

M E M O R A N D U M

TO: Council, SSC, and AP members

FROM: Jim H. Branson  
Executive Director

DATE: November 30, 1982

SUBJECT: Bering Sea/Aleutian Islands King Crab Fishery Management Plan

*ACTION REQUIRED*

*None. For information only.*

BACKGROUND

The Bering Sea/Aleutian Islands King Crab FMP, the Regulatory Impact Review, and draft implementing regulations were submitted for Secretarial review on June 1, 1982. The Secretarial review period began on June 10 and while scheduled to end on August 9, it has been extended pending receipt of a revised Final Environmental Impact Statement and implementing regulations. These documents are nearing completion and it is anticipated that Secretarial action on the king crab FMP will occur early next year.

In early October Steve Davis, our crab plan coordinator, spent eight days in the Bering Sea as one of six observers in the program. His report is item D-3(a), and I am sure you will find it interesting. A status report on the crab observer program will be available.

# North Pacific Fishery Management Council

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## M E M O R A N D U M

TO: Jim H. Branson  
Executive Director

FROM: Steve Davis *SD*  
Plan Coordinator

DATE: November 15, 1982

SUBJECT: Report on my participation in the Bering Sea Crab Observer Program,  
October 4-12, 1982.

On September 10 the Bristol Bay and Bering Sea registration areas opened to the taking of king crab. With Bristol Bay being an exclusive registration area and the Bering Sea area non-exclusive, fishermen have in the past fished Bristol Bay first before moving into the non-exclusive areas of the Bering Sea and Adak. Unlike past seasons, the majority of the king crab fleet began their operations in the Bering Sea area with 118 vessels fishing. The primary reason for this switch in effort was the pre-season forecast of a low harvest from Bristol Bay. The pre-season estimate for this area was 15 million pounds, a harvest that would require fishing a broad area to attain. This compares to a 33 million pound harvest in 1981 and a 130 million pound harvest in 1980. Though the pre-season harvest estimate for king crab in the Pribilof area was also down from 1981 (est. 8 million pounds), these crab stocks are relatively concentrated and would require less effort and time in harvesting the quota. Therefore, the majority of the fleet decided to fish the Pribilof district first.

With the opening of the Bristol Bay registration area, 55 vessels registered to fish, compared to 177 vessels last year. The catch per unit of effort (CPUE) was 5 crabs per pot, the same CPUE at which the fishery was closed in 1981. In addition to the low forecast for this area, the NMFS survey results also indicated a possible female fecundity problem with a large proportion of the female population either being oldshell (i.e. skipmolt) or barren of eggs. Dr. Jerry Reeves has reported to both the Council and Board of Fisheries that 20-40 million egg-bearing females are necessary to maximize recruitment with 40 million females being the conservative estimate. The preliminary results of the NMFS survey show that there are only 18 million egg-bearing females in Bristol Bay this year.

The Crab Observer Program, funded by the North Pacific Council, began with the onset of the Bering Sea/Bristol Bay king crab fisheries. Six observers participated in the program with four from ADF&G, one from NMFS, and myself. Our program's objective was to collect in-season biological data never before quantified. Specifically we examined the contents of every 10th pot from which we identified, measured and counted all crab species collected. Further examination of individual king crab provided information on shell condition and the presence of egg clutches. Information was transcribed onto data forms for eventual computer analysis. Samples of the data forms are attached.

#### TRIP SUMMARY

The following are excerpts from my personal log.

I left Anchorage for Dutch Harbor on October 4, stopping in Cold Bay to change planes. While in Cold Bay I soon noticed the community's single attribute: the largest collection of collapsed, rust colored quonset huts! It started to rain hard, mixed with snow. Get me out of here.

My arrival into Dutch Harbor was highlighted by the rough landing caused by severe crosswinds. I hitched to the Unisea Inn where I heard that an emergency Dutch Harbor Advisory Committee meeting was in progress. The meeting focused on king crab and the following was discussed:

- a lowering of the 6.5" size limit
- pot storage ban in the Dutch Harbor area
- Managers are concerned that there might be a greater number of 100 ft. vessels entering the Dutch Harbor area than previously expected.
- A fisherman commented that the cod that he caught trawling this summer, all had juvenile C. bairdi in the stomachs, up to 28 animals. No king crab. He did note that trawls made in the Unimak Pass area contained a few large sculpin (approximately 10 lbs.) that had nothing but juvenile king crab in the stomachs.

In reference to the Dutch Harbor pot storage ban, you will recall that last March the Board eliminated in-water pot storage during the closed king crab season in response to ground preemption problems associated with stored crab pots and other fisheries. The Board felt that there was sufficient in-water pot storage in the new Bristol Bay storage area and on-land. The problem with this regulation occurred when the Bering Sea registration area closed on September 25, and of the 118 registered vessels fishing for king crab in the Bering Sea, only 19 vessels transferred to the Bristol Bay area. The remaining 99 vessels were either undecided or were waiting to fish in the Dutch Harbor area (scheduled to open on November 1). With all those vessels bringing pots down from the Bering Sea, fishermen were now faced with the additional expense of storing their gear on land and then removing them again by the November 1 opening. Managers soon realized that fishermen who fish the Pribilofs and don't want to fish Bristol Bay, but are willing to wait for the Dutch Harbor area, don't have an inside area to store gear because of the pot storage ban

imposed last spring. The shrimp/salmon fishing conflict with king crab pots, the sole reason for the pot ban, has only occurred in the summer and these fisheries are not active in the Dutch Harbor area in October. The Advisory Committee recommended that inside pot storage be allowed prior to the opening of the Dutch Harbor area. (On October 5 ADF&G announced that pots could be stored in the Dutch Harbor area, inside of 25 fathoms except in Captains Bay until the November 1 opening.)

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By October 5 only three out of the six shore-based processing plants (Pan-Alaska, East Point and Pacific Pearl) and one floating processor (the Viceroy) were receiving crab deliveries in Dutch Harbor due to poor harvests from Bristol Bay. Crab deliveries were averaging two per day, about 20,000 lbs. each. My day began at the Pan-Alaska plant where I was to assist an ADF&G dockside sampler check-in deliveries from the F/V TAURUS and F/V SEA FISHER. A sub-sample of crab were weighed and measured, with notes taken on shell condition and tagged crab. I observed the routine skipper interview where information pertaining to statistical areas, number of pots and amount of actual time fished were collected. Following the dockside survey I took the opportunity to watch crab being processed. I was fortunate to meet Marcus Nevacoff who, as Quality Control Manager, gave me the grand tour through the plant and his laboratory. I was impressed by the high standard imposed by Nevacoff on the cleaning and processing crews.

Later that day I met with Jim Low of ADPS, Fish and Wildlife Protection, where we discussed the enforcement situation. Apparently the new pot storage area in Bristol Bay contributed to a significant decline in pot storage violations this past fall. Only four citations were issued compared to 32 in 1981. We talked about the WOLSTAD and its capability as a fisheries patrol vessel.

General notes from conversations with fishermen:

- The drag chains used by bottomtrawlers are large and must damage crab. What about gear restrictions?
- Fishermen do not want to harvest female crab.
- Fishermen feel the fishery should be closed immediately, but will stay out as long as they are allowed to fish, even if they are losing money. Right now the CPUE is three and they are already losing money.
- Average trip length is six to seven days. That way deadloss is minimized.
- Average soak time is three to four days.
- Discarded crab at dockside are tossed overboard. This includes sublegals, females and dead crab. The live crab will die because of freshwater runoff, processing pollutants and vessel discharges. These crab should be taken back out to deep, clear water.
- Crab are light although improving over last week (September 27 to October 1). Meat content is 52% right now but some crab are jelly-like with lots of water due to recent molting. No soft-shelled crab delivered today but I was told there was a problem with soft-shell

crab a few weeks ago. When F/V TAURUS delivered 20,000 lbs. this morning there were 1,200 lbs. of deadloss, or 16% of total load.

- Price of king crab went to \$3.45 today.

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On October 6 I observed two ADF&G biologists check in a load of Korean hair crab from the Pribilofs. While Pan Alaska is not buying hair crab, they were processing it for Universal Seafoods since they do buy hair crab and they are currently closed.

Today Ken Griffin, ADF&G area biologist, received word from Kodiak (Eaton/Reeves) that the Bristol Bay season should be closed. This decision was based on the observers' reports supporting the NMFS survey and its female fecundity observations. Therefore, the announcement was made via radio for an October 10, 12 noon closure. Immediately Ken began to receive a lot of verbal abuse on the announcement, but everyone I have talked to agrees with it.

I am lucky, I have made arrangements to go out on the F/V ARCTIC WIND, a 124' Marco-built boat from Seattle. The skipper and owner Arne Aadlund has been crab fishing for twenty years in the Bering Sea and has owned the ARCTIC WIND for three years. The boat fishes with a five-man crew.

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After 24 hours we arrived off Port Heiden where the ARCTIC WIND had 400 pots set. The gear was placed in relatively shallow water (25-30 f) compared to the rest of the fleet. We spent two days fishing in this area with moderate success. At times our legal male CPUE was as high as 20, but the average was closer to 10. At these depths the pots contained many sublegal and female king crabs which kept me busy. The data collected from this area showed a high percentage of females carrying eggs. However, as we moved into deeper water, the number of new shell females carrying eggs dropped. While no halibut were ever captured, occasionally I would find Pacific cod and yellowfin sole in the pots. I examined a few cod stomachs and found only fish (my guess pollock).

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On October 9 we were in the federal pot storage area where 200 pots had been placed. The CPUE in this area was extremely low, and with the season closing tomorrow, pots were stored on deck. While not many king crab were captured in these pots, there were Tanner crab of both species, providing me with the opportunity to refine my species identification techniques.

With the last pot on deck, the weather took a turn for the worse and it wasn't long before the waves began to build. So far on my trip I had good weather and now I was going to see the storms for which the Bering Sea is famous. The winds grew in intensity and approached 60 knots. Waves at this time were higher than the wheel house when the ARCTIC WIND was in a trough. I had never seen 35-foot seas before and was very impressed. Fortunately for us the wind was coming from the north so we were able to ride the storm with the weather at our stern. Some tense times were had by all when the pots started to shift and the crew had to dangle above the waves in order to strap them down.

We arrived in Dutch Harbor on October 11, and after saying goodbye I finished transcribing my data and gave my reports to ADF&G. In reviewing the data, it appears that my observations supported earlier observer reports and the NMFS survey. At the request of ADF&G, I brought back 40 females to be retained alive and transferred to Kodiak for examination.

My overall impression of the observer program and the willingness of fishermen to participate lead me to believe that this program should be continued. The in-season observer information greatly enhanced the survey and allowed managers to react quickly to a serious reproductive situation in Bristol Bay. Without the observer reports the Bristol Bay fishery would have continued with unknown future impacts on the resource. The fishermen were eager to volunteer their vessels since they, too, are interested in the resource and they have a lot at stake. My relationship with the skipper and crew was excellent and I believe they gained some further insight into fisheries management and the problems that face the Council. I, though, gained the most from the trip. In addition to examining many crab, I found the first-hand observation of king crab fishing and processing extremely rewarding.







1982-83 BRISTOL BAY OBSERVER PROGRAM

THE BRISTOL BAY KING CRAB AREA ENCOMPASSES ALL WATERS NORTH OF CAPE SARICHEF AND EAST OF 168 WEST LONGITUDE AND SOUTH OF THE LATITUDE OF CAPE NEWENHAM.

THE 1982-83 KING CRAB SEASON OPENED TO FISHING AT 12 NOON, SEPTEMBER 10 WITH TANK INSPECTIONS GIVEN AT 8:00 A.M. SEPTEMBER 15. INITIAL REGISTRATIONS FOR THE AREA WAS 58 VESSELS, 108 VESSELS FEWER THAN THE PREVIOUS SEASON.

WITH MONIES PROVIDED BY THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL TO THE ALASKA DEPARTMENT OF FISH AND GAME, THREE SEASONAL-PREMANENT EMPLOYEES WERE FIELDIED ON BOARD VESSELS FISHING IN THE BRISTOL BAY AREA. DUE TO THE UNCERTAINTY BY VESSEL OPERATORS OF THEIR AREA OF OPERATION, THE INEXPERIENCE OF THE ADF&G PERSONNEL AND THE ESTABLISHMENT OF A NEW POT STORAGE AREA IN THE BRISTOL BAY AREA BY THE BOARD OF FISHERIES DURING THEIR SPRING MEETING, THERE WERE NO OBSERVERS PLACED ON VESSELS DURING THE PRE-SEASON REMOVAL OF THE GEAR FROM THE POT STORAGE AREAS.

THE FIRST EXPERIENCED OBSERVER WAS PLACED ON BOARD A FISHING VESSEL OUT OF PORT MOLLER AND REMAINED ON BOARD THIS VESSEL FOR 8 DAYS EXAMINING FEMALE KING CRABS FOR FECUNDITY AND AGE AND COUNTING AND MEASURING LEGAL AND SUB-LEGAL MALE KING CRABS. BASED ON THE PRELIMINARY INFORMATION PASSED ON FROM THIS TRIP AND SUBSEQUENT INFORMATION FROM HIS SECOND TRIP, THE DECISION TO CLOSE THE BRISTOL BAY KING CRAB SEASON BASED ON FEMALE FECUNDITY PROBLEMS AND LOW CATCHES WAS MADE ON OCTOBER 6 FOR A CLOSURE DATE OF OCTOBER 10. THE TOTAL 1982-83 SEASON CATCH WAS 3.0 MILLION POUNDS.

(12)

A TOTAL OF 5 SHIPBOARD OBSERVERS WERE PLACED ON 8 DIFFERENT VESSELS. OBSERVERS INCLUDED 3 ADF&G SEASONAL PERMANENT PERSONNEL, ONE NMFS PERSON STATIONED SEASONALLY AT DUTCH HARBOR FOR THE NMFS TAG RECOVERY PROGRAM AND ONE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL BIOLOGIST. OBSERVERS SPENT A TOTAL OF 47 DAYS ON BOARD VESSELS FISHING THE BRISTOL BAY AREA. A TOTAL OF APPROXIMATELY 1,738 LEGAL MALE KING CRAB, 1,884 FEMALE KING CRAB, OF WHICH 1,602 WERE MEASURED AND AGED, AND 12,995 SUBLEGAL MALES WERE SAMPLED FROM 767 POTS.

OF THE 30 STATISTICAL AREAS REPORTED AS HAVING LANDINGS, OBSERVER PERSONNEL SAMPLED KING CRAB FROM 12 AREAS WITH SOME BEING FISHED BY MORE THAN ONE VESSEL.

ADF&G RECOMMENDS TO THE COUNCIL THAT THE OBSERVER PROGRAM INITIATED FOR THE KING CRAB SEASON BE EXTENDED THROUGH THE TANNER CRAB SEASON. THERE IS PRESENTLY \$ 52.9 LEFT FROM THE ORIGINAL GRANT OF \$69,000, MORE THAN ADEQUATE TO CONTINUE THE PROGRAM. ADF&G FEELS THAT THIS ADDITIONAL COVERAGE WILL BE VERY BENEFICIAL TO ADF&G BIOLOGISTS AND INDUSTRY AND SHOULD ASSIST NMFS BIOLOGISTS IN THEIR ANALYSIS OF THE BRISTOL BAY AREA FISHERY. SEVERAL OF THE OBSERVERS THAT PARTICIPATED DURING THE KING CRAB FISHERY HAVE EXPRESSED INTEREST IN RETURNING DURING THE TANNER CRAB FISHERY TO CONTINUE IN THE OBSERVER PROGRAM, THUS ELIMINATING THE HIRING OF NEW AND POSSIBLY INEXPERIENCED PEOPLE.