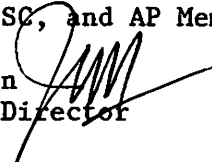


M E M O R A N D U M

TO: Council, SSC, and AP Members
FROM: Jim Branson 
Executive Director
DATE: September 17, 1981
SUBJECT: Gulf of Alaska Groundfish Fishery Management Plan

ACTION REQUIRED

- I. *The Council may be requested to authorize a reorganization of the FMP.*
- II. *The Council may be requested to approve for public review an amendment to the sablefish OY.*

BACKGROUND

- I. The Gulf of Alaska Plan Maintenance Team will meet on September 22 with Council, SSC, and AP Gulf of Alaska subgroups to discuss the reorganization of the FMP and the sablefish OY. The PMT will consider the desirability of reorganizing the FMP, and if so recommend drafters, source material and a time table.
- II. At the July PMT meeting, Jim Balsiger, PMT Scientific Support Leader was asked to reevaluate the sablefish resource. Depending on the results of this study, the PMT may recommend an annual amendment to lower the sablefish OY.

Included in your notebooks are the following documents relevant to I and II above:

<u>Agenda Item</u>	<u>Description</u>
E-5(a)	the NMFS Alaska Region's Report on improving management flexibility, the number of regulatory areas, and FMP reorganization
E-5(b)	A draft paper on prohibited species incidental catch problems
E-5(c)	Proposed Amendments from the Alaska Longline Fishermen's Association

E-5(d) Proposed Amendments from the North Pacific
Longline Gillnet Association

E-5(e) Proposed Amendments from the Japan Deep Sea
Trawler's Association.

In addition, we are expecting a report from ADF&G on the need for reporting domestic groundfish catches landed outside of Alaska, and the paper on the sablefish resource from the Northwest and Alaska Fisheries Center. Both documents should be available at this meeting.

- III. We have received a letter from NMFS Washington which says that Part 5 of Amendment #8 has been unofficially disapproved. Part 5 of Amendment #8 would have given the Regional Director authority to close areas when gear conflicts between foreign and domestic fishermen occur. The letter is in your notebooks as Agenda Item E-5(f).

The Region has informed us that Amendment #9, the "Lechner Line" around Kodiak Island is scheduled to be in effect on October 2.

Amendment #10, designed to encourage domestic fishing in the Eastern Regulatory Area has been under Secretarial Review since April 20. We do not know when it will be acted on by the Secretary.

- IV. The following is a Council staff proposed time table for reorganizing the FMP:

<u>Date</u>	<u>Description</u>
September 1981	Council authorizes reorganization of FMP
Oct. or Nov. 1981	Draft of reorganized FMP is prepared.
December 1981	Council approves draft amendment for public review.
Jan. or Feb. 1982	Public hearings on reorganized FMP, number to be determined.
March 1982	Council approves amendment for submission to Secretary of Commerce.
April 1982	Amendment is submitted to the Secretary.
May - June 1982	Secretarial Review.

Given present knowledge of review times in Washington, D.C., the above schedule should enable an amendment which reorganizes the FMP to be effective by January 1, 1983.

NMFS, Alaska Region
Management Operations Branch
Juneau, Alaska

FISHERY MANAGEMENT PLAN
FOR THE
GROUNDFISH OF THE GULF OF ALASKA

Plan Maintenance Team Assessment of the Current Management Regime and
Proposed Measures to Enhance Management Flexibility

Optimum Yield

The Gulf of Alaska groundfish resource is currently managed under a species specific management regime. When new information indicates that a change in the OY of a species or species group is necessary, a time consuming and cumbersome amendment process must be initiated to make these changes to the FMP. The current amendment process is so time consuming that the FMP lags between 1 and 2 years behind the current scientific information on status of stocks. This situation is not acceptable for effective management of the groundfish fishery and could retard development of the domestic groundfish fishery.

To remedy this situation, the Plan Maintenance Team (PMT) for the fishery management plan for the Groundfish of the Gulf of Alaska (FMP) suggests that prior to the beginning of each fishing year, the Regional Director, after consultation with the North Pacific Fishery Management Council (Council), be authorized to determine the optimum yield (OY) for each species/species group, for each of the three Gulf of Alaska regulatory areas, based upon the most recent status of stocks information. This information would consist of NMFS scientists' estimate of current equilibrium yield (EY) and acceptable biological catch (ABC) for each species/species group and other status of stocks information which is based upon analyses of recent NMFS resource assessments and commercial catches. The estimated ABC for each species/species group would then be used by the Regional Director to establish each OY after considering economic, social, or ecological objectives that would necessitate deviating from ABC. Specific guidelines need to be established by the Council by which the Regional Director, after consultation with the Council, can determine when such economic, social, or ecological conditions exist which necessitate a reduction or increase of the ABC to derive OY.

With the exception of Pacific ocean perch and sablefish, all other groundfish species/species groups managed under the FMP are believed to be at levels of abundance equal to or greater than those that would produce maximum sustainable yield (MSY). With the exception of flounders, the ABC for these groups equals MSY and the OY is equal to the ABC. The OY for flounders is set at 50 percent of the ABC to reduce the incidental catch of halibut in this fishery.

The current EY for Pacific ocean perch is believed to be 33 to 40 percent of the MSY. As a compromise between a moratorium on fishing for Pacific ocean perch to rapidly rebuild their numbers, and allowing the catch to equal EY thus not allowing rebuilding to occur, the ABC (= OY) is set at one-half the EY. The current EY for sablefish is also substantially lower than MSY. Because this species is of special importance to domestic fishermen, rapid rebuilding is desirable. Accordingly, OY is set lower than EY. Other concerns which the Council may want to consider in setting guidelines for departures from ABC when establishing OY would be such economic factors as limited seasonal availability to the groundfish fishery by domestic fishing vessels, higher catch rates, or greater average size of a species/species group.

The most recent status of stocks information and estimated EY/ABC's for Gulf of Alaska groundfish species/species groups are currently available by September or October. The Regional Director, in consultation with the Council, would then have at least 2 months to determine OY's for the upcoming fishing year. The OY for each species/species group would then be apportioned to the western, central, and eastern regulatory areas of the Gulf Of Alaska on the basis of biomass (when available) or recent catch proportionalities. Under this procedure, the lengthy amendment process establishing the OY's for the beginning of each fishing year would be eliminated and the Gulf of Alaska groundfish fishery would be managed using information 1 or less years old compared to the 2 year old status of stocks information the fishery is currently managed under.

The PMT favors the above approach for establishing greater flexibility in the management of the Gulf of Alaska groundfish resource rather than establishing a range in OY for each species/species group within which OY may range from year to year since, under this latter procedure, the cumbersome amendment process would again be necessary if stock conditions changed to a point where the established range in OY of a species/species group was no longer valid.

Domestic Annual Harvest

2
The PMT recommends that DAH authorized for the beginning of each fishing year be set at the previous year's harvest level modified as appropriate by changes in (1) projected processing capacity and/or intentions to process, and (2) harvesting capacity and/or intentions to harvest. If necessary, the DAH may be increased during the fishing year by apportionment of reserves. The FMP should be amended to provide a framework which would allow the Regional Director to establish DAH's in this manner, thereby eliminating the need for FMP amendments when DAH's need to be revised.

Reorganization of the FMP

3
The PMT recommends that the FMP be reorganized such that scientific data be put in annexes and taken out of the body of the FMP, as has been done to the FMP for the Bering Sea and Aleutian Islands Groundfish Fishery. This would facilitate the means by which annual changes to the status of stocks information, OY, DAH, reserve, and TALFF are reflected in the FMP itself.

Gulf of Alaska Regulatory Areas

The intent behind allocating groundfish OY's in the Gulf of Alaska to subareas is to prevent overfishing of localized stocks. When the Gulf of Alaska groundfish FMP was first implemented in 1978, five major regulatory areas were established. The scientific information available at that time did not allow for the identification and delineation of specific groundfish stocks and there was no biological rationale for selecting five such areas or for the specific delineation of the areas other than the fact that historical data were compiled on the basis of these five areas.

Subsequently, Amendment 4 to the FMP (effective August 16, 1979) reduced the number of regulatory areas from five to the present three due to the following considerations:

- o When TALFF's were apportioned to the five regulatory areas, then allocated among nations, the resulting amounts of certain bycatch species were too small to conduct target fisheries, which created severe operational problems for the foreign fisheries.
- o Testimony from foreign fishing interests indicated that operational problems would be mitigated by reducing the number of regulatory areas from five to three.
- o Oceanographic features (primarily current patterns) suggested that from an environmental point of view, that portion of the Gulf east about 145°W is quite different from that west of about 160°W, with that portion in between being an area of transition. Growth rates of pollock, the dominant groundfish species of the region, reflected similar differences and were distinctly different in the east and west with an area of overlap around Kodiak.

Taking these considerations into account, the present three regulatory areas were delineated in a manner consistent with oceanographic regimes and differences in pollock growth parameters.

Analyses of recent NMFS resource assessments and commercial catch statistics show no indication of negative impacts on the Gulf of Alaska groundfish resources due to the reduction in number of regulatory areas. It is the opinion of the PMT, therefore, to maintain the three regulatory areas for the present. If, in the future, we are better able to identify and delineate specific groundfish stocks or when the development of the domestic groundfish fishery and increased targeting on discreet groups of fish (particularly rockfish species) results in localized overfishing, the Council may need to consider changing the number of regulatory areas for certain species/species groups. At that time, steps would also have to be taken by the Council to assure that the harvest of the OY of species managed by fewer regulatory areas would not be routinely preempted by the attainment of OY of species regulated by more numerous regulatory areas.

Prohibited Species Problems in the Gulf of Alaska

Preliminary Results

1. Catches of prohibited species have fluctuated widely since 1977 (Tables 1 and 2).
2. In most regions the incidental catch appears to be relatively minor, with respect to directed catches by domestic fisheries and estimates of stock size. There are, however, several exceptions.
3. High incidental catches of halibut, salmon, and King crab have occurred in the Shumagin area. In 1978, this was largely the result of the South Korean fishery (Table 4).
4. High incidental catches of halibut and salmon have also occurred in the Kodiak region.
5. Recent restrictions in the Yakutat and southeastern area should reduce the incidental catch of halibut by about 25% if effort remains the same in the other areas. These restrictions will have little effect on the incidental catch of salmon or King crab.
6. Incidental catches of halibut in the longline fishery have increased in recent years from 71 m.t. in 1977 to 1,119 m.t. in 1980.
7. Incidental catches in joint venture operations are minor at this time (Table 3).

Conclusions

1. An attempt should be made to reduce incidental catches in specific cases where incidental catches are high.
2. An overall lid should be placed on the incidental catch to prevent any increase in incidental catches.

Table 1. Incidental catch of prohibited species in Gulf of Alaska by foreign trawlers, 1977-1980.

	<u>Shumagin</u>	<u>Chirikof</u>	<u>Kodiak</u>	<u>Yakutat</u>	<u>Southeastern</u>	<u>Total</u>
<u>Halibut (m.t.)</u>						
1977	1,291	848	1,001	279	208	3,627
1978	666	158	152	196	45	1,217
1979	165	73	438	1,375	278	2,329
1980	120	38	1,356	443	131	2,088
Average	560	279	737	573	166	2,315
<u>Salmon (no's.)</u>						
1977	1,071	166	3,184	607	244	5,272
1978	34,738	8,089	2,318	312	128	45,585
1979	13,916	3,084	2,424	82	212	19,718
1980	19,179	8,746	7,377	404	61	35,767
Average	17,226	5,021	3,826	351	161	26,586
<u>King Crab (no's.)</u>						
1977	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1978	89,692	0	99	750	0	90,541
1979	20,385	9	54	127	19	20,594
1980	1,691	0	79	312	21	2,103
Average (78-80)	37,256	3	77	396	13	37,746
<u>Tanner Crab (no's.)</u>						
1977	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1978	6,757	14	337	7,521	0	14,629
1979	240	202	7,033	1,308	57	8,840
1980	3,111	0	6,124	2,588	7	11,830
Average (78-80)	3,369	72	4,498	3,805	21	11,766

Table 2. Incidental catch of prohibited species in the Gulf of Alaska by foreign longliners, 1978-1980. (Note: 1977 data are unavailable.)

	<u>Shumagin</u>	<u>Chirikof</u>	<u>Kodiak</u>	<u>Yakutat</u>	<u>Southeastern</u>	<u>Total</u>
<u>Halibut (m.t.)</u>						
1978	21	39	6	5	0	71
1979	53	74	47	36	35	245
1980	213	598	299	9	0	1,119
Average	96	237	117	17	12	478
<u>Salmon (no's.)</u>						
1978	5	229	0	20	0	254
1979	0	661	7	17	0	685
1980	0	21	113	0	0	134
Average	2	304	40	12	0	358
<u>King Crab (no's.)</u>						
1978	1,552	141	717	924	0	3,334
1979	2,424	1,139	856	386	3	4,808
1980	2,504	307	1,481	0	0	4,292
Average	2,160	529	1,018	437	1	4,145
<u>Tanner Crab (no's.)</u>						
1978	779	242	653	7,666	0	9,340
1979	299	759	1,291	5,803	0	8,652
1980	4,718	7,423	524	3,753	0	16,418
Average	1,932	2,808	823	5,741	0	11,303

Table 3. Incidental catch of prohibited species in the Gulf of Alaska by joint venture trawlers, 1979-1980.

	<u>Shumagin</u>	<u>Chirikof</u>	<u>Kodiak</u>	<u>Yakutat</u>	<u>Southeastern</u>	<u>Total</u>
<u>Halibut (m.t.)</u>						
1979	0	0	21	1	0	22
1980	4	26	0	0	0	30
Average	2	13	10.5	0.5	0	26
<u>Salmon (no's.)</u>						
1979	0	0	1,049	1	0	1,050
1980	165	3	18	0	0	186
Average	82.5	1.5	533.5	0.5	0	618
<u>King Crab (no's.)</u>						
1979	0	0	466	0	0	466
1980	3	41	6,241	0	0	6,285
Average	1.5	20.5	3353.5	0	0	3375.5
<u>Tanner Crab (no's.)</u>						
1979	0	0	618	8	0	626
1980	4,117	49,140	4,765	0	0	58,022
Average	2058.5	24,570	2691.5	4	0	29,324

Table 4. Breakdown in the incidental catch of prohibited species by vessel-type for selected areas and years of high incidental catch.

	<u>Halibut (m.t.)</u>	<u>Salmon (no's.)</u>	<u>King Crab (no's.)</u>	<u>Tanner Crab (no's.)</u>
1978 - Shumagin Area				
<u>Japan</u>				
Sm. trawl	28	319	36	0
Long trawl	95	955	463	0
Longline	20	4	1,518	767
<u>USSR</u>				
Long trawl	87	325	0	0
<u>Poland</u>				
Long trawl	-	-	-	-
<u>S. Korea</u>				
Long trawl	457	33,139	89,193	6,757
Longline	1	1	34	12
1980 - Kodiak Area				
<u>Japan</u>				
Sm. trawl	261	1,405	56	0
Surimi trawl	105	1,467	0	21
Freezer trawl	476	195	0	404
Longline	299	113	1,481	524
<u>USSR</u>				
Long trawl	514	4,310	23	5,699
<u>Poland</u>				
Long trawl	-	-	-	-
<u>S. Korea</u>				
Long trawl	-	-	-	-
Longline	-	-	-	-

Table 5. Foreign Catches of Groundfish in the Gulf of Alaska. "Best Blend Estimates" in metric tons.

Pollock	1980	1979	1978	1977
SHUMAGIN	46,648	30,218	31,301	56,730
Japan	378	1,366	3,539	8,626
Korea	24,926	23,312	26,268	34,166
Poland	5,849	249	--	--
USSR	15,495	170	1,494	13,938
Mexico	--	5,121	--	--
CHIRIKOF	35,102	29,184	43,801	27,743
Japan	9,876	3,743	5,777	14,999
Korea	--	--	784	1,413
Poland	7,237	18,515	--	--
USSR	17,989	6,537	37,240	11,331
Mexico	--	389	--	--
KODIAK	26,616	38,413	17,698	28,157
Japan	23,099	23,957	13,249	10,970
Korea	--	--	--	--
Poland	--	787	1,227	1,256
USSR	3,517	10,550	3,222	15,931
Mexico	--	3,119	--	--
YAKUTAT	4,198	4,816	2,538	6,255
Japan	4,111	2,523	2,538	5,910
Korea	87	2,202	--	--
Poland	--	--	--	--
USSR	--	43	--	345
Mexico	--	48	--	--
SOUTHEAST	434	555	990	1,488
Japan	434	331	990	1,488
Korea	--	224	--	--
Poland	--	--	--	--
USSR	--	--	--	--
Mexico	--	--	--	--
TOTAL - Gulf of Alaska	112,996	103,187	96,328	120,373
Japan	37,897	31,920	26,093	41,993
Korea	25,013	25,739	27,052	35,579
Poland	13,085	19,551	1,227	1,256
USSR	37,001	17,300	41,956	41,545
Mexico	--	8,677	--	--

/more

Table 5 (continued). Foreign Catches of Groundfish in the Gulf of Alaska.
 "Best Blend Estimates" in metric tons.^{1/}

<u>Pacific Cod</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>
SHUMAGIN	8,621	3,970	5,519	410
Japan	6,624	3,067	4,073	211
Korea	1,627	788	1,361	--
Poland	9	9	--	--
USSR	361	6	85	199
Mexico	--	100	--	--
CHIRIKOF	18,355	6,257	4,540	437
Japan	17,403	5,598	3,537	370
Korea	--	--	8	--
Poland	46	118	--	--
USSR	906	165	995	67
Mexico	--	376	--	--
KODIAK	5,226	2,540	1,045	855
Japan	4,551	1,414	971	596
Korea	--	--	--	--
Poland	--	--	14	--
USSR	675	663	60	259
Mexico	--	463	--	--
YAKUTAT	2,000	344	199	288
Japan	1,961	294	199	288
Korea	39	49	--	--
Poland	--	--	--	--
USSR	--	1	--	--
Mexico	--	--	--	--
SOUTHEAST	43	62	66	14
Japan	43	55	66	14
Korea	--	7	--	--
Poland	--	--	--	--
USSR	--	--	--	--
Mexico	--	--	--	--
TOTAL - Gulf of Alaska	34,245	13,173	11,369	2,004
Japan	30,582	10,428	8,846	1,479
Korea	1,666	844	1,369	--
Poland	55	127	14	--
USSR	1,942	835	1,140	525
Mexico	--	939	--	--

/more

Table 5 (continued). Foreign Catches of Groundfish in the Gulf of Alaska.
 "Best Blend Estimates" in metric tons.^{1/}

Sablefish	1980	1979	1978	1977
SHUMAGIN	1,450	999	1,419	1,863
Japan	734	807	1,187	1,251
Korea	589	161	232	612
Poland	--	--	--	--
USSR	127	3	--	--
Mexico	--	28	--	--
CHIRIKOF	1,354	1,109	891	1,548
Japan	1,299	1,084	809	1,365
Korea	--	--	78	182
Poland	--	--	--	--
USSR	55	19	4	1
Mexico	--	6	--	--
KODIAK	1,641	2,051	2,198	3,587
Japan	1,407	1,901	1,846	3,008
Korea	--	--	352	576
Poland	--	--	--	--
USSR	234	129	--	3
Mexico	--	21	--	--
YAKUTAT	1,638	2,634	2,584	5,229
Japan	1,336	2,059	2,581	5,013
Korea	302	574	3	216
Poland	--	--	--	--
USSR	--	1	--	--
Mexico	--	--	--	--
SOUTHEAST	56	93	35	3,730
Japan	56	69	35	3,730
Korea	--	24	--	--
Poland	--	--	--	--
USSR	--	--	--	--
Mexico	--	--	--	--
TOTAL - Gulf of Alaska	6,139	6,886	7,127	15,957
Japan	4,832	5,920	6,458	14,367
Korea	891	759	665	1,586
Poland	--	--	--	--
USSR	416	152	4	4
Mexico	--	55	--	--

/more

Table 5 (continued). Foreign Catches of Groundfish in the Gulf of Alaska.
 "Best Blend Estimates" in metric tons.^{1/}

<u>Atka Mackerel</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>
SHUMAGIN	1,718	419	488	201
Japan	35	322	243	8
Korea	736	81	61	--
Poland	48	--	--	--
USSR	899	5	184	193
Mexico	--	11	--	--
CHIRIKOF	278	720	17,587	2,131
Japan	179	8	265	58
Korea	--	--	2	--
Poland	9	--	--	--
USSR	90	708	17,320	2,073
Mexico	--	4	--	--
KODIAK	10,995	9,800	1,220	17,217
Japan	1,511	227	338	55
Korea	--	--	--	--
Poland	--	--	--	209
USSR	9,484	9,552	882	16,953
Mexico	--	21	--	--
YAKUTAT	171	11	125	--
Japan	171	11	125	--
Korea	--	--	--	--
Poland	--	--	--	--
USSR	--	--	--	--
Mexico	--	--	--	--
SOUTHEAST	--	--	165	--
Japan	--	--	165	--
Korea	--	--	--	--
Poland	--	--	--	--
USSR	--	--	--	--
Mexico	--	--	--	--
TOTAL - Gulf of Alaska	13,162	10,950	19,585	19,549
Japan	1,896	568	1,136	121
Korea	736	81	63	--
Poland	57	--	--	209
USSR	10,474	10,265	18,386	19,219
Mexico	--	36	--	--

/more

Table 5 (continued). Foreign Catches of Groundfish in the Gulf of Alaska.
 "Best Blend Estimates" in metric tons.^{1/}

<u>Rockfish</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>
SHUMAGIN	1,128	985	4,392	2,864
Japan	310	681	576	1,768
Korea	493	205	3,623	560
Poland	32	2	--	--
USSR	293	30	193	536
Mexico	--	67	--	--
CHIRIKOF	911	299	918	3,261
Japan	783	128	605	2,667
Korea	--	--	32	--
Poland	2	22	--	--
USSR	126	130	281	594
Mexico	--	19	--	--
KODIAK	3,841	2,307	1,688	6,066
Japan	3,011	921	1,593	5,478
Korea	--	--	--	--
Poland	--	--	13	--
USSR	830	1,012	82	588
Mexico	--	374	--	--
YAKUTAT	6,359	2,752	1,765	6,144
Japan	6,260	2,088	1,758	6,036
Korea	99	649	--	--
Poland	--	--	--	--
USSR	--	15	7	108
Mexico	--	--	--	--
SOUTHEAST	4,408	4,827	1,304	5,396
Japan	4,408	4,671	1,293	5,392
Korea	--	156	3	--
Poland	--	--	--	--
USSR	--	--	8	4
Mexico	--	--	--	--
TOTAL - Gulf of Alaska	16,647	11,170	10,067	23,731
Japan	14,772	8,489	5,825	21,341
Korea	592	1,010	3,658	560
Poland	34	24	13	1,830
USSR	1,249	1,187	571	1,830
Mexico	--	460	--	--

/more

Table 5 (continued). Foreign Catches of Groundfish in the Gulf of Alaska.
 "Best Blend Estimates" in metric tons.^{1/}

<u>Flounders</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>
SHUMAGIN	3,022	2,817	2,538	1,066
Japan	336	2,202	2,268	863
Korea	1,710	557	270	--
Poland	--	15	--	--
USSR	976	26	--	203
Mexico	--	17	--	--
CHIRIKOF	976	618	2,455	2,315
Japan	936	488	2,241	2,263
Korea	--	--	26	--
Poland	--	4	--	--
USSR	40	107	188	52
Mexico	--	19	--	--
KODIAK	5,909	4,408	3,830	5,489
Japan	5,086	4,100	3,809	5,235
Korea	--	--	--	--
Poland	--	--	13	--
USSR	823	231	8	254
Mexico	--	77	--	--
YAKUTAT	4,095	3,290	2,955	5,251
Japan	4,071	3,238	2,955	5,245
Korea	24	47	--	--
Poland	--	--	--	--
USSR	--	5	--	6
Mexico	--	--	--	--
SOUTHEAST	1,495	2,342	2,536	4,142
Japan	1,495	2,341	2,536	4,142
Korea	--	1	--	--
Poland	--	--	--	--
USSR	--	--	--	--
Mexico	--	--	--	--
TOTAL - Gulf of Alaska	15,497	13,475	14,314	18,263
Japan	11,924	12,369	13,809	17,748
Korea	1,734	605	296	--
Poland	--	19	13	--
USSR	1,839	369	196	515
Mexico	--	113	--	--

/more

Table 5 (continued). Foreign Catches of Groundfish in the Gulf of Alaska.
 "Best Blend Estimates" in metric tons.^{1/}

<u>Others</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>
SHUMAGIN	1,870	1,064	2,670	593
Japan	164	464	859	330
Korea	1,423	553	1,811	--
Poland	34	--	9	--
USSR	249	9	--	163
Mexico	--	29	--	--
CHIRIKOF	927	837	1,029	843
Japan	556	315	725	586
Korea	--	--	8	--
Poland	11	15	--	--
USSR	360	491	296	257
Mexico	--	16	--	--
KODIAK	2,583	1,437	1,531	1,731
Japan	1,515	927	1,443	1,091
Korea	--	--	--	--
Poland	--	--	1	--
USSR	1,068	441	87	640
Mexico	--	69	--	--
YAKUTAT	765	807	852	835
Japan	761	483	852	835
Korea	4	324	--	--
Poland	--	--	--	--
USSR	--	--	--	--
Mexico	--	--	--	--
SOUTHEAST	2,501	364	226	545
Japan	250	341	226	545
Korea	--	23	--	--
Poland	--	--	--	--
USSR	--	--	--	--
Mexico	--	--	--	--
TOTAL - Gulf of Alaska	6,395	4,507	6,309	4,547
Japan	3,245	2,530	4,105	3,387
Korea	1,428	900	1,820	100
Poland	44	23	1	--
USSR	1,678	940	383	1,060
Mexico	--	114	--	--

/more

Table 5 (concluded).

1/ Notes:

- i. 1980 values are "blend estimate" values reported in:

French, R., R. Nelson, Jr., J. Wall, J. Berger, and B. Gibbs. 1980. Summaries of Provisional foreign groundfish catches (metric tons) in the northeast Pacific Ocean and Bering Sea, 1980. Processed Report. U.S. Dept. Comm., NOAA, NMFS, NWAFC, 2725 Montlake Blvd. E., Seattle, WA, 98112. 188 p.

- ii. 1979 values are "blend estimate" values reported in:

R. Nelson, Jr., R. French, J. Wall, and J. Berger. 1979. Summaries of Provisional 1979 foreign groundfish catches in the northeast Pacific Ocean and Bering Sea. Processed report. U.S. Dept. Comm., NOAA, NMFS, NWAFC, 2725 Montlake Blvd. E., Seattle, WA, 98112. 150 p.

- iii. 1978 values are "blend estimate" values reported in:

Anonymous. 1978. Summaries of Provisional 1978 foreign groundfish catches in the northeast Pacific Ocean and Bering Sea. Processed report. U.S. Dept. Comm., NOAA, NMFS, NWAFC, 2725 Montlake Blvd. E., Seattle, WA, 98112. 96 p.

- iv. 1977 values are values submitted to the U.S. by the foreign nations as required by law.

- v. In 1979 "shortspine thornyheads" are included with "other" fish. In 1977-1978 "shortspine thornyheads" are included with "rockfish without POP".

Table 6. Summary of groundfish catch by foreign fisheries in the Shumagin, Chirikof, and Kodiak areas, 1977-1980.

	<u>Pollock</u>	<u>Pacific cod</u>	<u>Sablefish</u>	<u>Atka Mackerel</u>	<u>Rockfish</u>	<u>Flounders</u>	<u>Others</u>
<u>Shumagin</u>							
1977	56,730	410	1,863	201	2,864	1,066	593
1978	31,301	5,519	1,419	488	4,392	2,538	2,670
1979	30,218	3,970	999	419	985	2,817	1,064
1980	46,648	8,621	1,450	1,718	1,128	3,022	1,870
<u>Chirikof</u>							
1977	27,743	437	1,548	2,131	3,261	2,315	843
1978	43,801	4,540	891	17,587	918	2,455	1,029
1979	29,184	6,257	1,109	720	299	618	837
1980	35,102	18,355	1,354	278	911	976	927
<u>Kodiak</u>							
1977	28,157	855	3,587	17,217	6,066	5,489	1,731
1978	17,698	1,045	2,198	1,220	1,688	3,830	1,531
1979	38,413	2,540	2,051	9,800	2,307	4,408	1,437
1980	26,616	5,226	1,641	10,995	3,841	5,909	2,583

SUMMARY
OF
PROPOSED AMENDMENTS TO THE FISHERY
MANAGEMENT PLAN FOR GROUND FISH
IN THE GULF OF ALASKA

September, 1981

The Alaska Longline Fishermen's Association (ALFA) represents the interests of some eighty-five (85) United States longline fishermen harvesting sablefish, halibut, and other bottomfish in the Gulf of Alaska and the Bering Sea. ALFA's members produce a substantial portion of the sablefish harvested by United States fishermen in the Gulf of Alaska. The bottomfish resources of the Gulf of Alaska, particularly sablefish and halibut, have provided and if properly managed should continue to provide an important contribution to the socio-economic well being of small Alaskan communities, particularly, those coastal communities of the eastern Gulf.

In response to the North Pacific Fisheries Management Council's recent request for proposed amendments to the FMP for Groundfish in the Gulf of Alaska, ALFA has prepared a series of proposed amendments which we feel will offer reasonable and timely management alternatives for the sablefish and, to some extent, halibut fisheries.

1.0 Establish lower ABC, EY and OY values for sablefish gulf-wide.

ALFA has recommended lower ABC, EY and OY values for sablefish since 1977.

Data from United States fishermen, the NMFS Pot Study foreign fishermen and the joint United States-Japan Longline Survey indicate a continued decline in the abundance of sablefish despite catches well below theoretical EY values. The continued

use of current ABC, EY and OY values is not justifiable and does not conform to the National Standards.

2.0 Allow the harvest of sablefish by hook and line only, East of 140° W.

Catch data for the hook and line fishery for sablefish in the Gulf of Alaska (including State waters), is available beginning in the 1930's. The fishery has been dominated by hook and line gear since that time. Catch reports by gear type also include landings by troll, trawl and pot gear.

Troll landings are not significant and in any case troll gear is a hook and line type and does not conflict with traditional setline gear for sablefish. Both trawl and pot gear, however, present serious existing and potential threats to the traditional setline fishery and the resource.

2.1 Gear conflict/grounds preemption.

Gear conflict/grounds preemption problems between trawl and setline gear have been well documented by ALFA. The adoption of Amendment #10 to the FMP for Groundfish in the Gulf of Alaska was in part a response to conflicts between trawl and setline gear.

Gear conflict/grounds preemption problems between pot gear and set line gear are not as well documented in the Gulf of Alaska primarily because to date effort by pot fishermen has been limited and sporadic. These conflicts have, however, been documented in the area managed by the Pacific Fisheries Management Council. Unlike the case of trawl vs. setline gear, grounds are often preempted permanently by pot fisheries when gear is lost. As an example, a pot vessel fishing in the Sitka area in 1980, lost between fifty (50) and one-hundred-fifty (150) pots, (personal communication with local fishermen). Information regarding the location for only fifty (50) of these pots is available as the vessel is no longer in the Sitka area or the pot fishery. These fifty (50) pots alone have made approximately ten miles of sablefish grounds unusable and have caused several setline fisher-

men gear loss and lost time when their relatively light gear (1/4" - 5/16" groundline) tangles with the heavier gear (1" - 1 1/4" groundline) of lost pots. Because the lost gear is polypropelene or nylon and will not rapidly deteriorate, the grounds lost to pots can be considered permanently preempted. Should a significant pot fishery for sablefish with its subsequent gear loss, develop in the Gulf of Alaska large areas of traditional grounds could be permanently lost to the existing setline fishery.

2.2 Trawl and pot gear; resource damage.

Available data indicates that both trawl and pot gear target on smaller sablefish than does hook and line gear. Because the sablefish resource is in a crisis, ALFA believes that gear types which target on smaller less mature fish should be prohibited.

3.0 Winter closure for sablefish fishery.

Because ALFA believes the sablefish resource to be in a crisis state and because available data suggests that the majority of sablefish spawn during winter months, a four month closure of the fishery from November 15 to March 15 is recommended. This type of closure would also eliminate the incidental catch of spawning halibut that occurs when halibut move offshore during the winter months.

Additionally, this type of closure would prohibit the harvest of sablefish at a time when their quality and hence their economic value is significantly lessened by the effects of their spawning.

SEP 8 1981

MUNDT, MACGREGOR, HAPPEL, FALCONER & ZULAUF
ATTORNEYS AT LAW

ACTION	ROUTE TO	INITIAL
	Exec. Dir.	3
	Deputy Dir.	4
	Asst. Dir.	
X	1230 BANK OF CALIFORNIA CENTER SEATTLE, WASHINGTON 98104 206-624-6950	

September 3, 1981

JAY H. ZULAUF
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HENRY HOWARD HAPPEL III
WM. PAUL MacGREGOR
J. CARL MUNDT
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MATTHEW COHEN
FENTON P. WILKINSON

Mr. Jim Branson
North Pacific Fishery
Management Council
Post Office Box 3136 DT
Anchorage, Alaska 99510

Re: Proposed Amendments to Gulf of Alaska
Groundfish FMP

Dear Mr. Branson:

This letter is written on behalf of our client, the North Pacific Longline-Gillnet Association (the "NPL" or the "Association"). The purpose of the letter is to propose several amendments to the Gulf of Alaska FMP. The amendments we would like to propose would: 1) revise the FMP's DAH estimates to more accurately reflect actual performance of the domestic fishery; 2) revise reserve levels in the Yakutat region; 3) provide the Regional Director with field order authority to apportion reserves to TALFF and/or DAH in such amounts and at such times as he deems appropriate; and 4) reopen the Davidson Bank area to foreign longlining. Each of these proposals will be discussed below.

- 1. Set DAHs at the prior year's harvest levels, as modified by demonstrable increases or decreases in domestic harvesting capacity and intent.

Table 6l of the FMP sets forth the expected Domestic Annual Harvest ("DAH") of Groundfish from the Gulf of Alaska; and Table 6la breaks those DAH estimates down into expected harvest levels in each of the regulatory areas of the Gulf. The DAH estimates set forth in Tables 6l and 6la were based upon projections which were made several years ago--projections which have proven to be quite inaccurate. An illustration of that fact is the following chart which compares Table 6la's projections for the DAH of sablefish with the actual domestic harvest levels of sablefish in 1978, 1979, 1980 and in 1981.

GULF OF ALASKA - Sablefish
 (in metric tons)

	<u>WESTERN</u>	<u>CENTRAL</u>	<u>EASTERN</u>
DAH per Table 61a	270	1,220	4,990
Actual domestic catch			
1978	1	1	1,411
1979	0	40	2,270
1980	1	53	1,489
1981**	0	3	422

* / dressed weight
 ** / through June 30, 1981

The original estimates of DAH tended to be somewhat overinflated as a result of the uncertainty which existed concerning the degree to which the domestic fishery would expand and the rate at which that expansion would occur. DAH levels were, therefore, set extremely high in order to insure that adequate supplies of fish would be available to U.S. fishermen. Since then, however, a reserve/reserve-release system has been incorporated into the FMP and has proven to be quite effective in assuring that adequate supplies of fish are available for domestic needs. Under the reserve system, reserves of each species are set aside and withheld from allocation until it becomes clear that they are excess to domestic requirements. The reserve/reserve-release system strikes a delicate balance between the need to provide adequate supplies of fish for domestic fishermen on the one hand, with the MFCMA's objective of full resource utilization on the other. The reserve system eliminates the need to set DAH levels excessively high. Indeed, artificially high DAHs actually complicate the reserve-release process and jeopardize the FMP's ability to effectively allocate available resources between domestic and foreign fishermen.

For these reasons, the NPL proposes that the FMP be amended to provide that the DAH for each species be set at the prior year's domestic harvest level for that species, with the reserves serving as a backup to accommodate expansion in the domestic fishery. As a further precaution, the Regional Director could be authorized to adjust DAHs based upon demonstrable increases or decreases in domestic harvesting capacity and intent. The SSC and the Plan Maintenance Team have both endorsed similar amendments in the past.

2. Revise sablefish reserve levels in Yakutat to equal 20% of Yakutat OY.

Amendment #8 to the FMP divided the Eastern regulatory area of the Gulf of Alaska into three separate districts for purposes of allocating the OY for sablefish--Yakutat, inside Southeast and outside Southeast. The purpose of the amendment was to prevent localized depletion of sablefish stocks in Southeast, the area in which the domestic fishery is primarily conducted. In subdividing the OY for the Eastern area into three parts, the amendment failed to deal with the question of how the sablefish reserve for the Eastern regulatory area should be apportioned between the three new districts. As a result of this oversight, and the fact that there is no foreign sablefish fishing in Southeast, a reserve based on 20% of the OY for the entire Eastern regulatory area was set aside in Yakutat and deducted from that district's OY. As a consequence, the sablefish reserve in Yakutat equals 1,420 mt., or 42% of the OY for the Yakutat district.

A 1,420 mt. reserve in Yakutat is clearly excessive--especially in view of the minimal domestic effort which has occurred in that district. Such a large reserve is also inconsistent with the intent of the FMP provisions which originally established the reserves. Those provisions clearly contemplated a reserve level equalling 20% of the OY for each area (or district) in which an OY was established and in which foreign fishing was occurring. As there is no foreign fishing in Southeast, there is no need for a reserve to be established for that portion of the Eastern regulatory area. The only district in the Eastern regulatory area in which foreign fishing is being conducted and for which a reserve is necessary is Yakutat. The Yakutat reserve should equal 20% of the Yakutat OY, or 680 mt. A reserve of that size would be more than adequate to accomodate domestic expansion should it occur in the Yakutat district.

3. Provide the Regional Director with field order authority to apportion reserves to TALFF and/or DAH in such amounts and at such times as he deems appropriate.

The Gulf FMP currently provides that the Regional Director shall apportion limited amounts of reserves between DAH and/or TALFF at three specific times during the plan year. The Bering Sea FMP has a similar release schedule, but allows the Regional Director somewhat more flexibility in that he is authorized to apportion as much of the reserves as he deems appropriate on the release dates, or whenever else he determines that apportionment is necessary. The Bering Sea FMP's approach is, we believe,

preferable. For that reason, we propose amending the Gulf FMP to incorporate the Bering Sea FMP's reserve-release procedures. Not only would it be more convenient from an administrative standpoint to have the same reserve/reserve-release procedures in both plans, the additional flexibility provided under the Bering Sea plan increases the likelihood that in-season adjustments necessary to effective management can be made on a timely basis. It is our understanding that the Regional Director's office would be in favor of such an amendment.

4. Exempt foreign longliners from the Davidson Bank closure.

Although foreign trawling was prohibited in the Davidson Bank area under the bilateral agreements which existed between Japan and the United States prior to the passage of the MFCMA, and under the Preliminary Management Plan initially promulgated for groundfish in the Gulf of Alaska, the area was open for foreign longliners and had traditionally constituted an important fishing ground to the members of the NPL.

When the FMP provision closing the Davidson Bank area to all foreign fishing was initially proposed, the NPL objected on several grounds: first, that the closure was unnecessary to protect groundfish stocks as OY considerations had already taken into account the need to rebuild and protect important stocks; second, that closure of the area would deprive NPL members of access to an area which had been a traditionally important longline fishing ground; and third, that closure of Davidson Bank, which is located in the middle of the Shumagin fishing area, would impose serious operational difficulties in longline operations where gear is set along bathymetric contours. Such operational difficulties increase operating costs and decrease CPUEs.

In Council deliberations on the issue, one factor that weighed heavily in the Council members' minds was the possibility of gear conflict between foreign longliners and the domestic fishery which was expected to develop in the area. In response to that concern, the NPL proposed to curtail operations in Davidson Bank by either limiting the number of NPL vessels which would fish in the area at any given time, or by agreeing not to fish in the area at all during the 6 months of the fishing year when U.S. boats were most likely to be in the area. While the Council did not adopt either of the NPL proposals, the need to review the closure from time to time to determine whether or not a domestic fishery had, indeed, developed in the area was recognized.

Mr. Jim Branson
September 3, 1981
Page five

MUNDT, MACGREGOR, HAPPEL,
FALCONER & ZULAUF

Based upon domestic catch reports issued by the Alaska Department of Fish and Game, and recent telephone conversations with ADF&G personnel, it appears that domestic effort in the Davidson Bank area remains "almost nil." The only domestic effort in the area of which ADF&G is aware is some limited trawling by vessels fishing for tanner crab bait--the same situation which existed three years ago. Based upon conversations with the National Marine Fisheries Service, it does not appear that any joint venture operations are being conducted in the area either.

As no domestic fishery has developed in the area, there would be little or no danger of gear conflicts if Davidson Bank were reopened to foreign longliners--especially if the area was reopened on either of the conditions originally proposed by the NPL: no more than 2 foreign longline vessels in the area at any given time; or no operations at all during the 6 months of the year when U.S. fishermen are most likely to use the area.

For these reasons, we propose that Davidson Bank be reopened to foreign longlining on a limited basis.

Thank you for your consideration of the proposals contained in this letter. If you, or any of the members of the Council, SSC or AP have any questions, we will be happy to discuss them with you in Anchorage at the time of the September meeting.

Sincerely yours,

MUNDT, MacGREGOR, HAPPEL,
FALCONER & ZULAUF



Paul MacGregor

PM:as

cc: Mr. Robert McVey
Dr. Jim Balsiger
Mr. Don Rosenberg
Mr. Bob Alverson

SEP 14 1981

AGENDA E-5(f)
September 1981



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

ACTION	ROUTE TO	INITIAL
SEP 4 1981	Dir. F/CM6:AMA	J
	Asst. Dir.	
	Asst. Dir. for Admin. Serv.	
	Asst. Dir. for Fishery Res.	
	Asst. Dir. for Fishery Mgmt.	J
	Asst. Dir. for Int. Affairs	
	Asst. Dir. for Legal Coun.	
	Asst. Dir. for Public Aff.	
	Asst. Dir. for Tech. Serv.	
	Asst. Dir. for Training	
	Asst. Dir. for Off. of Cong. & Public Aff.	
	Asst. Dir. for Off. of Int. Affairs	
	Asst. Dir. for Off. of Legal Coun.	
	Asst. Dir. for Off. of Public Aff.	
	Asst. Dir. for Off. of Tech. Serv.	
	Asst. Dir. for Off. of Training	
	Asst. Dir. for Off. of Cong. & Public Aff.	
	Asst. Dir. for Off. of Int. Affairs	
	Asst. Dir. for Off. of Legal Coun.	
	Asst. Dir. for Off. of Public Aff.	
	Asst. Dir. for Off. of Tech. Serv.	
	Asst. Dir. for Off. of Training	

Mr. Jim Branson
Executive Director, North Pacific
Fishery Management Council
P.O. Box 3136 DT
Anchorage, Alaska 99510

Dear Jim,

Part 5 of Amendment 8 to the Fishery Management Plan for the Gulf of Alaska Groundfish presented several issues that have taken considerable time to resolve. We should have disapproved this part last August when we approved the other six parts, rather than setting it aside for further study and taking so long to resolve the issues. Then, the Council would have had our decision and could have submitted a revised version after it had resolved the issues.

We have still not reached a final, official decision on part 5, but unofficially we have decided to disapprove it. I expect that we will make our decision official by early September, at which time I will send the Council a letter informing it in writing of our official decision, the reason for that decision, and suggestions for developing an amendment that would do what the Council intended.

For the present, Amendment 9 and Amendment 10 (nearing a decision) will provide the means for accomplishing the original purpose of Amendment 8.

Terry Leitzell did not respond in writing to your letter of June 17, because he believed that the numerous telephone calls between NMFS Regional and Washington Office staff with your staff had answered your questions.

Sincerely yours,

William H. Stevenson
Acting Assistant Administrator
for fisheries



Justification

Sablefish EY/OY Reduction - Gulf of Alaska

The PMT recommends that the sablefish EY for the Gulf of Alaska be reduced from the present range of 17,400 - 19,800 mt to 10,965 mt and that the OY for the entire Gulf be lowered from 13,000 mt to not more than 9,000 mt with specific reductions to 1,000 mt and 1,500 mt from 3,000 mt and 3,400 mt for the Southeast and Yakutat areas respectively.

Biological and economic data indicate a need to reduce the optimum yield in the Eastern Gulf and the probable need to reduce the optimum yield Gulf-wide.

During the September 22 PMT meeting, the PMT concurred that there are significant reasons for concern. The PMT recommends that the PDT meet in November to review additional studies which should be available and to formulate specific OY range recommendations by area. Public comment prior to the December Council meeting on the proposed amendment, especially on the economic viability of both the domestic and foreign fisheries, is considered important in setting the OY.

Documentation

Southeastern Outside Area:

- (1) Domestic harvest has declined 57% since 1979. Even though 1981 prices increased 44% over 1980, harvests continues to decline.

(2) Average domestic harvest has been 1,360 mt from 1977 through the 1981 projected harvest. This level is only 45% of the current offshore OY of 3,000 mt.

(3) Domestic CPUE expressed in fish per hook has declined 45% since 1977 and 52% as expressed in pounds per hook during the same period.

(4) Recalculated Equilibrium Yield for the Southeastern area equals approximately 1,300 mt.

(5) NMFS indexing shows a decline in marketable size (757cm) fish of 44% since 1978 in the areas adjacent to the domestic fishing grounds.

(6) A reduction of the average domestic harvest since 1977 by the average CPUE decline of 13.5% equals \pm 1,200 mt. Average harvest adjusted by the total CPUE decline since 1977 equals a range of 650 - 800 mt. Therefore, an OY of no more than 1,000 mt is recommended and a further reduction may be necessary to promote rebuilding.

Yakutat Area:

(1) Sampling indicates that the situation in the Southeastern area extends into the Yakutat area as well.

(2) Maximum domestic harvest in the Yakutat area has been less than 30% of DAH since 1978 when the foreign longliners withdrew from the eastern portion of the area.

(3) Even at very low harvest levels CPUE continues to decline in the domestic fishery.

(4) Foreign CPUE declined 59% from 1977 to 1980 even though TALFF has not been reached in the area west of 140° West longitude.

(5) A reduction in the Yakutat OY of 3,400 mt by 59% equals 1,400 mt. A reduction of the current OY by the domestic CPUE decline equals a range of 1,600 - 1,900 mt. Therefore, a maximum OY of 1,500 mt is recommended. A further reduction may be necessary to promote rebuilding.

Gulfwide:

(1) Recent data indicate significant stock interchange between Western, Central, and Eastern Gulf of Alaska.

(2) Length frequency profiles generated from observer reports are similar throughout the Gulf and indicate that the average length is approximately 5cm less than in 1952.

(3) There is evidence of progressive stock decline in the Central and Eastern Gulf based on pounds per skate from 1946 to 1960 and evidence of further decline in marketable fish in recent years.

(4) The current stock structure is such that it is economically unfeasible for U.S. fishermen to fish.

(5) Total harvest since 1978 has been approximately 30% below OY and yet Gulfwide rebuilding of marketable sized fish is not evident.

Controlling the Incidental Catch of Prohibited
Species in the Gulf of Alaska Groundfish Fishery
(September 22, 1981 Draft)

INTRODUCTION

This amendment, Controlling the Incidental Catch of Prohibited Species in the Gulf of Alaska Groundfish Fishery, follows essentially the same objectives and procedures in proposed Amendment #3 in the Bering Sea/Aleutian Islands Groundfish FMP. An exception is that foreign setlines are included in this amendment because their catch of halibut is substantial. In addition, a proposal by the Japanese fishing industry is included. The purpose of this amendment is to reduce the amount of those prohibited species taken incidentally in the extensive groundfish fisheries in the Plan region.

This package contains: I. Objectives and Guidelines; II. Proposed Procedure; III. Domestic Fisheries; and IV. Other.

I. OBJECTIVES AND GUIDELINES

A. The two main objectives are:

1. to effect gradual reductions in the catch of prohibited species by the foreign groundfish fishery consistent with the need to provide opportunities to catch the TALFF of groundfish; and
2. to provide an environment which is supportive of domestic harvesting of groundfish with an awareness of principles and techniques for minimizing incidental catches of Pacific halibut, salmon, and king and Tanner crabs.

B. Two sets of guidelines are used to determine procedures for controlling the incidental catch of prohibited species:

1. that procedures chosen should provide incentives and opportunities for fishermen to modify their gear, fishing techniques, or whatever is appropriate to reduce incidental catch of prohibited species so that long-term solutions would result from the actions; and
2. that regulations chosen would be applied to foreign fisheries only at this time.

II. PROPOSED PROCEDURE

The recommended procedure of the Council is to establish prohibited species catch (PSC) levels for certain species whereby elements of the groundfish fishery may be subject to closure if exceeded.

Prohibited species catches will be established for salmon (all species combined), Pacific halibut, king crabs, and Tanner crabs. All other prohibited species listed in the FMP are subject to their present regulations.

Features of the PSC concept include the following:

- A. Establishment of targets for PSC's:
 - 1. determination of base PSC rates for measurement,
 - 2. determination of target rates and period of reduction, and
 - 3. determination of annual percentage rate of reduction.
- B. Annual review and adjustment of PSC.
- C. Distribution of PSC's to foreign nations.
- D. Non-retention of prohibited species.
- E. In-season implementation of PSC proposal and incentives for PSC reduction.
- F. Estimation of PSC.

A. Establishment of Targets for Prohibited Species Catches

This Amendment proposes to control incidental catch of prohibited species in the foreign groundfish fishery by gradually reducing the incidental catch rate of prohibited species over a fixed period. Prohibited species catches will be determined each year based on target catch rates and the amount of TALFF available that year. They may be further adjusted for changes in population abundance and socioeconomic implications of prohibited species regulations on the foreign groundfish fisheries and the domestic fisheries dependent on these species.

Target catch rates are established through 1986 by the following three steps: determination of base PSC rates for measurement, determination of target rate and period of reduction, and determination of the annual percentage rate of reduction.

- 1. Base PSC rates for measurement. The average incidental catch of prohibited species and total groundfish by foreign nations during 1977-80 are used to calculate the catch rate (prohibited species/total groundfish) as the base level for each prohibited species from which PSC's are determined.
- 2. Target rates and period of reduction. Target rate and period of reduction for each prohibited species are determined differently as follows:

Pacific halibut - 50% reduction in 5 years.

Salmon - 75% reduction in 5 years. This schedule varies slightly from that proposed in Amendment #3 of the Bering Sea/Aleutian Islands Groundfish FMP.

King and Tanner Crabs - 25% reduction in 5 years.

- 3. Annual percentage rate of reduction. A straight line schedule of reduction from the base catch rates is adopted as annual target rates of reduction for each prohibited species.

Based on the principles adopted for the three main steps for determination of PSC rates, the following schedule for reductions are recommended:

TABLE 1 -- Target Reduction Schedule from 1977-80 Base Levels

Year	Metric Tons ^{1/}	Number of Individuals ^{2/}		
	per mt groundfish	per mt groundfish		
	Halibut	Salmon	King Crab	Tanner Crab
Base Catch Rates ^{3/} 1977-80	2,793	26,586	37,746	11,766
Average	184,000	184,000	184,000	184,000
<u>Schedule of Reduction</u> (percent of base catch rates or absolute catch levels)				
(1981)	--	--	--	--
(1982)	90%	85%	95%	95%
(1983)	80%	70%	90%	90%
(1984)	70%	55%	85%	85%
(1985)	60%	40%	80%	80%
(1986)	50%	25%	75%	75%

1/ Foreign trawl and longline catch combined.

2/ Foreign trawl catch of salmon, king crab, and tanner crab.

3/ to be apportioned among the three fishing areas on the basis of historical catches.

It is important to note changes to the stocks and the fishery could occur, in which case the established catch rates may no longer meet the objective, and therefore must be adjusted. Therefore, this Amendment contains provisions for annual reviews and adjustments to PSC regulations.

The catch reduction schedule for halibut and crabs is expressed as a percentage of 1977-80 incidental catch rates (weight or number of prohibited species per metric ton of groundfish caught). Since the amount of TALFF and reserves cannot yet be determined by year (year i), the absolute amount of prohibited species (species j) will have to be determined each year as follows:

$$PSC_{ij} = (\text{Base Catch Rate}_j \times \text{Percent Target Reduction}_{ij}) \times (\text{TALFF}_i + \text{Reserves}_i)$$

The calculated PSC's will be reviewed annually and may be adjusted by the Regional Director, in consultation with the Council, as provided for in the annual review process of this Amendment.

PSC's are not established for DAH of groundfish since this Amendment does not apply to domestic fishermen. However, when groundfish releases are made from unneeded DAH to TALFF during the fishing year, additional PSC's are calculated to supplement PSC's established for the foreign fisheries at the beginning of the year as follows:

$$\text{PSC}_{ij} = (\text{Base Catch Rate}_j \times \text{Percent Target Reduction}_{ij}) \\ \times \text{release from DAH}_i$$

As any nation's established PSC is approached by the fishery (i.e., when the Regional Director projects that a nation's groundfish allocation may not be reached due to premature achievement of PSC and if the problem cannot be resolved by voluntary actions of the foreign fleets), the Regional Director may, in consultation with the Council, issue field orders to impose time, area, and/or gear restrictions on that nation to reduce the incidental catch of that prohibited species. Once the final PSC is reached, the entire Plan region is closed to fishing of the affected nation, unless exempted by the Regional Director for selected elements of the fleet to continue fishing as provided for in this Amendment.

B. Annual Review and Adjustment of Prohibited Species Catch

Since fisheries resources and socioeconomic conditions of the fishing community are expected to change, the Council should review, annually, the PSC regulations.

Calculated PSC's will be reviewed annually and may be adjusted by the Regional Director, in consultation with the Council, to respond to such changes to the stocks and the fishery as:

1. changes in the stock condition and abundance of prohibited species;
2. changes in stock condition and abundance of target groundfish species;
3. impact on operational ability of foreign fisheries to take their TALFF; and
4. degree of socioeconomic impact of prohibited species catches on domestic fisheries dependent on them.

Based on similar changes, the Council may also review annually,

1. the target rates and period of reduction; and
2. the percentage reduction in rates from the previous year which are used to calculate PSC's.

In the annual adjustments of PSC's, the Regional Director, in consultation with the Council, will consider all of the following, in order of priority:

1. the need to protect prohibited species for biological and other conservation reasons;
2. the impact of PSC's on the domestic fisheries dependent on these species;
3. the impact of the PSC regulations on development and operation of domestic groundfish fisheries; and
4. the impact of PSC's on the foreign groundfish fisheries.

Prior to the beginning of each year, the latest technical information bearing on changes to the stocks and the fishery will be provided to the Regional Director and the Council so that decisions for adjusting PSC's can be made by the beginning of the year. Once determined, the final PSC's shall be established through field orders by the Regional Director.

C. Distribution of PSC's to Foreign Nations

It is recommended that PSC's in any year (year i), be distributed by specific species (species j) by nation in direct proportion to the nation's groundfish allocation as follows:

$$\text{Nation's PSC}_{ij} = \frac{\text{Nation's Groundfish Allocation}_i}{\text{TALFF}_i + \text{Reserves}_i} \times \text{PSC}_{ij}$$

Using the above formula, small amounts of PSC's are expected to be held in reserve for later distribution since some groundfish are also held in reserve.

The foreign longline fisheries are exempted for PSC's on salmon, king crab, and Tanner crab but not halibut; the longline fishery will be monitored closely for its impact on salmon and crab.

The Regional Director, in consultation with the Council, will be empowered to include foreign longliners by field order in the PSC regulations if they are determined to have detrimental impact on prohibited species.

Although a nation's PSC may have been reached, the Regional Director, in consultation with the Council, will also be empowered to allow selected fishing elements of the nation's fleet to continue fishing under specified conditions until the nation's allocation is reached, if the enforcement and observer coverage are sufficient to ensure that the elements are not a serious threat to prohibited species. Any additional prohibited species catch may be considered when establishing future PSC limits.

After evaluation, the decisions to include and exclude these selected gear types from PSC regulations will be established through field orders by the Regional Director.

D. Non-retention of Prohibited Species

Incidentally caught prohibited species cannot be retained. Each foreign fishing vessel shall sort its catch as soon as possible after retrieval of the catch and, after allowing for sampling by an observer (if any), shall return any catch of prohibited species, or parts thereof, to the sea immediately with a minimum of injury regardless of its condition.

E. In-Season Implementation of PSC Proposal and Incentives for PSC Reduction

In making supplemental foreign allocations during a fishing year, it is recommended that the Secretary of State, in consultation with the Secretary of Commerce, consider the effort and ability of each nation to

fulfill the objectives of this Amendment. It is inconsistent with the objectives of this Amendment for any nation to conduct its fishing operations without: (1) an earnest attempt to reduce its catch of prohibited species; and (2) remaining within its PSC limitations. Supplemental allocations should serve to reward a nation for its past performance and should serve as an incentive to continue its operating methods that avoid prohibited species. A nation's effort to comply with this amendment is therefore a legitimate and important consideration in making foreign allocations.

In order to arrive at long-term solutions for controlling incidental catch of prohibited species, the foreign groundfish fisheries are encouraged to:

1. conduct approved gear research and experiments to reduce PSC;
2. collect detailed information on the characteristics of incidental catches; and
3. transfer the information and gear technology to the U.S. for use by the Government and the industry.

As an incentive for gear research, catches of prohibited species during any research aimed at long-term solutions for controlling incidental catches of prohibited species that are approved by the National Marine Fisheries Service will be exempted from the PSC limits for that nation, for that year. Groundfish catches during the research will continue to be counted towards the nation's allocations.

F. Estimation of Prohibited Species Catch

Catches of prohibited species will be estimated from data by U.S. observers and other reported statistics that are considered reliable.

III. DOMESTIC FISHERY

The PDT requests that the Council clarify and state its policy for the domestic groundfish fishery and the incidental catch of salmon, halibut, king crab, and Tanner crab.

IV. OTHER

Eliminate the trawl closures between 140°W and 147°W from November 1 to February 15 and between 147°W and 157°W from February 16 to May 31.

These areas are presently protected by a pelagic trawl provision from December 1 through May 31 and the area closures may not be needed if the pelagic trawl provision is enforceable.

EVIDENCE FOR THE NEED TO REDUCE SABLEFISH HARVEST
IN THE EASTERN DISTRICT OF THE GULF OF ALASKA

by

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Petersburg, Alaska 99833

September 1981

THIS REPORT INCLUDES UNPUBLISHED DATA AND SHOULD NOT
BE CITED WITHOUT PERMISSION OF THE CONTRIBUTORS

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PROBLEM STATEMENT

Since 1979 domestic sablefish fishermen have complained that Optimum Yield (OY) values established for the Eastern Gulf of Alaska are set too high. Until recently, there was very little data available to support or refute that claim.

National Marine Fisheries Service (NMFS) indexing indicated a decline in marketable sized fish off Cape Ormaney and Cape Cross of over 21% and 26% respectively, from 1979 to 1980 with only a 3% increase in abundance throughout the Southeastern area due to increased abundance at the Cape Addington and Cape Muzon sites. (Zenger and Hughes, 1981). The 1981 indexing survey indicated a further decline in abundance which ranged from 28% to 50% and averaged 39% throughout the Southeastern area. Again the northern sites adjacent to the areas of heavy domestic fisheries showed the greatest decline.

In 1980 the Alaska Department of Fish and Game (ADF&G) began a port sampling program and requested the Alaska Longline Fishermen's Association (ALFA) to send out a questionnaire to member fishermen to provide log data for the years they had engaged in the fishery. Ten skippers responded. A summary of the ALFA log data and ADF&G sampling data through May 1981 has since been completed. Due to loss of funding the ADF&G sampling program has been discontinued. However, discussions with off-shore fishermen indicate that fishing is still very poor from Dixon Entrance to Yakutat Bay. The projected 1981 offshore harvest will be the lowest since 1977.

CONSIDERATIONS

1. Catch per hook in the domestic fishery has declined 45% since 1977, from .109 to .060. (Table 1, Figure 1).
2. Average size of the fish has declined 13% since 1977, from 5.3 lbs. to 4.6 lbs. (Table 1, Figure 1).
3. Pounds per hook has declined by 52% since 1977, from .58 to .28. (Table 1, Figure 1).
4. Pounds per skate peaked in 1946 at 365 (Figure 2). With the exception of a slight increase between 1948 and 1952 due to the introduction of small hook gear, catch has declined steadily to 56 pounds per skate in 1981. (Figure 1).
5. Total effort has declined from 201 vessels in 1979 to 66 vessels in 1981.
6. Domestic harvest was at the lowest level since 1935 when the intensive foreign fishery began off Southeastern Alaska in 1968. (Edson, 1953. ADF&G catch reports).
7. In 1974 offshore domestic production again began increasing and peaked in 1979 at 2,319 m.t. round weight. (Table 2).
8. In 1980 markets were poor and domestic production dropped to 1,707 m.t.
9. In 1981 the market value increased by 44% for large fish from \$.45 to \$.65, yet the production dropped by 43% from 1,707 m.t. to a projected harvest of 975 m.t. round weight. The actual 1981 harvest may be less.

10. The 1979 Southeastern offshore harvest of 1,763 m.t. is only 59% of the established O.Y. of 3,000 m.t. for the area. The projected 1981 harvest of 950 m.t. is only 32% of O.Y.
11. National Marine Fisheries Service indexing indicates a general reduction of total fish of 38% from 1980 to 1981 and a 58% decline of market size (>3 lbs.) fish in the northern three indexing sites. Number of marketable size fish declined by 44% since 1978. (Personal communication - Harold Zenger, NMFS, Seattle).
12. Age analysis recently completed by WDF from ADF&G samples indicates female sablefish require 10-11 years to reach 68 cm fork length. (Figure 3).
13. Sampling shows that male sablefish rarely exceed 65 cm and that females do not fully recruit into the mature population until they reach 68 cm. Also 68 cm fork length is the average break point between large (over 5 lbs.) and small (3-5 lbs.) sablefish when dressed with the western cut. It requires a 70 cm fish to weigh over 5 lbs. dressed with the eastern cut. Most fish landed in the large category are mature females.
14. Average round length of the sablefish sampled by NMFS at four sites off Southeastern Alaska in 1980 was 64 cm (Figure 4). A sample off Cape Cross averaged 60 cm in 1980 (Figure 5). A 1951-1952 sample from the same area averaged 68 cm (Figure 6) and the author of the report was warning against over exploitation at that time. (Edson, 1953).
15. At the calculated rate of growth it would require at least 4 years for the modal distribution of an unexploited population to increase from 60 cm to 68 cm (Figure 3). This indicates that the average age of the fish is 4 years younger than in 1952 and the current fishery is based primarily on males and immature females.
16. Larger female sablefish are more fecund than first year spawners. Therefore as the length frequency profile shifts to the left, reproductive potential of the population is effected.

CONCLUSIONS

1. Sablefish stocks have not recovered from heavy foreign fishing in the late 1960's through 1978, and are greatly reduced from historic levels.
2. Optimum Yield (OY) levels for sablefish in the Eastern Gulf of Alaska are too high.
3. A reduction of harvest level using the current O.Y. figure and rate of decline since O.Y. was generated in 1977, would be meaningless since current harvest is less than 50% of O.Y.
4. It will be at least 1985 before the prerecruit class observed in 1979 will contribute significantly to the reproductive potential of the sablefish population.

5. At current harvest levels the strong prerecruit year class peak may disappear before the fish reach large marketable size (68 cm).
6. Unless harvest is reduced significantly rebuilding will not occur and fishermen will continue to fish on recruitment, resulting in a high percentage of small fish and seasonal fluctuations in catch based on year class strength.
7. Optimum Yield (OY) must be recalculated using historic catch data and current domestic catch data. A regional, rather than coastwide, model may be necessary to account for localized depletion.
8. At present harvest and O.Y. levels, the domestic fleet is unregulated and sablefish stocks are continuing to decline.
9. A maximum harvest of 1,000 m.t. in Southeastern and 1,500 m.t. in Yakutat is recommended until the recalculation is complete. This recommendation is based on a 30% reduction from the 1980 Southeastern harvest level.
10. Since poor fishing has been encountered as far west as Yakutat Bay, I would recommend no sablefish TALFF for the Yakutat District to allow for domestic expansion into the area west of Yakutat. This recommendation is based on the fact that U.S. fishermen are experiencing poor fishing largely as a result of foreign overfishing in the Southeastern and Yakutat areas. U.S. fishermen should therefore be allowed to expand their fishing area without the threat of foreign competition.

Table 1. Harvest, catch rate, average weight and relative size of sablefish landed by domestic vessels in the Eastern Gulf of Alaska, 1977-1981.

Year	Catch rate fish/hook	Catch rate lbs./hook	Average weight (pounds)	% Large (over 5 lbs.)	% Small (under 5 lbs.)	Domestic Harvest Offshore
1977 ^{1/}	.109	.58	5.3	60	40	755.7
1978 ^{1/}	.106	.56	5.3	67	33	1,017.6
1979 ^{1/}	.093	.47	5.0	63	37	2,319.1
1980 ^{1/}	.083	.40	4.8	58	42	1,707.0
1981 ^{2/}	.060	.28	4.6	57	43	975.0

^{1/} From logbook data of domestic fishermen fishing the FCZ in the Eastern Gulf.

^{2/} From ADF&G port sampling. Harvest projected from catch through August, 1981.

Table 2. Domestic production of sablefish from the Eastern Gulf of Alaska in metric tons, round weight, 1969-1981.

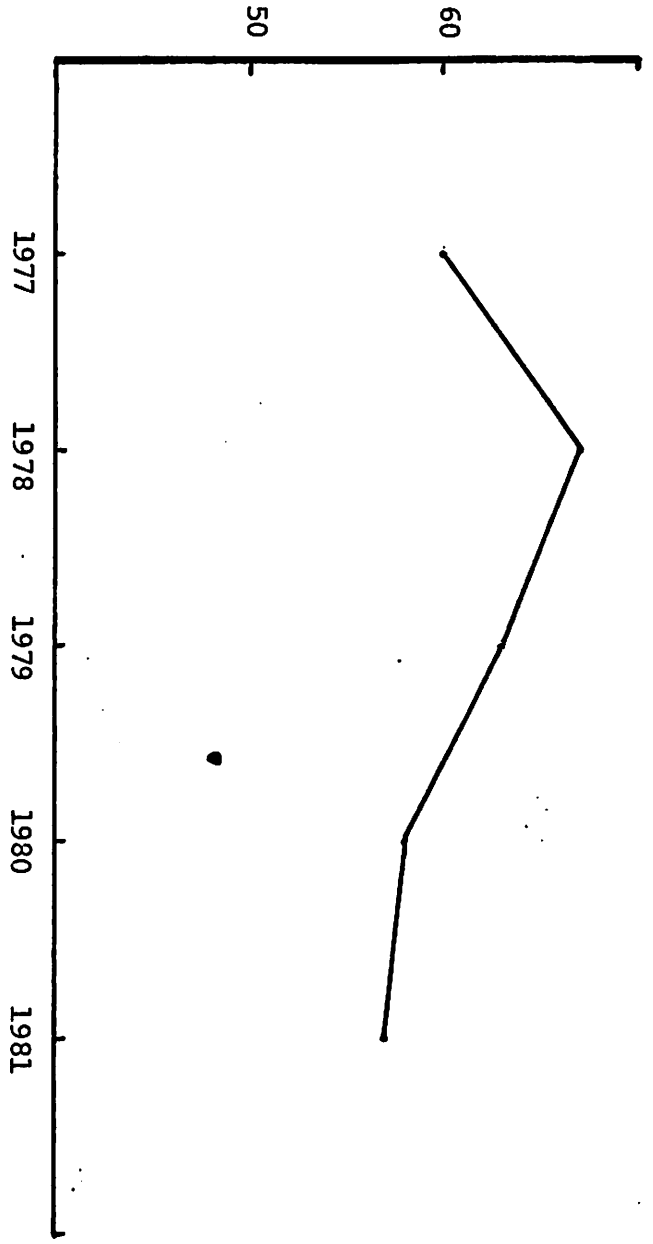
Year	Total Harvest ^{1/}	S.E. Alaska Offshore ^{2/}	Yakutat Offshore	Total Offshore
1969	302	6.8	30.7	37.5
1970	570	153.4	1.0	154.4
1971	377	73.5	12.1	85.6
1972	1,081	65.6	2.8	68.4
1973	1,217	24.3	4.0	28.3
1974	1,114	179.3	2.6	181.9
1975	1,556	386.6	166.0	552.6
1976	1,145	427.8	8.0	435.8
1977	1,173	622.1	133.6	755.7
1978	1,777	893.8	123.8	1,017.6
1979	3,382	1,763.2	555.9	2,319.1
1980	2,290	1,553.2	153.8	1,707.0
1981 ^{3/}	1,380	950.0	25.0	975.0

^{1/} Includes landings from inside state waters and landings not reported by area. From ADF&G fish ticket data and WDF landing reports.

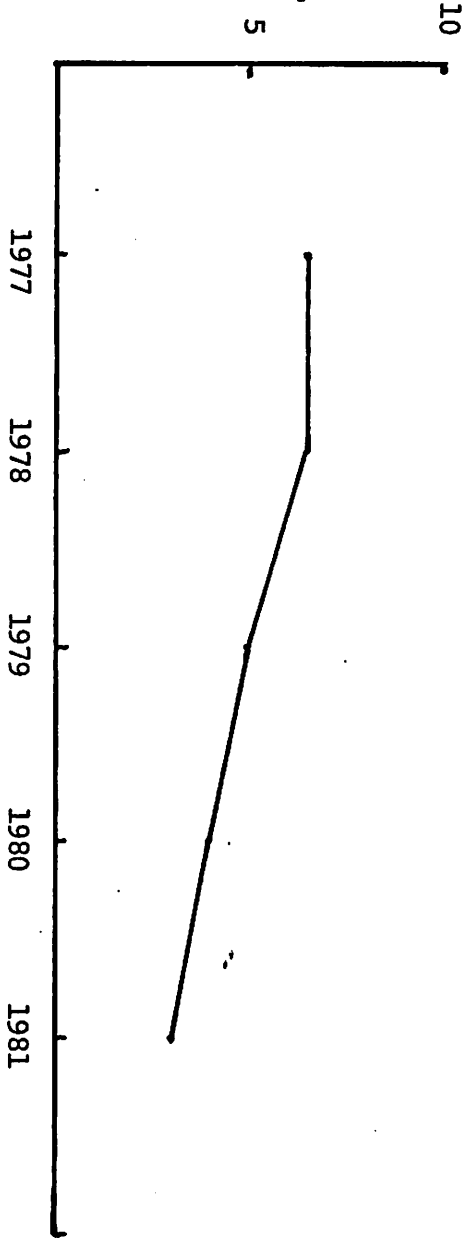
^{2/} Includes landings from offshore state waters and the FCZ.

^{3/} Preliminary including catch projection through 1981.

Percent fish over 5 lbs. dressed



Average wt. dressed fish



Fish per hook x 100

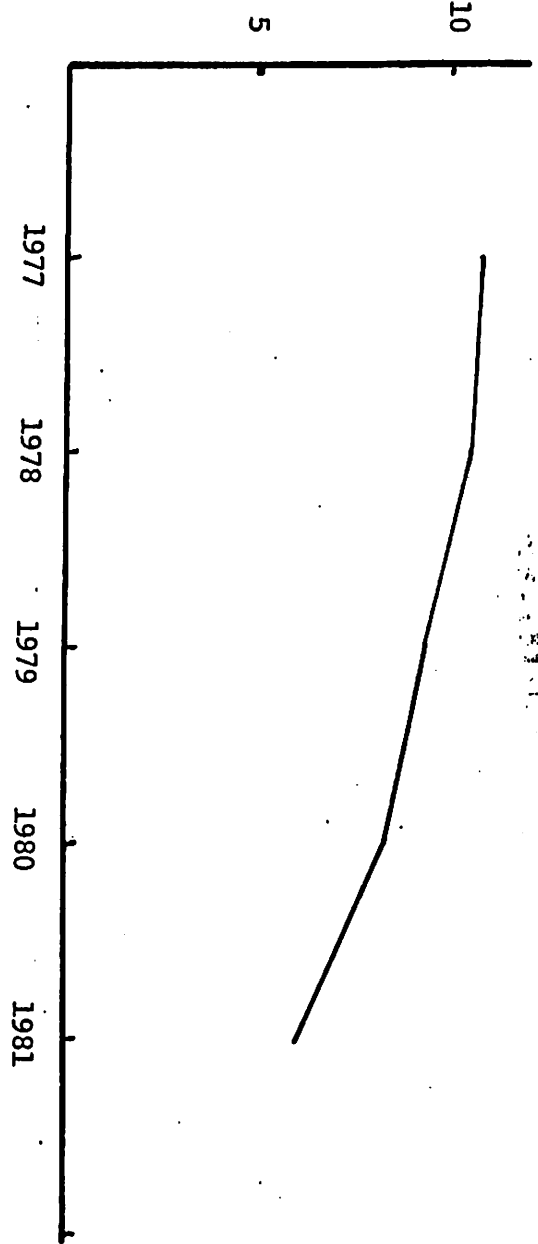
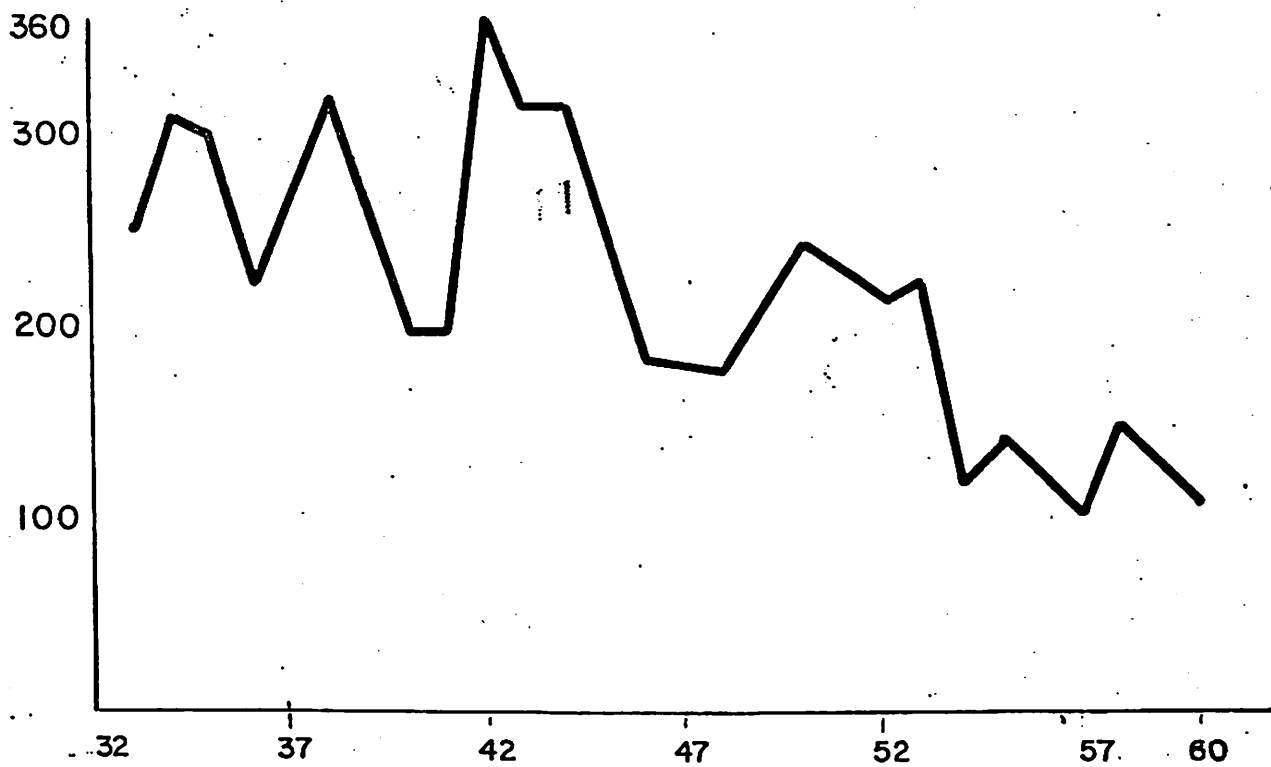


Figure 1. CPUE, average weight, and percent of fish over five pounds from the domestic sablefish fishery in outside water off Southeastern Alaska 1977-1981.

CATCH PER SKATE
(IN LBS)



INSIDE WATERS



OUTSIDE WATERS

Figure 2.

SE ALASKA SABLEFISH CATCH

Table 2. Domestic production of sablefish from the Eastern Gulf of Alaska in metric tons, round weight, 1969-1981.

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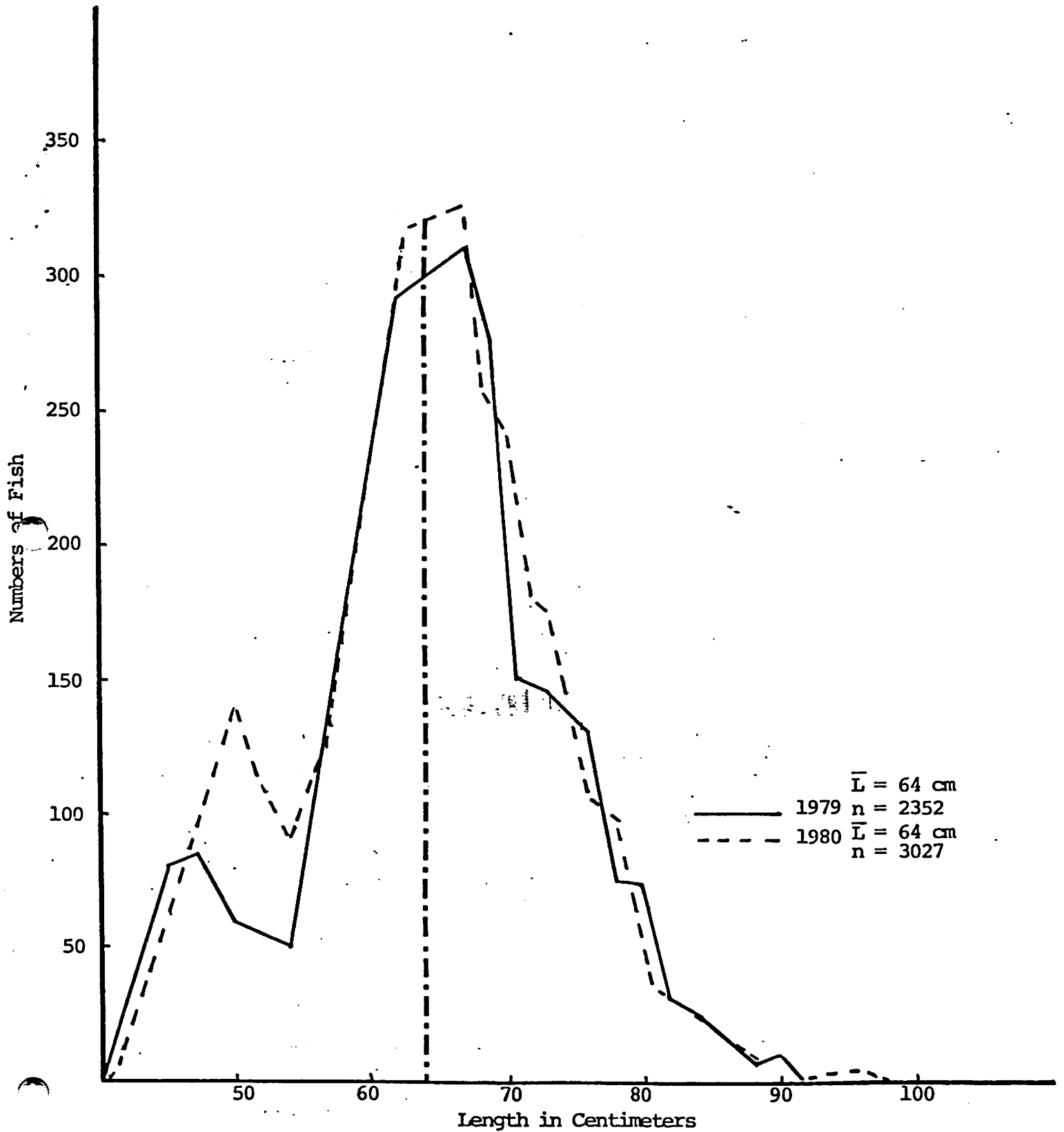


Figure 4. Length frequency of sablefish captured by NMFS during indexing studies off Southeastern Alaska 1979-1980 from Zenger and Hughes 1981.

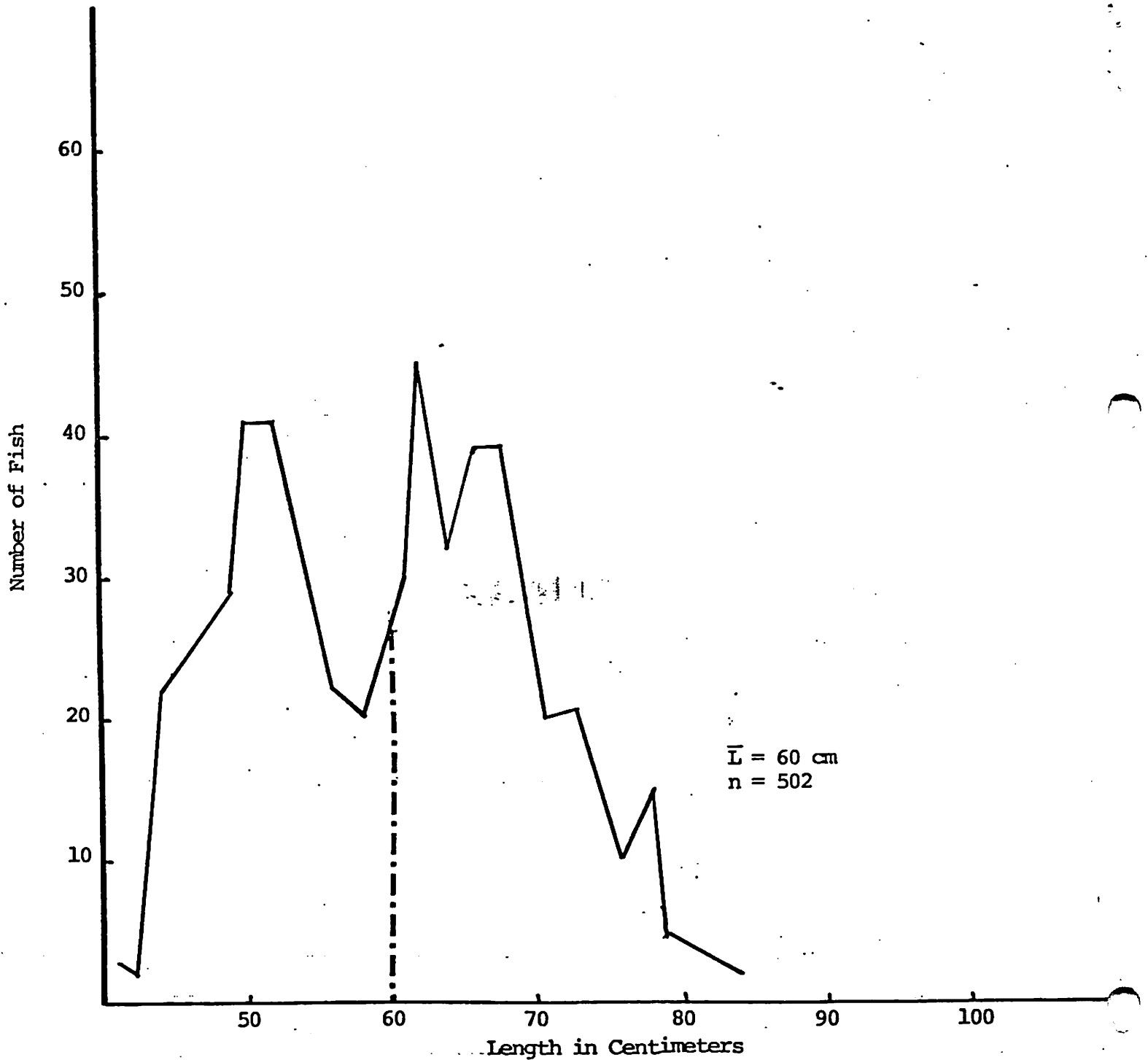


Figure 5. Length frequency of sablefish sampled by NMFS near Cape Cross, Southeastern Alaska during 1980. From Zenger and Hughes 1981.

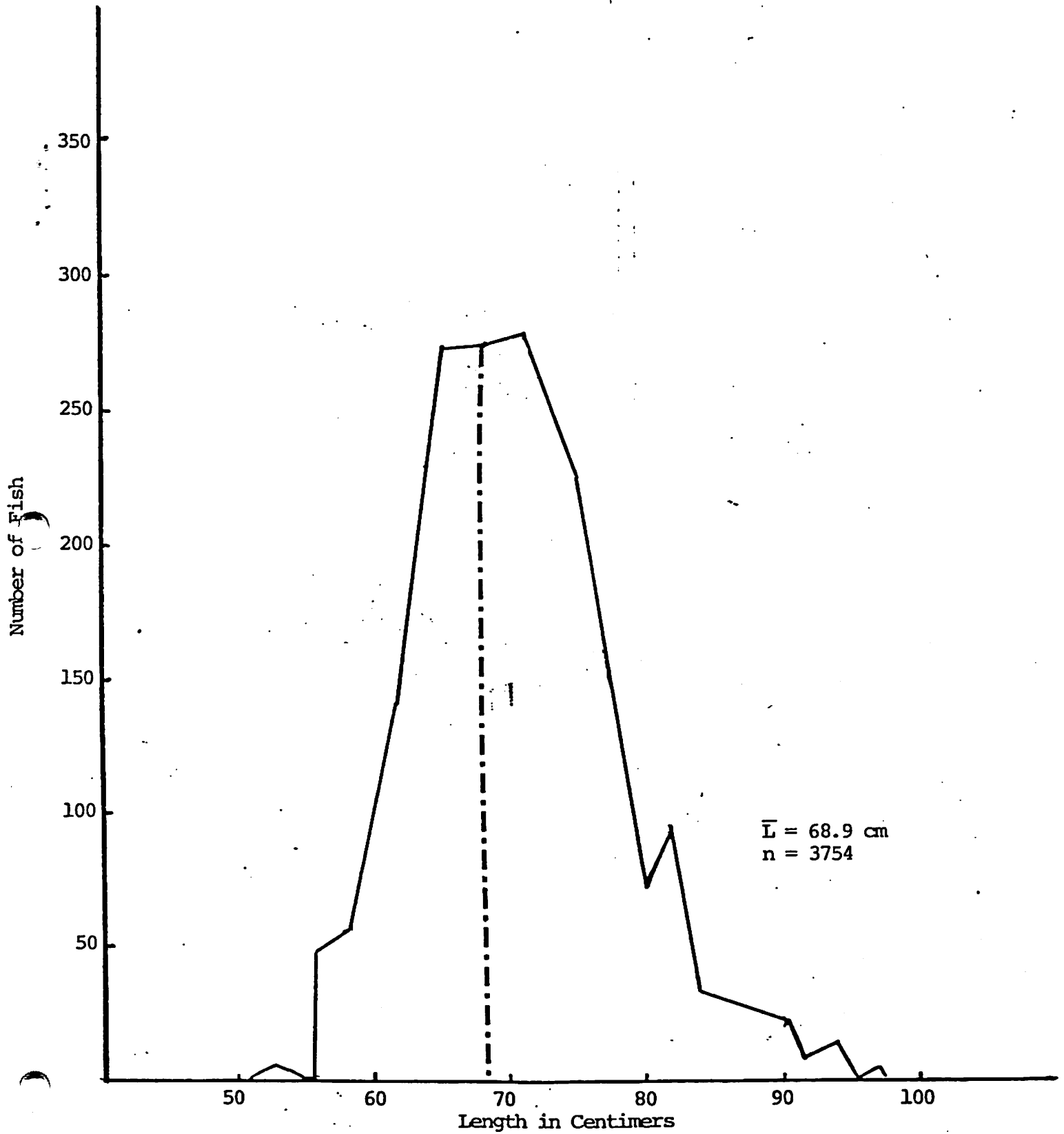


Figure 6. Length frequency of sablefish captured by the Alaska Department of Fisheries near Cape Spencer, Southeastern Alaska 1951-1952. From Edson 1953.

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- Zenger, H. and Hughes, S.E., 1981. Changes in relative abundance and size composition of sablefish in the coastal waters of Southeastern Alaska, 1978-1980. NOAA Tech. Memo, NMFS, F/NWC-7, 26 p.

~~West of Alaska~~

Clem Tillion, Chairman
North Pacific Fishery Management
Council
P.O. Box 3136 DT
Anchorage, Alaska 99510

Dear Clem:

The Alaska Department of Fish and Game (ADF&G) has had considerable difficulty in obtaining timely catch reports for groundfish caught in State waters but landed outside Alaska. The Gulf of Alaska Groundfish Fishery Management Plan provides for timely submission of this information on an ADF&G fish ticket or an equivalent document, but inherent delays in submission and processing of fish tickets in other states and subsequent reporting^s that data to ADF&G have prevented timely utilization of the harvest data for in-season management.

To rectify this situation and assure^s timely catch information is available to manage the groundfish fishery in-season, the ADF&G requests section 672.5 of the Gulf of Alaska Fishery Management Plan be amended as follows. (changes shown as underlined)

\$672.5(1) no change

672.5(2) Port of Landing Outside Alaska. The operator of any fishing vessel regulated under this part whose port of landing is outside the State of Alaska shall:

- i. notify the local representative of the Alaska Department of Fish and Game in person, or by radio or telephone of the weight of groundfish catch for each species by regulatory area prior to departure from Alaskan waters.

- ii. for each sale or delivery of groundfish caught in any Gulf

of Alaska regulatory area, submit a completed State of Alaska fish ticket, or an equivalent document containing all of the information required on an Alaska fish ticket together with the additional information required by paragraph (a)(1)(ii) of this section, to the ADF&G within one week after the date of each such sale or delivery. The address to which these documents must be sent is: Director, Commercial Fish Division, Alaska Department of Fish and Game Headquarters, Subport Building, Juneau, Alaska 99801.

The Department appreciates the North Pacific Management Council's earliest consideration of this amendment, hopefully at the ~~May~~ Council meeting.

Sincerely,

Ronald O. Skoog
Commissioner

cc: Jim Branson

DRAFT

8/21/81

CONDITION OF SABLEFISH IN THE GULF OF ALASKA IN 1981

James W. Balsiger

INTRODUCTION

The sablefish resource in the Northeast Pacific is found in waters off northern Mexico to the Gulf of Alaska, westward to the Aleutian region, and into the Bering Sea. Until 1977 the major fishing area was the Gulf of Alaska; since 1978 sablefish catches off Washington-California have surpassed those of the Gulf of Alaska. In 1979 the Washington-California catch was approximately two times the Gulf catch. In the Gulf of Alaska the species is taken predominately by longline gear in depths greater than 500 m.

There has been a U.S. fishery for sablefish in the Gulf of Alaska more than 50 years, but exploitation rates were very low until Japan entered the fishery in the 1960's. Catches increased to 36,500 t in 1972 and subsequently decreased to 27,500 t in 1976 (Table 1). Evidence of declining stock abundance led to significant fisheries restrictions in 1977 through 1980 and total catches in those years were reduced substantially.

STOCK STRUCTURE

Experiments designed to identify sablefish stock structure in the Gulf of Alaska continue. The NMFS, ADF&G, and Japanese and Canadian fisheries scientists have all released tagged sablefish over the past several years. These experiments all suggest that sablefish throughout the Northeast Pacific are of one genetic pool. There is less agreement on the degree of interchange of fish between regions. Wespestad (1981) suggests that inter-regional migration is small in comparison to stock size within each region and agrees with previous reports (Low 1976, Wespestad et al. 1977) that management of the resource is best conducted by discrete geographic regions. Sasaki (1980), however, on the

TABLE 1. HISTORICAL CATCHES OF SABLEFISH IN METRIC TONS BY AREA AND NATION IN THE GULF OF ALASKA, 1958-80.

 GULF OF ALASKA (SHUMAGIN--SOUTHEASTERN)

YEAR	U.S.	CANADA	JAPAN A/	USSR	ROK B/	TOTAL
1958	--	C/	---	---	---	---
1959	967	C/	---	---	---	---
1960	1,348	C/	---	---	---	---
1961	606	C/	---	---	---	---
1962	684	C/	---	---	---	---
1963	617	C/	1,681	---	---	2,298
1964	1,173	C/	1,041	---	---	2,214
1965	1,048	C/	2,107	---	---	3,155
1966	1,051	C/	3,514	---	---	4,565
1967	947	C/	4,217	---	---	5,164
1968	112	C/	13,886	---	---	13,998
1969	302	C/	19,587	---	---	19,889
1970	369	C/	21,397	---	---	21,766
1971	270	15	25,636	---	---	25,921
1972	1,387	16	34,259	535	308	36,505
1973	867	16	29,246	109	58	30,296
1974	771	10	23,300	38	2,431	26,550
1975	1,088	16	21,561	33	3,000	25,698
1976	803	23	22,947	41	3,700	27,514
1977	828 D/	3	14,367	4	1,586	16,785
1978	1,813	0	6,458	4	665	8,940
1979	2,341	0	5,919	152	759	9,226 E/
1980	2,204	0	4,831	416	891	8,342

- A/ JAPANESE CATCH IS REPORTED BY FISHING YEAR THROUGH 1976; ALL OTHERS ARE REPORTED BY CALENDER YEAR.
 B/ INCLUDES CATCHES FROM OTHER AREAS IN THE NORTHEASTERN PACIFIC.
 C/ DATA NOT AVAILABLE.
 D/ TRAWL DATA ONLY; POT AND LINE CATCH NOT INCLUDED
 E/ INCLUDES SSMT BY MEXICO

SOURCE: U.S. DATA THROUGH 1973 FROM FISHERY STATISTICS OF THE U.S., STATISTICAL DIGESTS 49-68; 1974-76 DATA FROM PMFC DATA SERIES, GROUND FISH SECTION; 1977-80 FROM ADF&G EXTENDED JURISDICTION SECTION. CANADIAN DATA 1971-76 FROM PMFC DATA SERIES, GROUND FISH SECTION; 1958-70 DATA NOT AVAILABLE. JAPANESE, USSR, ROK DATA FROM INPFC DOCUMENT 1883 AND PERS. COMM. T. SASAKI, FAR SEAS FISHERY LAB., SHIMIZU, JAPAN.

basis of his tagging experiment, states there may be "...a considerable geographical mixing over an extensively broad range of areas even in comparatively short term....."

Currently, management of sablefish is by region, reflecting the majority opinion of little stock migration which could lead to local depletion. The 5 management regions in the Gulf of Alaska are West, Central, Yakutat, Southeast inside waters, and Southeast outside waters.

MAXIMUM SUSTAINABLE YIELD

Although the sablefish resource is managed by regions, the long-term productivity in each region is assumed to be related to the overall condition of the resource. Japanese and U.S. scientists have estimated MSY of the resources as a whole and apportioned MSY to each region based on historic production trends. The Japanese estimate of MSY for the entire resource from California to the Bering Sea is 69,600 mt (Anon. 1978). Using essentially the same general production model as the Japanese, but with a different weighting of data among regions, Low and Wespestad (1979) estimated MSY for the California to Bering Sea resource at 50,300 t.

By region, historical catches were Bering Sea (25%), Aleutian region (4%), Gulf of Alaska (46%), and British Columbia-Washington region (25%). The apportioned MSY estimates were then compared to MSY estimates derived by applying general production models region by region. The resulting mean and overall estimate of MSY was 25,100 mt for the Gulf of Alaska (Low and Wespestad 1979).

CATCH PER UNIT EFFORT

Japanese Longline Fishery Data

Until 1977, catch and effort statistics from the Japanese North Pacific longline fishery provided consistent information for assessing the condition of

sablefish stocks in the Gulf of Alaska. CPUE in terms of kilograms of sablefish per 10 hachi units of effort are shown in Table (2A).

CPUE was generally greater than 200 in all INPFC areas prior to 1974. In 1975, CPUE dropped to as low as 154 in the Shumagin Area and was generally about 185 in the other areas. In 1976, CPUE increased in all areas of the Gulf of Alaska. From 1976 to 1977, CPUE dropped in all areas with the decline ranging from 13-34% and averaging 25%.

An alternate method for computing a standardized CPUE for this fishery was described by Sasaki (1978). Though he did not calculate CPUE by each INPFC area, the trend from 1967-1977 for the Gulf of Alaska (Table 2B) is nearly identical to CPUE values shown in Table 2A.

In 1978, fishing regulations in the Gulf of Alaska were changed to permit Japanese longliners to fish in depths shallower than 500 m in the Shumagin-Chirikof Region for Pacific cod. In 1979, the permission was extended to the rest of the Gulf. This resulted in a shift of Japanese longline fishing effort towards Pacific cod in depths of 100-300 m, while in the past all the effort was directed at sablefish in depths generally greater than 500 m. Target effort cannot be detected in the Japanese reported statistics; consequently, this source of information is appropriate for sablefish stock assessment only through 1977, when the data series ends.

U.S. Observer Data

Beginning in 1977 a new data source for evaluating sablefish stocks became available as U.S. observers were deployed on Japanese longline vessels. The observers collected a variety of information, including depth of fishing gear. Categorizing the observer information from longline vessels by quarter of the year from 1977-1980, INPFC area and depth, 76 observations were available at

Table 2.--Indices of blackcod abundance in the Gulf of Alaska, 1967-79.

A. CPUE (kg per 10 hachi)

Year	Shumagin	Chirikof	Kodiak	Yakutat	Southeastern	Shumagin-Southeastern
1967	184	234	175	175	301	212
1968	153	226	272	282	257	263
1969	239	246	239	238	229	235
1970	221	245	266	255	229	235
1971	177	206	207	223	204	207
1972	220	198	210	203	207	208
1973	214	216	213	206	203	209
1974	181	191	185	191	195	190
1975	154	188	181	186	184	177
1976	165	201	182	196	191	186
1977	144	133	133	142	139	139
1978	*	*	136	137	---	137
1979	*	*	60	74	---	---

B. Standardized CPUE (mt per boat-day)

Year	Gulf of Alaska
1967	7.97
1968	9.90
1969	8.82
1970	9.22
1971	7.80
1972	7.82
1973	7.85
1974	7.12
1975	6.66
1976	6.98
1977	5.22

Footnotes: * Prior to 1978, Japanese longliners were not permitted to fish in depths shallower than 500 m. Since 1978, some of these longliners have been permitted to fish in waters shallower than 500 m for Pacific cod. Therefore, the total longline fishing effort no longer reflects total effort on sablefish.

--- No foreign longlining has been permitted east of 140° W longitude since 1978.

depths shallower than 300 m, 6 observations between 300 and 500 m, and 188 observations at depths greater than 500 m. Of the 76 observations from shallower than 300 m, 73 (96%) showed cod as the most predominant species in the catch; from 300-500 m where little longline fishing occurs, 4 of 6 observations showed cod as most predominant; at depths greater than 500 m, all 188 observations showed that either sablefish (86 times in 188 observations) or rattails (102 times in 188 observations) were the predominant species in the catch. In the deeper than 500 m zone, in every case where sablefish was not the most abundant species by weight, it was the second most abundant. Only 4 times in the deep zone was cod ranked among the top 3 most abundant species by weight. On this basis, Japanese longline effort in the Gulf was identified as (1) directed at cod in the less than 300 m zone, or (2) directed at sablefish in the deeper than 500 m zone.

In 1977, then, a new data series of Japanese longline CPUE becomes available that does not suffer from the inadequacies, as described above, of the CPUE reported by the foreign longline fleet. These observer CPUE rates are shown in Table 3A. Comparing the combined CPUE's for the Shumagin to Yakutat area for 1977-1980, it appears that a 25% decline occurred from 1977-1979, but that in 1980 stocks recovered to about the 1977 level. On the basis of these data, there appears to be no decline in abundance of the sablefish stock in that portion of the Gulf of Alaska fished by foreign longline vessels.

Table 3B indicates CPUE rates for sablefish greater than 67 cm in the Japanese longline fishery. It can be seen from these values that although overall abundance was similar, there was a sharp decline in large fish in the Yakutat area from 1977 to 1980.

Table 3A.--CPUE (mt/1000 hooks) for sablefish in Japanese longline fishery for observed hauls from >500 m depth as determined by U.S. observers.

Year	Shumagin	Chirikof	Kodiak	Yakutat	Southeast	Shumagin-Yakutat
1977	.237	---	.247	.361	.428	.293
1978 ^{1/}	.236	.204	.241	.232		.232
1979 ^{1/}	.140	.202	.228	.268		.216
1980 ^{1/}	.286	.275	.350	.254		.298

Table 3B.--CPUE (mt/1000 hooks) for large sablefish (greater than 67 cm) in the Japanese longline fishery for dressed hauls from 7500 cm depth as determined by U.S. observers.

Year	Shumagin	Chirikof	Kodiak	Yakutat	Southeast	Shumagin-Yakutat
1977	.123	---	.169	.211	.269	.179
1978	.140	.107	.141	.126		.132
1979	.085	.109	.117	.149		.117
1980	.133	.089	.174	.086		.131

^{1/} The area east of 140° W in Yakutat was closed to foreign longlining in 1978 and 1979.

Figure 1 also demonstrates the increasingly greater role played by small sablefish in the Yakutat CPUE from 1978 to 1980.

Japan-U.S. Cooperative Longline Survey

Each year since 1978, Japan and the U.S. have cooperatively conducted a survey with longline gear in the Gulf of Alaska to study stock conditions of sablefish and other longline-caught species. Results of the 1978 to 1980 surveys are reported by Sasaki (1981) and shown in Table 4. The index of abundance is a summation of the CPUE of the longline gear for each of several depth categories multiplied by the area of the fishing grounds which lies in those depth categories. The results depicted in Table 4 are a good indicator of overall sablefish abundance in the Gulf, but cannot be compared to the trends suggested in Table 3 since the longline survey results include catches from all depth zones. Comparing the size distribution shown in Figure 2 to Figure 5, Figure 3 to Figure 6, and Figure 4 to Figure 7, clearly shows the predominance of small fish in the shallow water. Sasaki (1981) noted the presence of these fish and qualified his index values (shown in Table 4 as being strongly influenced by the abundance of the small fish in 1980. The longline survey found generally similar or slightly declining abundance from 1979 to 1980 for sablefish over 60 cm. Hence, Sasaki's conclusions on stocks from 1978-1980 do not differ markedly from conclusions drawn above based on the U.S. observer data: population abundance of sablefish for the combined Shumagin to Yakutat area has not changed dramatically in the last 3 years, though there is an increasing importance of small fish in index values, particularly in the Yakutat area.

Preliminary data available from the 1981 longline survey show total catch of sablefish per longline set has increased nearly 50% from 1980 to 1981. Although this is from the raw data which must yet be converted to index values,

Table 4.--Index^{1/} of sablefish stock size from the Japan-U.S. cooperative longline survey in the Gulf of Alaska.

Area	Index		
	1978	1979	1980
Shumagin	2,605	5,869	6,827
Chirikof	4,717	28,637	24,609
Kodiak	19,044	23,582	27,596
Yakutat	8,223	11,841	18,880
Southeastern	8,725	10,707	13,560
All Areas	43,314	80,636	91,472

^{1/} Index is a function of CPUE in numbers of fish.

it is apparent that Sasaki's index, when it becomes available, will show yet another increase from 1980 to 1981. Sasaki's index values, which are strongly influenced by small fish, may be early indications of rebuilding of the Gulf of Alaska sablefish stock.

U.S. Pot Index Survey

Zenger (1981) presented results from the U.S. pot index survey which has been conducted since 1978 in southeast Alaska. This survey has become the primary means of assessment for sablefish stocks in the Southeast Region since the foreign longline fishery no longer operates there. Zenger's results show population indices are off about 50% on marketable fish from 1980 to 1981. This decrease, which is supported by data from the U.S. sablefish fishery (Zenger, 1981), is contradictory to the initial indications of the 1981 Japan U.S. cooperative longline survey, as stated above. For the years 1978-1980, the U.S. pot index survey and the Japan-U.S. cooperative longline survey produced similar results showing declining numbers of large fish and increasing numbers of small fish.

EQUILIBRIUM YIELD

Determination of yield from a population of fish is dependent on the size at which an individual fish becomes available to the fishery. EY for sablefish, as presented in the FMP, is based on data from the Japanese longline fishery. Hence, the implicit size at entry to the fishery for which the EY figure is appropriate is the size of entry to the Japanese longline fishery. Figure 8 shows the size distribution of fish taken by the Japanese longline fleet from 1969-1978 in all areas of the Gulf of Alaska. Table 5 demonstrates that although there is variability by year and area, the distribution has not changed significantly over time. Thus, the current EY reflects yields with sablefish entering

Table 5.--Average size (cm) of sablefish taken by the Japanese longline fleet in the Gulf of Alaska from 1969-1978. (Data from foreign reported fishery statistics.)

Year	All Areas	Shumagin	Chirikof	Kodiak	Yakutat	Southeast
1969	67.2	-	65.2	-	68.7	-
1970	66.2	-	-	60.5	67.8	68.6
1971	65.4	61.4	60.6	63.6	66.3	66.0
1972	62.3	62.4	60.8	60.8	63.9	63.5
1973	62.8	63.2	61.2	63.7	63.7	64.4
1974	-	-	-	-	-	-
1975	67.1	66.4	-	-	-	67.9
1976	66.2	66.3	65.5	64.1	65.9	68.4
1977	64.7	-	60.9	-	64.6	65.0
1978	67.4	65.8	67.0	67.0	69.9	-
Average	64.6	64.5	62.0	63.5	66.3	65.7

the fishery from about 42 cm (1.2 lbs dressed weight) until the fully recruited sizes of 62-65 cm (4.2-4.8 lbs dressed weight) fish are 50% recruited at 55 cm (2.8 lbs dressed). Figure 9 shows the approximate proportion of fish of a given length which are recruited to the longline gear.

On the basis of the decline of CPUE from 1976 to 1977 (Table 2), Low et al. (1979) determined EY for the Gulf of Alaska to be 14,000 mt. The FMP allocates 61% of the sablefish allocation to the area west of 140° W longitude. The EY for this area where foreign longlining is permitted would have been 8,540 mt. Table 3 shows that the 1980 CPUE for this area is not different than the 1977 CPUE.

For size at entry, as shown in Figure 9, EY for the area west of 140° W can be estimated to remain at 8,540 mt.

Due to the termination of foreign fishing in the eastern gulf, it is much more difficult to estimate EY for the area. Zenger and Hughes (1981) defined marketable size fish as those 57 cm or larger (3.0 lbs dressed), and estimated ABC of that portion of the stock at 2,580 mt in 1980 for the Southeastern area. As a result of the 1981 pot index survey (Zenger 1981) showing a decline of 50% in this size range, which is roughly comparable to the size considered in the western area, EY for Southeast Alaska can be estimated at 1,290 mt.

Almost no current information is available for the portion of the Yakutat area east of 140° W longitude. On the basis of U.S. observer estimates, sablefish stocks in the Yakutat area west of 140° W were judged to be as abundant, though of a smaller size, in 1980 as in 1977. As stated above, Southeast stocks are thought to be off 50%. Assuming a general decline from west to east through Yakutat and Southeast suggests the stocks in the eastern part of Yakutat may be down 25%, this suggests EY values for the Gulf of Alaska, based on the

size at entry shown in Figure 9 are:

<u>Western</u>	<u>Central</u>	<u>Yakutat W of 140° W</u>	<u>Yakutat E of 140° W</u>	<u>Southeast</u>	<u>Total</u>
2,225 mt	4,075 mt	2,240 mt	1,135 mt	1,290 mt	10,965 mt

FIGURE 1. SABLEFISH LENGTH/FREQUENCY BY U.S. OBSERVERS ON JAPANESE
 LONGLINE VESSELS IN THE YAKUTAT AREA, DEEPER THAN 500 M FROM 1978
 TO 1980.

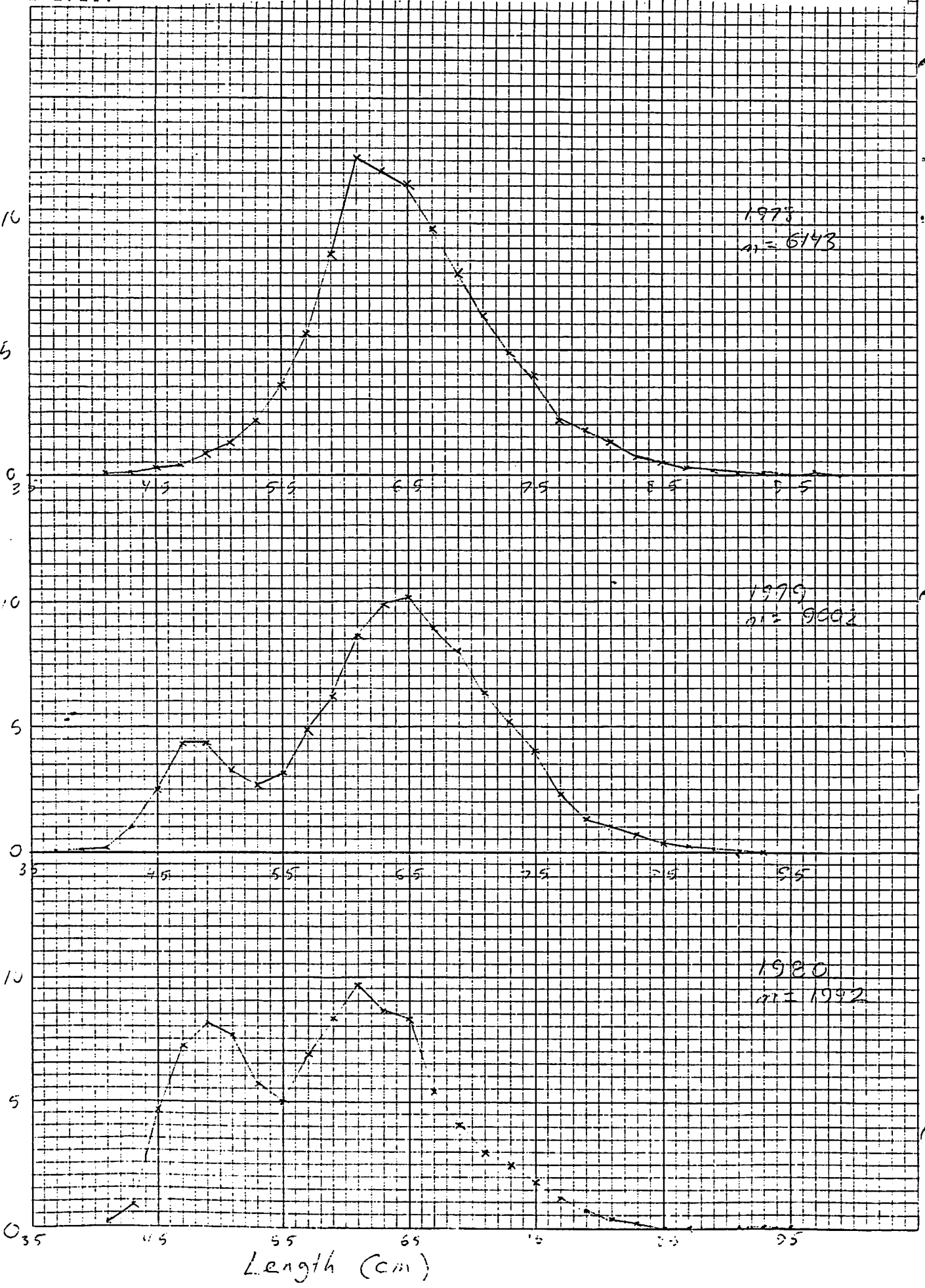


FIGURE 2. SABLEFISH LENGTH/FREQUENCY BY U.S. OBSERVERS ON JAPANESE LONGLINE VESSELS IN THE KODIAK AREA, DEEPER THAN 500 M FROM 1978 TO 1980.

PPL 10 X 10 TO 1 INCH
10X LINE HEAVY

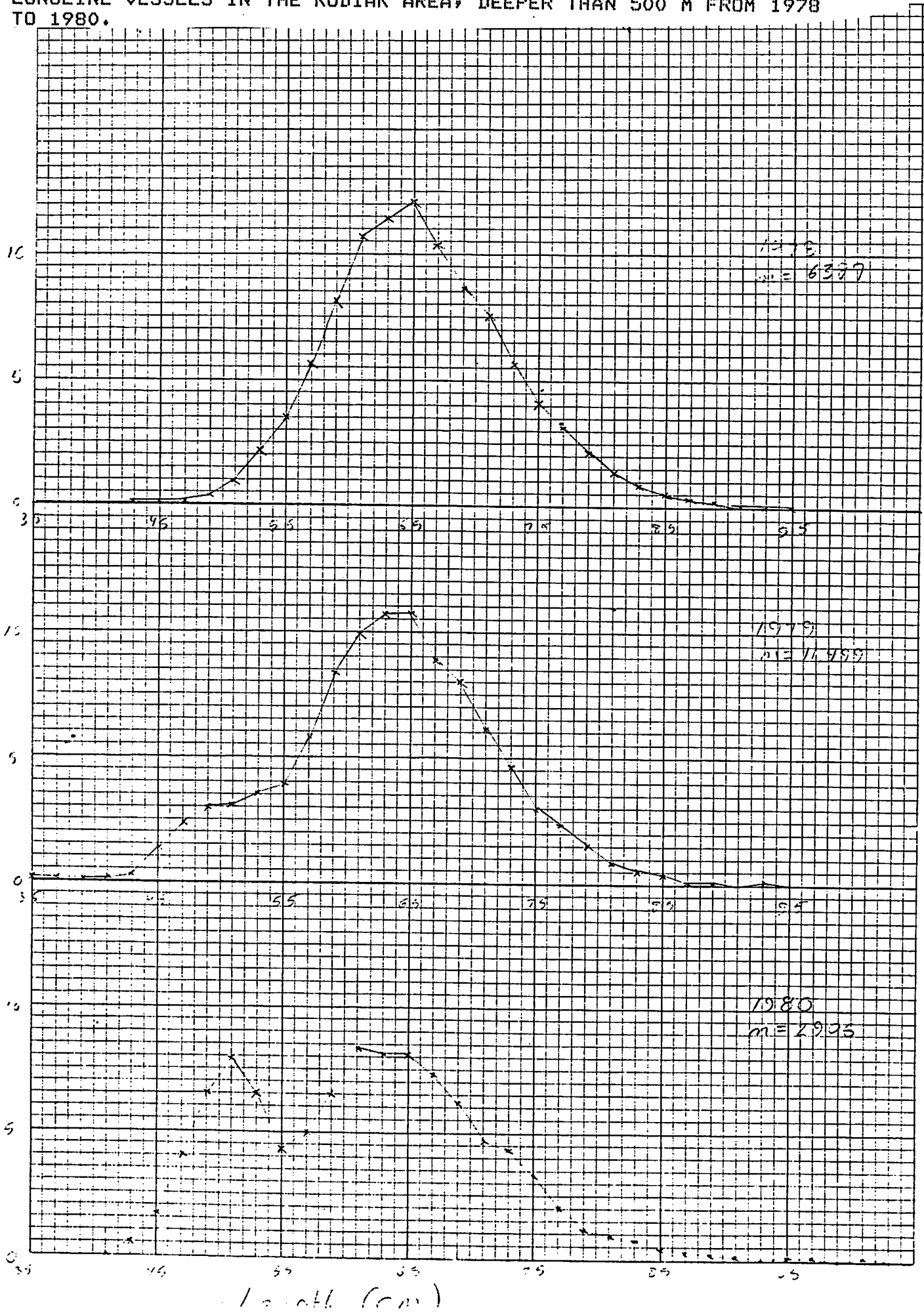


FIGURE 3. SABLEFISH LENGTH/FREQUENCY BY U.S. OBSERVERS ON JAPANESE LONGLINE VESSELS IN THE CHIRIKOF AREA, DEEPER THAN 500 M FROM 1978 TO 1980.

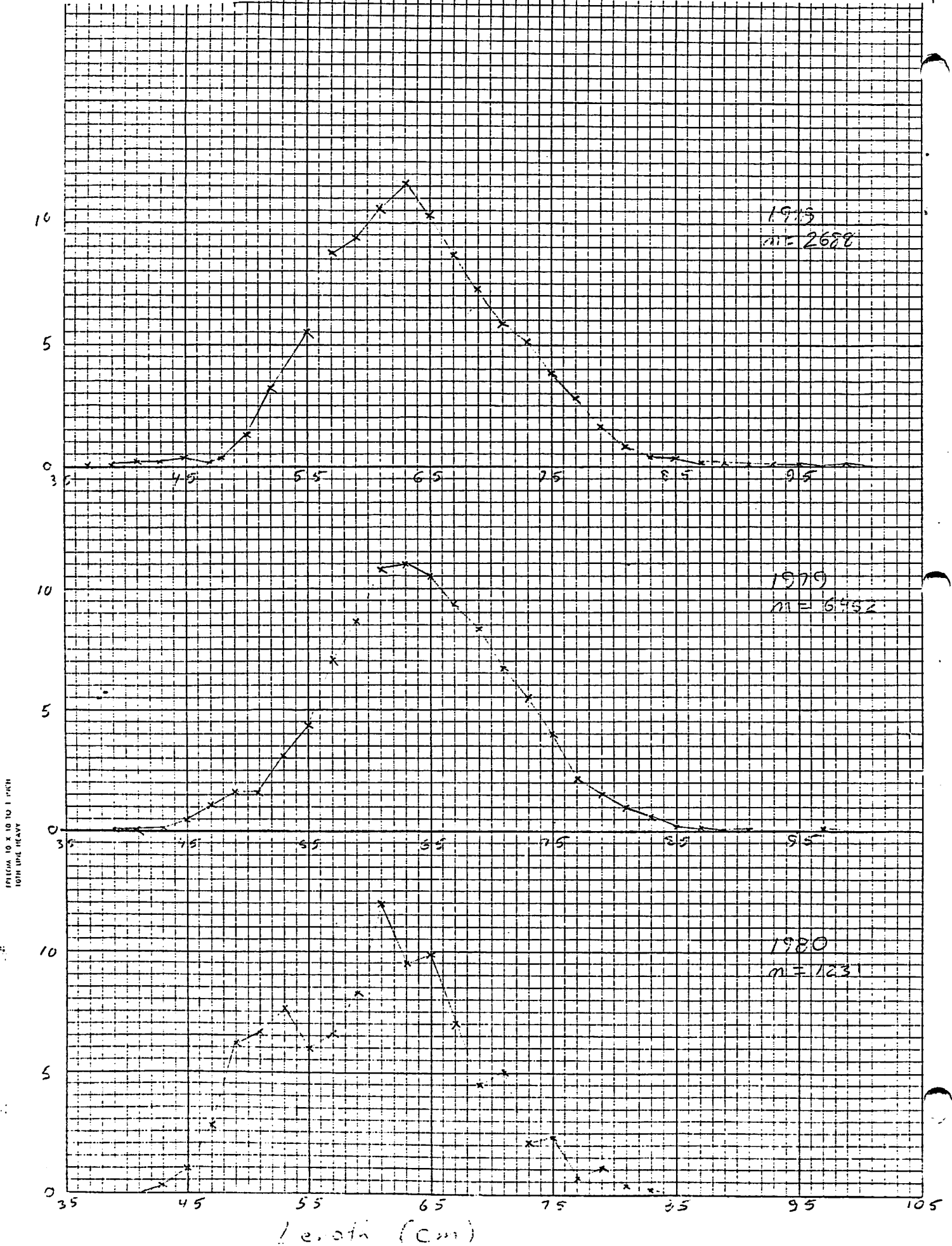


FIGURE 4. SABLEFISH LENGTH/FREQUENCY BY U.S. OBSERVERS ON JAPANESE LONGLINE VESSELS IN THE SHUMAGIN AREA, DEEPER THAN 500 M FROM 1978 TO 1980.

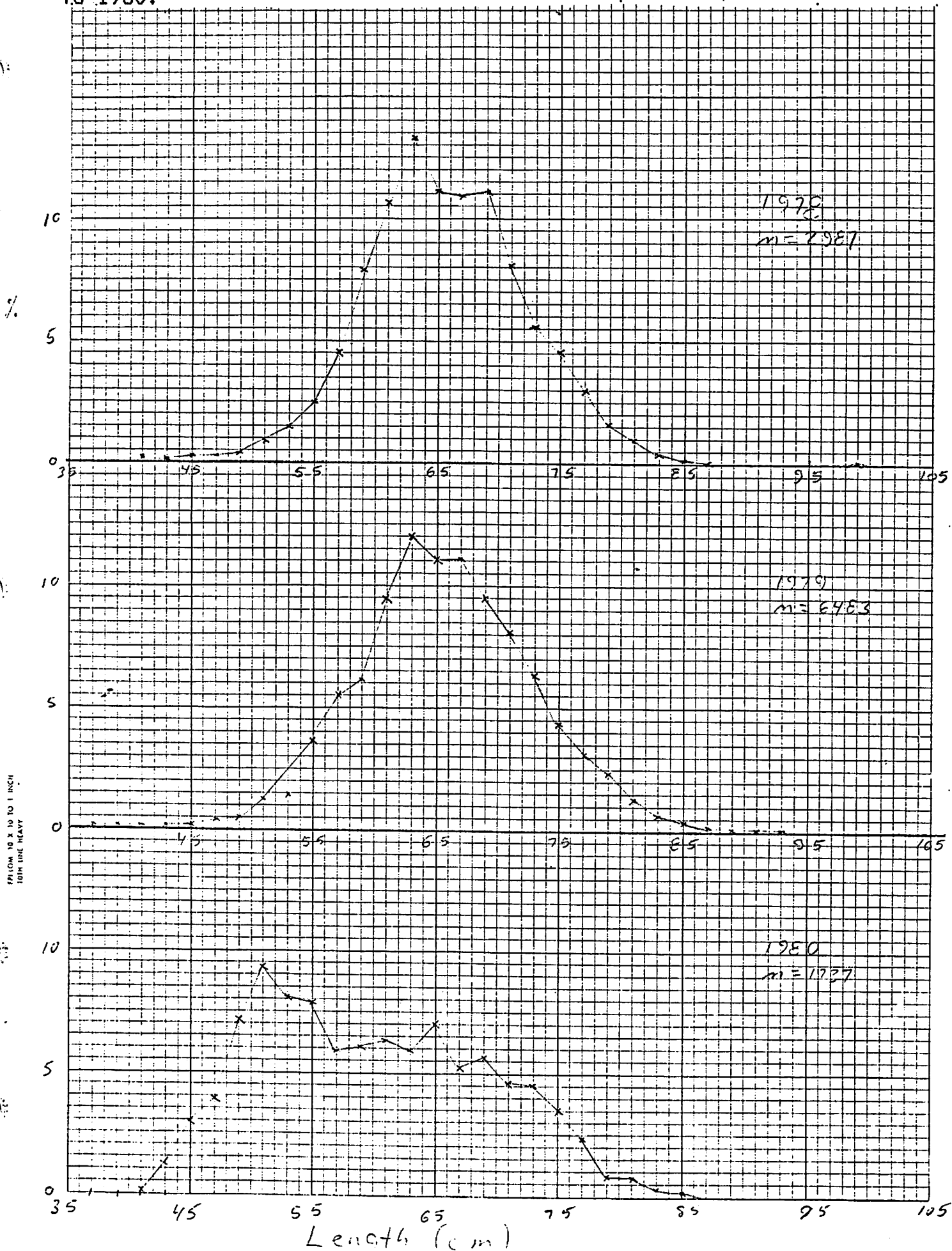


FIGURE 5. SABLEFISH LENGTH/FREQUENCY BY U.S. OBSERVERS ON JAPANESE LONGLINE VESSELS IN THE KODIAK AREA, SHALLOWER THAN 250 M FROM 1979 TO 1980.

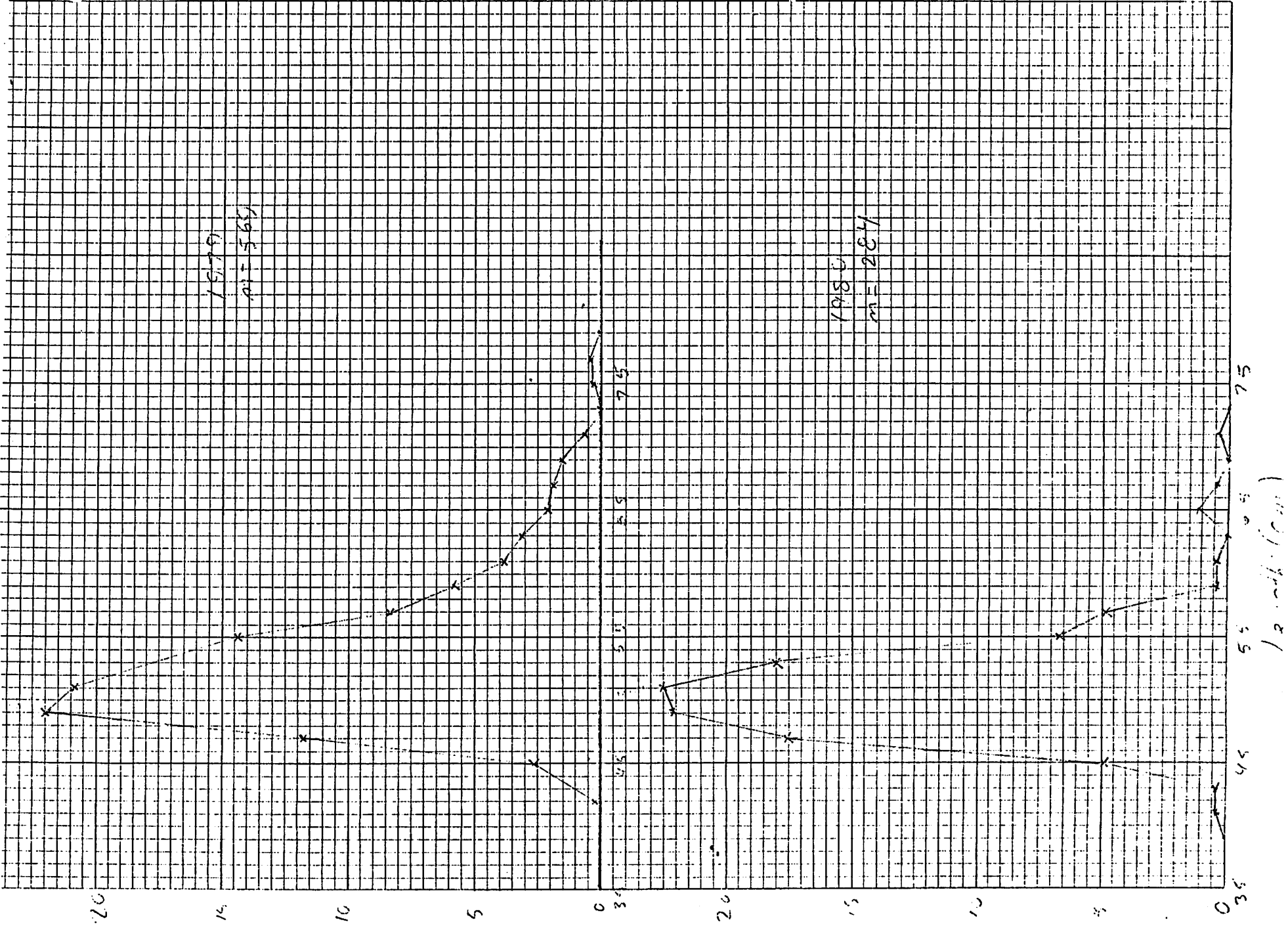


FIGURE 6. SABLEFISH LENGTH/FREQUENCY BY U.S. OBSERVERS ON JAPANESE LONGLINE VESSELS IN THE CHIRIKOF AREA, SHALLOWER THAN 250 M FROM 1979 TO 1980.

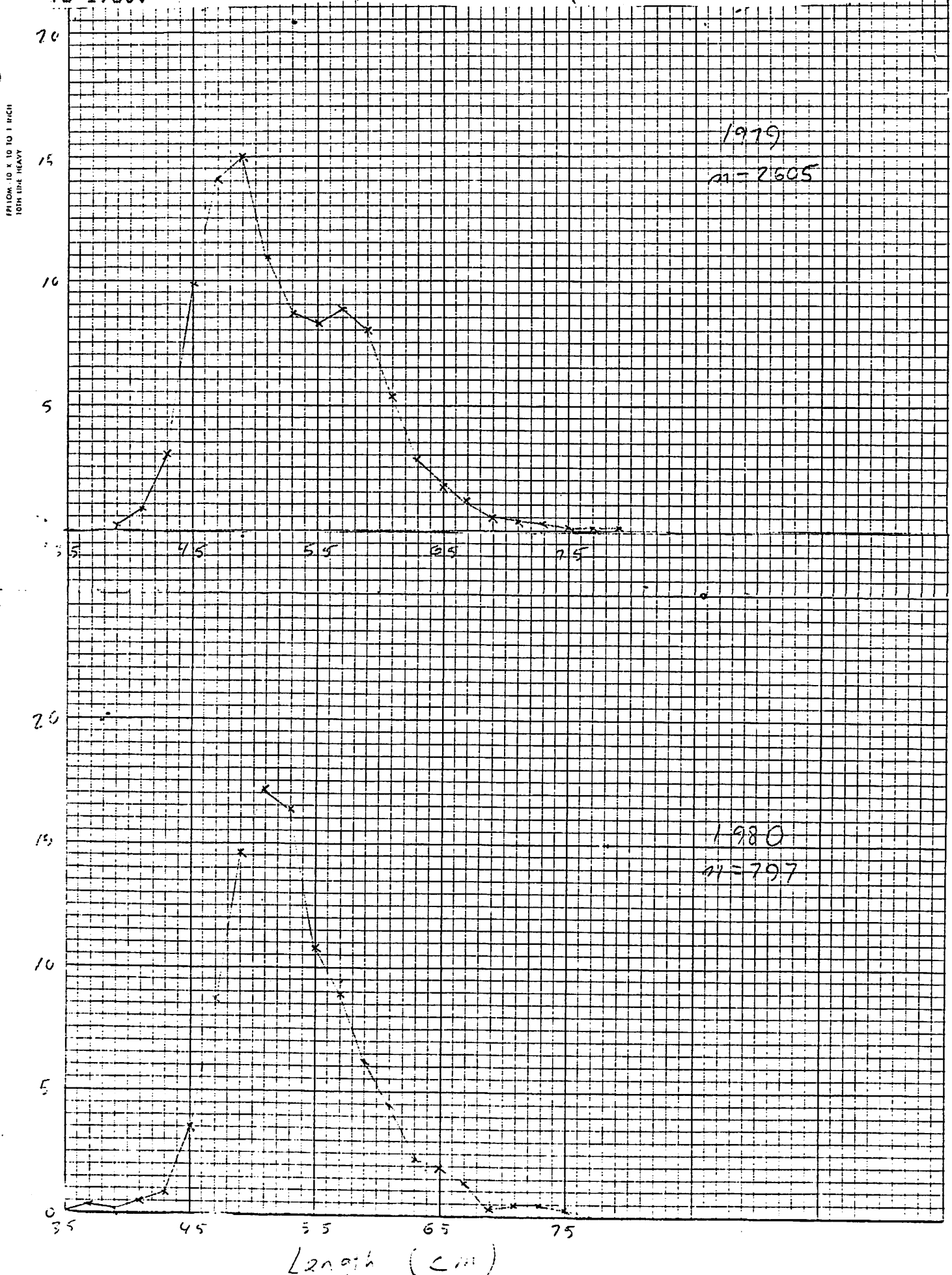


FIGURE 7. SABLEFISH LENGTH/FREQUENCY BY U.S. OBSERVERS ON JAPANESE LONGLINE VESSELS IN THE SHUMAGIN AREA, SHALLOWER THAN 250 M FROM 1979 TO 1980.

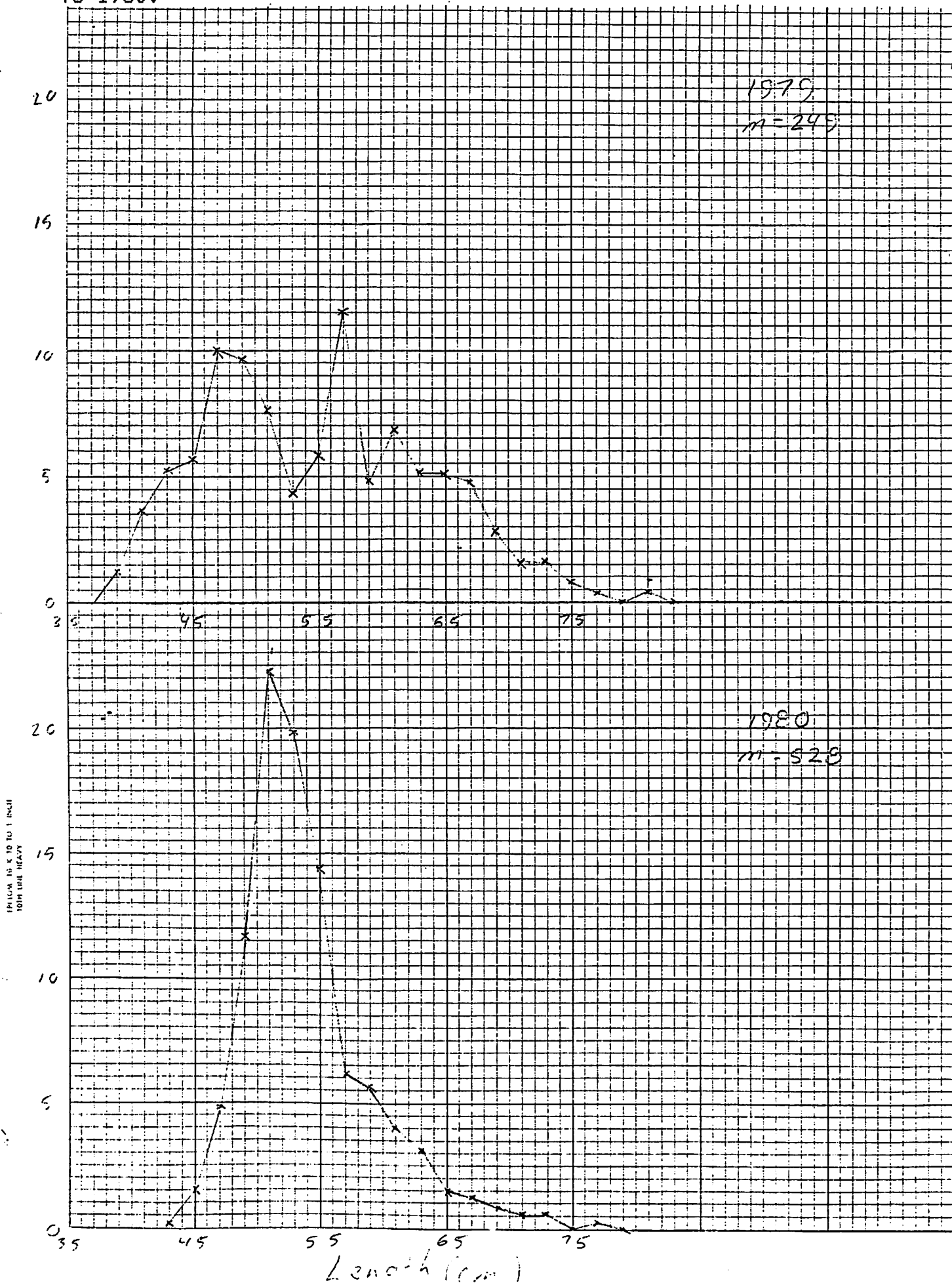
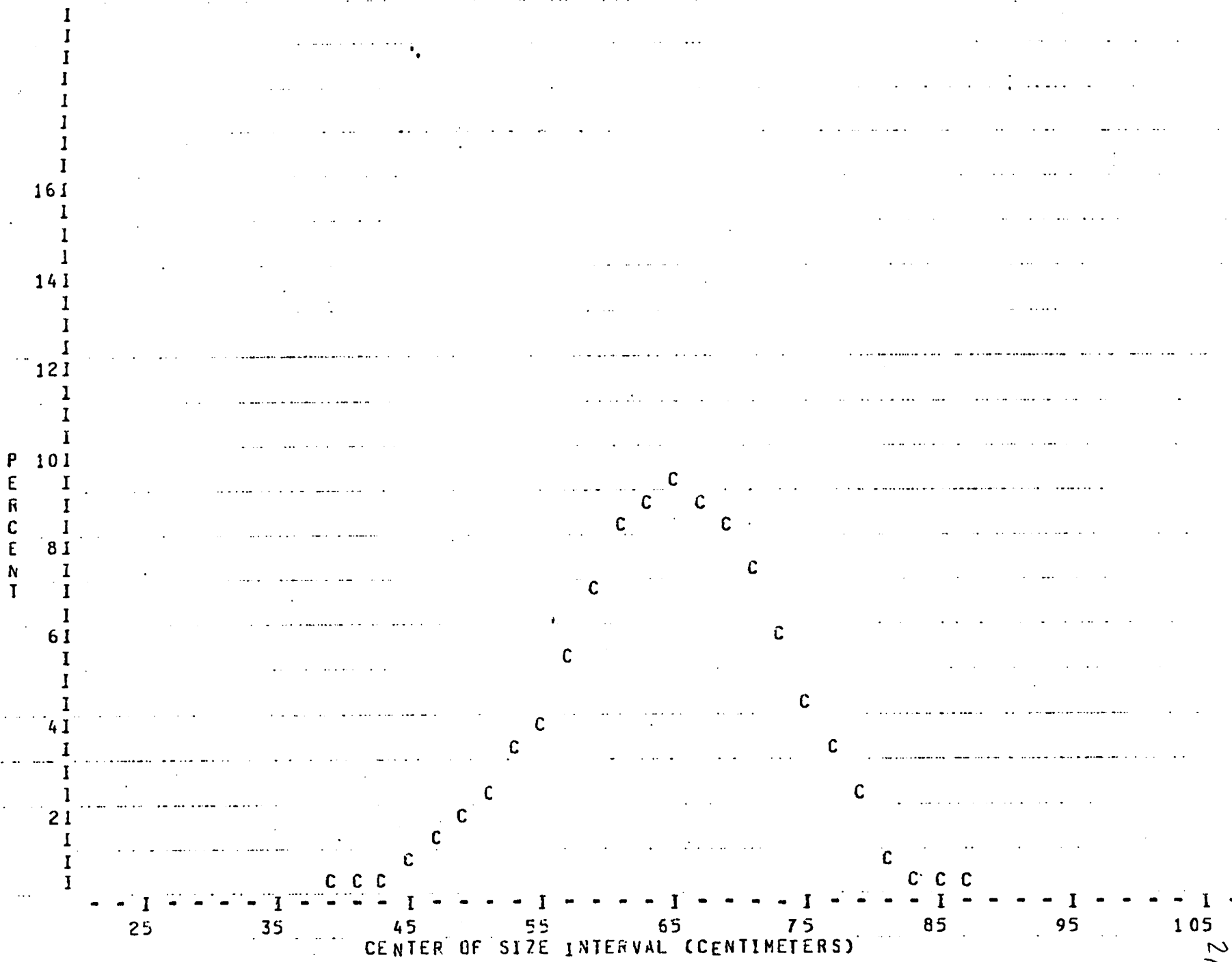


FIGURE 8.



SUMMARY

PROPOSED AMENDMENT FOR PUBLIC REVIEW

GULF OF ALASKA GROUND FISH FMP

September 24, 1981

I. Reduce the Sablefish OY

The following changes to the sablefish OY are proposed:

1. Set OY Gulfwide at no more than 9,000 mt. Current Gulfwide OY is 13,000 mt.
2. Set OY in the ^{South} Eastern area at no more than 1,500 mt in the FCZ. The OY for inside waters will remain at 700 mt. Current ^{South} Eastern area FCZ OY is 3,400 mt.
3. Set OY in the Yakutat area at no more than 1,000 mt. Current OY is 3,000 mt.

Additional studies which should be available next month will be needed to establish the lower end of the OY range.

II. Start Public Review of a Prohibited Species Management Regime based on the methodology used in the latest draft of the Bering Sea Prohibited Species Amendment.

III. Review two options for additional reporting requirements for domestic vessels which land their catch outside of Alaskan waters.

Option 1: Domestic fishing vessels shall report their catch by radio before leaving Alaskan waters.

Option 2: Domestic fishing vessels shall report their catch by making a port call, before leaving Alaskan waters.

no port call

IV. Review North Pacific longline Gillnet Association proposal to allow longline fishing in the Davidson Bank area. The area is currently closed year-round to all foreign fishing.

no port call

V. Review Alaska longline Fishermen's Association proposal to allow the harvest of sablefish by hook and line gear only, East of 140° W. Longitude, and to close the sablefish fishery Gulfwide from November 15 to March 15.

Controlling the Incidental Catch of Prohibited
Species in the Gulf of Alaska Groundfish Fishery

INTRODUCTION

This amendment, Controlling the Incidental Catch of Prohibited Species in the Gulf of Alaska Groundfish Fishery, follows essentially the same objectives and procedures in proposed Amendment #3 in the Bering Sea/Aleutian Islands Groundfish FMP. An exception is that foreign setlines are included in this amendment because their catch of halibut is substantial. In addition, a proposal by the Japanese fishing industry is included. The purpose of this amendment is to reduce the amount of those prohibited species taken incidentally in the extensive groundfish fisheries in the Plan region.

This package contains: I. Objectives and Guidelines; II. Proposed Procedure; III. Domestic Fisheries; and IV. Other.

I. OBJECTIVES AND GUIDELINES

A. The two main objectives are:

1. to effect gradual reductions in the catch of prohibited species by the foreign groundfish fishery consistent with the need to provide opportunities to catch the TALFF of groundfish; and
2. to provide an environment which is supportive of domestic harvesting of groundfish with an awareness of principles and techniques for minimizing incidental catches of Pacific halibut, salmon, and king and Tanner crabs.

B. Two sets of guidelines are used to determine procedures for controlling the incidental catch of prohibited species:

1. that procedures chosen should provide incentives and opportunities for fishermen to modify their gear, fishing techniques, or whatever is appropriate to reduce incidental catch of prohibited species so that long-term solutions would result from the actions; and
2. that regulations chosen would be applied to foreign fisheries only at this time.

II. PROPOSED PROCEDURE

The recommended procedure of the Council is to establish prohibited species catch (PSC) levels for certain species whereby elements of the groundfish fishery may be subject to closure if exceeded.

Prohibited species catches will be established for salmon (all species combined), Pacific halibut, king crabs, and Tanner crabs. All other prohibited species listed in the FMP are subject to their present regulations.

Features of the PSC concept include the following:

- A. Establishment of targets for PSC's:
 - 1. determination of base PSC rates for measurement,
 - 2. determination of target rates and period of reduction, and
 - 3. determination of annual percentage rate of reduction.
- B. Annual review and adjustment of PSC.
- C. Distribution of PSC's to foreign nations.
- D. Non-retention of prohibited species.
- E. In-season implementation of PSC proposal and incentives for PSC reduction.
- F. Estimation of PSC.

A. Establishment of Targets for Prohibited Species Catches

This Amendment proposes to control incidental catch of prohibited species in the foreign groundfish fishery by gradually reducing the incidental catch rate of prohibited species over a fixed period. Prohibited species catches will be determined each year based on target catch rates and the amount of TALFF available that year. They may be further adjusted for changes in population abundance and socioeconomic implications of prohibited species regulations on the foreign groundfish fisheries and the domestic fisheries dependent on these species.

Target catch rates are established through 1986 by the following three steps: determination of base PSC rates for measurement, determination of target rate and period of reduction, and determination of the annual percentage rate of reduction.

- 1. Base PSC rates for measurement. The average incidental catch of prohibited species and total groundfish by foreign nations during 1977-80 are used to calculate the catch rate (prohibited species/total groundfish) as the base level for each prohibited species from which PSC's are determined.
- 2. Target rates and period of reduction. Target rate and period of reduction for each prohibited species are determined differently as follows:

Pacific halibut - 50% reduction in 5 years.

Salmon - 75% reduction in 5 years. This schedule varies slightly from that proposed in Amendment #3 of the Bering Sea/Aleutian Islands Groundfish FMP.

King and Tanner Crabs - 25% reduction in 5 years.

- 3. Annual percentage rate of reduction. A straight line schedule of reduction from the base catch rates is adopted as annual target rates of reduction for each prohibited species.

Based on the principles adopted for the three main steps for determination of PSC rates, the following schedule for reductions are recommended for each regulatory area:

TABLE 1 -- Target Reduction Schedule from 1977-80 Base Levels

Year	Metric Tons ^{1/}	Number of Individuals ^{2/}		
	per mt groundfish	per mt groundfish		
	Halibut	Salmon	King Crab	Tanner Crab
<u>Base Catch Rates (77-80 averages)</u>				
Western	$\frac{657}{54,264}$	$\frac{17,226}{54,264}$	$\frac{37,256}{54,264}$	$\frac{3,369}{54,264}$
Central	$\frac{1,370}{104,374}$	$\frac{8,847}{104,374}$	$\frac{80}{104,374}$	$\frac{4,570}{104,374}$
Eastern	$\frac{768}{26,116}$	$\frac{512}{26,116}$	$\frac{409}{26,116}$	$\frac{3,826}{26,116}$
<u>Schedule of Reduction (percent of base catch rates or absolute catch levels)</u>				
(1981)	--	--	--	--
(1982)	90%	85%	95%	95%
(1983)	80%	70%	90%	90%
(1984)	70%	55%	85%	85%
(1985)	60%	40%	80%	80%
(1986)	50%	25%	75%	75%

1/ Foreign trawl and longline catch combined.

2/ Foreign trawl catch of salmon, king crab, and tanner crab.

It is important to note changes to the stocks and the fishery could occur, in which case the established catch rates may no longer meet the objective, and therefore must be adjusted. Therefore, this Amendment contains provisions for annual reviews and adjustments to PSC regulations.

The catch reduction schedule for halibut and crabs is expressed as a percentage of 1977-80 incidental catch rates (weight or number of prohibited species per metric ton of groundfish caught). Since the amount of TALFF and reserves cannot yet be determined by year (year i), the absolute amount of prohibited species (species j) will have to be determined each year as follows:

$$PSC_{ij} = (\text{Base Catch Rate}_j \times \text{Percent Target Reduction}_{ij}) \times (\text{TALFF}_i + \text{Reserves}_i)$$

The calculated PSC's will be reviewed annually and may be adjusted by the Regional Director, in consultation with the Council, as provided for in the annual review process of this Amendment.

PSC's are not established for DAH of groundfish since this Amendment does not apply to domestic fishermen. However, when groundfish releases are made from unneeded DAH to TALFF during the fishing year, additional PSC's are calculated to supplement PSC's established for the foreign fisheries at the beginning of the year as follows:

$$\text{PSC}_{ij} = (\text{Base Catch Rate}_j \times \text{Percent Target Reduction}_{ij}) \\ \times \text{release from DAH}_i$$

As any nation's established PSC is approached by the fishery (i.e., when the Regional Director projects that a nation's groundfish allocation may not be reached due to premature achievement of PSC and if the problem cannot be resolved by voluntary actions of the foreign fleets), the Regional Director may, in consultation with the Council, issue field orders to impose time, area, and/or gear restrictions on that nation to reduce the incidental catch of that prohibited species. Once the final PSC is reached, the entire Plan region is closed to fishing of the affected nation, unless exempted by the Regional Director for selected elements of the fleet to continue fishing as provided for in this Amendment.

B. Annual Review and Adjustment of Prohibited Species Catch

Since fisheries resources and socioeconomic conditions of the fishing community are expected to change, the Council should review, annually, the PSC regulations.

Calculated PSC's will be reviewed annually and may be adjusted by the Regional Director, in consultation with the Council, to respond to such changes to the stocks and the fishery as:

1. changes in the stock condition and abundance of prohibited species;
2. changes in stock condition and abundance of target groundfish species;
3. impact on operational ability of foreign fisheries to take their TALFF; and
4. degree of socioeconomic impact of prohibited species catches on domestic fisheries dependent on them.

Based on similar changes, the Council may also review annually,

1. the target rates and period of reduction; and
2. the percentage reduction in rates from the previous year which are used to calculate PSC's.

In the annual adjustments of PSC's, the Regional Director, in consultation with the Council, will consider all of the following, in order of priority:

1. the need to protect prohibited species for biological and other conservation reasons;

2. the impact of PSC's on the domestic fisheries dependent on these species;
3. the impact of the PSC regulations on development and operation of domestic groundfish fisheries; and
4. the impact of PSC's on the foreign groundfish fisheries.

Prior to the beginning of each year, the latest technical information bearing on changes to the stocks and the fishery will be provided to the Regional Director and the Council so that decisions for adjusting PSC's can be made by the beginning of the year. Once determined, the final PSC's shall be established through field orders by the Regional Director.

C. Distribution of PSC's to Foreign Nations

It is recommended that PSC's in any year (year i), be distributed by specific species (species j) by nation in direct proportion to the nation's groundfish allocation as follows:

$$\text{Nation's PSC}_{ij} = \frac{\text{Nation's Groundfish Allocation}_i \times \text{PSC}_{ij}}{\text{TALFF}_i + \text{Reserves}_i}$$

Using the above formula, small amounts of PSC's are expected to be held in reserve for later distribution since some groundfish are also held in reserve.

The foreign longline fisheries are exempted for PSC's on salmon, king crab, and Tanner crab but not halibut; the longline fishery will be monitored closely for its impact on salmon and crab.

The Regional Director, in consultation with the Council, will be empowered to include foreign longliners by field order in the PSC regulations if they are determined to have detrimental impact on prohibited species.

Although a nation's PSC may have been reached, the Regional Director, in consultation with the Council, will also be empowered to allow selected fishing elements of the nation's fleet to continue fishing under specified conditions until the nation's allocation is reached, if the enforcement and observer coverage are sufficient to ensure that the elements are not a serious threat to prohibited species. Any additional prohibited species catch may be considered when establishing future PSC limits.

After evaluation, the decisions to include and exclude these selected gear types from PSC regulations will be established through field orders by the Regional Director.

D. Non-retention of Prohibited Species

Incidentally caught prohibited species cannot be retained. Each foreign fishing vessel shall sort its catch as soon as possible after retrieval of the catch and, after allowing for sampling by an observer (if any), shall return any catch of prohibited species, or parts thereof, to the sea immediately with a minimum of injury regardless of its condition.

E. In-Season Implementation of PSC Proposal and Incentives for PSC Reduction

In making supplemental foreign allocations during a fishing year, it is recommended that the Secretary of State, in consultation with the Secretary of Commerce, consider the effort and ability of each nation to fulfill the objectives of this Amendment. It is inconsistent with the objectives of this Amendment for any nation to conduct its fishing operations without: (1) an earnest attempt to reduce its catch of prohibited species; and (2) remaining within its PSC limitations. Supplemental allocations should serve to reward a nation for its past performance and should serve as an incentive to continue its operating methods that avoid prohibited species. A nation's effort to comply with this amendment is therefore a legitimate and important consideration in making foreign allocations.

In order to arrive at long-term solutions for controlling incidental catch of prohibited species, the foreign groundfish fisheries are encouraged to:

1. conduct approved gear research and experiments to reduce PSC;
2. collect detailed information on the characteristics of incidental catches; and
3. transfer the information and gear technology to the U.S. for use by the Government and the industry.

As an incentive for gear research, catches of prohibited species during any research aimed at long-term solutions for controlling incidental catches of prohibited species that are approved by the National Marine Fisheries Service will be exempted from the PSC limits for that nation, for that year. Groundfish catches during the research will continue to be counted towards the nation's allocations.

F. Estimation of Prohibited Species Catch

Catches of prohibited species will be estimated from data by U.S. observers and other reported statistics that are considered reliable.

III. DOMESTIC FISHERY

The PDT requests that the Council clarify and state its policy for the domestic groundfish fishery and the incidental catch of salmon, halibut, king crab, and Tanner crab.

IV. OTHER

Review the need to maintain the trawl closures between 140°W and 147°W from November 1 to February 15 and between 147°W and 157°W from February 16 to May 31 and any other measures related to the protection of prohibited species.

These areas are presently protected by a pelagic trawl provision from December 1 through May 31 and the area closures may not be needed if the pelagic trawl provision is enforceable.