1981 catch greater than 1000 lbs.

* Vessels qualifying in 2 or more areas are counted once in the all fisherman row but more than once in other rows.

the most liberal rule versus 395 participating in 1981 and, 140 and 32 under the more restrictive rules.

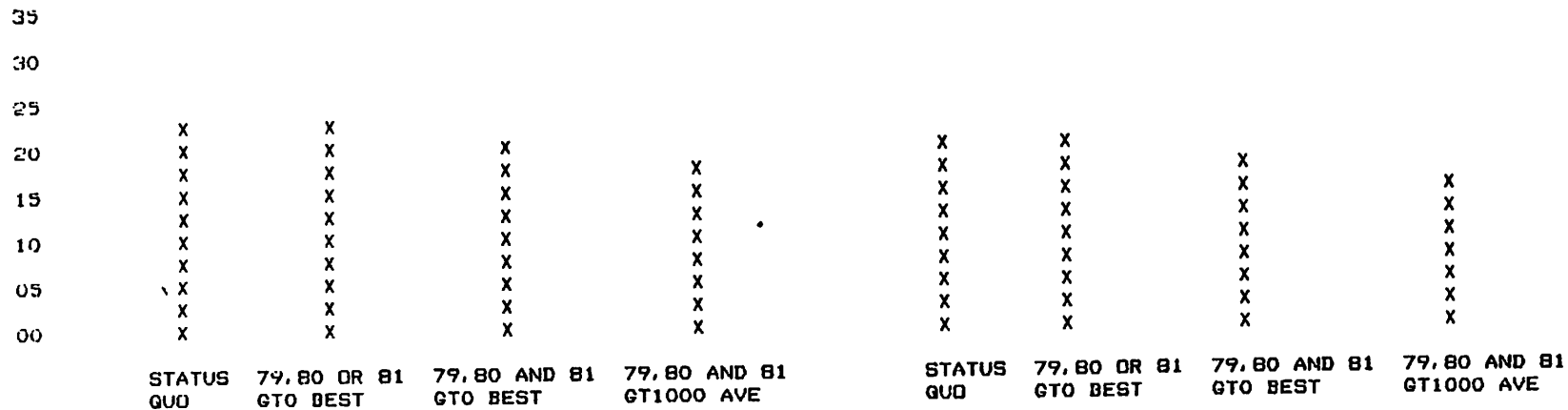
In the remaining discussion, distribution of rights is described in terms of percentage shares of the Alaska wide Halibut harvest accruing to size class and geographic groups. Share of harvest is a more meaningful indicator of how a particular group fares economically because it considers not only members excluded but also the amount of catch accruing to the group as a result of the distribution of entitlements among qualifying fishermen.

Distribution of catch by vessel size

The way an individual quota system might change the distribution of catch between "small" and "large" fishermen is a matter of considerable social and political concern. A major objection to the individual quota concept, in general and as applied to the halibut fishery, is that it may push out the "little guy", particularly in the long run after quotas acquire economic value and a market in them develops. Qualitative discussion of these long run questions must be deferred until Phase II. And definitive answers will not be forthcoming until an individual quota system has actually been implemented. However, we can examine historic catch and effort data to determine how the above allocation rules will effect the initial distribution of rights between large and small fishermen. Such analysis provides an indication of how economic value, as opposed to participation, will be distributed in the long run. This is because initial quota holders will be the principal economic beneficiaries, whether they remain in the fishery or sell their rights to others.

In general Figure 2 shows less dramatic changes in the distribution of catch between groups than was reported earlier for changes in numbers of qualifying fishermen within each group. The share of catch going to fishermen whose vessels are less than 25 net tons or over 56 net tons declines, while that of vessels 26 to 55 net tons increases.

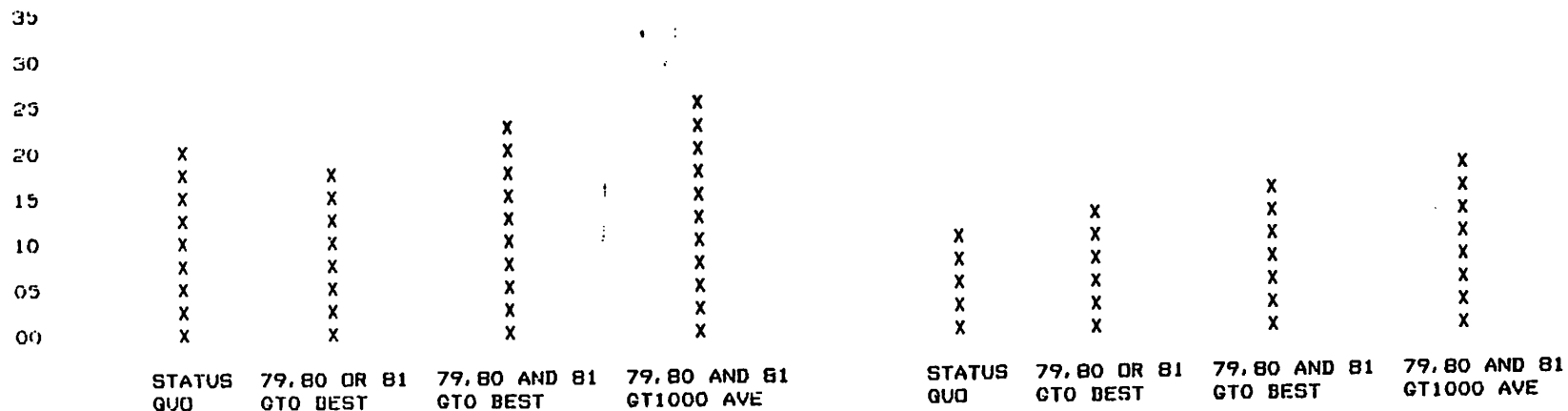
FIGURE 2 DISTRIBUTION OF CATCH BY VESSEL SIZE CLASS



PERCENT OF CATCH

LESS THAN OR EQUAL TO 5 NET TONS

6-15 NET TONS



PERCENT OF CATCH

26-35 NET TONS

36-45 NET TONS

PERCENT OF CATCH

GREATER THAN 56 NET TONS

	STATUS	79, 80 OR B1	79, 80 AND B1	G10 BEST	G10 BEST	G10 BEST	GUD
	X						
	X	X					X
	X	X	X				X
05	X	X	X				X
10	X						
15							
20							
25							
30							
35							

PERCENT OF CATCH

12-25 NET TONS

	STATUS	79, 80 OR B1	79, 80 AND B1	G10 BEST	G10 BEST	G10 BEST	GUD
00	X						X
05	X	X					X
10	X	X					X
15	X	X					X
20		X					X
25		X					X
30		X					X

46-55 NET TONS

	STATUS	79, 80 OR B1	79, 80 AND B1	G10 BEST	G10 BEST	G10 BEST	GUD
	X						X
	X	X					X
	X	X					X
	X	X					X
	X	X					X
	X	X					X
	X	X					X
	X	X					X
	X	X					X

Figure 2 - Continued

Geographic distribution of catch

The question of how an individual quota system will affect the geographic distribution of rights has much in common with the previous discussion of distribution by vessel size. The eventual geographic distribution of quotas will be determined primarily by subsequent sales rather than initial distribution. Again, however, initial right holders will be the principal economic beneficiaries whether through sale or continued participation. Hence, we can see from the results reported in Figure 3 how an individual quota system will affect the economic interest of particular states and communities.

Going again from the least to most restrictive rule we see that the share of catch going to Alaska residents declines while that of lower 48 residents increases. By selected cities, shares accruing to Anchorage, Juneau, Ketchikan, Kodiak and Homer decline, while shares going to Sitka, Petersburg, Wrangell, and Seattle increase. There is no discernable trend in shares going to Angoon and Kake.

Alternative fishing opportunities

Halibut is but one of several species harvested by the typical halibut fisherman. In fact halibut usually comprises a minority of most fishermen's total annual catch. Any limited entry program must consider this multi-species fishing pattern.

One concern that relates to the multi species issue is the extent of hardship imposed on fishermen who are excluded by the above qualification rules. To the extent that excluded fishermen are only minimally dependent on halibut for their total fishing income, one would expect less concern than would be the case if many excluded fishermen were heavily dependent on halibut fishing for their livelihood.

Only the two more restrictive rules exclude fishermen participating in the base year 1981. Table 3 reports their halibut catch in total, and as a percentage of the excluded groups total catch of all species

TABLE 3 PARTICIPATION OF EXCLUDED FISHERMEN IN OTHER FISHERIES

CATCH OF EXCLUDED FISHERMEN	QUALIFICATION RULE	
	1979, 1980, 1981 GREATER THAN 0	1979, 1980, 1981 GREATER THAN 1000 LBS
1981 HALIBUT	8659978	7695693
1980 ALL SPECIES	31378134	34047170
PERCENT HALIBUT	28	28
HALIBUT AS A PERCENT OF TOTAL SPECIES CATCH	1	1

in 1980 the most recently recorded year. In the two cases the excluded group caught 8.7 to 9.7 million pounds of halibut. This catch amounted to 28 percent of that groups total catch of all species in Alaska waters.

Another multi-species question is the effect that individuals leaving the halibut fishery will have on other fisheries into which they may direct their effort. Again, long run effects, after voluntary exit has occurred, must await qualitative analysis in Phase II; and more definitive answers will come only after implementation. In this initial phase, though, we can ask what excluded fishermen could harvest if they chose to redirect their efforts toward fisheries in which historic catch data indicate they have the capability and incentive to participate.

A rough idea of the potential impact on other fisheries can be obtained by asking how significant the excluded groups halibut catch is relative to the total catch by all fishermen. If this figure is small then excluded halibut fishermen are unlikely to effect other fisheries, even if they totally replace their lost halibut catch with other species. One would expect the actual impact to be even less than this as many fishermen will not choose, or be able, to totally replace lost halibut landings. As table 3 indicates, the halibut catch of excluded fishermen is quite small under both restrictive rules, only about 1 percent of total species catch for fisheries in which they participate.

Multiple area qualifications

Even if quotas are assigned on a management area basis, many fishermen will, under the above allocation rules, receive entitlements in more than one area. Whether or not this constitutes a problem depends primarily on compliance and enforcement. If there is good compliance, multi-area qualified fishermen will not effect the resource any differently than those qualified only in one area. Some will continue to fish in two or more areas while others may choose to specialize by selling quotas in one area and using the proceeds to buy more quotas in the other.

The enforcement problem arises if a fisherman chooses to fish in one area but reports his landings in another. In some cases there may be an advantage to doing so. For example, the fisherman with both Area 2 and Area 3 quotas might choose to fish primarily in Area 2 but misreport his catch as coming from Area 3. By doing so he could take advantage of better market and other economic conditions prevailing in Area 2. If such a practice became widespread, the adverse impacts on resource conservation would be much like those which mitigate against an Alaska-wide quota system.

Tables 4 - 6 report the extent of multiple area qualification under each allocation rule. Under the most liberal rule the 2616 vessels qualifying in area 2c include 416 who also qualify in area 3. Those vessels have an area 3 entitlement of 3.9 million pounds, 19 percent of the total area 3 entitlement. The area 2c qualifying fleet also includes 7 vessels qualified in area 4 whose entitlement of 248 thousand pounds amounts to 15 percent of the area 4 total. The 2851 vessels qualifying in area 3 include 58 who qualify in area 4. Those vessels entitlement of 1.55 million pounds amounts to 96 percent of the area 4 total.

Under the more restrictive rule that landings must be made in 1979, 1980 and 1981 the 541 fishermen who qualify in area 2c include 14 who also qualify in area 3. Their entitlement of 164 thousand pounds amounts to 1 percent of the area 3 total. The area 3 fleet's 477 fishermen includes 8 who also qualify in area 4 and acquire an entitlement of 539 thousand pounds, or 98 percent of the area 4 total.

Finally under the most restrictive rule, catches greater than 1000 lbs in all 3 base years, the area 2 fleet's 199 fishermen include 9 who also qualify in area 3 and acquire 1 percent of that area's entitlement. And the area 3 fleet's 277 fishermen include 8 who also qualify in area 4, where they acquire 99 percent of the entitlement.

TABLE 4 MULTIPLE AREA QUALIFICATION: 1979, 1980 OR 1981 LANDINGS GREATER THAN 0. BEST YEAR

AREA			
2C	3739918	247959	
3	3097541	1850086	
4	155657	4246729	

AREA	2C	3	4
------	----	---	---

COLUMN AREA ENTITLEMENT HELD BY FISHERMEN WITH A ROW AREA ENTITLEMENT

AREA			
2C	19	15	
3	42	96	
4	2	21	

AREA	2C	3	4
------	----	---	---

PERCENT OF TOTAL COLUMN AREA ENTITLEMENT HELD BY FISHERMEN WITH A ROW AREA ENTITLEMENT

AREA			
2C	416	7	
3		98	
4			

AREA	2C	3	4
------	----	---	---

NUMBERS OF FISHERMEN QUALIFIED TO FISH IN THE COLUMN AREA WHO ARE ALSO QUALIFIED TO FISH IN THE ROW AREA

AREA			
2C	15	7	
3		59	
4			

AREA	2C	3	4
------	----	---	---

PERCENT OF COLUMN AREA FISHERMEN ALSO QUALIFIED TO FISH IN THE ROW AREA

TABLE 5 MULTIPLE AREA QUALIFICATION: 1979, 1980 AND 1981 LANDINGS GREATER THAN 0; BEST YEAR

AREA	2C	3	4
2C		163964	0
3	239479		339472
4	0	1283145	
AREA	2C	3	4

COLUMN AREA ENTITLEMENT HELD BY FISHERMEN WITH A ROW AREA ENTITLEMENT

AREA	2C	3	4
2C		1	0
3	8		98
4	0	11	
AREA	2C	3	4

PERCENT OF TOTAL COLUMN AREA ENTITLEMENT HELD BY FISHERMEN WITH A ROW AREA ENTITLEMENT

AREA	2C	3	4
2C		14	0
3			8
4			
AREA	2C	3	4

NUMBERS OF FISHERMEN QUALIFIED TO FISH IN THE COLUMN AREA WHO ARE ALSO QUALIFIED TO FISH IN THE ROW AREA

AREA	2C	3	4
2C		3	0
3			80
4			
AREA	2C	3	4

PERCENT OF COLUMN AREA FISHERMEN ALSO QUALIFIED TO FISH IN THE ROW AREA

TABLE 6. MULTIPLE AREA QUALIFICATION: 1979, 1980 AND 1981 LANDINGS GREATER THAN 1000 LBS; AVERAGE

AREA	2C	3	4
2C	83282		0
3	136309		370442
4	0	991793	
AREA	2C	3	4

COLUMN AREA ENTITLEMENT HELD BY FISHERMEN WITH A ROW AREA ENTITLEMENT

AREA	2C	3	4
2C		7	0
3			8
4			
AREA	2C	3	4

NUMBERS OF FISHERMEN QUALIFIED TO FISH IN THE COLUMN AREA WHO ARE ALSO QUALIFIED TO FISH IN THE ROW AREA

AREA	2C	3	4
2C		1	0
3		8	99
4		0	13
AREA	2C	3	4

PERCENT OF TOTAL COLUMN AREA ENTITLEMENT HELD BY FISHERMEN WITH A ROW AREA ENTITLEMENT

AREA	2C	3	4
2C		4	0
3			89
4			
AREA	2C	3	4

PERCENT OF COLUMN AREA FISHERMEN ALSO QUALIFIED TO FISH IN THE ROW AREA

III. CONCLUSIONS

This report has described the implications of several alternatives for the initial assignment of fishing rights within an individual quota system. As with any distribution question there is no "right" answer to the question who should get what. That necessarily remains a political question to be determined in this case by the Council on recommendation of its halibut limited entry working group.

As that decision is considered, attention should be given to differences between an individual quota system and license limitation programs such as those applied to the Pacific Salmon Fisheries. Under license limitation, effort reduction occurs, if at all, only in the beginning through deliberate exclusion of some fishermen. Thereafter, effort ordinarily increases; as fulltime fishermen upgrade their vessels to compete for shares, and as parttimers increase their participation when prices rise.

Under an individual quota system, grandfathering in a large number of parttimers should not result in future effort increases. The reason is that all fishermen, including parttimers, have fixed quotas that can only be increased by purchase from others. And, of course, the primary mechanism for effort reduction is voluntary exchanges through which fishermen buy each other out and consolidate quotas.

TABLE 10 AREA 2C FISHERMEN
 BASE CASE: LANDINGS GREATER THAN ZERO IN 1978, 1979, 1980, OR 1981

HISTORIC CATCH		PARTICIPATION	
1978		LICENSED FISHERMEN	1981 CATCH
HALIBUT	2009154	TOTAL	1453
2C	1846621	0-5 NT	871
3	162533	6-15 NT	419
4	0	16-25 NT	96
SALMON	8103615	26-35 NT	50
BLACK COD	117581	36-45 NT	9
SHELLFISH	322947	46+ NT	8
OTHER	304078	56+ D	D
1979		ALASKA	1263
HALIBUT	2944007	LOWER 48	190
2C	2670902	KODIAK	D
3	273105	ANCHORAGE	9
4	0	JUNEAU	181
SALMON	11233685	HOMER	0
BLACK COD	359764	SITKA	159
SHELLFISH	473945	PETERSBURG	135
OTHER	1399311	WRANGELL	86
1980		ANGONN	53
HALIBUT	2394913	KETCHIKAN	130
2C	2110756	SEATTLE	26
3	284197	KAKE	66
4	0		
SALMON	12524218		
BLACK COD	588924		
SHELLFISH	479212		
OTHER	1931694		
1981			
HALIBUT	4314782	AREA	MULTIPLE AREA QUALIFICATION
2C	4009309	3	NUMBER OF FISHERMEN
3	305473	4	1981 CATCH
4	0		
SALMON	NA		
BLACK COD	NA		
SHELLFISH	NA		
OTHER	NA		

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 30 AREA 3 FISHERMEN
 BASE CASE: LANDINGS GREATER THAN ZERO IN 1978, 1979, 1980, OR 1981

HISTORIC CATCH		PARTICIPATION		
1978		LICENSED FISHERMEN		1981 CATCH
HALIBUT	9623205	TOTAL	1683	14919559
2C	1463145	0-5 NT	1001	2667449
3	7601549	6-15 NT	388	2614498
4	558514	16-25 NT	114	2176151
SALMON	9686340	26-35 NT	98	3147041
BLACK COD	1452709	36-45 NT	41	1824469
SHELLFISH	2437349	46-55 NT	13	1167508
OTHER	1222564	56+ NT	28	1322443
1979		ALASKA	1479	8820474
HALIBUT	11161803	LOWER 48	186	6079085
2C	1345814	KODIAK	246	1202571
3	8893076	ANCHORAGE	335	1028787
4	922913	JUNEAU	53	509381
SALMON	8103422	HOMER	122	747377
BLACK COD	1881856	SITKA	38	983583
SHELLFISH	1866472	PETERSBURG	42	1725277
OTHER	4320359	WRANGELL	6	147285
1980		ANGON	D	D
HALIBUT	10705736	KETCHIKAN	22	378469
2C	1081445	SEATTLE	43	2868827
3	9229875	KAKE	4	51601
4	374416			
SALMON	14445214			
BLACK COD	2651155			
SHELLFISH	3674754			
OTHER	3607201			
1981		MULTIPLE AREA QUALIFICATION		
HALIBUT	16572104	AREA	NUMBER OF FISHERMEN	1981 CATCH
2C	770883	2	101	770883
3	14919559	4	24	881662
4	881662			
SALMON	NA			
BLACK COD	NA			
SHELLFISH	NA			
OTHER	NA			

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 50 AREA 4 FISHERMEN
 BASE CASE: LANDINGS GREATER THAN ZERO IN 1978, 1979, 1980, OR 1981

HISTORIC CATCH		PARTICIPATION		
1978		LICENSED FISHERMEN		1981 CATCH
HALIBUT	2036383	TOTAL	56	944841
2C	51565	0-5 NT	33	140551
3	1649365	6-25 NT	5	106300
4	335453	D	D	D
SALMON	48290	26-35 NT	8	216863
BLACK COD	243696	36+ NT	10	481127
SHELLFISH	1874	D	D	D
OTHER	11441	D	D	D
1979		ALASKA	37	256044
HALIBUT	2273987	LOWER 48	19	688797
2C	70994	KODIAK	D	D
3	1586217	ANCHORAGE	0	0
4	616776	JUNEAU	D	D
SALMON	15573	HOMER	0	0
BLACK COD	138236	SITKA	D	D
SHELLFISH	14859	PETERSBURG	0	0
OTHER	5110	WRANGELL	0	0
1980		ANGON	0	0
HALIBUT	2341769	KETCHIKAN	D	D
2C	110065	SEATTLE	7	397620
3	1908911	KAKE	0	0
4	322784			
SALMON	40282			
BLACK COD	195445			
SHELLFISH	88278			
OTHER	54131			
1981		MULTIPLE AREA QUALIFICATION		
HALIBUT	2906942	AREA	NUMBER OF FISHERMEN	1981 CATCH
2C	0	2	0	0
3	1962101	3	24	1962096
4	944841			
SALMON	NA			
BLACK COD	NA			
SHELLFISH	NA			
OTHER	NA			

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 11 AREA 2C QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 0 IN 1979, 1980 OR 1981
 ENTITLEMENT RULE: BEST ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH		PARTICIPATION		1982 QUOTA
1978		LICENSED FISHERMEN	ENTITLEMENT	
HALIBUT	3710874	TOTAL	2616	3400000
2C	2934456	0-5 NT	1622	1154130
3	747180	6-15 NT	680	1072947
4	29238	16-25 NT	178	578960
SALMON	13149151	26-35 NT	100	376502
BLACK COD	1001358	36-45 NT	20	157601
SHELLFISH	404663	46-55 NT	6	71625
OTHER	959788	56+ NT	10	16367
1979		ALASKA	2215	2981156
HALIBUT	5601729	LOWER 48	401	446976
2C	4366075	KODIAK	9	17401
3	1206787	ANCHORAGE	13	16564
4	28867	JUNEAU	333	393021
SALMON	17397496	HOMER	4	3720
BLACK COD	1915485	SITKA	322	437490
SHELLFISH	1167195	PETERSBURG	238	560574
OTHER	5513256	WRANGELL	136	309101
1980		ANGOON	74	48709
HALIBUT	4903571	KETCHIKAN	247	185130
2C	3237844	SEATTLE	59	102678
3	1651287	KAKE	83	192716
4	14440			
SALMON	18169065			
BLACK COD	1875423			
SHELLFISH	990838			
OTHER	4064007			
1981		MULTIPLE AREA QUALIFICATION		
HALIBUT	7461226	AREA	NUMBER OF FISHERMEN	ENTITLEMENT
2C	4009310	3	416	3939918
3	3218397	4	7	247959
4	233519			
SALMON	NA			
BLACK COD	NA			
SHELLFISH	NA			
OTHER	NA			
				1982 QUOTA
				3270132
				230602

TABLE 31 AREA 3 QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 0 IN 1979, 1980 OR 1981
 ENTITLEMENT RULE: BEST ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH		PARTICIPATION			
1978		LICENSED FISHERMEN	ENTITLEMENT	1982 QUOTA	
HALIBUT	11172603	TOTAL	2051	20410483	16940700
2C	2158848	0-5 NT	1768	3879874	3220312
3	8417213	6-15 NT	628	3305129	2743257
4	596542	16-25 NT	189	3215963	2669249
SALMON	15077091	26-35 NT	151	4100156	3403129
BLACK COD	1464746	36-45 NT	51	2604822	2162002
SHELLFISH	414677	46-55 NT	22	1643179	1363839
OTHER	1407115	56+ NT	42	1661341	1378913
1979		ALASKA	2553	12270875	10184826
HALIBUT	13469720	LOWER 48	298	8139608	6755875
2C	2014576	KODIAK	342	1376147	1142202
3	10504621	ANCHORAGE	593	1608147	1334762
4	950523	JUNEAU	99	662132	549570
SALMON	15610099	HUMER	206	976329	826953
BLACK COD	2604888	SITKA	63	1175072	975326
SHELLFISH	1874868	PETERSBURG	56	220116	182697
OTHER	5225680	WRANGELL	15	230974	191708
1980		ANGOON	D	D	D
HALIBUT	12482440	KETCHIKAN	30	551688	457901
2C	1497582	SEATTLE	61	3958095	3285219
3	10578926	KAKE	6	82657	68605
4	405932				
SALMON	24889483				
BLACK COD	2976242				
SHELLFISH	1909391				
OTHER	5165329				
1981		MULTIPLE AREA QUALIFICATION			
HALIBUT	17121966	AREA	NUMBER OF FISHERMEN	ENTITLEMENT	1982 QUOTA
2C	1306468	2	416	3097541	1455844
3	14919560	4	58	1550086	1441580
4	895938				
SALMON	NA				
BLACK COD	NA				
SHELLFISH	NA				
OTHER	NA				

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 51 AREA 4 QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 0 IN 1979, 1980 OR 1981
 ENTITLEMENT RULE: BEST ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH			PARTICIPATION		1982 QUOTA
1978			LICENSED FISHERMEN	ENTITLEMENT	
HALIBUT	4028874	TOTAL	98	1618692	1505384
2C	57919	0-5 NT	54	195111	181453
3	3413970	6-15 NT	7	69103	64266
4	556985	16-25 NT	4	121711	113191
SALMON	49422	26-35 NT	15	279320	259768
BLACK COD	243676	36-45 NT	9	509247	473600
SHELLFISH	90466	46-55 NT	5	232959	216652
OTHER	21284	56+ NT	4	211241	196454
1979		ALASKA	64	430571	400431
HALIBUT	4078034	LOWER 48	34	1188121	1104953
2C	71865	KODIAK	5	61107	56830
3	3054254	ANCHORAGE	D	D	D
4	951915	JUNEAU	D	D	D
SALMON	21274	HOMER	0	0	0
BLACK COD	206903	SITKA	D	D	D
SHELLFISH	348537	PETERSBURG	D	D	D
OTHER	22945	WRANGELL	0	0	0
1980		ANGON	0	0	0
HALIBUT	3614891	KETCHIKAN	D	D	D
2C	110065	SEATTLE	15	704232	654936
3	3079416	KAKE	D	D	D
4	425410				
SALMON	273272				
BLACK COD	11890				
SHELLFISH	579228				
OTHER	60187				
1981					
HALIBUT	4223852	AREA	MULTIPLE AREA QUALIFICATION		1982 QUOTA
2C	0		NUMBER OF FISHERMEN	ENTITLEMENT	
3	3279011	2	7	155657	73159
4	944841	3	58	4246729	3524785
SALMON	NA				
BLACK COD	NA				
SHELLFISH	NA				
OTHER	NA				

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 18 AREA 2C QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 0 IN 1979, 1980 AND 1981
 ENTITLEMENT RULE: BEST ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH			PARTICIPATION			1982 QUOTA
			LICENSED FISHERMEN	ENTITLEMENT		
1978						
HALIBUT	1693708	TOTAL	541	3166273		3387912
2C	1644330	0-5 NT	274	1084530		1160447
3	49378	6-15 NT	190	1049211		1122656
4	0	16-25 NT	46	520931		557396
SALMON	5649531	26-35 NT	21	271059		311433
BLACK COD	67232	36-45 NT	4	67840		72589
SHELLFISH	279280	46+ NT	6	152702		163391
OTHER	278183	D	D	D		D
1979		ALASKA	484	2965101		3172658
HALIBUT	2526705	LOWER 48	57	201172		215254
2C	2353005	KODIAK	0	0		0
3	173700	ANCHORAGE	D	D		D
4	0	JUNEAU	70	433303		463634
SALMON	7855377	HONER	0	0		0
BLACK COD	329471	SITKA	57	342772		366766
SHELLFISH	341173	PETERSBURG	54	533773		571137
OTHER	1343578	WRANGELL	39	404612		432935
1980		ANGOOD	25	48372		51758
HALIBUT	1858753	KETCHIKAN	42	87120		93218
2C	1675264	SEATTLE	6	8876		9497
3	183489	KAKE	33	298000		318860
4	0					
SALMON	8536253					
BLACK COD	95878					
SHELLFISH	463609					
OTHER	1077966					
1981						
HALIBUT	2565646	AREA	MULTIPLE AREA QUALIFICATION		1982 QUOTA	
2C	2410943	3	NUMBER OF FISHERMEN	ENTITLEMENT		
3	154703	4				
4	0					
SALMON	NA					
BLACK COD	NA					
SHELLFISH	NA					
OTHER	NA					

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 3B AREA 3 QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 0 IN 1979, 1980 AND 1981
 ENTITLEMENT RULE: BEST ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH			PARTICIPATION		1982 QUOTA
			LICENSED FISHERMEN	ENTITLEMENT	
1978		TOTAL	477	11242495	17048017
HALIBUT	7998003	0-5 NT	227	1875286	2869188
2C	951901	6-15 NT	125	1442341	2206782
3	7003856	16-25 NT	49	1656754	2534834
4	542246	26-35 NT	40	2759531	4222002
SALMON	5551500	36-45 NT	23	1903528	2912398
BLACK COD	834787	46-55 NT	8	1114815	1705667
SHELLFISH	1325340	56+ NT	5	390240	597067
OTHER	631951	ALASKA	402	5673791	8680900
1979		LOWER 48	75	5468704	8367117
HALIBUT	9668155	KODIAK	48	313664	479906
2C	637076	ANCHORAGE	103	785819	1202303
3	8210493	JUNEAU	20	303471	464311
4	820586	HOMER	39	389519	595964
SALMON	5688457	SITKA	17	838525	1282943
BLACK COD	1504029	PETERSBURG	12	1078666	1650359
SHELLFISH	1270362	WRANGELL	6	199807	305705
OTHER	607794	ANGON	D	D	D
1980		KETCHIKAN	D	D	D
HALIBUT	8339407	SEATTLE	28	3014564	4521846
2C	405026	KAKE	D	D	D
3	7601381				
4	333600				
SALMON	2620651				
BLACK COD	1552626				
SHELLFISH	2340523				
OTHER	1180873				
1981					
HALIBUT	9345609	AREA	NUMBER OF FISHERMEN	ENTITLEMENT	1982 QUOTA
2C	240916	2	14	239479	256243
3	8448191	4	8	539472	1467364
4	656502				
SALMON	NA				
BLACK COD	NA				
SHELLFISH	NA				
OTHER	NA				

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 58 AREA 4 QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 0 IN 1979, 1980 AND 1981
 ENTITLEMENT RULE: BEST ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH				PARTICIPATION		1982 QUOTA
1978				LICENSED FISHERMEN	ENTITLEMENT	
HALIBUT	1218806	TOTAL		10	550662	1477801
2C	0	0-35 NT		4	173093	470812
3	1002122		D	D	D	D
4	216684		D	D	D	D
SALMON	1155		D	D	D	D
BLACK COD	31492	36+ NT		6	377569	1026988
SHELLFISH	0		D	D	D	D
OTHER	3891	56+ NT		0	0	0
1979		ALASKA		D	D	D
HALIBUT	1449070	LOWER 48		D	D	D
2C	0	KODIAK		0	0	0
3	956985	ANCHORAGE		0	0	0
4	492085	JUNEAU		0	0	0
SALMON	2385	HOMER		0	0	0
BLACK COD	0	SITKA		0	0	0
SHELLFISH	0	PETERSBURG		0	0	0
OTHER	0	WRANGELL		0	0	0
1980		ANGOODN		0	0	0
HALIBUT	1276763	KETCHIKAN		0	0	0
2C	0	SEATTLE		0	0	0
3	994697	KAKE		0	0	0
4	282066					
SALMON	0					
BLACK COD	4741					
SHELLFISH	0					
OTHER	20096					
1981		AREA		MULTIPLE AREA QUALIFICATION		1982 QUOTA
HALIBUT	1379620			NUMBER OF FISHERMEN	ENTITLEMENT	
2C	0	2	0		0	0
3	1029023	3	8	1283145	1763212	
4	354597					
SALMON	NA					
BLACK COD	NA					
SHELLFISH	NA					
OTHER	NA					

0 = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 29 AREA 2C QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 1000 IN 1979, 1980 AND 1981
 ENTITLEMENT RULE: AVERAGE ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH				PARTICIPATION		1982 QUOTA
1978				LICENSED FISHERMEN	ENTITLEMENT	
HALIBUT	1579756	TOTAL		199	1815152	3394334
2C	1533777	0-5 NT		81	513808	960971
3	45999	6-15 NT		74	632829	1183391
4	0	16-25 NT		26	351898	658050
SALMON	2602438	26-35 NT		12	193744	362303
BLACK COD	67106	36+ NT		6	122791	229620
SHELLFISH	279280	D		D	D	D
OTHER	254622	D		D	D	D
1979		ALASKA		187	1677139	3173649
HALIBUT	2239393	LOWER 48		12	118013	220684
2C	2099233	KODIAK		0	0	0
3	140160	ANCHORAGE		0	0	0
4	0	JUNEAU		21	207940	388849
SALMON	4546048	HOMER		0	0	0
BLACK COD	280972	SITKA		22	209640	391691
SHELLFISH	341034	PEIERSBURG		33	335331	627069
OTHER	1155171	WRANGELL		21	283554	530247
1980		ANGÖON		6	15628	29224
HALIBUT	1555568	KETCHIKAN		7	31147	58246
2C	1389393	SEATTLE		0	0	0
3	166175	KAKE		21	179945	336497
4	0					
SALMON	5072696					
BLACK COD	76020					
SHELLFISH	460870					
OTHER	884201					
1981		MULTIPLE AREA QUALIFICATION				
HALIBUT	2073498	AREA	NUMBER OF FISHERMEN	ENTITLEMENT	1982 QUOTA	
2C	1956830	3	9	83282	183222	
3	116668	4	0	0	0	
4	0					
SALMON	NA					
BLACK COD	NA					
SHELLFISH	NA					
OTHER	NA					

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 49 AREA 3 QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 1000 IN 1979, 1980 AND 1981
 ENTITLEMENT RULE: AVERAGE ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH		PARTICIPATION		1982 QUOTA
1978		LICENSED FISHERMEN	ENTITLEMENT	
HALIBUT	8360229	TOTAL	277	7719436
2C	902026	0-5 NT	86	1074041
3	6915953	6-15 NT	83	871479
4	542246	16-25 NT	38	1041635
SALMON	4383699	26-35 NT	37	2072217
BLACK COD	834793	36-45 NT	21	1443678
SHELLFISH	1137089	46-55 NT	8	850582
OTHER	586642	56+ NT	4	325847
1979		ALASKA	215	3629123
HALIBUT	9343555	LOWER 48	12	4070330
2C	549378	KODIAK	16	156973
3	7973991	ANCHORAGE	57	510302
4	820586	JUNEAU	12	157559
SALMON	4427069	HONER	26	233013
BLACK COD	1436277	SITKA	16	587715
SHELLFISH	1146127	PETERSBURG	11	771355
OTHER	649219	WRANGELL	6	139523
1980		ANGON	D	D
HALIBUT	7988588	KETCHIKAN	D	D
2C	338986	SEATTLE	27	2318968
3	7317799	KAKE	D	D
4	331803			
SALMON	4563410			
BLACK COD	1210307			
SHELLFISH	2281746			
OTHER	1052944			
1981		MULTIPLE AREA QUALIFICATION		1982 QUOTA
HALIBUT	8726940	AREA	NUMBER OF FISHERMEN	ENTITLEMENT
2C	203470	2	9	136301
3	7866968	4	8	370442
4	656502			
SALMON	NA			
BLACK COD	NA			
SHELLFISH	NA			
OTHER	NA			

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

TABLE 67 AREA 4 QUALIFYING FISHERMEN
 QUALIFICATION RULE: LANDINGS GREATER THAN 1000 IN 1979, 1980 AND 1981
 ENTITLEMENT RULE: AVERAGE ANNUAL CATCH IN BASE PERIOD

HISTORIC CATCH				PARTICIPATION		1982 QUOTA
1978				LICENSED FISHERMEN	ENTITLEMENT	
HALIBUT	1218806	TOTAL		7	375831	1499568
2C	0	0-5 NT		0	0	0
3	1002122	D		D	D	D
4	216684	D		D	D	D
SALMON	1155	D		D	D	D
BLACK COD	31492	36-45 NT		4	174723	697146
SHELLFISH	0	D		D	D	D
OTHER	3871	56+ NT		0	0	0
1979		ALASKA		D	D	D
HALIBUT	144775	LOWER 48		D	D	D
2C	0	KODIAK		0	0	0
3	955938	ANCHORAGE		0	0	0
4	491813	JUNEAU		0	0	0
SALMON	2385	HOMER		0	0	0
BLACK COD	0	SITKA		0	0	0
SHELLFISH	0	PETERSBURG		0	0	0
OTHER	0	WRANGELL		0	0	0
1980		ANGCOON		0	0	0
HALIBUT	1276114	KETCHIKAN		0	0	0
2C	0	SEATTLE		4	209345	835289
3	994650	KAKE		0	0	0
4	281464					
SALMON	0					
BLACK COD	4741					
SHELLFISH	0					
OTHER	20096					
1981		MULTIPLE AREA QUALIFICATION				1982 QUOTA
HALIBUT	1379241	AREA	NUMBER OF FISHERMEN	ENTITLEMENT		
2C	0	2	0	0	0	
3	1025023	3	8	991793	2181945	
4	354218					
SALMON	NA					
BLACK COD	NA					
SHELLFISH	NA					
OTHER	NA					

D = DELETED TO PREVENT DISCLOSURE OF CONFIDENTIAL INFORMATION

QUALIFICATION/ALLOCATION FILE
INDICES GREATER THAN THRESHOLD
IN:

1981

1979, 1980 OR 1981
BEST YEAR

1980 OR 1981
BEST YEAR

1981

1980 AND 1981
BEST YEAR

1980 AND 1981
AVERAGE

3 OF 4 YEARS DURING
1978 - 1981
BEST YEAR

3 OF 4 YEARS DURING
1978 - 1981
AVERAGE

1979, 1980 AND 1981
BEST YEAR

1979, 1980 AND 1981
AVERAGE

Handwritten: 1979, 1980 AND 1981
AVERAGE

THRESHOLD

0

1000 LBS

BASE CASE

LEAST RESTRICTIVE

INTERMEDIATE

MOST RESTRICTIVE

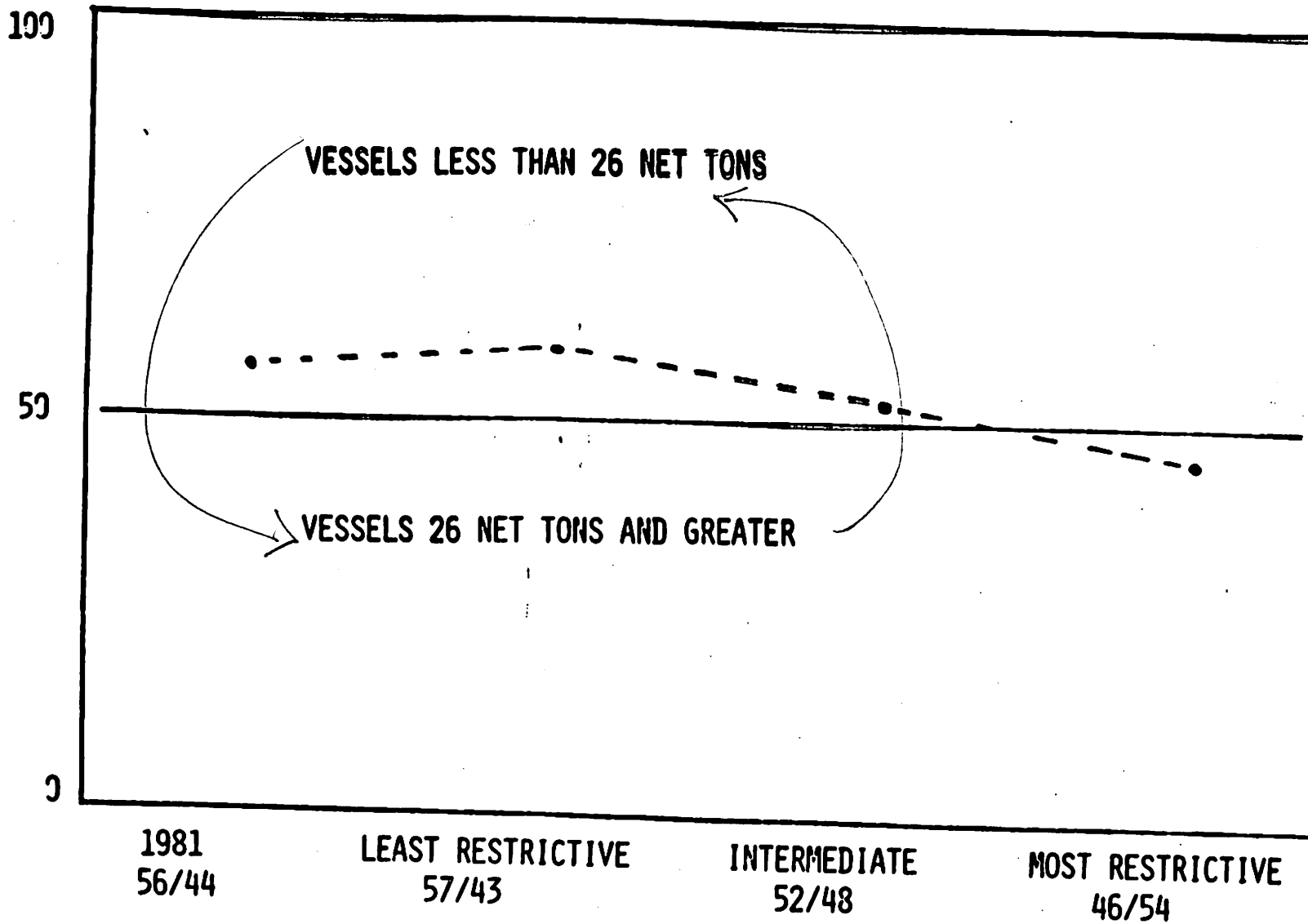
<u>HISTORIC CATCH</u>	<u>FISHERMAN</u>				<u>TOTAL</u>
	<u>ONE</u>	<u>TWO</u>	<u>THREE</u>	<u>FOUR</u>	
1979	10	7	0	2.3	20
1980	9	8	2	1	20
1981	10	7	2.5	.5	20
 <u>LEAST RESTRICTIVE</u>					
PERMANENT ENTITLEMENT	10	8	2.5	3	23.5
ANNUAL QUOTA	8.510	6.808	2.128	2.553	19.999
 <u>INTERMEDIATE</u>					
PERMANENT ENTITLEMENT	10	8	NQ	3	21
ANNUAL QUOTA	9.520	7.616	NQ	2.856	19.999
 <u>MOST RESTRICTIVE</u>					
PERMANENT ENTITLEMENT	9.667	7.333	NQ	NQ	17
ANNUAL QUOTA	11.368	8.624	NQ	NQ	19.992

QUALIFICATION/ALLOCATION RULE

	<u>1981 FLEET</u>	<u>LEAST RESTRICTIVE</u>	<u>INTERMEDIATE</u>	<u>MOST RESTRICTIVE</u>
ALL FISHERMEN*	3067	5091	1006	468
FISHERMEN WITH VESSELS:				
LESS THAN 26 NET TONS	2927	5130	914	390
26 NET TONS OR GREATER	265	431	114	95
FISHERMEN FROM:				
LOWER 48	395	733	140	32
ALASKA	2779	4832	888	403
KODIAK	248	356	48	16
PETERSBURG	177	295	66	44
SEATTLE	76	135	38	31

***MULTIPLE AREA QUALIFICATION NETTED OUT OF TOTALS
BUT NOT SIZE CLASS AND GEOGRAPHIC DETAIL**

PERCENT OF CATCH

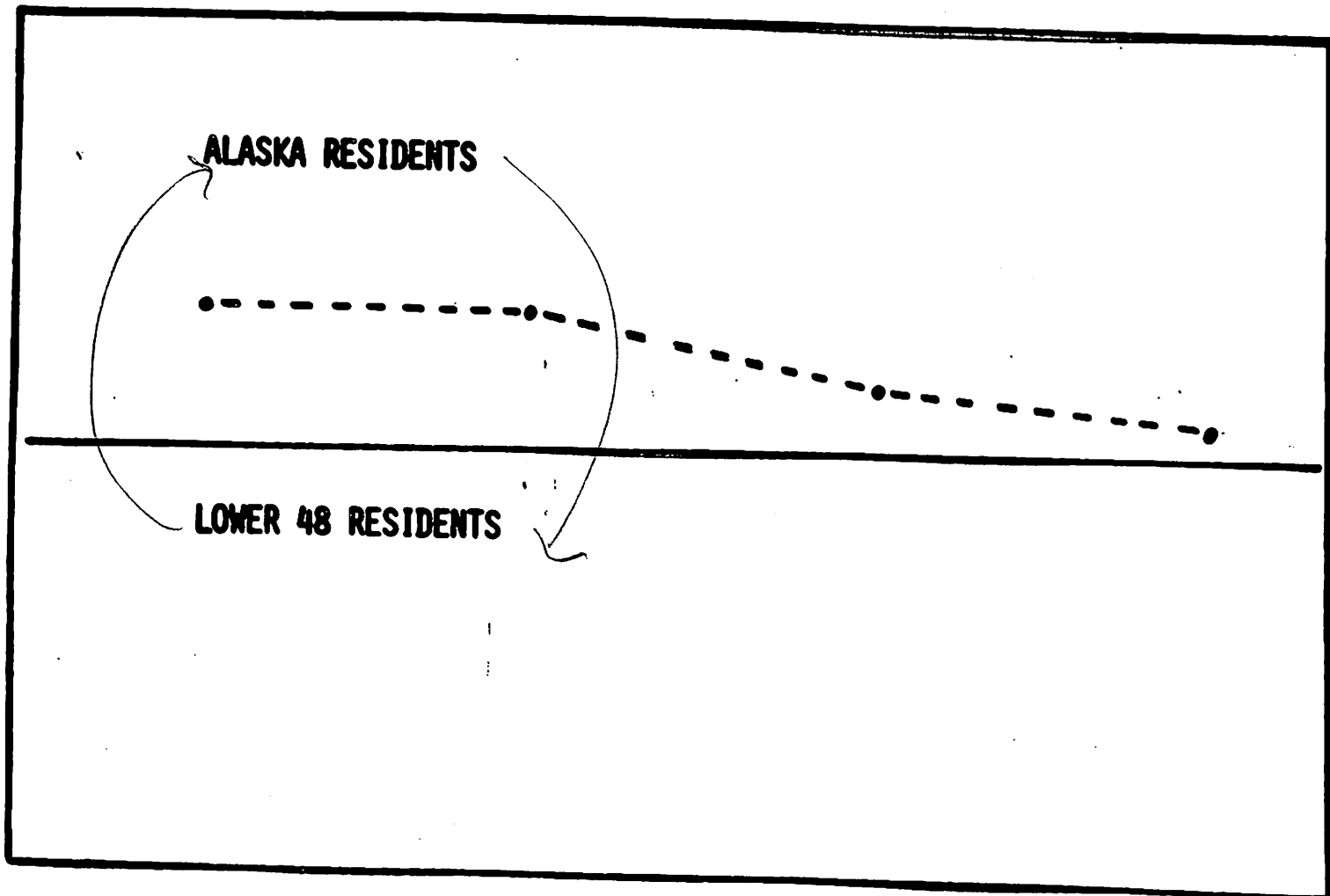


PERCENT OF CATCH

100

50

0



ALASKA RESIDENTS

LOWER 48 RESIDENTS

**1981
64/36**

**LEAST RESTRICTIVE
65/35**

**INTERMEDIATE
58/42**

**MOST RESTRICTIVE
54/46**

PERCENT OF CATCH
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

1981
(6)
X
X
X
X
X
X

LEAST RESTRICTIVE
(5)
X
X
X
X
X

INTERMEDIATE
(2)
X
X

MOST RESTRICTIVE
(2)
X
X

KODIAK

17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1

X
X
X
X
X
X
X
X
X
X
X

X
X
X
X
X

X
X
X
X
X
X
X
X
X
X
X

X
X
X
X
X
X
X
X
X
X
X

PERCENT OF
CATCH

1981
(11)

LEAST RESTRICTIVE
(5)

INTERMEDIATE
(11)

MOST RESTRICTIVE
(11)

PETERSBURG

