

M E M O R A N D U M

TO: Council, SSC and AP Members

FROM: Jim H. Branson  
Executive Director

DATE: December 2, 1986

SUBJECT: Gulf of Alaska Groundfish Fishery Management Plan

ACTION REQUIRED

Set halibut PSCs.

BACKGROUND

Included in Amendment 14 was a framework procedure to set annual halibut bycatch limits. Halibut is defined as a prohibited species in the FMP and when caught incidentally must be discarded. The framework allows the Council to review and set halibut bycatch limits annually without requiring an emergency rule or plan amendment. Bycatch limits (PSCs) specified using the framework will be effective for an entire year and all bottom trawling will be prohibited when they are reached.

Last year the Council used the framework for the first time. You reviewed the status of the halibut resource, estimates of halibut bycatch in previous years, potential impacts of bycatches on the domestic halibut fishery, and other information. A halibut mortality ceiling of 2,000 mt was recommended by the IPHC and several members of the fishing industry as the Gulfwide cap on halibut mortality in the groundfish fisheries. The Council adopted the 2,000 mt mortality limit as their 1986 management goal. Estimates of 1986 halibut bycatch and associated mortality in the groundfish fisheries were calculated using a computer model. The model incorporated bycatch rates and mortality rates obtained from the NMFS Foreign Observer Program and IPHC, and likely gear shares as estimated by the fishing industry. Details on the model and our ability to predict halibut bycatch are discussed in a paper provided as item D-2(c)(1).

The Council needs to review the model and its bycatch/mortality rates and gear share assumptions predicting halibut bycatch. This and the other biological and socioeconomic information required under the framework was included in the RAD sent to you on November 26. Extra copies of the RAD are available. Following this review, the Council can use the model with initial 1987 TQs and apportionments to predict 1987 halibut bycatch and mortality.

In September, the Council released estimates of halibut bycatch and mortality for public review derived from the model using preliminary 1987 TQs, DAP, JVP and TALFF apportionments on October 10. Copies of the comments received were sent to you prior to this meeting. A summary of those comments is included in your notebooks as item D-2(c)(2).

The staff recommends that the Council take the following steps:

Step 1. Examine potential bycatches of halibut given initial TQs. Adopt a tentative halibut mortality ceiling as a 1987 management goal.

Step 2. Set an initial halibut PSC bycatch limit for domestic bottom trawl gear. Apportion that bycatch limit to DAP and JVP.

And, if necessary,

Step 3. Adjust groundfish TQs to reduce halibut mortality and bycatch to meet the desired goal.

DISCUSSION PAPER 86- 2

Prediction of halibut bycatch in the Gulf of Alaska groundfish fisheries

December 3, 1986

Terrence P. Smith  
Staff, North Pacific Fishery Management Council

Amendment 14 to the Gulf of Alaska Groundfish Fishery Management Plan (FMP) included a management framework which establishes annual incidental catch limits for halibut in the Gulf of Alaska groundfish fisheries. The framework was used by the Council in December 1985 to establish halibut prohibited species catch limits (PSC) for the 1986 groundfish fisheries. The limits chosen, 1,885 mt for DAP and 322 mt for JVP, were intended to keep the halibut incidental catch mortality below 2,000 mt.

The development and rationale for the halibut framework, and the current plan team recommendations for establishing halibut PSCs are presented in this year's final Resource Assessment Document (RAD). This memorandum is intended to provide information on predicting the halibut bycatch: the calculation procedure, predictions and performance in 1986, and predictions for 1987.

The calculation procedure

A calculation procedure which estimates the halibut incidental catch for each gear type (bottom trawl, midwater trawl, longline) and each user group (DAP, JVP and TALFF) was developed and used at the December 1985 Council meeting. This procedure uses the best available estimates of halibut bycatch rates in the groundfish fisheries and the Council's determination of TQ for each target fishery and user group to predict the halibut bycatch in each component fishery. The bycatch estimates are summed and converted to halibut mortality estimates using information on mortality rates for halibut discarded by the various fisheries.

The total predicted halibut mortality and the mortality attributable to the DAP, JVP, and TALFF fisheries provide guidance to the Council in two ways: in setting of TQs for the next fishing year, and in establishing the PSC limits for the DAP and JVP bottom trawl fisheries. The predictions are produced by a computer spreadsheet and are used at the December Council meeting to predict halibut mortalities in real time, that is, as the Council establishes the target quotas for the next year. This section discusses that procedure and provides the assumptions used in the calculation sequence.

A computer spreadsheet is an electronic calculator which, when given a set of input data and a set of calculation formulas, produces a set of output numbers - the result of the calculations. Here the input numbers are the TQs as currently established by the Council. The formulas use assumptions on the distribution of gear

used in each target fishery, the target effectiveness (the percentage of the catch that is the target species in the target fishery), the halibut bycatch rate in the fishery, and the discard mortality for the halibut taken in the fishery. The output numbers are the predicted halibut catch and mortality in each fishery.

### The assumptions

Since halibut bycatch rates differ according to the gear used (bottom or midwater trawl or longline), the type of fishery (DAP, JVP, TALFF) and the area fished (western, central or eastern Gulf) the calculation procedure must compute the groundfish catch for each of these twenty seven categories before multiplying by the appropriate bycatch rate. To do this certain assumptions must be made. The assumptions on gear shares in the target fishery that were used for the 1986 predictions are shown in Table 1 and the numbers presented in this section will be those used by the Council at their December 1985 meeting.

The gear share assumptions do not differ by management region, but the share of pollock taken by midwater trawlers differs in the western and central Gulf (Table 2). This is accounted for in the calculation of total halibut catch and mortality for midwater trawlers targeting on pollock.

The information presented in Tables 1 and 2, given a target quota, allows calculation of the total groundfish catch in each region for each gear type and user group. These predicted catches are then multiplied by the bycatch rate for halibut in the same region for the same gear type and user group (Table 3). This results in a predicted halibut bycatch for each category which is summed over the three management areas and presented as output (Table 4, "Bycatch").

In a final step the predicted bycatches are converted to mortality estimates using discard mortality information as shown in Table 5. The various categories are then summarized for Council review (Table 4).

Since the calculations are driven by the TQs in the target fisheries the Council may wish to revise some of the TQs and then reexamine the predicted halibut catch and mortality. At the same time, because the predicted catches depend on the assumptions of the model (shown in Tables 1, 2, 3, and 5), the Council may wish to revise the gear shares, bycatch rates, or discard mortality and then recalculate the halibut incidental catch.

### Performance

The ability of the model to predict halibut bycatch and mortality will be examined using past predictions and current knowledge of the incidental catch of halibut in the Gulf of Alaska groundfish fisheries.

The first perspective is the prediction for the 1986 fishery as determined at the December 1985 Council meeting. Table 4, above, presents the predicted halibut incidental catch and mortality given the quotas established by the Council at that meeting. The TQs (then called "OYs") that produced the estimate are shown in Table

Table 1. Gear Shares in Target Fishery  
B. Trawl Longline M. Trawl

	B. Trawl	Longline	M. Trawl
Cod	85%	15%	0%
Flounders	100%	0%	0%
Pollock	25%	0%	75%
Sablefish	15%	55%	5%

Table 2. Midwater Pollock Distribution

	W	C
	20%	80%

Table 3. Halibut bycatch rates (December 1985).

	B. Trawl		M. Trawl		Cod Longline		Sablefish Longline	
	W/C	W	C	W	C	W	C	E
DAP	3.8%	1.3%	0.04%	3.2%	6.1%	1.2%	1.2%	1.2%
JVP	3.8%	1.3%	0.04%	3.2%	6.1%			
TALFF	3.8%	1.3%	0.04%	3.2%	6.1%			

Table 4. Predicted halibut bycatch and mortality (December, 1985).

	Bycatch	Mortality
DAP		
B. Trawl	1,885	942
M. Trawl	83	42
Longline	354	89
Subtotal	2,322	1,073
JVP		
B. Trawl	322	322
M. Trawl	263	263
Longline	39	10
Subtotal	624	594
Foreign		
B. Trawl	0	0
M. Trawl	0	0
Longline	609	152
Subtotal	609	152
TOTAL	3,555	1,819

Table 5. Halibut mortality rates (December 1985).

	Trawl	Longline
DAP	50%	25%
JVP	100%	25%
TALFF	50%	25%

6. The total estimate of halibut mortality, 1,819 mt, given a bycatch of 3,555 mt of halibut, met the Council's mortality guideline of 2,000 mt as well as their other management objectives and so the quotas were adopted and the halibut PSCs set at 1,885 and 322 for the DAP and JVP bottom trawl fisheries, respectively.

Two differences between the Amendment 14 language regarding the halibut PSC framework and the implementing regulations should be noted. These differences are discussed at much greater length in the RAD for the Gulf of Alaska (see, especially, Part 2, A, pp. 56-61). First, the implementing regulations indicate that when the halibut PSC limit is attained only the bottom trawl fisheries are closed. Accordingly, the Council has focused on the bottom trawl component of the bycatch and has not formally considered the incidental catch by other target gear. Second, the implementing regulations limit the scope of Council action to establishing PSC limits rather than the more comprehensive measures suggested by Amendment 14. The plan team recommends consideration of revisions to the implementing regulations, but recognizes, in the interim, that the traditional practice of reducing the TQ to reduce halibut bycatch mortality may be necessary.

Given this background, the 1986 predictions can be compared with actual 1986 fishery performance to judge the accuracy of the model and to "fine tune" the calculation procedure for the 1987 predictions. The 1986 catches-to-date (PacFIN - November 19, 1986) for the DAP fishery by gear group and region were used in conjunction with the bycatch rates of Table 5 to predict the DAP component of halibut catch and mortality (Table 7). The only assumptions on bycatch remaining are, therefore, the bycatch and discard mortality rates. The predicted DAP bycatch and mortality (829 mt and 389 mt, respectively) is much less than predicted in December of 1985 (Table 4), almost entirely because the actual DAP harvest for pollock, cod and flounder was much less than that set by the Council.

The actual<sup>1</sup> catch of halibut in the JVP and TALFF fisheries (56 and 341 mt, respectively) is also considerably less than that predicted last December. The reduction of actual incidental catch from that predicted for the JVP fisheries is mostly due to the absence of any significant joint venture bottom trawl fishery in 1986 while the reduction for the foreign fisheries is primarily a result of the ability of the Japanese cod longliners to reduce their bycatch rates. To the extent that these same phenomena occur in 1987 - shortfalls in DAP harvest relative to allocations, the absence of a joint venture bottom trawl fishery, and improvements in bycatch rates - halibut catch and mortality in the groundfish fisheries will be in the order of 1,200 and 500 mt, respectively.

In September of this year the Council released for public review predictions of halibut catch and mortality as part of the initial determination of TQs for the Gulf of Alaska. Those TQs along with the bycatch predictions are shown in Table 8. Since September the halibut bycatch calculation procedure has been revised to better account for the mix of species taken in the groundfish fisheries and simplified to make presentation more straightforward. The revised model predicts a halibut bycatch and mortality of 4,367 and

-----  
<sup>1</sup>As reported by the observer program.

Table 6. GULF OF ALASKA GROUND FISH 1986 ABCs, OYS, DAPs, JVPs, TALFF, and PSCs (MT)

Species	Area	1986 ABC	1986 OY	Reserves 20% OY	1986 DAP	1986 JVP	1986 DAH	TALFF
Pollock	Western/Central	100,000	100,000	20,000	40,000	40,000	80,000	0
	Out. Shel. (1/15-4/10)		50,000	10,000	5,000	35,000	40,000	0
	Eastern	16,600	16,600	3,320	13,280	0	13,280	0
	Total	116,600	166,600	33,320	58,280	75,000	133,280	0
Pacific Cod	W	37,500	29,951	5,990	9,800	2,521	12,321	11,640
	C	76,000	33,049	6,610	19,600	2,959	22,559	3,880
	E	22,500	12,000	2,400	9,600	0	9,600	0
	Total	136,000	75,000	15,000	39,000	5,480	44,480	15,520
Flounders	W	23,000	5,360	1,072	3,252	1,036	4,288	0
	C	101,000	5,000	1,000	2,916	1,084	4,000	0
	E	17,000	4,020	804	3,216	0	3,216	0
	Total	141,000	14,380	2,876	9,384	2,120	11,504	0
Pacific ocean perch	W	2,800	1,316	0	1,316	0	1,316	0
	C	3,300	1,511	0	1,511	0	1,511	0
	E	4,400	875	0	875	0	875	0
	Total	10,500	3,702	0	3,702	0	3,702	0
Sablefish	W	2,500	2,850	0	2,850	0	2,850	0
	C	11,600	6,150	0	6,150	0	6,150	0
	W. Yakutat	2,200	2,550	0	2,550	0	2,550	0
	E. Yakutat	800	1,104	0	1,104	0	1,104	0
	S.E. Outside	1,700	2,346	0	2,346	0	2,346	0
	Total	18,800	15,000	0	15,000	0	15,000	0
Atka Mackerel	W	4,700	4,678	936	0	3,742	3,742	0
	C	0	0	0	0	0	0	0
	E	0	0	0	0	0	0	0
	Total	4,700	4,678	936	0	3,742	3,742	0
Rockfish	S.E. Central							
	Outside	n/a	600	0	600	0	600	0
	Remaining Gulf	n/a	4,400	0	4,400	0	4,400	0
Total		5,000	0	5,000	0	5,000	0	
Thornyhead	GW	n/a	3,750	750	1,500	1,500	3,000	0
Squid	GW	n/a	5,000	1,000	2,000	2,000	4,000	0
Other Species	GW	n/a	14,656	2,931	5,862	5,862	11,724	0
<b>TOTAL</b>			<b>307,736</b>	<b>56,813</b>	<b>139,728</b>	<b>95,704</b>	<b>235,432</b>	<b>15,521</b>



Table 7. Gulf of Alaska Groundfish 1986 groundfish and halibut catches (DAP, JVP, and TALFF), mt.  
Catches, 1986

Species	Area	ABC	OY	DAP				JVP			TALFF	GRAND	Halibut Mortality Rates			
				Trawl	L'line	Pot	TOTAL	H.Trawl	L'line	TOTAL	L'line	TOTAL	DAP	Trawl	Longline	
												JVP	50%	25%		
												TALFF	100%	25%		
												DAP Halibut Bycatch Rates				
												H	C			
Pollock	H/C	100,000	100,000	6,658	29	0	6,687	56,549	0	56,549	115	63,351	DAP			
	Out.Shel.	n/a	50,000										JVP			
	E	16,600	16,600	70	0	0	70	0	0	0	0	70	TALFF	50%	25%	
	Total	116,600	166,600	6,728	29	0	6,758	56,549	0	56,549	115	63,422				
Pacific Cod	H	37,500	29,951	394	27	0	421	109	336	445	11,569	12,435	B. Trawl	3.8%	3.8%	
	C	76,000	33,049	2,775	626	64	3,464	728	7	735	3,732	7,931	M. Trawl	1.3%	0.04%	
	E	22,500	12,000	153	136	0	290	0	0	0	0	290	Cod L'line	3.2%	6.1%	
	Total	136,000	75,000	3,322	789	64	4,174	837	343	1,180	15,301	20,655	Sable.L'li	1.2%	1.2%	
Flounders	H	23,000	5,360	280	8	0	288	144	4	148	56	492	Trawl Shares in Target Fishery			
	C	101,000	5,000	773	1	0	774	619	0	619	15	1,408	Pollock Cod			
	E	17,000	4,020	17	1	0	17	0	0	0	0	17	B. Trawl	25%	85%	
	Total	141,000	14,380	1,070	10	0	1,080	763	4	767	71	1,918	M. Trawl	75%	0%	
Pacific ocean perch	H	2,800	1,316	556	0	0	556	30	0	30	0	586				
	C	3,300	1,511	389	0	0	389	1	0	1	0	390				
	E	4,400	875	1,827	1	0	1,828	0	0	0	0	1,828				
	Total	10,500	3,702	2,771	1	0	2,773	31	0	31	0	2,804				
Sablefish	H	2,500	2,850	695	1,730	787	3,212	35	2	37	1	3,250	DAP (Predicted from actual catch)			
	C	11,600	6,150	1,760	5,100	1,146	8,006	1	3	4	0	8,010	B. Trawl	H	136	68
	H. Yakutat	2,200	2,550					0	0	0	0			C	216	108
	E. Yak./	800	1,104											E	104	52
	S.E.Out.	1,700	2,346	753	8,504	21	9,277	0	0	0	0	9,277	Subtotal		550	275
	Total	18,800	15,000	3,208	15,334	1,954	20,496	36	5	41	1	20,538	M. Trawl	H	13	6
Atka Mackerel	H	4,700	4,678	0	0	0	0	5	0	5	0	5	C	2	1	
	C	0	0	0	0	0	0	0	0	0	0	0	E	0	0	
	E	0	0	0	0	0	0	0	0	0	0	0	Subtotal		15	7
	Total	0	4,678	0	0	0	0	41	5	46	0	46	Longline	H	23	6
Rockfish	S.E.Central												C	99	25	
	Outside	n/a	600										E	106	27	
	Remaining	n/a	4,400	1,802	892	2	2,697	9	0	9	3	2,709	Subtotal		264	57
	Total	n/a	5,000	1,802	892	2	2,697	9	0	9	3	2,709	Gulf DAP total		829	339
Thornyhead	GH	n/a	3,750	634	34	0	669	0	0	0	0	669	JVP (Actual catch)			
Squid	GH	n/a	5,000	0	0	0	0	0	0	0	0	0	M. Trawl	H	25	25
													C	31	31	
Other Species	GH	n/a	14,656	258	1	0	259	0	0	0	0	259	Longline	H	0	0
													C	0	0	
TOTAL												Gulf JVP total		56	56	
												Foreign (Actual catch)				
												Longline	H	150	37	
													C	192	48	
												Gulf TALFF total		341	85	
TOTAL														1,225	480	

Table 8. GULF OF ALASKA GROUNDFISH 1987 ABCs, ITQs, DAPs, JVPs, TALFF, and PSCs (MT) (September 1986).

Species	Area	ABC	ITQ	RESERVE 20% TQ	DAP	JVP	TALFF	Bycatch	HALIBUT Mortality
Pollock	W/C	97,000	97,000	19,400	28,000	49,600	0	DAP	0
	Out.Shel.	n/a	50,000	10,000	0	40,000	0	B. Trawl	4,574
	E	16,600	16,600	3,320	1	0	0	M. Trawl	65
	Total	113,600	163,600	32,720	28,001	89,600	0	Longline	536
								Subtotal	5,176
Pacific Cod	W	33,750	29,951	5,990	23,817	144	0	JVP	0
	C	70,000	33,049	6,610	24,826	1,613	0	B. Trawl	212
	E	21,250	12,000	2,400	9,600	0	0	M. Trawl	263
	Total	125,000	75,000	15,000	58,243	1,757	0	Longline	15
								Subtotal	490
Flounders	W	54,400	6,900	1,380	5,448	72	0	Foreign	0
	C	244,800	22,500	4,500	16,740	1,260	0	B. Trawl	0
	E	40,800	600	120	480	0	0	M. Trawl	0
	Total	340,000	30,000	6,000	22,668	1,332	0	Longline	0
Pacific ocean perch	W	2,800	1,316	0	1,316	0	0	Subtotal	0
	C	3,300	1,511	0	1,511	0	0	Foreign	0
	E	4,400	875	0	875	0	0	B. Trawl	0
	Total	10,500	3,702	0	3,702	0	0	M. Trawl	0
Sablefish	W	3,800	3,800	0	3,800	0	0	Longline	0
	C	8,200	8,200	0	8,200	0	0	Subtotal	0
	E	3,400	3,400	0	3,400	0	0	TOTAL	5,666
	Total	4,600	4,600	0	4,600	0	0	Halibut PSC	0
								DAP	4,574
								JVP	212
Atka Mackerel	W	20,000	20,000	0	20,000	0	0		
	C	-25,000							
	E	0							
	Total	0							
Rockfish	W	250	250	50	100	100	0		
	C	0	250	50	100	100	0		
	E	0	100	20	40	40	0		
	Total	0	600	120	240	240	0		
Thornyhead	W	600	600	0	600	0	0		
	C	2,100	2,100	0	2,100	0	0		
	E	2,700	2,700	0	2,700	0	0		
	Total	5,400	5,400	0	5,400	0	0		
Squid	W	3,750	3,750	750	1,500	1,500	0		
	C	5,000	5,000	1,000	2,000	2,000	0		
	E	n/a	15,218	3,044	6,087	6,087	0		
	Total	319,570	58,634	58,634	145,142	102,515	0		
Predicted halibut catch and mortality									Catch Mortality
									5,666 2,933

2,415 mt, respectively, given the numbers sent out for public review (Table 9).

The plan team, at its November meeting, established updated halibut bycatch rates (Table 10). The team also heard testimony from the IPHC that the mortality rate used in the foreign trawl fishery should be 100% rather than 50%. If those new bycatch and mortality rates are used the halibut bycatch and mortality are predicted to be 3,209 and 1,638 mt, respectively (Table 11).

Table 9. Predicted 1987 halibut bycatch and mortality using revised model.

	Bycatch	Mortality
DAP		
B. Trawl	2,993	1,496
M. Trawl	65	33
Longline	548	137
Subtotal	3,606	1,666
JVP		
B. Trawl	636	636
M. Trawl	110	110
Longline	15	4
Subtotal	761	749
Foreign		
B. Trawl	0	0
M. Trawl	0	0
Longline	0	0
Subtotal	0	0
TOTAL	4,367	2,415

Table 10.--Estimated Gulf of Alaska halibut bycatch rates by gear,  
(November 1986)

	Bottom Trawl - All Areas			Midwater Trawl - All Areas		
DAP	2.53%			0.06%		
JVP	2.53%			0.06%		
TALFF	2.53%			0.06%		
	Pacific Cod Longline			Sablefish Longline		
	Western	Central	Eastern	Western	Central	Eastern
DAP	5.23%	9.15%	9.15%	1.20%	1.20%	1.20%
JVP	5.23%	9.15%	9.15%	1.20%	1.20%	1.20%
TALFF	1.49%	4.97%	4.97%	1.20%	1.20%	1.20%

Table 11. Predicted 1987 halibut bycatch and mortality  
using revised model and revised bycatch rates.

	Bycatch	Mortality
DAP		
B. Trawl	1,993	996
M. Trawl	13	7
Longline	734	183
Subtotal	2,740	1,186
JVP		
B. Trawl	423	423
M. Trawl	22	22
Longline	23	6
Subtotal	469	451
Foreign		
B. Trawl	0	0
M. Trawl	0	0
Longline	0	0
Subtotal	0	0
TOTAL	3,209	1,638

GULF OF ALASKA PUBLIC COMMENT SUMMARY

Comments received on the halibut mortality limit.

1. International Pacific Halibut Commission - recommends that the Council begin with a 2,000 mt mortality ceiling during its December deliberations and adjust the limits up or down following a review of all available information. The IPHC is currently using 2,000 mt in calculating the available halibut harvest in the directed fishery. They believe that bycatch limits should be based on analysis of tradeoffs between value of the directed fishery and value of the groundfish fishery. Bycatch PSC limits should also be set low enough to give groundfish fishermen an incentive to decrease their bycatch rates.

IPHC also noted that a significant portion of the predicted 1986 halibut bycatch and mortality attributed to the groundfish fishery did not occur since the actual groundfish harvest was substantially below many of the quotas.

2. Alaska Factory Trawlers' Assn., Seattle - has continuously expressed their concern about the application of a bycatch limit to the domestic trawl fishery only. If it is to be applied, the abundance of halibut and the economic value of the groundfish must be considered. Upon determination of the DAP requirements, sufficient halibut bycatch amounts should be provided to allow uninterrupted groundfish operations.
3. Fishing Vessel Owners' Assn., Seattle - supports the current 2,000 mt halibut mortality limit. With the Council's adoption of unrealistic DAPs in September, the predicted halibut mortality also increased. Return of DAP to realistic levels will also reduce halibut mortality estimates so as to maintain the available halibut harvest in the directed halibut fishery.
4. Kodiak Longline Assn., Kodiak - recommends adoption of a 2,000 mt halibut mortality ceiling for 1987.
5. Alaska Longline Fishermen's Assn., Sitka - recommends continuing the 2,000 mt mortality ceiling for halibut. The trawl fleet has shown their ability to control bycatch through gear modifications, use of technology, and timing of fisheries and a 2,000 mt ceiling should not constrain expansion of domestic groundfish fisheries.
6. North Pacific Longline Assn. of Japan - halibut bycatch and mortality projections should be based on realistic estimates of DAP and JVP. Foreign halibut bycatch should count against the 2,000 mt mortality ceiling. Halibut PSC limits should be adjusted to reflect shortfalls in prior years' bycatch and increases in halibut abundance. TQs of groundfish should only be adjusted if it appears that halibut bycatch limits will be exceeded.

7. Kelliher Fish Company, Edmonds - there is no need to increase the halibut mortality ceiling to 2,933 mt. The higher mortality estimate is a result of unrealistic Pacific cod and flounder quota specifications. Permitting halibut mortality to exceed 2,000 mt would greatly effect the domestic halibut industry.
8. Arne Einmo, fisherman - does not endorse a halibut mortality ceiling of 2,900 mt. With estimated 1986 flounder harvests of 5,000 mt, compared to a quota of 14,000 mt, an increase in the halibut bycatch ceiling from 2,000 mt is unjustified. An unnecessary increase in the halibut ceiling will afford no benefit to the groundfish fishery but will directly impact the harvest in the directed halibut fishery.
9. Sitka Sound Seafoods, Sitka - supports a 2,000 mt halibut bycatch ceiling for 1987. Any increases cannot be justified from a conservation or economic veiwpoint.
10. Ice Seafoods, Inc., Seattle - supports a 2,000 mt halibut bycatch ceiling. Presumably any increase in the mortality ceiling would allow for increased joint venture and foreign fishing at the detriment of the domestic industry.