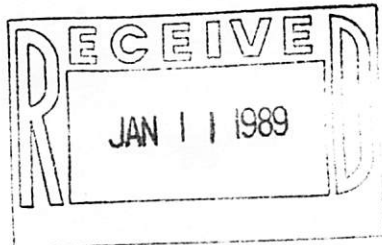


UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668



NEWS RELEASE
Steven Pennoyer
907-586-7221

ACTION	ROUTE TO	INITIAL
	Exec. January	5, 1989
	Deputy Dir.	
	For Immediate	Release
	Exec. Sec.	
	Staff Asst. 1	
	Staff Asst. 2	
	Ecologist	

CLARIFICATION OF DIRECTED FISHING RULE


The Director, Alaska Region, National Marine Fisheries Service has decided to retain the existing definitions of "directed fishing" in the Federal regulations applicable to the groundfish fisheries of the Gulf of Alaska and the Bering Sea and Aleutian Islands Area. The Regional Director has reviewed changes to these definitions recommended by the North Pacific Fishery Management Council at its June, 1988 meeting and has determined that the recommended changes would encourage overharvest and waste of high-value bycatch species of low abundance. This news release is intended to notify the public that the existing definitions will apply until further notice and will be enforced as written.

For further information, contact Dale Evans at 907-586-7230.



M E M O R A N D U M

TO: Council, SSC, and AP Members

FROM: Clarence G. Pautzke
Executive Director 

DATE: January 10, 1989

SUBJECT: Bering Sea/Aleutian Islands Groundfish FMP

ACTION REQUIRED

Approve regulatory amendment to revise sablefish directed fishing definition.

BACKGROUND

In December 1988 the Council voted to submit an emergency rule to revise the definition of directed fishing for sablefish, in recognition that reduced sablefish TAC in the Bering Sea combined with bycatch demands by other groundfish fisheries could result in sablefish harvest exceeding TAC and ABC. The previous definition allowed fishermen to retain up to 20% sablefish after the directed fishing season was closed. The emergency action reduced allowable retention to 1% for all groundfish fisheries except that sablefish retention could be up to 10% of the amount (round weight conversion) of Greenland turbot and Pacific ocean perch onboard.


An emergency rule, once approved by the Secretary of Commerce, remains in effect for 90 days with an option to continue for an additional 90 days. A formal regulatory amendment is required to restrict sablefish bycatch beyond the middle of 1989.

Concern was expressed at the December Council meeting that directed fishing definitions based upon amounts of fish retained do not adequately assure limits of harvest and fishing mortality. Moreover, NMFS apparently has strong reservations about the Council's actions in June 1988 to make "retention" the basis of revisions to the current definitions of directed fishing. Without the recommended change, directed fishing definitions will be enforced on a "tow-by-tow" basis.

At this meeting the Council should consider what percentage and catch/retention aspects should be included in a regulatory amendment to follow the emergency rule for sablefish directed fishing. The NMFS-Alaska Region is prepared to discuss these aspects with the Council.

M E M O R A N D U M

TO: Council, SSC, and AP Members

FROM: Clarence G. Pautzke 
Executive Director

DATE: January 10, 1989

SUBJECT: Bering Sea/Aleutian Islands Groundfish FMP

ACTION REQUIRED

Status report on bycatch planning for 1989 and 1990.

BACKGROUND

Implementing the Council's Bycatch Plan

In September the Council approved a detailed system for controlling the bycatch of crab and halibut in BS/AI groundfish fisheries for 1989 (and possibly 1990), which was revised in December, and requested NMFS to prepare a more comprehensive bycatch management system for 1990 and beyond. This comprehensive framework is to be based upon the recommendations of the Bycatch Committee, to address specific groundfish fisheries and their bycatch of C. bairdi, red king crab, and Pacific halibut, revised as necessary to recognize administrative and enforcement limitations.

Following the December meeting, we put in a request to the Northwest and Alaska Fisheries Center for the data sets required to complete the analysis of the Council bycatch plan. Our goal is to forward the amendment package to Secretarial review by February 10. This will allow for implementation of the bycatch regulations by early July using the entire 145-day Secretarial review period, or possibly by early June if the 30-day cooling off period is waived.

Terry Smith has been running the reconfigured plan through his model and may have some preliminary results. Also, I've asked NMFS to report their progress in implementing the measures approved for 1989 and in planning for the more comprehensive system to be presented in June. Item D-3(c)(1) is an announcement by NMFS on bycatch measures for 1989.

Monitoring and Reporting Bycatch

Successful implementation of the bycatch plan will require the monitoring and reporting of the amounts of crabs and halibut caught in the groundfish fisheries. This issue was raised at the December meeting when NMFS was asked whether they enforced the reporting of bycatches of prohibited species, especially in the absence of a comprehensive observer program. The alternatives to observers are the fish tickets and weekly catch reports required of catcher/processors.

Domestic groundfish regulations require catcher/processors to report all discards in their weekly catch/receipt and product transfer report. NMFS will report on the efficacy of that reporting requirement and will provide a copy of their latest revised form. Vessels other than catcher/processors are not now required to report discards of prohibited species. The Council may want to refer this issue to the plan teams in their analysis of the proposed groundfish amendments regarding data gathering.



**UNITED STATES DEPARTMENT OF
National Oceanic and Atmospheric A**
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

JAN - 3

December 30, 1988

ROUTE TO	INITIAL
99802-1668	y
Deputy Dir.	
Admin. Off.	
Exec. Sec.	
Asst. Dir. 1	
Asst. Dir. 2	
Asst. Dir. 3	
Asst. Dir. 4	
Asst. Dir. 5	
Sec. Typist	

Dear Joint Venture Representatives:

The 1989 fishing year for all species except pollock begins at 0001 Alaska Standard Time (0901 GMT) on January 1 and ends at 2400 Alaska Standard Time on December 31 (0900 GMT on January 1).

The directed pollock fishery begins at noon Alaska Standard Time (2100 GMT) January 15, 1989.

AREA 512

In 1989, it is probable that we will write regulations consistent with the Council's recommendations to close areas in Zone 1 to trawling. Until regulations are in place, we suggest that, to the extent feasible, you avoid the following areas:

- (1) From January 1 to March 15 and from June 15 to December 31, the area between 160 and 162 degrees W longitude, south of 58 degrees N latitude (Area 512 in Zone 1).
- (2) From March 15 to June 15, the area between 160 and 163 degrees W longitude and south of 58 degrees N latitude.

ROCK SOLE

Foreign processors in their weekly reports to NMFS should use the species code "725" for rock sole.

BYCATCH OF CRAB AND HALIBUT

Parts 675 and 611 of Title 50 of the Code of Federal Regulations (CFR) may be amended during 1989 to reflect controls on catches of red king crab, *Chionoecetes bairdi* Tanner crab, and Pacific halibut in groundfish fisheries in the Bering Sea Subarea (as defined in 50 CFR 675.2). We will monitor catches of these prohibited species in joint venture fisheries in the Bering Sea Subarea from January 1, 1989, throughout the season.

If and when the CFR is amended, fisheries may be closed if bycatches of red king crab, *C. bairdi* Tanner crab, or Pacific halibut exceed the rates or amounts specified in the revised CFR. For this reason, joint ventures should avoid red king crab, *C. bairdi* Tanner Crab, and Pacific halibut.

Sincerely yours,

James W. Brooks
James W. Brooks,





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

Northwest and Alaska Fisheries Center
Resource Ecology and Fisheries Management
7600 Sand Point Way NE
BIN C15700, Bldg. 4
Seattle, WA 98115-0070

January 12, 1989

Clarence Pautzke
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, AK 99510

Dear Clarence:

Attached is a preliminary report on the December, 1988 DAP rock sole fishery in Zone 1. The report provides the estimates of groundfish catches, prohibited species catches and prohibited species bycatch rates for the vessels which participated in the fishery.

Sincerely,

Richard Marasco

Attachment

cc: F/AKR - D. Evans



PRELIMINARY DATA FOR THE DECEMBER 1988 DAP FLATFISH FISHERY IN ZONE 1

Zone 1 was closed to flatfish fishing on March 8th, 1988 due to the bycatch limit of 80,000 Chionoecetes bairdi Tanner crab being exceeded. On December 8th, Zone 1 in the Bering Sea was reopened to domestic and joint venture vessels fishing for flatfish, with the stipulation that each vessel that operated in this fishery and that sorted catch have a NMFS-approved observer aboard. Observers collected data on five domestic vessels from five different companies that participated in this fishery. Four of the vessels were catcher/processors and one was a processing vessel that received codends from three catcher boats. Each of the vessels spent some time targeting on rock sole in Zone 1 (Area 511) and some time fishing for other species outside Zone 1 in Area 513. A vessel was considered to be operating in the yellowfin sole/other flatfish fishery if the combined estimated catch weight of yellowfin sole, rock sole, and other flatfish equalled 20 percent or more of the total catch by weight for the week in that area. There were also some observer data on the non-flatfish fishery in Area 511 and in Area 515, but these are not included in the following report because, in both instances, the data were from only one vessel. This report covers data through December 31, 1988 only, the end of the period requiring observers. The following is a preliminary report on the quantities of groundfish and prohibited species taken by these five domestic vessels operating in Areas 511 and 513, based on the observers' weekly radio messages. A more complete report will follow later in the year after the detailed data have been analyzed.

Area 511 (Zone 1) (25.6 observer days; target = Yellowfin sole/other flatfish)

Preliminary estimate of groundfish catch:

	<u>Metric tons</u>	<u>Percent of catch</u>
Yellowfin sole	73.24	13.0
Rock sole	137.21	24.3
Other flatfish	19.75	3.5
Arrowtooth flounder	9.05	1.6
Walleye pollock	162.17	28.8
Pacific cod	106.53	18.9
Sablefish	0.07	<0.1
Other fish	14.45	2.6
<u>Nonallocated species</u>	<u>41.07</u>	<u>7.3</u>
Total	563.54	100.0

Preliminary estimate of prohibited species catch:

	<u>Estimated numbers</u>	<u>Number per metric ton</u>
Red king crab	341	0.605
Blue king crab	0	0.000
Other king crab	0	0.000
Bairdi Tanner crab	8,388	14.884
Other Tanner crab	2,422	4.298
Chinook salmon	17	0.030
Other salmon	3	0.005
Pacific halibut	15,106	26.806
	<u>Estimated weight</u>	<u>Kg per metric ton</u>
Pacific halibut weight	13,649 Kg	24.220

3

Area 513 (Outside Zone 1) (29.2 observer days; target = Other species)

Preliminary estimate of groundfish catch:

	<u>Metric tons</u>	<u>Percent of catch</u>
Squid	1.53	0.1
Yellowfin sole	0.19	<0.1
Rock sole	8.51	0.5
Other flatfish	87.20	4.8
Arrowtooth flounder	208.98	11.5
Walleye pollock	912.56	50.4
Pacific cod	498.89	27.5
Sablefish	2.43	0.1
Atka mackerel	0.08	<0.1
Pacific ocean perch group	0.08	<0.1
Other rockfish	0.17	<0.1
Pacific herring	0.01	<0.1
Other fish	30.18	1.7
<u>Nonallocated species</u>	<u>61.74</u>	<u>3.4</u>
Total	1812.55	100.0

Preliminary estimate of prohibited species catch:

	<u>Estimated numbers</u>	<u>Number per metric ton</u>
Red king crab	0	0.000
Blue king crab	0	0.000
Other king crab	0	0.000
Bairdi Tanner crab	21,375	11.793
Other Tanner crab	166	0.092
Chinook salmon	33	0.018
Other salmon	0	0.000
Pacific halibut	34,213	18.876

	<u>Estimated weight</u>	<u>Kg per metric ton</u>
Pacific halibut weight	72,356 Kg	39.919

DRAFT

**A SUMMARY OF ANALYSIS OF EMERGENCY ACTION TO
CONTROL THE BYCATCH OF CRAB AND HALIBUT
IN GROUND FISH FISHERIES IN THE
BERING SEA/ALEUTIAN ISLANDS**

**Prepared by the
Staff of the
North Pacific Fishery Management Council
Anchorage, Alaska**

January 18, 1988

SUMMARY OF PROPOSED EMERGENCY ACTION

Amendment 10 to the Bering Sea/Aleutian Islands Groundfish Fishery Management Plan (FMP) provided prohibited species catch (PSC) limits to the incidental take of C. bairdi Tanner crab, red king crab, and Pacific halibut by domestic and joint venture flatfish fisheries. That amendment, and accompanying regulations, were implemented for a period of two years ending December 31, 1988. Concern about continued bycatch of crab and halibut has prompted the North Pacific Fishery Management Council to develop more comprehensive controls to replace those that sunset at the end of 1988. During more than a full year of analysis and debate the Council has considered conservation and allocative aspects of the bycatch control issue and, at its December 1988 meeting, voted to approve crab and halibut bycatch controls for bottom trawl fisheries, both domestic (DAP) and joint venture (JVP), for flatfish and other groundfish species.

The intensity of debate, and acknowledgment of the serious consequences to both the groundfish industry and the crab and halibut industries, caused the Council to delay a decision, subject to further analysis, until December 1988 which now requires the implementation of an emergency rule to provide bycatch controls for the first part of the 1989 fishing year. Without emergency action, regulatory control cannot be in effect until about mid-year through regular FMP and regulatory amendment, by which time the adverse effects of uncontrolled bycatch of crab and halibut may unduly affect those directed fisheries.

This emergency rule will close specific groundfish "target fisheries" in particular areas when prohibited species catch (PSC) limits of C. bairdi Tanner crab, red king crab, and Pacific halibut are taken by trawl gear. Overall PSC limits recommended by the Council include:

<u>C. bairdi</u> :	1,000,000 crabs in Zone 1 for Zone 1 closure 3,000,000 crabs in Zone 2 for Zone 2 closure
Red king crab:	200,000 crabs in Zone 1 for Zone 1 closure
Pacific halibut:	4,400 mt catch in BS/AI for Zones 1 and 2H closure 5,333 mt catch in BS/AI for BS/AI closure

Figure 1 outlines bycatch protection zones in relation to statistical areas. Zone 2H includes Area 515 and that portion of Area 513 south of 56° 30' N. The Crab and Halibut Protection Zone (160° to 162° W, south of 58° N), originally created under Amendment 10, will be expanded westward to 163° W for the period March 15 to June 15 in order to provide additional protection to crab during molting. The associated exemption for domestic trawling for Pacific cod will also be extended to 163° W during this period, along with existing requirements for approved data gathering programs and a 12,000 crab PSC limit for red king crab.

The aggregate PSC limits for C. bairdi had originally (September 1988) been set at 0.5% of the estimated population in the respective zones. Preliminary analysis of the constraints that these limits would place on the groundfish fleet prompted the Council to raise them to the proposed levels listed above (December 1988). These proposed PSC limits are still below 1% of the respective population estimates (176.1 and 412.8 million for Zone 1 and 2).

The aggregate PSC limit for red king crab had originally been set at 135,000, similar to the limit imposed on the flatfish fishery under Amendment 10. In consideration that the new bycatch control program will be applied to all bottom trawl fisheries, not only the flatfish fishery, but still recognizing a desire to strictly control the extent of king crab bycatch, the Council raised the limit to 200,000 animals, still below 1% of the population estimate for Zone 1 (25.9 million).

The aggregate PSC limits for halibut were derived by industry consensus between halibut and groundfish interests and are based upon presumed mortality resulting from these catch limits of 3,300 mt for Zones 1 and 2H and 4,000 mt for the entire Bering Sea/Aleutian Islands. These mortality limits were derived to provide protection

to halibut nursery areas in Zones 1 and 2H and to provide an overall cap on total bycatch mortality in the BS/AI area of approximately 4,000 mt (which along with 2,000 mt in the Gulf of Alaska equals 6,000 mt total for North Pacific groundfish fisheries, a number recommended by the International Pacific Halibut Commission).

The bycatch limits will be apportioned to the following four fisheries in proportion to their anticipated bycatch "need": U.S. processed (DAP) flatfish fisheries (including yellowfin sole, rock sole, and other flatfish), other DAP groundfish fisheries, joint venture (JVP) flatfish fisheries, and other JVP groundfish fisheries. If a flatfish fishery attains one of its bycatch apportionments, then bottom trawling for flatfish (yellowfin sole, rock sole, and other flatfish) will be closed in the appropriate area (zone). If the other fisheries attain one of their bycatch apportionments, then bottom trawling for pollock and Pacific cod will be closed in the appropriate zone.

Based upon a bycatch prediction model that accounts for fishing patterns and differential bycatch rates by gear, area, and target groundfish species, initial PSC apportionments to the groundfish fisheries will be as follows:

C. bairdi Tanner Crab (Zone 1 and Zone 2)

DAP flatfish fisheries:	Zone 1 - 127,140 animals; Zone 2 - 381,419 animals
DAP other fisheries:	Zone 1 - 590,109 animals; Zone 2 - 1,770,326 animals
JVP flatfish fisheries:	Zone 1 - 102,562 animals; Zone 2 - 307,685 animals
JVP other fisheries:	Zone 1 - 180,190 animals; Zone 2 - 540,570 animals

Red King Crab (Zone 1 only)

DAP flatfish fisheries:	56,663 animals
DAP other fisheries:	13,570 animals
JVP flatfish fisheries:	115,562 animals
JVP other fisheries:	14,205 animals

Halibut (Zones 1 and 2H; BSAI-wide)

DAP flatfish fisheries:	Zones 1 and 2H - 176 mt; BSAI-wide - 213 mt.
DAP other fisheries:	Zones 1 and 2H - 3,524 mt; BSAI-wide - 4,271 mt.
JVP flatfish fisheries:	Zones 1 and 2H - 124 mt; BSAI-wide - 151 mt.
JVP other fisheries:	Zones 1 and 2H - 576 mt; BSAI-wide - 698 mt.

The Regional Director of NMFS is expected to reapportion the respective bycatch apportionments among fisheries as necessary to achieve optimum yield from the groundfish resource.

Results of simulation and cost modelling indicate that halibut bycatch is the most constraining of the prohibited species catch limits. A simulation of the 1989 fishery suggests a closure to the joint venture other species fishery for attainment of their BSAI-wide halibut apportionment near the end of the first quarter of 1989. This closure will end joint venture bottom trawling for cod and pollock for the remainder of the year. At approximately the same time the joint venture flatfish fishery is predicted to attain its Zone 1 and 2H halibut PSC apportionment, closing Areas 511 and 2H to that fishery for the remainder of the year.

The simulation predicts attainment of the BSAI-wide halibut PSC apportionments in the joint venture flatfish and domestic other species fisheries near the end of the second quarter, closing these fisheries for the balance of 1989. The final fishery, the DAP flatfish fishery, is expected to attain its BSAI-wide halibut limit in its third quarter, thereby eliminating all remaining bottom trawling in the BSAI.

Because of the premature closure of the four target fisheries total groundfish catch foregone is predicted to be 893,000 mt. The cost of this shortfall in groundfish harvest, in terms of gross revenue, is \$401 million for the DAP fisheries and \$35 million for the JVP fisheries.

In terms of foregone profits, losses are between \$271 and \$272 million for the DAP fisheries and about \$21 million for the JVP fisheries.

Accompanying this reduction in groundfish harvest is a reduction in bycatch taken in the groundfish fisheries. Bycatch savings, relative to an unconstrained 1989 fishery, are estimated to be 739,000 C. bairdi Tanner crab, 9,800 red king crab, and 5,100 mt of halibut. This reduction of bycatch translates to a dollar savings of \$1.44 million for C. bairdi, \$145,000 for red king crab, and \$28 million for halibut, all in terms of the present wholesale value of the directed fishery harvest.

Other Scenarios

Two other bycatch management scenarios were examined. The first assumed that the emergency rule reflects the Council's preferred management alternative except that the BSAI-wide halibut PSC limit of 5,333 mt was not in place.

Under this scenario the Bering Seas is never entirely closed to bottom trawling (although Zone 1 and 2H closures do occur because of attainment of the Zone 1 and 2H halibut PSC apportionments), thus no groundfish catch is foregone and gross revenue is unchanged relative to the unconstrained case. Predicted reductions in bycatch are 9,000 C. bairdi, 2,200 red king crab, and 400 mt of halibut, all relative to the unconstrained case. Since the fleet is forced to relocate by virtue of the Zone 1 and 2H closures, overall costs are expected to increase by up to \$1.2 million. The value of the bycatch saved is \$18,000 for C. bairdi, \$33,000 for red king crab, and \$2.2 million for halibut.

The second scenario assumed that the emergency rule reflects the Council's December action, but that halibut bycatch rates in 1989 are exactly one half of those observed in the joint venture fishery in 1988. Under these assumptions groundfish catch foregone is expected to be about 352,000 mt due to closures of the Bering Sea to bottom trawling. Bycatch saved is estimated as 133,000 C. bairdi, 700 red king crab and 300 mt of halibut, all relative to the unconstrained case. The cost to the groundfish fishery is estimated at about \$100 million. The value of bycatch saved is predicted to be \$259,000 for C. bairdi, \$10,000 for red king crab and \$1.6 million for halibut.

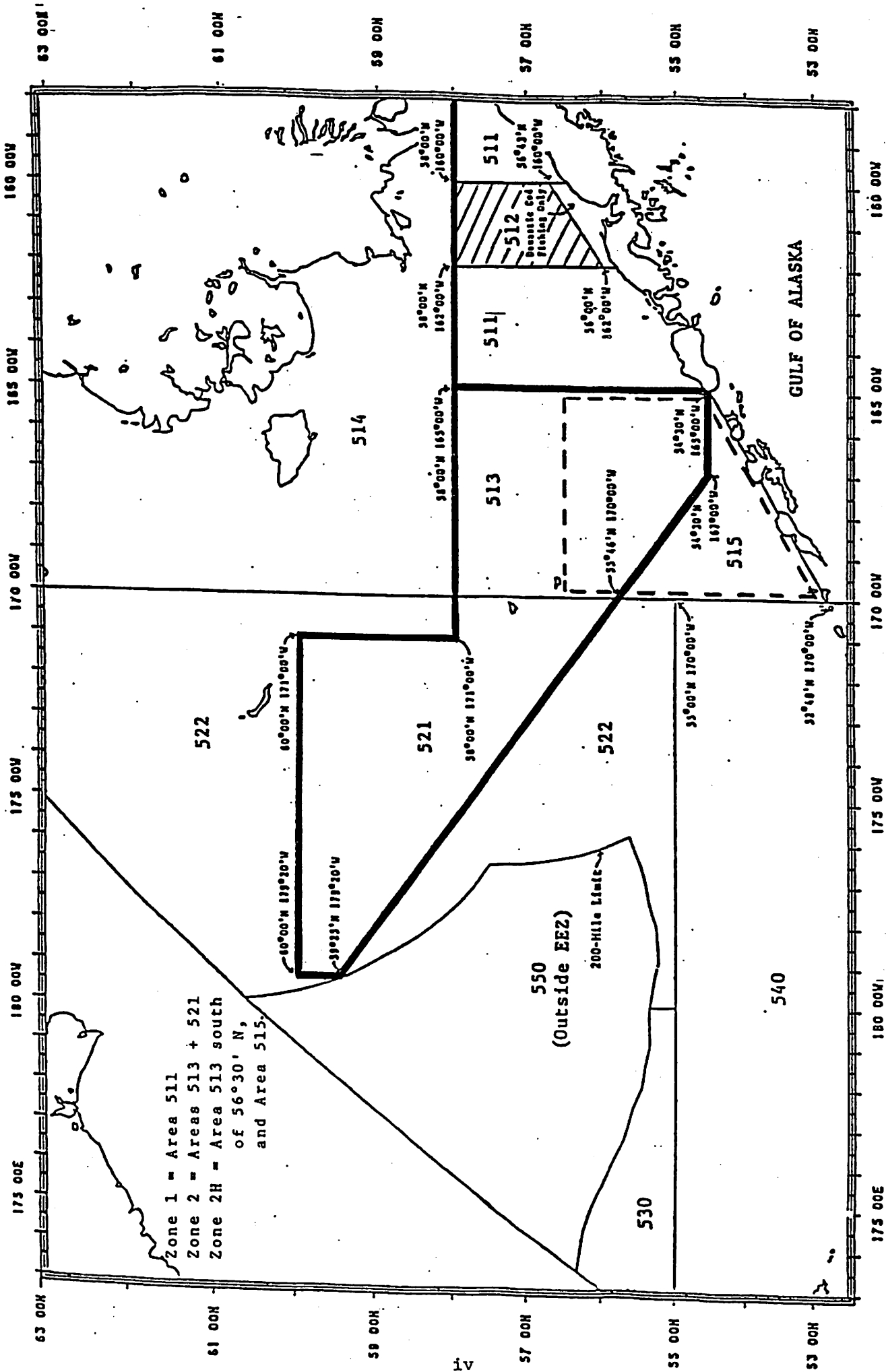


Figure 1.--Bycatch protection zones in BS/AI (Amendment 12a).

ANTICIPATED ANNUAL GROUND FISH APPORTIONMENTS

Species	Area	ABC	TAC	DAP	JVP
Pollock	BS	1,340,000	1,340,000	1,045,585	294,415
	AI	117,900	13,450	13,450	0
Pacific cod		370,600	230,681	158,613	72,068
Yellowfin sole		241,000	182,675	72,675	110,000
Greenland turbot		20,300	8,000	7,974	26
Arrowtooth flounder		163,700	6,000	6,000	0
Rock sole		171,000	90,762	81,157	9,605
Other flatfish		155,900	75,183	35,183	40,000
Sablefish	BS	2,800	2,800	2,800	0
	AI	3,400	3,400	3,400	0
Pacific ocean perch	BS	6,000	5,000	5,000	0
	AI	16,600	6,000	6,000	0
Other rockfish	BS	400	400	400	0
	AI	1,100	1,100	1,100	0
Atka mackerel		21,000	20,285	20,285	0
Squid		10,000	1,000	1,000	0
Other species		59,000	13,264	13,264	0
BS/AI TOTAL		2,700,700	2,000,000	1,473,886	526,114

ASSUMPTIONS CONCERNING SPECIES CATCH, BY QUARTER 1/

Species	Area	DAP				JVP			
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Pollock	BS	26%	21%	23%	30%	50%	4%	46%	0%
	AI	0%	40%	40%	20%	83%	4%	13%	0%
Pacific cod		12%	22%	28%	38%	50%	20%	30%	0%
Yellowfin sole		0%	33%	33%	33%	50%	25%	25%	0%
Greenland turbot		0%	43%	43%	14%	33%	33%	33%	0%
Arrowtooth flounder		25%	25%	25%	25%	33%	33%	33%	0%
Rock sole		80%	5%	5%	10%	50%	25%	25%	0%
Other flatfish		0%	33%	33%	33%	50%	25%	25%	0%
Sablefish	BS	25%	25%	25%	25%	33%	33%	33%	0%
	AI	0%	42%	42%	16%	33%	33%	33%	0%
Pacific ocean perch	BS	0%	40%	40%	20%	33%	33%	33%	0%
	AI	0%	42%	42%	16%	33%	33%	33%	0%
Other rockfish	BS	0%	40%	40%	20%	25%	25%	25%	25%
	AI	0%	42%	42%	16%	25%	25%	25%	25%
Atka mackerel		0%	40%	40%	20%	0%	69%	31%	0%

1/ Estimates of catch by quarter and fishery provided by L. Alverson, M. Stevens, and P. Chitwood, Oct. 21, 1988.

Table 2.18. Bycatch rates used for predicting bycatch in the Bering Sea flatfish and other fisheries.

BYCATCH RATE SUMMARY, BYCATCH PREDICTION MODEL

JANUARY-MARCH, 1989

APRIL-JUNE, 1989

	SPECIES								SPECIES							
	C. bairdi		Other Tanner		Red King crab		Halibut		C. bairdi		Other Tanner		Red King crab		Halibut	
	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(mt/mt)	(mt/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(mt/mt)	(mt/mt)
FLATFISH	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP
Zone 1- 511	0.92	0.92	0.16	0.16	0.514	0.514	0.0013	0.0013	2.00	2.00	0.48	0.48	1.000	1.000	0.0014	0.0014
513A	0.99	0.99	2.68	2.68	0.003	0.003	0.0020	0.0020	1.92	1.92	7.55	7.55	0.027	0.027	0.0067	0.0067
513B	0.99	0.99	2.68	2.68	0.003	0.003	0.0020	0.0020	1.92	1.92	7.55	7.55	0.027	0.027	0.0067	0.0067
515	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000	0.00	0.00	0.00	0.00	0.006	0.006	0.0002	0.0002
521	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000	9.00	9.00	3.02	3.02	0.204	0.204	0.0173	0.0173
All other BS	0.28	0.28	0.24	0.24	0.000	0.000	0.0028	0.0028	0.11	0.11	2.30	2.30	0.119	0.119	0.0011	0.0011
AI - 540	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000
OTHER																
Zone 1- 511	1.21	1.29	0.26	0.31	0.4330	0.2200	0.0063	0.0081	3.81	2.68	0.36	0.33	0.184	0.200	0.0063	0.0071
513A	1.54	0.99	0.95	0.53	0.0007	0.0009	0.0056	0.0107	2.82	2.18	5.37	3.25	0.015	0.008	0.0146	0.0102
513B	1.54	0.99	0.95	0.53	0.0007	0.0009	0.0056	0.0107	2.82	2.18	5.37	3.25	0.015	0.008	0.0146	0.0102
515	0.12	0.43	0.01	0.04	0.0010	0.0035	0.0298	0.0112	0.01	0.07	0.00	0.00	0.000	0.000	0.0353	0.0258
521	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	7.06	5.68	0.79	1.37	0.047	0.080	0.0113	0.0193
All other BS	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000
AI - 540	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.00	0.000	0.000	0.0001	0.0001

JULY-SEPTEMBER, 1989

OCTOBER-DECEMBER, 1989

	SPECIES								SPECIES							
	C. bairdi		Other Tanner		Red King crab		Halibut		C. bairdi		Other Tanner		Red King crab		Halibut	
	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(mt/mt)	(mt/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(animals/mt)	(mt/mt)	(mt/mt)
FLATFISH	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP
Zone 1- 511	2.00	2.00	0.48	0.48	1.000	1.000	0.0025	0.0025	2.00	2.00	0.48	0.48	1.000	1.000	0.0025	0.0025
513A	1.64	1.64	2.83	2.83	0.253	0.253	0.0031	0.0031	1.52	1.52	4.63	4.63	0.067	0.067	0.0054	0.0054
513B	1.64	1.64	2.83	2.83	0.253	0.253	0.0031	0.0031	1.52	1.52	4.63	4.63	0.067	0.067	0.0054	0.0054
515	0.00	0.00	0.00	0.00	0.006	0.006	0.0002	0.0002	0.00	0.00	0.00	0.00	0.006	0.006	0.0002	0.0002
521	6.32	6.32	1.15	1.15	0.098	0.098	0.0195	0.0195	6.32	6.32	1.15	1.15	0.098	0.098	0.0195	0.0195
All other BS	2.01	2.01	109.20	109.20	0.045	0.045	0.0031	0.0031	1.89	1.89	5.50	5.50	0.075	0.075	0.0063	0.0063
AI - 540	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000
OTHER																
Area																
Zone 1- 511	2.23	2.36	0.13	0.10	0.044	0.020	0.0042	0.0037	2.23	2.36	0.13	0.10	0.044	0.020	0.0042	0.0037
513A	0.73	0.50	5.35	6.05	0.009	0.010	0.0135	0.0017	1.65	2.32	29.71	16.93	0.000	0.000	0.0029	0.0069
513B	0.73	0.50	5.35	6.05	0.009	0.010	0.0135	0.0017	1.65	2.32	29.71	16.93	0.000	0.000	0.0029	0.0069
515	0.02	0.00	0.00	0.00	0.000	0.000	0.0017	0.0000	0.00	0.00	0.00	0.00	0.000	0.000	0.0030	0.0123
521	1.98	1.70	0.98	0.83	0.014	0.000	0.0056	0.0024	2.50	3.15	2.86	2.52	0.014	0.060	0.0096	0.0180
All other BS	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000	0.00	0.00	0.00	0.00	0.000	0.000	0.0000	0.0000
AI - 540	0.00	0.00	0.00	0.00	0.000	0.000	0.0009	0.0009	0.00	0.00	0.00	0.00	0.000	0.000	0.0009	0.0009

Table 2.19. Predicted groundfish catch and prohibited species catch for 1989 assuming that no PSC limits are in place, by period and fishery.

BYCATCH SUMMARY

Cumulative catch	JANUARY-MARCH, 1989				APRIL-JUNE, 1989			
	FISHERY		FISHERY		FISHERY		FISHERY	
	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP
	Flatfish	Other	Flatfish	Other	Flatfish	Other	Flatfish	Other
Total groundfish, mt	74,366	100,584	97,130	77,598	75,492	342,198	141,726	99,102
"Target" catch, mt	55,577	91,235	72,590	70,386	56,497	293,763	109,013	88,411
Percent of annual catch	50%	10%	52%	31%	50%	35%	76%	39%
C. bairdi bycatch, Zone 1	34,385	0	89,821	25,025	36,411	27,612	89,821	44,200
C. bairdi bycatch, Zone 2	36,713	139,260	0	57,616	36,713	718,127	0	73,243
C. bairdi bycatch, all areas	71,097	140,514	89,821	82,642	73,136	747,359	94,549	117,945
Red king crab bycatch, Zone 1	19,102	0	49,900	4,268	20,116	1,330	49,900	5,702
Red king crab bycatch, all areas	19,221	72	49,900	4,320	20,248	4,442	55,229	5,814
Halibut bycatch, mt, BSAI	122	806	126	780	123	4,863	174	1,089

Cumulative catch	JULY-SEPTEMBER, 1989				OCTOBER-DECEMBER, 1989			
	FISHERY		FISHERY		FISHERY		FISHERY	
	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP
	Flatfish	Other	Flatfish	Other	Flatfish	Other	Flatfish	Other
Total groundfish, mt	108,952	623,445	186,323	251,466	149,635	975,275	186,323	251,466
"Target" catch, mt	79,538	558,044	139,723	231,584	108,759	895,040	139,723	231,584
Percent of annual catch	73%	64%	100%	100%	100%	100%	100%	100%
C. bairdi bycatch, Zone 1	36,411	27,612	89,821	116,116	36,411	27,612	89,821	116,116
C. bairdi bycatch, Zone 2	64,089	906,184	0	207,323	64,089	906,184	0	207,323
C. bairdi bycatch, all areas	134,213	936,054	184,383	323,941	228,569	1,060,884	184,383	323,941
Red king crab bycatch, Zone 1	20,116	1,330	49,900	6,311	20,116	1,330	49,900	6,311
Red king crab bycatch, all areas	25,235	6,719	57,219	7,033	28,056	6,719	57,219	7,033
Halibut bycatch, mt, BSAI	228	8,364	313	1,452	444	8,889	313	1,452

Table 2.20 PSC limits (caps) as suggested by the Council and apportionment of those caps to the four fisheries in proportion to predicted annual bycatch.

Caps and Allocation of Caps

Overall PSC Limits

Species	Zone		
	1	2 or 1 & 2H	BSAI-wide
C. bairdi, #	1,000,000	3,000,000	-
Red king crab, #	200,000	-	-
Halibut, mt	-	4,400	5,333

Fishery PSC Limits

	Species	Zone		BSAI-wide
		1	2	
DAP-flatfish	C. bairdi (animals)	127,140	381,419	-
DAP-other		590,109	1,770,326	-
JVP-flatfish		102,562	307,685	-
JVP-other		180,190	540,570	-
		1,000,000	3,000,000	

DAP-flatfish	Red king crab (animals)	56,663	-	-
DAP-other		13,570	-	-
JVP-flatfish		115,562	-	-
JVP-other		14,205	-	-
		200,000		

	Species	Zone		BSAI-wide
		1	1 & 2H	
DAP-flatfish	Halibut (metric tons)	-	176	213
DAP-other		-	3,524	4,271
JVP-flatfish		-	124	151
JVP-other		-	576	698
			4,400	5,333

	PSC Limit Share, by Fishery		
	C. bairdi	Red king crab	Halibut
DAP flatfish	12.71%	28.33%	4.00%
DAP other	59.01%	6.79%	80.09%
JVP flatfish	10.26%	57.78%	2.82%
JVP other	18.02%	7.10%	13.08%
	100.00%	100.00%	100.00%

Table 2.21. Predicted groundfish catch and prohibited species catch for 1989 assuming that the Council approved PSC limits are in place, by period and fishery.

Cumulative catch	JANUARY-MARCH, 1989				APRIL-JUNE, 1989			
	FISHERY		FISHERY		FISHERY		FISHERY	
	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP
	Flatfish	Other	Flatfish	Other	Flatfish	Other	Flatfish	Other
Total groundfish, mt	74,366	100,584	97,130	77,598	75,492	342,198	141,726	77,598
"Target" catch, mt	55,577	91,235	72,590	70,386	56,497	293,763	109,013	70,386
Percent of annual catch	50%	10%	52%	31%	50%	35%	76%	31%
C. bairdi cap, Zone 1	127,140	590,109	102,562	180,190	127,140	590,109	102,562	180,190
C. bairdi bycatch, Zone 1	34,385	0	89,821	25,025	36,411	27,612	89,821	25,025
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi cap, Zone 2	381,419	1,770,326	307,685	540,570	381,419	1,770,326	307,685	540,570
C. bairdi bycatch, Zone 2	36,713	139,260	0	57,616	36,713	718,127	0	57,616
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi bycatch, all areas	71,097	140,514	89,821	82,642	73,136	747,359	94,549	82,642
Red king crab cap, Zone 1	56,663	13,570	115,562	14,205	56,663	13,570	115,562	14,205
Red king crab bycatch, Zone 1	19,102	0	49,900	4,268	20,116	1,330	49,900	4,268
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
Red king crab bycatch, all areas	19,221	72	49,900	4,320	20,248	4,442	55,229	4,320
Halibut Zone 1 & 2H cap, mt	176	3,524	124	576	176	3,524	124	576
Halibut BSAI-wide cap, mt	213	4,271	151	698	213	4,271	151	698
Halibut bycatch, mt, BSAI	122	806	126	780	124	4,863	174	780
Zone 1 & 2H cap attained?	Nb	Nb	Yes	Yes	Nb	Yes	Yes	Yes
BSAI-wide cap attained?	Nb	Nb	Nb	Yes	Nb	Yes	Yes	Yes

Cumulative catch	JULY-SEPTEMBER, 1989				OCTOBER-DECEMBER, 1989			
	FISHERY		FISHERY		FISHERY		FISHERY	
	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP
	Flatfish	Other	Flatfish	Other	Flatfish	Other	Flatfish	Other
Total groundfish, mt	108,952	342,198	141,726	77,598	108,952	342,198	141,726	77,598
"Target" catch, mt	79,538	293,763	109,013	70,386	79,538	293,763	109,013	70,386
Percent of annual catch	73%	35%	76%	31%	73%	35%	76%	31%
C. bairdi cap, Zone 1	127,140	590,109	102,562	180,190	127,140	590,109	102,562	180,190
C. bairdi bycatch, Zone 1	36,411	27,612	89,821	25,025	36,411	27,612	89,821	25,025
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi cap, Zone 2	381,419	1,770,326	307,685	540,570	381,419	1,770,326	307,685	540,570
C. bairdi bycatch, Zone 2	64,089	718,127	0	57,616	64,089	718,127	0	57,616
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi bycatch, all areas	134,213	747,359	94,549	82,642	134,213	747,359	94,549	82,642
Red king crab cap, Zone 1	56,663	13,570	115,562	14,205	56,663	13,570	115,562	14,205
Red king crab bycatch, Zone 1	20,116	1,330	49,900	4,268	20,116	1,330	49,900	4,268
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
Red king crab bycatch, all areas	25,235	4,442	55,229	4,320	25,235	4,442	55,229	4,320
Halibut Zone 1 & 2H cap, mt	176	3,524	124	576	176	3,524	124	576
Halibut BSAI-wide cap, mt	213	4,271	151	698	213	4,271	151	698
Halibut bycatch, mt, BSAI	229	4,863	174	780	229	4,863	174	780
Zone 1 & 2H cap attained?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BSAI-wide cap attained?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 2.21b. Predicted groundfish catch and prohibited species catch for 1989 assuming that the Council approved PSC limits are in place, by period and fishery.

All halibut bycatch rates halved

Cumulative catch	JANUARY-MARCH, 1989				APRIL-JUNE, 1989			
	FISHERY		FISHERY		FISHERY		FISHERY	
	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP
	Flatfish	Other	Flatfish	Other	Flatfish	Other	Flatfish	Other
Total groundfish, mt	74,366	100,584	97,130	77,598	75,492	342,198	141,726	99,102
"Target" catch, mt	55,577	91,235	72,590	70,386	56,497	293,763	109,013	88,411
Percent of annual catch	50%	10%	52%	31%	50%	35%	76%	39%
C. bairdi cap, Zone 1	127,140	590,109	102,562	180,190	127,140	590,109	102,562	102,562
C. bairdi bycatch, Zone 1	34,385	0	89,821	25,025	36,411	27,612	89,821	44,200
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi cap, Zone 2	381,419	1,770,326	307,685	540,570	381,419	1,770,326	307,685	540,570
C. bairdi bycatch, Zone 2	36,713	139,260	0	57,616	36,713	718,127	0	73,243
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi bycatch, all areas	71,097	140,514	89,821	82,642	73,136	747,359	94,549	117,945
Red king crab cap, Zone 1	56,663	13,570	115,562	14,205	56,663	13,570	115,562	14,205
Red king crab bycatch, Zone 1	19,102	0	49,900	4,268	20,116	1,330	49,900	5,702
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
Red king crab bycatch, all areas	19,221	72	49,900	4,320	20,248	4,442	55,229	5,814
Halibut Zone 1 & 2H cap, mt	174	3,484	172	569	174	3,484	172	569
Halibut BSAI-wide cap, mt	211	4,223	209	690	211	4,223	209	690
Halibut bycatch, mt, BSAI	61	403	126	390	63	2,431	150	545
Zone 1 & 2H cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Qtr end
BSAI-wide cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb

Cumulative catch	JULY-SEPTEMBER, 1989				OCTOBER-DECEMBER, 1989			
	FISHERY		FISHERY		FISHERY		FISHERY	
	DAP	JVP	DAP	JVP	DAP	JVP	DAP	JVP
	Flatfish	Other	Flatfish	Other	Flatfish	Other	Flatfish	Other
Total groundfish, mt	108,952	623,445	186,323	251,466	149,635	623,445	186,323	251,466
"Target" catch, mt	79,538	558,044	139,723	231,584	108,759	558,044	139,723	231,584
Percent of annual catch	73%	64%	100%	100%	100%	64%	100%	100%
C. bairdi cap, Zone 1	127,140	590,109	102,562	180,190	127,140	590,109	102,562	180,190
C. bairdi bycatch, Zone 1	36,411	27,612	89,821	44,200	36,411	27,612	89,821	44,200
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi cap, Zone 2	381,419	1,770,326	307,685	540,570	381,419	1,770,326	307,685	540,570
C. bairdi bycatch, Zone 2	64,089	906,184	0	271,316	64,089	906,184	0	271,316
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi bycatch, all areas	134,213	936,054	184,383	316,018	228,569	936,054	184,383	316,018
Red king crab cap, Zone 1	56,663	13,570	115,562	14,205	56,663	13,570	115,562	14,205
Red king crab bycatch, Zone 1	20,116	1,330	49,900	5,702	20,116	1,330	49,900	5,702
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
Red king crab bycatch, all areas	25,235	6,719	57,219	6,322	28,056	6,719	57,219	6,322
Halibut Zone 1 & 2H cap, mt	174	3,484	172	569	174	3,484	172	569
Halibut BSAI-wide cap, mt	211	4,223	209	690	211	4,223	209	690
Halibut bycatch, mt, BSAI	116	4,182	220	710	224	4,182	220	710
Zone 1 & 2H cap attained?	Nb	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BSAI-wide cap attained?	Nb	Qtr end	Yes	Yes	Yes	Qtr end	Yes	Yes

Table 2.25. Summary of simulation results: predicted total groundfish catch and predicted total prohibited species catch; predicted change in total groundfish catch and prohibited species catch, relative to unconstrained simulation; and, predicted change in total groundfish gross revenue and profit and prohibited species catch wholesale value, relative to unconstrained simulation.

	<i>Total groundfish</i>		<i>Total bycatch</i>		
	<i>catch 1/</i> (mt)	<i>gross revenue 2/</i> (\$millions)	<i>C. bairdi</i> (animals)	<i>Red king crab</i> (animals)	<i>Halibut</i> (mt)
Unconstrained	1,562,700	741	1,798,000	99,000	11,100
Council PSC limits	670,000	304	1,059,000	89,200	6,000

1 / Excludes mid-water pollock, Atka mackerel, and groundfish taken with fixed gear.

2 / DAP groundfish valued at \$1.00/lb, wholesale, processed weight, using an overall conversion factor of 27% (Wiese and Burden, 1988).

JVP groundfish valued at \$162/mt, ex-vessel, round weight (Wiese and Burden, 1988).

Catch - Relative Change

	<i>Groundfish catch</i> (mt)	<i>C. bairdi</i> (animals)	<i>Bycatch saved</i> <i>Red king crab</i> (animals)	<i>Halibut</i> (mt)
Council PSC limits	(892,700)	739,000	9,800	5,100

Value - Relative Change

	<i>Groundfish value lost, millions of dollars</i>				<i>Bycatch value saved, thousands of dollars</i>		
	<i>DAP</i>		<i>JVP</i>		<i>C. bairdi</i>	<i>Red king crab</i>	<i>Halibut</i>
	<i>Gross revenue</i>	<i>Profits</i>	<i>Gross revenue</i>	<i>Profits</i>			
Council PSC limits	\$401	\$270.7-\$271.9	\$35	\$21.1-\$21.4	\$1,441	\$145	\$27,892

Notes: Change in profits is change in revenue minus change in cost (costs are shown in Table 2.23).

Values for halibut and crab are wholesale present values; unit values are from Table 2.24b.

Table 2.25a. Summary of simulation results: predicted total groundfish catch and predicted total prohibited species catch; predicted change in total groundfish catch and prohibited species catch, relative to unconstrained simulation; and, predicted change in total groundfish gross revenue and profit and prohibited species catch wholesale value, relative to unconstrained simulation.

	<i>Total groundfish</i>		<i>Total bycatch</i>		
	<i>catch 1/</i> (mt)	<i>gross revenue 2/</i> (\$millions)	<i>C. bairdi</i> (animals)	<i>Red king crab</i> (animals)	<i>Halibut</i> (mt)
Unconstrained	1,562,700	741	1,798,000	99,000	11,100
Council PSC limits	670,000	304	1,059,000	89,200	6,000
Council limits, no BSAI-wide halibut cap	1,562,700	741	1,789,000	96,800	10,700
Unconstrained, halibut bycatch rates halved	1,562,700	741	1,798,000	99,000	5,600
Halibut bycatch rates halved	1,211,000	531	1,665,000	98,300	5,300

1 / Excludes mid-water pollock, Atka mackerel, and groundfish taken with fixed gear.

2 / DAP groundfish valued at \$1.00/lb, wholesale, processed weight, using an overall conversion factor of 27% (Wiese and Burden, 1988).

JVP groundfish valued at \$162/mt, ex-vessel, round weight (Wiese and Burden, 1988).

Catch - Relative Change

	<i>Groundfish catch</i> (mt)	<i>C. bairdi</i> (animals)	<i>Bycatch saved</i>	
			<i>Red king crab</i> (animals)	<i>Halibut</i> (mt)
Council PSC limits	(892,700)	739,000	9,800	5,100
Council PSC limits, no BSAI-wide halibut cap	-	9,000	2,200	400
Halibut bycatch rates halved	(351,700)	133,000	700	300

Value - Relative Change

	<i>Groundfish value lost, millions of dollars</i>				<i>Bycatch value saved, thousands of dollars</i>		
	<i>DAP</i>		<i>JVP</i>		<i>C. bairdi</i>	<i>Red king crab</i>	<i>Halibut</i>
	<i>Gross revenue</i>	<i>Profits</i>	<i>Gross revenue</i>	<i>Profits</i>			
Council PSC limits	\$401	\$270.7-\$271.9	\$35	\$21.1-\$21.4	\$1,441	\$145	\$27,892
Council PSC limits, no BSAI-wide halibut cap	\$0	\$0.2-\$1.2	\$0	(\$0-\$0.6)	\$18	\$33	\$2,188
Halibut bycatch rates halved	\$209	\$94-\$115	\$0	(\$0-\$0.3)	\$259	\$10	\$1,641

Notes: Change in profits is change in revenue minus change in cost (costs are shown in Table 2.23).

Values for halibut and crab are wholesale present values; unit values are from Table 2.24b.

DRAFT

ADDENDUM TO

**A SUMMARY OF ANALYSIS OF EMERGENCY ACTION TO
CONTROL THE BYCATCH OF CRAB AND HALIBUT
IN GROUND FISH FISHERIES IN THE
BERING SEA/ALEUTIAN ISLANDS**

**Prepared by the
Staff of the
North Pacific Fishery Management Council**

Anchorage, Alaska

January 19, 1988

Table 2.20c PSC limits (caps) as suggested by the Council and apportionment of those caps to the four fisheries in proportion to predicted annual bycatch.

DAP pollock taken 30% by bottom trawl, 70% by midwater trawl

Caps and Allocation of Caps

Overall PSC Limits	Species	Zone		
		1	2 or 1 & 2H	BSAI-wide
	C. bairdi, #	1,000,000	3,000,000	-
	Red king crab, #	200,000	-	-
	Halibut, mt	-	4,400	5,333

Fishery PSC Limits	Species	Zone		
		1	2	BSAI-wide
DAP-flatfish	C. bairdi (animals)	225,497	676,492	-
DAP-other		417,915	1,253,746	-
JVP-flatfish		129,344	388,032	-
JVP-other		227,243	681,730	-
		1,000,000	3,000,000	

DAP-flatfish	Red king crab (animals)	85,940	-	-
DAP-other		5,814	-	-
JVP-flatfish		96,396	-	-
JVP-other		11,849	-	-
		200,000		

Fishery PSC Limits	Species	1 & 2H		BSAI-wide
DAP-flatfish	Halibut (metric tons)	-	363	440
DAP-other		-	2,936	3,559
JVP-flatfish		-	196	237
JVP-other		-	905	1,097
			4,400	5,333

Fishery PSC Limits	PSC Limit Share, by Fishery		
	C. bairdi	Red king crab	Halibut
DAP flatfish	22.55%	42.97%	8.24%
DAP other	41.79%	2.91%	66.74%
JVP flatfish	12.93%	48.20%	4.44%
JVP other	22.72%	5.92%	20.58%
	100.00%	100.00%	100.00%

Table 2.21c. Predicted groundfish catch and prohibited species catch for 1989 assuming that the Council approved PSC limits are in place, by period and fishery.

DAP pollock taken 30% by bottom trawl, 70% by midwater trawl								
JANUARY-MARCH, 1989					APRIL-JUNE, 1989			
Cumulative catch	FISHERY				FISHERY			
	DAP		JVP		DAP		JVP	
	Flatfish	Other	Flatfish	Other	Flatfish	Other	Flatfish	Other
Total groundfish, mt	75,524	91,270	97,130	77,598	98,344	223,361	141,726	99,102
"Target" catch, mt	56,443	82,787	72,590	70,386	75,081	193,509	109,013	88,411
Percent of annual catch	38%	18%	52%	31%	50%	45%	76%	39%
C. bairdi cap, Zone 1	225,497	417,915	129,344	227,243	225,497	417,915	129,344	129,344
C. bairdi bycatch, Zone 1	34,920	0	89,821	25,025	75,984	15,096	89,821	44,200
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi cap, Zone 2	676,492	1,253,746	388,032	681,730	676,492	1,253,746	388,032	681,730
C. bairdi bycatch, Zone 2	37,285	126,365	0	57,616	37,285	442,833	0	73,243
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi bycatch, all areas	72,205	127,503	89,821	82,642	113,512	459,266	94,549	117,945
Red king crab cap, Zone 1	85,940	5,814	96,396	11,849	85,940	5,814	96,396	11,849
Red king crab bycatch, Zone 1	19,400	0	49,900	4,268	39,932	727	49,900	5,702
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
Red king crab bycatch, all areas	19,520	66	49,900	4,320	40,326	2,455	55,229	5,814
Halibut Zone 1 & 2H cap, mt	363	2,936	196	905	363	2,936	196	905
Halibut BSAI-wide cap, mt	440	3,559	237	1,097	440	3,559	237	1,097
Halibut bycatch, mt, BSAI	124	731	126	780	177	2,949	174	1,089
Zone 1 & 2H cap attained?	Nb	Nb	Nb	Nb	Nb	Yes	Nb	Yes
BSAI-wide cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Qtr end

JULY-SEPTEMBER, 1989					OCTOBER-DECEMBER, 1989			
Cumulative catch	FISHERY				FISHERY			
	DAP		JVP		DAP		JVP	
	Flatfish	Other	Flatfish	Other	Flatfish	Other	Flatfish	Other
Total groundfish, mt	145,658	346,464	186,323	99,102	198,077	346,464	186,323	99,102
"Target" catch, mt	107,662	309,186	139,723	88,411	145,312	309,186	139,723	88,411
Percent of annual catch	74%	70%	100%	39%	100%	70%	100%	39%
C. bairdi cap, Zone 1	225,497	417,915	129,344	227,243	225,497	417,915	129,344	227,243
C. bairdi bycatch, Zone 1	75,984	15,096	89,821	44,200	75,984	15,096	89,821	44,200
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi cap, Zone 2	676,492	1,253,746	388,032	681,730	676,492	1,253,746	388,032	681,730
C. bairdi bycatch, Zone 2	75,996	519,049	0	73,243	75,996	519,049	0	73,243
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
C. bairdi bycatch, all areas	199,876	536,441	184,383	117,945	321,452	536,441	184,383	117,945
Red king crab cap, Zone 1	85,940	5,814	96,396	11,849	85,940	5,814	96,396	11,849
Red king crab bycatch, Zone 1	39,932	727	49,900	5,702	39,932	727	49,900	5,702
Cap attained?	Nb	Nb	Nb	Nb	Nb	Nb	Nb	Nb
Red king crab bycatch, all areas	47,379	3,378	57,219	5,814	51,013	3,378	57,219	5,814
Halibut Zone 1 & 2H cap, mt	363	2,936	196	905	363	2,936	196	905
Halibut BSAI-wide cap, mt	440	3,559	237	1,097	440	3,559	237	1,097
Halibut bycatch, mt, BSAI	326	4,371	313	1,089	604	4,371	313	1,089
Zone 1 & 2H cap attained?	Nb	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BSAI-wide cap attained?	Nb	Yes	Yes	Qtr end	Yes	Yes	Yes	Qtr end

Table 2.20d PSC limits (caps) as suggested by the Council and apportionment of those caps to the four fisheries in proportion to predicted annual bycatch.

DAP pollock taken 30% by bottom trawl, halibut bycatch rates halved

Caps and Allocation of Caps

Overall PSC Limits

Species	Zone		
	1	2 or 1 & 2H	BSAI-wide
C. bairdi, #	1,000,000	3,000,000	-
Red king crab, #	200,000	-	-
Halibut, mt	-	4,400	5,333

Fishery PSC Limits

	Species	Zone		BSAI-wide
		1	2	
DAP-flatfish	C. bairdi (animals)	225,497	676,492	-
DAP-other		417,915	1,253,746	-
JVP-flatfish		129,344	388,032	-
JVP-other		227,243	681,730	-
		1,000,000	3,000,000	

DAP-flatfish	Red king crab (animals)	85,940	-	-
DAP-other		5,814	-	-
JVP-flatfish		96,396	-	-
JVP-other		11,849	-	-
		200,000		

		1 & 2H	BSAI-wide
DAP-flatfish	Halibut (metric tons)	356	432
DAP-other		2,885	3,496
JVP-flatfish		269	327
JVP-other		890	1,078
		4,400	5,333

PSC Limit Share, by Fishery

	C. bairdi	Red king crab	Halibut
DAP flatfish	22.55%	42.97%	8.10%
DAP other	41.79%	2.91%	65.56%
JVP flatfish	12.93%	48.20%	6.12%
JVP other	22.72%	5.92%	20.22%
	100.00%	100.00%	100.00%

Table 2.25 (rev). Summary of simulation results: predicted total groundfish catch and predicted total prohibited species catch; predicted change in total groundfish catch and prohibited species catch, relative to unconstrained simulation; and, predicted change in total groundfish gross revenue and profit and prohibited species catch wholesale value, relative to unconstrained simulation.

	<i>Total groundfish</i>		<i>Total bycatch</i>		
	<i>catch 1/</i> (mt)	<i>gross revenue 2/</i> (\$millions)	<i>C. bairdi</i> (animals)	<i>Red king crab</i> (animals)	<i>Halibut</i> (mt)
Unconstrained	1,562,700	741	1,798,000	99,000	11,100
Council PSC limits	670,500	304	1,059,000	89,200	6,000
Council limits, no BSAI-wide halibut cap	1,562,700	741	1,789,000	96,800	10,700
Unconstrained, halibut bycatch rates halved	1,562,700	741	1,798,000	99,000	5,600
Halibut bycatch rates halved	1,210,900	531	1,665,000	98,300	5,300
Unconstrained, DAP pollock bottom trawl share at 30%	1,134,200	486	1,426,000	118,700	7,100
DAP pollock bottom trawl share at 30%	829,966	370	1,160,000	117,400	6,400
DAP pollock bottom trawl share at 30%, halibut rates halved	1,134,200	486	1,426,000	118,700	3,600

1 / Excludes mid-water pollock, Atka mackerel, and groundfish taken with fixed gear.

2 / DAP groundfish valued at \$1.00/lb, wholesale, processed weight, using an overall conversion factor of 27% (Wiese and Burden, 1988).

JVP groundfish valued at \$162/mt, ex-vessel, round weight (Wiese and Burden, 1988).

Catch - Relative Change

	<i>Groundfish catch</i> (mt)	<i>C. bairdi</i> (animals)	<i>Bycatch saved</i>	
			<i>Red king crab</i> (animals)	<i>Halibut</i> (mt)
Council PSC limits	(892,200)	739,000	9,800	5,100
Council PSC limits, no BSAI-wide halibut cap	-	9,000	2,200	400
Halibut bycatch rates halved	(351,800)	133,000	700	300
DAP pollock bottom trawl share at 30%	(304,234)	266,000	1,300	700
DAP pollock bottom trawl share at 30%, halibut rates halved	-	0	0	0

Value - Relative Change

	<i>Groundfish value lost, millions of dollars</i>				<i>Bycatch value saved, thousands of dollars</i>		
	<i>DAP</i>		<i>JVP</i>		<i>C. bairdi</i>	<i>Red king crab</i>	<i>Halibut</i>
	<i>Gross revenue</i>	<i>Profits</i>	<i>Gross revenue</i>	<i>Profits</i>			
Council PSC limits	\$401	\$270.7-\$271.9	\$35	\$21.1-\$21.4	\$1,441	\$145	\$27,892
Council PSC limits, no BSAI-wide halibut cap	\$0	\$0.2-\$1.2	\$0	(\$0-\$0.6)	\$18	\$33	\$2,188
Halibut bycatch rates halved	\$209	\$94-\$115	\$0	(\$0-\$0.3)	\$259	\$10	\$1,641
DAP pollock bottom trawl share at 30%	\$90	N/A	\$25	N/A	\$519	\$19	\$3,828
DAP pollock bottom trawl share at 30%, halibut rates halved	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Notes: Change in profits is change in revenue minus change in cost (costs are shown in Table 2.23).

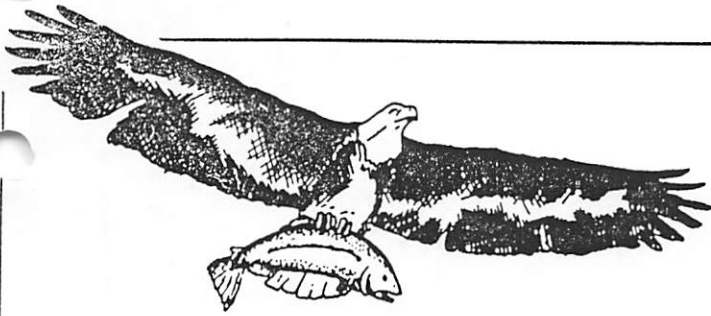
Values for halibut and crab are wholesale present values; unit values are from Table 2.24b.

**1988 Bristol Bay Red King Crab Fishery
(All Vessels)**

Item	Catcher Vessels	Catcher Proc. Vessels	Ratio
Pounds landed	35,766	49,727	1.39
Number of pot-lifts	705	1,039	1.47
Pounds per pot-lift	50.7	47.9	0.94
Vessel length (ft)	101	153	1.51

1987 and 1988 mean values for catcher-processor vessel and catcher vessel with length between 130 ft and 170 ft

Variable	Catcher vessels		Catcher-Processor vessels		Ratio of means	
	1987	1988	1987	1988	1987	1988
Pounds Landed	54,844	40,131	136,074	53,817	2.48	1.34
Number of Potlifts	1013	795	1396	1043	1.37	1.31
Pounds per Pot-lift	58.5	54.4	92.4	50.9	<u>1.58</u>	<u>0.94</u>
Vessel length (ft)	152	151	155	158	1.01	1.05



Eagle Fisheries Inc.

P.O. Box 868 • Kodiak, Alaska 99615
(907) 486-5607

January 14, 1989

Mr. Clarence Pautzke, Executive Director
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99510

Re: Bycatch Observer Program

Dear Sir:

Eagle Fisheries L.P. operates a bottomfish processing plant in Kodiak, Alaska, and has been processing Gulf of Alaska bottomfish on a continuous year-round basis since March 1987. In early 1988 we commenced a pilot project for filleting Alaskan Gulf flatfish, under a grant from the Alaska Fisheries Development Foundation. At the end of 1988 we added a second Baader 175 filleting line, and we plan to process increased volumes of flatfish in 1989 as our primary target species. Our plant is currently served by a fleet of five trawlers owned and operated by Kodiak-based fishermen.

We are very concerned by the possibility that the 2,000 ton halibut bycatch cap set forth the Gulf of Alaska in December could close the Gulf to all trawling for bottomfish well before the TAC's are reached. Under the new 4.5% bycatch rate assumed for DAP bottom trawl harvest in the Gulf, it is estimated that harvest of the full Gulf bottomfish TAC's could result in halibut bycatch of 2,700 to 3,600 tons (varying with different assumptions as to the proportion of pollock taken with midwater trawl). Given the bottomfish processing capacity now onstream in Kodiak and elsewhere in the Alaskan Gulf, it seems likely that the halibut bycatch cap will be reached by the summer or early fall of 1989. Under the Council's approach promulgated in December, all trawling for bottomfish in the Gulf would then be shut down for the remainder of the year. This would be an economic disaster for many in Kodiak who have invested heavily in year-round bottomfish operations, including our plant and our boats.

In setting the bycatch cap at the December meeting, the Council indicated its intent to use the bycatch and mortality rates adopted by the Plan Team unless new information becomes available during the year. There was considerable discussion as to the desirability of increased observer data on bycatch, and of rewarding clean fishing. In this spirit, Eagle Fisheries and its fishermen are prepared to implement a self-funded bycatch observer program for 1989, to be administered by the Alaska Department of Fish & Game, if the Council confirms that the actual bycatch and mortality rates revealed by observer data will be given effect.

Our proposed observer program will be a continuation of the program commenced last summer under the AFDF grant. Eagle and its boats will contribute \$1,000 per week to ADF&G, which will cover the cost of one additional observer who will be occupied exclusively monitoring the Eagle fleet. The weekly cost will be split between the plant and the boats. ADF&G will have complete authority to determine which boats and which trips the observer covers, and the observer will be an employee of ADF&G and follow all customary ADF&G procedures. We anticipate that the observer will be able to provide 15% to 20% coverage of the Eagle fleet's fishing trips. The results of the observer data will be available from ADF&G in summary form, and a more detailed analysis will be prepared by the Alaska Groundfish Data Bank of Kodiak, in form similar to that prepared for the Kodiak & Western Trawler Group rock sole joint ventures in 1987 and 1988. This analysis will be made available to the Council.

Under NMFS regulations, 50 CFR sec. 672.20(f)(2)(iv) (attached), continued bottom-trawl fishing for groundfish may be authorized for particular vessels in the Regional Director's discretion even after the overall PSC limit is met, based on factors including "the extent to which these vessels have avoided incidental halibut catches up to the point in the year." It appears to us that this regulation authorizes the Eagle fleet to use its observed bycatch rate, rather than the overall assumed bycatch rate, to determine when its share of the halibut cap is reached, assuming that the observer program is conducted by ADF&G along the lines outlined above.

Accordingly, we request that the Council confirm our understanding that if this observer program is implemented, NMFS has the authority to close the Gulf based on the 4.5% assumed bycatch rate for vessels not participating in a government-administered observer program, and to allow Eagle's fleet to continue fishing until its actual halibut bycatch, based on observed rates, reaches what it would have been under the assumed 4.5% rate at the time of overall closure of the Gulf.

We believe this proposal is a fair way to reward the dual efforts involved in funding an observer program and fishing in a manner which reduces bycatch rates below the overall levels. If adopted by other plants or fleets, this type of program could eventually lead toward a reasonable level of industry-funded observer coverage and provide substantial incentive for clean fishing.

Sincerely,


Reed Wasson
President

(2)(i) As soon as practicable after October 1 of each year, the Secretary, after consultation with the Council, will publish a notice in the FEDERAL REGISTER specifying the proposed halibut PSC limits for JVP vessels and DAP vessels. Each halibut PSC may be apportioned among the regulatory areas and districts of the Gulf of Alaska. Public comments on the proposed halibut PSC limits will be accepted by the Secretary for 30 days after the notice is filed for public inspection with the Office of the FEDERAL REGISTER. The Secretary will consider timely comments in determining, after consultation with the Council, the final halibut PSC limits for the next year. A notice of these final halibut PSC limits will be published in the FEDERAL REGISTER as soon as practicable after December 15 and will also be made available to the public by the Regional Director through other suitable means.

(ii) The Secretary will base the annual halibut PSC limits upon the following types of information:

- (A) Estimated halibut bycatch in prior years;
- (B) Expected changes in groundfish catch;
- (C) Expected changes in groundfish biomass;
- (D) Current estimates of halibut biomass and stock condition;
- (E) Potential impacts of expected fishing for groundfish on halibut stocks and U.S. halibut fisheries;
- (F) The methods available for and costs of reducing halibut bycatches in groundfish fisheries; and
- (G) Other biological and socioeconomic information that affects the consistency of halibut PSC limits with the objectives of this part.

(iii) The Secretary may, by notice in the Federal Register, change the halibut PSC limits during the year for which they were specified, based on new information of the types set forth in paragraph (f)(2)(ii) of this section.

(iv) When the JVP or DAP vessels to which a halibut PSC limit applies have caught an amount of halibut equal to that PSC, the Regional Director may, by notice in the Federal Register, allow some or all of those vessels to continue to fish for groundfish using bottom-trawl gear under specified conditions, subject to

the other provisions of this part. In authorizing and conditioning such continued fishing with bottom-trawl gear, the Regional Director will take into account the following considerations, and issue relevant findings:

(A) The risk of biological harm to halibut stocks and of socioeconomic harm to authorized halibut users posed by continued bottom trawling by these vessels;

(B) The extent to which these vessels have avoided incidental halibut catches up to that point in the year;

(C) The confidence of the Regional Director in the accuracy of the estimates of incidental halibut catches by these vessels up to that point in the year;

(D) Whether observer coverage of these vessels is sufficient to assure adherence to the prescribed conditions and to alert the Regional Director to increases in their incidental halibut catches; and

(E) The enforcement record of owners and operators of these vessels, and the confidence of the Regional Director that adherence to the prescribed conditions can be assured in light of available enforcement resources.

\$672.21 [Reserved]

\$672.22 Inseason adjustments.

(a) General. (i) Inseason adjustments issued by the Secretary under this paragraph include:

(i) The closure, extension, or opening of a season in all or part of a management area;

(ii) Modification of the allowable gear to be used in all or part of a management area; and

(iii) The adjustment of TAC and PSC limits.

(2) Determinations. (i) Any inseason adjustment under this paragraph must be based upon a determination that such adjustments are necessary to prevent;

(A) The overfishing of any species or stock of fish or shellfish; or

EXAMPLE OF EAGLE FISHERIES' PROPOSED PROGRAM

1. GOA HALIBUT MORTALITY CAP = 2000 MT

2. ESTIMATED BYCATCH RATE BOTTOM TRAWL FISHERY = 4.5%

3. ESTIMATED MORTALITY RATE = 50%

4. GULF CLOSES WHEN 88,889 MT GROUND FISH TAKEN

5. EAGLE FISHERIES' FLEET MAINTAINS 20% OBSERVER COVERAGE

6. ACTUAL OBSERVED HALIBUT MORTALITY = 1.5%

(3% BYCATCH RATE \times 50% MORTALITY)

7. OF THE 88,889 MT TAKEN, EAGLE'S FLEET DELIVERS 10,000 MT

FLounder

8. EAGLE'S ACTUAL HALIBUT BYCATCH MORTALITY = 150 MT.

9. THE FISHERY WAS CLOSED ASSUMING EAGLE HAD A

HALIBUT BYCATCH MORTALITY WAS 225 MT.

10. THIS LEAVES 75 MT OF HALIBUT ^{MORTALITY} EAGLE WAS ASSUMED

TO HAVE TAKEN, BUT DID NOT TAKE.

11. NMFS ALLOWS EAGLE'S ^{FLEET} TO CONTINUE FISHING FOR

AN ADDITIONAL 75 MT ^{HALIBUT} MORTALITY. (AT THE 3% BYCATCH RATE

EAGLE COULD TAKE AN ADDITIONAL 5,000 MT OF FLOUNDER)

NOTE: 20% COVERAGE OF EAGLE'S FLEET MAINTAINED

THROUGHOUT THE YEAR.

L. Cotter

APPROACH TO 1989 BYCATCH MANAGEMENT (Jan. 89)

1. The North Pacific Fishery Management Council serves notice of its intent to review, at the April 1989 meeting, the prohibited species catch (PSC) numbers for C. bairdi Tanner crab, red king crab, and Pacific halibut and accompanying management approaches which it adopted at the December 1988 Council meeting. This review would not apply to the Closed Area (160 by 162 degrees W south of 58 degrees N, and the seasonal extension to 163 degrees W).

2. That portion of Amendment 12A to the BS/AI Groundfish FMP pertaining to the Closed Area would be submitted to the Secretary of Commerce for approval as rapidly as possible. In the interim, the Regional Director shall proceed with an Emergency Rule to implement the Closed Area.

3. The Council, at this meeting, shall adopt the PSC numbers adopted at the December meeting as an "advisory" to the industry and indicate that it is the Council's intent to manage the specific fishery groups identified by the Council at the December meeting in a manner which would maximize the directed groundfish harvest while keeping PSC removals at or below the advisory numbers.

4. In accordance with the Council's intent, the Secretary will:

a. Monitor the bycatch of prohibited species and directed harvest of groundfish for each fishery group;

b. Utilize emergency authority to the extent necessary to allow each fishery group's directed groundfish harvest to be accomplished while ensuring to the extent possible the fishery group's PSC allowance will not be exceeded.

c. The types of inseason emergency measures which would be utilized by the Secretary include, but are not limited to, time/area closures, the implementation of PSC bycatch rates which must be accomplished on a defined fishing period basis as a condition of continued participation in that fishery in the area or areas concerned, the requirement that vessels carry observers and/or otherwise participate in a verifiable data gathering program, and closure of the entire BS/AI to that fishery.

d. In order to monitor C. bairdi, red king crab, and halibut bycatch, the Council requests the Secretary to compare the percentage of bycatch PSCs by each fishery group on a weekly basis to the percentage of that fishery group's directed groundfish harvest. Should the percentage of the fishery group's directed harvest be at a level which indicates that fishery group will have difficulty taking its directed harvest within the boundary of its advisory PSC allowance, the Council requests that the Secretary implement regulatory actions as now provided in the FMP and as provided in (c.) above.

5.) NOAA Fisheries will have available to the Council at the April

meeting a draft bycatch management program which could be implemented for 1990. The draft bycatch management program will utilize the Bycatch Committee's Ad Hoc Recommendation as a base, and address the technical deficiencies in that program; however, NOAA Fisheries may offer additional bycatch management approaches not identified in the Ad Hoc Recommendations. The Council intends to review the NOAA Fisheries program in April, make modifications as appropriate, and send it out for public comment in preparation for final action at the June 1989 Council meeting.

January 18, 1989

Mr. James W. Brennan,
Assistant Administrator for Fisheries
NOAA
1335 East/West Highway
Silver Spring, Maryland 20910

RE: NMFS IMPLEMENTATION OF BYCATCH CONTROL MEASURES IN THE U.S. EEZ OF
THE EASTERN BERING SEA

Dear Sir:

The undersigned petitioners request immediate action to address a conservation emergency in the U.S. EEZ of the Eastern Bering Sea.

As you are very much aware, Amendment 10 (Prohibited Species Bycatch Control) of the Bering Sea/Aleutian Islands FMP expired on December 31, 1988 without any continuing regulations to be implemented until July 1989. This means a serious regulatory gap has developed. There are no regulations to control the bycatch of halibut and king and bairdi crab in the two million ton groundfish industry.

The severity of the problem is further compounded by the dramatic reversal in groundfish allocations that is occurring this year between the joint venture and domestic sectors of the industry. The NPFMC has allocated 1.4 million tons of the total harvest to the domestic sector, which has no defined NMFS approved observer program in place to monitor target species tonnages, prohibited species caps and other discards. Overfishing and excessive wastage of target and bycatch species could likely result without immediate implementation of an Emergency Rule to implement the provisions of Amendment 12A to the FMP with observer requirements.

It should be noted that the delay in implementation is inexcusable as it has occurred after industry groups worked two years to establish bycatch caps and time and area closures. The Advisory Panel and NPFMC set bycatch caps in September that the trawlers alliance were successful in having reconsidered in December. The postponement has now resulted in Bering Sea fisheries being conducted with no limitations.

The halibut and crab stocks in the sensitive Zone 1 area are a vital concern to those who have worked hard to establish the protection zones and bycatch caps. It was our understanding that the appropriate agency action was to occur within a necessary time frame to have enforcement in effect by January 1, 1989. Any further NMFS delay or inaction on this important matter is inexcusable.

We enclose a copy of a significant NMFS bycatch of prohibited species report that shows the tremendous disparity between the joint venture and domestic factory trawler fishing patterns. The domestic data clearly illustrates the potential of the unregulated fishing in Zone 1 flatfish fisheries.

John Bruce Ex. Dir. DEEP SEA FISHERMAN UNION

Jeffrey R. Thayer U.F.M.A., Kodiak, AK.

William Plouffe CBSFA St Paul Island, AK

Linda Kozak Kodiak Longline Semi Director, Kodiak, AK

Dean Adams FVOA Seattle WA.

Ronald K. Peterson FIV ALEUTIAN No. 2 Dutch Harbor, AK.

Cheri Thomson EXECUTIVE DIRECTOR ALASKA CRAB COOP.

Bruce Jackson PRESIDENT - DEEP SEA FISHERMANS UNION

Bob Hege ex dir Alaska Longline Fishermen Assn

James H. Russell Vice-Pres. Dist, General Mgr. Key Fisheries Mgmt Group, Seward, AK

January 12, 1989

NMFS PROHIBITED SPECIES BYCATCH REPORT, JUNEAU, ALASKA

Catches of groundfish and prohibited species in the Zone 1 reopening December 8-31, 1988. Five DAP and three JVP companies participated.

Species	[JVP]	[DAP **]	Total
Groundfish (mt)	8,724.3	797.0	9,521.3
Yellowfin sole	3,608.7	74.0	3,682.6
Other flatfish	1,377.2	185.8*	1,563.0
Red king crabs (no.)	2,035.6	339.0	2,374.6
Bairdi Tanner crabs (no.)	45,484.5	8,373.0	53,857.5
Halibut (mt)	19.1	18.3	37.4
Halibut (no.) (@ 2.2#)	15,385.6	17,367.0	32,752.6
RATE (per mt of groundfish)			
Red king crabs (no./mt)	0.233	0.425	0.249
✓ Bairdi Tanner crabs (no./mt)	[5.214]	[10.506]	5.657
Halibut (mt/mt)	0.002	0.023	0.004
✓ Halibut (no./mt)	[1.764]	[21.791]	3.440

*Includes 164.02 mt of rock sole.

**DAP group, 4 factory trawlers, 1 mothership with 2 catchers.
100% observer coverage, NMFS approved.

FOR YOUR INFORMATION
From: Arni Thomson