

M E M O R A N D U M

TO: Council, SSC, AP Members

FROM: Jim H. Branson
Executive Director

DATE: November 30, 1983

SUBJECT: Incidental catch of prohibited species by U.S. trawlers in the Bristol Bay Pot Sanctuary

ACTION REQUIRED

The Council should review their current policy on the bycatch of prohibited species by U.S. trawlers in the Bristol Bay Pot Sanctuary in the Eastern Bering Sea, and if desired, instruct staff on further action.

BACKGROUND

Incidental catches by U.S. trawlers in joint ventures of king crab and Tanner crab have increased considerably in 1983 over 1982. Catches of all prohibited species by joint ventures in 1982 and 1983 are shown below:

Prohibited Species Catch (by number) in the Bering Sea
(through September 1983) (1000s)

<u>Halibut</u>		<u>Salmon</u>		<u>King Crab</u>		<u>Tanner Crab</u>	
1982	1983	1982	1983	1982	1983	1982	1983
411.9	306.5	1.9	27.4	194.0	529.1	81.6	410.0

The Council has received two letters which, in essence, ask that the Council reconsider their policy on the bycatch of prohibited species by U.S. trawlers in the Bristol Bay Pot Sanctuary, the area where most of the bycatch of halibut and crabs occurs. The letters are included here as Agenda Items D-4B-1 and D-4B-2.

Current Council policy is to not impose restrictions on the developing ground-fish fishery to (a) encourage U.S. participation and (b) give the U.S. industry the opportunity to develop methods to control bycatches on their own, and by observing and learning from the efforts of foreign trawl fleets to reduce their bycatches.

In addition, U.S. trawling in the Bristol Bay Pot Sanctuary has been designated an "experimental fishery," in order to gather data on bycatches.

Agenda Item D-4B-3 is a letter from the North Pacific Fishing Vessel Owners' Association which states that an industry group has been formed to come up with solutions to the crab bycatch problem. A representative of the group will present a progress report on their activities at this meeting.

Agenda Item D-4B-4 is a report by Dr. Jerry Reeves which evaluates the impact of incidental crab catches on Bristol Bay crab in 1983. Dr. Reeves concluded that "incidental catches are not a significant factor in the observed decline in stock abundance (of king and Tanner crabs)." The percentage contribution to total mortality through incidental catches are "low in relation to the stocks and in general do not pose a conservation problem. However, there is some cause for concern in the case of female red king crabs . . . it would seem prudent to minimize incidental catches of female red king crabs from this stock."

In view of the comments and report, the staff recommends that the Council reconsider their policy on the bycatch of prohibited species in the Bristol Bay Pot Sanctuary. If you think a change is desirable, the Plan Maintenance Team will need guidance for future analyses and the possible amendments for Council consideration.

FISHING VESSEL OWNERS' ASSOCIATION
 INCORPORATED

ROOM 232, C-3 FISHERMEN'S SEATTLE, WASHINGTON 98119	BUILDING TERMINAL 98119	ROUTE TO Exec. Dir. Deputy Dir. Admin. Off. Exec. Sec.	INITIAL
(206) 284-4730			
		November 9, 1983	

Chairman James O. Campbell
 North Pacific Fishery Management Council
 P.O. Box 103136
 Anchorage, Alaska 99510

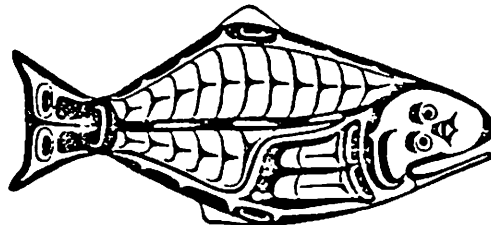
Chairman James O. Campbell:

The members of the Fishing Vessel Owners' Association request that the North Pacific Fisheries Management Council put on their agenda the issue of the domestic experimental fishery in the "Pot Sanctuary Area" in the Bering Sea, under their Bering Sea agenda item.

Specifically, I would like the council to have the plan development team for the Bering Sea develop the information now available through the NMFS observer program involving the domestic experimental fishery in the area north of the Unimak Peninsula to see if a pelagic trawl regulation in the "Pot Sanctuary Area" might be a reasonable approach to reducing the incidental catch of halibut and red king crab caught primarily in the hard on bottom trawl yellow fin sole fishery.

Based on the August, 1983 scientific information developed from domestic trawl participation in the Bering Sea the incidental catch of red king crab by numbers was 524,600 and a catch of 291,000 halibut with a catch of 199,000 tons of ground fish. The foreign harvest through August 1983 of groundfish has been 733,900 tons with an incidental catch of 334,000 halibut and 299,000 king crab. This is resulting in 2,630 red king crab per 1000 tons and 1,460 halibut per 1000 tons being lost in the domestic joint ventures as apposed to 407 red king crab per 1000 tons and 468 halibut per 1000 tons in the foreign catch.

It is my opinion that with a pelagic gear requirement similar to that in the Yakutat area on foreign vessels that the pollock and cod in the area could still be targetable by domestic vessels and that the yellow fin sole catches per unit of effort would not be jeopardized by fishing to the north or the northwest where the foreign fleet takes



in excess of 100,000 metric tons of yellow fin sole.

Mr. Campbell as you may recall the domestic fishery was allowed in the Pot Sanctuary Area by the Council based on an experimental condition in order to develop a data base using American flag vessels. The Council now has available a data base and with the conservation problems in King Crab and the Pot Sanctuary being an identified juvenile halibut area it is now time the council moved forward to consider what to do with the experimental fishery.

In conclusion we would like to request that the issue of the experiment trawl fishery in the Pot Sanctuary area be put on the council's agenda under Bering Sea Groundfish issues. I would hope the Council would organize a committee seeking a consensus with the different user groups on this issue.

Very truly yours,

FISHING VESSEL OWNERS ASS'N


Robert D. Alverson, manager

RECEIVED JUL 11 1983

5.

Phone 783-2922
Area code 206

HALIBUT



King of the Sea

DEEP SEA FISHERMEN'S UNION OF THE PACIFIC

5215 Ballard Avenue N.W.

Seattle, Washington 98107

INITIAL

November 16, 1983

James O. Campbell, Chairman
North Pacific Fishery Management Council
P. O. Box 103136
Anchorage, Alaska 99510

Dear Mr. Campbell:

At the August meeting of the North Pacific Council, a report on the catch of prohibited species in the Bering Sea showed a marked difference between the foreign catch of halibut and king crab and the catch of those species by joint venture boats. The joint venture catch of halibut in 1983 was actually reduced from 1982, totally and proportionally, but still far above the foreign ratio for those periods in number of fish per ton of ground fish. The joint venture king crab catch in 1983 was also higher than the foreign ratio, but, unlike their catch of halibut, was greatly increased from 1983.

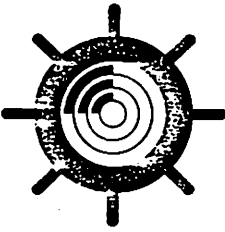
In view of the already depressed condition of the crab resource and the vulnerability of juvenile halibut and the crab stocks to trawl gear, the incidental catch of these species is a problem that the Council definitely should address at its December meeting. It is obvious that alternate areas for this dragging as well as alternate gear types (e.g. pelagic instead of bottom trawls) both must be considered.

As fishermen with a particular stake in halibut, and to a certain degree in king crab and bottomfish as well, the Union hopes that the user groups and the Council are able to work out a plan for the joint ventures still to target effectively on their groundfish while allowing the crab and juvenile halibut their sanctuaries.

Sincerely,

Mark S. Lundsten,
President

MSL:rd



North Pacific
Fishing Vessel
Owners' Association

SEP 9 1983

September 1, 1983

ACTION	ROUTE TO	INITIAL
	Exec. Dir.	J
	Deputy Dir.	
	Admin. Off.	
	Exec. Sec.	
	Staff Asst. 1	
	Staff Asst. 2	
	Staff Asst. 3	
	Sec. Asst.	
	Sec. Asst.	
	Sec. Typist	

Jim Branson
Executive Director
North Pacific Fishery Management Council
P.O. Boc 3136 DT
Anchorage, AK 99510

Dear Jim:

Thank you for sending us a copy of the memo as regards the U.S. observer activities through June 1983. As you stated at our earlier conversation in Seattle, it is, indeed, an eye-opener and one that needs addressing.

At the NPFVOA Board of Directors' meeting on 8-31-83, I submitted the problem to the group for consideration. Present at the meeting was a good cross-section of strictly crabbers, crabber-tractlers and just plain trawlermen. As you can understand, this incidental catch of crab is a very real problem for our organization as we do represent both interests and must accommodate the two concerns to the very best of our ability and it is in our best interests to attempt to achieve a solution.

In addressing this problem, the Board and attending members decided that not only the J.V. crab catches should be discussed, but also the Amercian cod fishing operations (saltcod, trawler/processor and shore based) should be included for consideration, too. Perhaps this is overly ambitious, but it was voiced that these operations are also taking crab but do not have any observers on board to document their incidental catches.

The first get together of this industry based Incidental Catch Working Group will be on 9-9-83 in our Association office. Initially this group will try to document the severity of the crab catches and have as an end objective, the most workable solution to the problem possible. Based on the fact that this is an industry group working on its own problems, we see the chances of something workable coming out of this as being very good.

Hopefully, the Council will see and understand the merits of our taking this initiative and lend its support. It would be very helpful if the Council would provide the group with whatever statistical information that is pertinent. As this time the 8-1-83 letter and accompanying information to Marasco from Nelson is a good starting point. Perhaps, if available, we should also have pre-1982 in-

Jim Branson
September 1, 1983

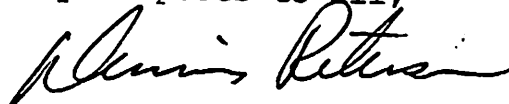
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cidental catch statistics as far back as 1970. A historical background will be helpful.

Again, my thanks for so rapid a response with the memo. We want the Council to know that we are going ahead and would sincerely appreciate their kind cooperation in achieving a solution to this serious problem.

If you need updates, please let me know.

My respects to all,



Dennis Petersen
President
NPFVOA

cc: Jeff Stephen
Wally Pereyra
Lucy Sloan
Robert McVey
Rod Moore

Jim:

9/2/83

Would you please see that this letter gets distributed to all Council and AP and SSC members.

Thanks



DRAFT

PRELIMINARY EVALUATION OF THE IMPACT
OF INCIDENTAL CRAB CATCHES ON BRISTOL BAY
CRABS IN 1983

by

J. E. Reeves

National Marine Fisheries Service
Northwest and Alaska Fisheries Center
Resource Ecology and Fisheries Management Division
2725 Montlake Boulevard, East
Seattle, WA 98112

November 1983

PRELIMINARY EVALUATION OF THE IMPACT OF INCIDENTAL CRAB
CATCHES ON BRISTOL BAY CRABS IN 1983

Substantial increases in incidental catches of prohibited crab species have been reported for the Bering Sea in 1983. Low and Nelson (1983) reported that king and Tanner crab incidental catches through August 1983 amounted to approximately 2.7 million crabs, up 50% from a comparable 1982 catch of 1.8 million. The following report provides further information on the species, sex, and size composition of the 1983 incidental crab catch, and assessment of potential impacts on the crab stocks. The data examined are preliminary and incomplete for 1983, and this analysis will be subject to some changes when all data for the year are collected, edited, and analyzed.

Table 1 gives a breakdown of crab catches by species and sex by areas of the Bering Sea. The areas are shown in Figure 1. For king crab, 78% of incidental catches were red king crab, and 80% came from Area I, which includes Bristol Bay. Brown king crab made up 20% of the catch, most of it coming from Area II, north and west of Bristol Bay. The remainder of the king crab catch was comprised of two species, Lithodes cousei, the deepwater red king crab, and blue king crab. For Tanner crabs, 61% of the incidental catch was C. opilio, and 15% was C. bairdi, mainly coming from Area I. Two deepwater species, C. tanneri and C. angulatus made up the remainder of the catch.

Two-thirds of the 1983 incidental crab catch came from Area I. Table 2 provides a breakout of the Area I king and Tanner crab catches by nation and type of operation. Seventy-six percent of the king crab was taken by the U.S.-Soviet joint-venture. The next highest catch of king crab was by the Korean freezer trawlers. The incidental catch of tanner crabs was taken primarily by U.S.-Soviet joint-venture, Korean freezer trawler, and Japanese small trawler operations.

The Area I incidental catch is made up almost entirely of red king crab, C. bairdi, and C. opilio. Table 3 shows incidental catches for these species in Area I in relation to stock size, as estimated by the NMFS trawl survey. Most stock components of these species have shown declines between 1982 and 1983. Incidental catches are expressed as percentages of observed losses of crabs in the next-to-last column of Table 3. These percentages range from 0-1.8, and are generally less than 1% of the observed total crab mortality in Bristol Bay between 1982 and 1983. Thus, it is concluded that incidental catches are not a significant factor in observed declines in stock abundance. The rightmost column of Table 3 gives incidental catches as percentages of 1983 stock sizes. These percentages also are low in relation to the stocks and in general do not pose a conservation problem. However, there is some cause for concern in the case of female red king crabs. The 1983 Bristol Bay population of 9.6 million mature females is down from 53.8 million in 1982. This is a very high mortality, and if it continues, the female spawning stock will be at a very low level in 1984. Under these conditions, it would seem prudent to minimize incidental catches of female red king crabs from this stock.

REFERENCE

Low, L.L. and R. Nelson, Jr. 1983. Prohibited species catches by foreign and joint-venture fisheries in the eastern Bering Sea/Aleutians region, 1977-August 1983. MS report, 25 pp.

Table 1.--Incidental catches in numbers of crabs by area of the Bering Sea, species and sex for 1983 (through September).

Species/sex	Area			Total	Percent of total
	I	II	IV		
Red king crab					
Males	368,132	442	168	368,742	
Females	271,997	442	21	272,460	
Total				641,202	78
Blue king crab					
Males	2,303	151	--	2,454	
Females	170	--	--	170	
Total				2,624	Trace
Brown king crab					
Males	9,525	59,807	20,784	90,116	
Females	7,077	44,641	19,583	71,301	
Total				161,417	20
Couesi king crab					
Males	76	269	9,862	10,207	
Females	162	258	8,122	8,542	
Total				18,749	2
Total king crabs					
	659,442	106,010	58,540	823,992	
Percent of total	80	13	7		
<hr/>					
<u>C. bairdi</u>					
Males	166,714	12,817	1,691	181,222	
Females	76,077	14,606	999	91,682	
Total				272,904	15
<u>C. opilio</u>					
Males	861,408	111,496	32	972,936	
Females	6,684	92,386	64	99,134	
Total				1,072,070	61
<u>C. tanneri</u>					
Males	5,039	52,514	64	57,617	
Females	783	44,181	273	45,237	
Total				102,854	6
<u>C. angulatus</u>					
Males	5,182	184,124	97	189,403	
Females	2,435	125,181	64	127,680	
Total				317,083	18
Total Tanner crabs					
	1,124,322	637,305	3,284	1,764,911	
Percent of total	64	36	Trace		

Table 2. Incidental catches in number of crabs for Bering Sea Area I by nation, operation type, species and sex for 1983 (through September).

Species/ sex	Japanese					Korean		Joint-venture			Total	Percent of total
	Surimi motherhip	Small trawler	Surimi trawler	Freezer trawler	Long- liner	Small trawler	Freezer trawler	US- Soviet	US- Korean	US- Japan		
Red king crab												
Males		2,914		2,511		1,056	85,941	260,998	14,712		368,132	
Females		486		218		251	18,093	240,912	12,037		271,997	
Total											640,129	97
Blue king crab												
Males		648		4			1,651				2,303	
Females							170				170	
Total											2,473	Trace
Brown king crab												
Males		8,904			427	13	181				9,525	
Females		2,752		7	4,318						7,077	
Total											16,602	3
Couesl king crab												
Males		76									76	
Females		162									162	
Total											238	Trace
Total king crabs		15,942		2,740	4,745	1,320	106,036	501,910	26,749		659,442	
Percent of total		2		0.5	1	16		76	4			

<u>C. bairdi</u>												
Males	3,432	43,825	2,348	1,625	1,650		5,365	105,031	3,246	192	166,714	
Females		7,304	10,697	406	256		4,081	52,515	811	7	76,077	
Total											242,791	22
<u>C. opilio</u>												
Males		175,300		79,608	569	11,308	362,736	230,259	1,623	5	861,408	
Females		1,096		122			4,156	1,252	58		6,684	
Total											868,092	77
<u>C. tanneri</u>												
Males		4,869				57	113				5,039	
Females		755				28					783	
Total											5,822	.4
<u>C. angulatus</u>												
Males		4,869				313					5,182	
Females		2,435									2,435	
Total											7,617	.6
Total Tanner crabs	3,432	240,453	13,045	81,761	2,873	11,308	376,451	389,057	5,738	204	1,124,322	
Percent of total	.3	21	1	7	.3	1	34	35	.4	Trace		

Table 3.--Comparison of Bering Sea Area I incidental crab catches to stock sizes for red king crab, C. bairdi and C. opilio, in Bristol Bay for 1983 (through September).

Species/ sex	Bristol Bay population estimates (millions of crabs)			Area I incidental catch (millions of crabs)	Percent of 1982-83 loss	Percent of 1983 population
	1982	1983	Loss (gain)			
Red king crab						
Males						
0-94 mm	87.0	32.0	55.0	.07	.1	.2
95-134 mm	37.0	21.4	15.6	.28	1.8	1.3
>134 mm	4.2	1.4	2.8	.02	.7	1.4
All males	128.2	54.8	73.4	.37	.5	.7
Females						
0-89 mm	77.2	24.3	52.9	.13	.2	.5
>89 mm	53.8	9.6	44.2	.14	.3	1.5
All females	131.0	33.9	97.1	.27	.3	.8
<u>C. bairdi</u>						
Males						
0-119 mm	46.0	59.2	(13.2)	.13	--	.2
120-134 mm	11.6	10.2	1.4	.02	1.4	.2
>134 mm	6.6	4.9	1.7	.02	1.2	.4
All males	64.2	74.3	(10.1)	.17	--	.2
All females	67.7	70.9	(3.2)	.08	--	.1
<u>C. opilio</u>						
Males						
0-64 mm	95.8	57.7	38.1	.27	.7	.5
65-89 mm	290.6	111.6	179.0	.45	.3	.4
>89 mm	82.9	88.2	(5.3)	.14	--	.2
All males	469.3	257.5	211.8	.86	.4	.3
All females	37.9	3.3	34.6	.01	.0	.3