MEMORANDUM

TO:

Council, SSC and AP Members

FROM:

Clarence G. Pautzke

Executive Director

DATE:

April 15, 1992

SUBJECT:

Crab Management

ACTION REQUIRED

1. Review Annual Area Management Report/Stock Assessment and Fishery Evaluation Report.

2. Receive a report on actions taken by the Alaska Board of Fisheries.

3. Consider need for adjustments to the BSAI King and Tanner Crab FMP.

BACKGROUND

1. SAFE Report/ Annual Area Management Report

The Guidelines for Fishery Management Plans published by NMFS require that a stock assessment and fishery evaluation (SAFE) report be prepared and reviewed annually. The SAFE report summarizes the best available scientific information on the stocks and fisheries under federal management. In addition, one requirement of the Fishery Management Plan for the Commercial King and Tanner Crab Fisheries (FMP) is the preparation of an Annual Area Management Report to the Board of Fisheries discussing current biological and economic status of the fisheries, guideline harvest level ranges, and support for different management decisions.

The report that was sent to you on April 8 was prepared by the State of Alaska, with NMFS and crab Plan Team input, and incorporates the SAFE report into the Annual Area Management Report. It provides in one reference a summary of the best biological, social, economic and ecological information available to the Council.

As I noted in the mailing, I did not include three documents submitted by the team: the 1991 crab survey results, the excerpt from the NOAA document <u>The Status of Living Marine Resources off Alaska as Assessed in 1991</u>, and a report on Norton Sound shellfish. We can make copies of those documents if desired, but you reviewed most of the information last fall.

ADF&G staff will summarize the various reports.

2. Recent Board of Fisheries Action

On March 5, the Board, after hearing public testimony, receiving staff presentations and deliberating among themselves, decided to implement a pot limit for the Bering Sea king and Tanner crab fisheries. The ADF&G requested the Board to consider this issue and was the author of the pot limit proposal.

The Board recommended a 250-pot limit for the Area T, Bristol Bay red king crab fishery and the Area J, the Bering Sea Tanner crab fishery (both *C opilio* and *C. bairdi*). The Board also recommended a 100 pot limit for the smaller Bering Sea crab fisheries in Area Q (Norton Sound, St Matthew and the Pribilof fisheries). The entire pot limit program is to be reviewed at the February 1993 Board of Fisheries shellfish meeting.

Staff reports regarding pot limits presented at the Board meeting are included in your Annual Area Management/SAFE Report. This includes the Executive Summary of the economic modeling work by Dr. Josh Greenberg from UAF. Staff from ADF&G, as well as a Board of Fisheries member will be available to provide information and also present the Board's finding on the pot limit issue.

Establishing pot limits is classified as a Category 2 measure in the FMP for the BSAI King and Tanner Crab Fisheries. Because a Category 2 measure is frameworked in the FMP, the State can change these measures following criteria set out in the FMP. The FMP also provides for Council review of Board actions, stating on page 9-3:

The Secretary will review any measure adopted by the Board for consistency with the FMP, the Magnuson Act, and other applicable federal law. The Secretary will also consider comments submitted by the Council on any measure adopted by the State during the 20 days after the end of the Board meeting. The Secretary will consider only comments on whether the new regulations are consistent with the FMP, the Magnuson Act and other applicable federal law.

Now would be the Council's opportunity to comment on the Board's action if it so desires.

3. Adjustments to the FMP for the BSAI King and Tanner Crab Fisheries

In January 1992, I requested the Department of Fish and Game's opinion on the need to adjust the OY for *C. opilio* in the FMP. The FMP limits the guideline harvest level (GHL) to the optimum yield (OY) range. Earlier last year the ADF&G set the *C. opilio* GHL at 400 million pounds, which is above the plan OY. It was later adjusted downward to the upper limit of 333 million pounds. NMFS's 1991 crab survey report indicates that the overall outlook is for a high and stable population with high recruitment, but that pre-recruits were down.

Staff from ADF&G will present information regarding this issue. After this review, the Council can decide whether or not to request the crab Plan Team to review OYs and begin analysis to amend the plan.

Commercial Fishing

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Alaska Department of Fish & Game

emergency order

under authority of AS 16.05.060

EMERGENCY ORDER NO. 4-S-04-92

Issued at: Kodiak, Alaska

April 7, 1992

EFFECTIVE DATE: April 22, 1992 12:00 Noon Expiration Date: August 1, 1992

EXPLANATION:

This emergency order closes the *C. opilio* Tanner crab fishery in the Bering Sea District effective at 12:00 noon on April 22, 1992.

REGULATION:

5 AAC 35.510. FISHING SEASONS. (b) is amended to read:

5 AAC 35.510. FISHING SEASON. (b) male Tanner crab may be taken or possessed only as follows:

(6) in the Bering Sea District;

(b) crab of the species *Chionoecetes* may not be taken after 12:00 noon on April 22, 1992 in the Bering Sea District.

Carl L. Rosier Commissioner

by delegation to:

William E. Nippes Westward Region Shellfish/Groundfish Management Biologist

JUSTIFICATION:

The 1991 National Marine Fisheries Service (NMFS) summer trawl survey of the Bering Sea crab stocks estimated a *C. opilio* population, of four inches or greater in shell width, at 484.1 million crabs. At a 58% exploitation rate, this equated to a 400 million pound harvest guideline.

The Federal Fishery Management Plan, adopted by the North Pacific Fishery Management Council for the commercial king and Tanner crab fisheries in the Bering Sea/Aleutian Islands, limits the guideline harvest level (GHL) to the optimum yield (OY) range. For *C. opilio* this equates to 333 million pounds for any one registration year. On December 6, 1991, industry was notified by news release of the reduction in the original preseason harvest guideline. The news release also gave projected harvests of 292.3 million pounds for the Eastern Subdistrict and 40.7 million pounds for the Western Subdistrict, which is a 16.25% decrease of the originally projected guidelines in September.

The 1992 *C. opilio* season opened at 12:00 noon on January 15. An emergency order issued in November 1991 had already opened the entire Eastern Subdistrict and the main *C. opilio* grounds to *C. bairdi*. Most vessels on the grounds were able to start retaining *C. opilio* on January 15. Catches through February averaged 30 million pounds per week, and for this period, average weekly catches are 7 million pounds greater than the largest weekly catch of the 1991 season. This 30 million pounds per week average for the 1992 season is 13 million pounds greater than the average weekly catch of the 1991 season.

With the average catch per pot 30% higher than the 1991 season and based on the current rate of harvest, a news release on March 4 announced that the Department would allow the entire 333 million pounds harvest to be taken in the area now being fished by the fleet; primarily in the Eastern Subdistrict. Some catches are also being reported from the Western Subdistrict, but the majority of this area remains under ice. During March, the ice pack advanced over the majority of the fishing grounds north of the Pribilof Islands, but the fleet has been able to maintain average weekly catches comparable to those of the 1990 and 1991 seasons. Reports indicate a northerly movement of the ice edge and catches should continue to increase as the fishing fleet moves back and spreads out over a larger area.

The fleet has averaged 17 million pounds per week, 2.4 million pounds per day, for the last four weeks, and during the week ending April 5, has landed over 18 million pounds. This indicates that as more fishing grounds become available, weekly catches are likely to increase. As of April 5, 282.6 million pounds of *C. opilio* have been landed by over 250 vessels. At current rate of catch, the harvest guideline of 333 million pounds would be obtained by April 22, 1992. To ensure that the 1992 optimum yioeld (OY) is not exceeded and to allow a 14 day advance announcement for industry, the 1992 Bering Sea District Statistical Area 'J' will close at 12:00 noon on April 22 1992.

DISTRIBUTION:

This emergency order is distributed to those individuals and organizations maintained on a list in the Westward Regiona: Shellfish Office, 211 Mission Road, Kodiak, Alaska.

AGENDA D-1 SUPPLEMENTAL



3901 Leary Way (Bldg.) N.W., Suite #6 • Seattle, WA 98107 • (206) 547-7560 • FAX (206) 547-0130

(REVISED)

ACC NEWS BULLETIN MARCH 6, 1992

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RE: BOARD OF FISHERIES DECISIONS ON BERING SEA POT LIMITS EFFECTIVE FOR FALL/WINTER SEASONS 1992/1993

AREA T KING CRAB AND BERING SEA BAIRDI AND OPILIO CRAB FISHERIES:

After more than 14 hours of deliberations on March 5th, involving a representative 9 member industry panel, the Board of Fish approved a 250 pot limit for these fisheries.

(REVISION) AREA Q KING CRAB FISHERIES, NORTON SOUND, ST. MATTHEW ISLAND AND PRIBILOF ISLANDS DISTRICTS:
After lengthy debate and controversy, the Board finally adopted a 100 pot limit for these fisheries. The ADF & G staff recommendation called for a 50 pot limit. However, some Board members, in agreement with fishermen's recommendations that this would increase the ratio of undersize crab discards and mortality, declined to impose the low limit. Recommendations from an industry panel of nine finally prevailed in the setting of the 100 pot limit, in lieu of a possible closure to these fisheries.

The entire program is to be reviewed at the February 1993 Shellfish meeting.

The pot limit program is to be based on the State's existing buoy sticker program as outlined in 5AAC 34.050(e), p. 69 of the 1991 ADF & G Commercial Shellfish Regulations.

Adak and Dutch Harbor brown crab fisheries were left until next year for review. Red king crab fisheries in those areas were not considered a problem at this time.

The buoy sticker program allows for replacement of lost pots during the season. The vessel captain and three crew members must fill out an affidavit explaining how and where pots were lost. This is a requirement in order to obtain stickers to place on replacement pots. In taking this action, the Board accepted a recommendation from boat owners to add the requirement of three crew members signing the affidavit, in addition to the captain, to place lawful responsibility on crew members too, for the regulations. Civil penalties, up to a maximum of \$15,000 per pot and one year in confinement, can apparently be levied on those convicted of pot gear violations.

Arni Thomson



3901 Leary Way (Bidg.) N.W., Suite #6 • Seattle, WA 98107 • (206) 547-7560 • FAX (206) 547-0130

April 2, 1992

Mr. Howard Weaver, Editor Anchorage Daily News P.O. Box 149001 Anchorage, AK 99514-9001

RE: SUSTAINABLE YIELDS FOR BERING SEA CRAB FISHERIES REQUIRE BUDGET COMMITMENTS FOR RESEARCH, MANAGEMENT AND ENFORCEMENT

As a representative for Bering Sea crab fishermen and processing companies, I wish to commend Hal Bernton and the Anchorage Daily News on "High Stakes on the High Seas," a well written article about working and living aboard a professional Bering Sea crab boat. Normally, Bering Sea crab boats only make the press when they capsize or sink, or if one is busted for an illegal fishing violation.

Bernton makes the point well, that to be successful in one of the toughest fisheries in the world, and there are a lot of successful boats in the fleet, you have to have a stable, well maintained platform, professional men, and you have to do things right.

That brings us to the other half of the equation for a successful fishery, the value of maintaining the resources. Bering Sea crab fisheries, particularly snow crab, have been sustaining large yields for the last seven years and king crab is slowly improving. Over 80% of the product is landed and processed inside the Alaskan 3 mile limit and subject to a 4% State raw fish tax and a 1.5% borough or city tax, similar to the salmon industry. During the calendar year 1991, the \$312 million dollar exvessel value of the fishery brought in over \$17 million dollars in direct tax revenues to the State General Fund and to the Boroughs. The fishery also contributed an estimated \$2.5 million dollars in marine fuel taxes to the State and an unquantified number of dollars are spent in Alaska on provisions, services and travel during the nine month season.

The Anchorage Chamber of Commerce has recently kicked off a Fisheries Task Force to catalogue potential local services that could tap into the service network for Bering Sea crab fisheries and other fisheries accessed through the Anchorage International Airport. This could prove quite fruitful for the "Buy Alaskan" program. Time will tell, but a number of small businessmen in Anchorage are enthusiastic.

The downside of the long term picture is lack of fiscal resources being committed to applied research, management and enforcement. A total of \$1.24 million dollars was expended on management and research for Bering Sea crab fisheries in 1991, less than one half of one per cent of the exvessel value of the fisheries. Of this amount, only \$578,000 came out of the ADF & G General Fund Allocation, with the balance obtained through a self funding stock survey, where king crabs are sold to offset the costs of the biological survey. It should also be mentioned that the industry paid out over \$2 million dollars for onboard and shoreside observers, that collect catch data used to manage the fisheries.

The combined State and federal budgets for Bering Sea crab management pale in comparison to the \$15 million dollar budget for commercial salmon management. However, statewide salmon fisheries had a comparable value to the Bering Sea crab fishery in 1991 of \$309 million dollars.

In conclusion, the resurgent Bering Sea crab industry has been lucky in generating the recent big harvests and a big bang for the tax buck. However, this can only continue on a long term sustaining basis, with a well focused increase in the research, management and enforcement budgets. An additional \$1 million dollars for early life history research, genetic stock analysis and fishing mortality experiments would add greatly to the existing knowledge base. The sustained long term yields of the salmon fisheries are an example of what prudent management and research dollars can produce.

In making this plea for research and management dollars, it should also be known, that the Bering Sea crab fishery, because it takes place in federal waters outside the 3 mile limit, is managed under a federal oversight plan. However, this plan uniquely gives the State of Alaska management authority over the fishery. As a federal fishery though, it is elgible for federal funding assistance. Thus the Alaskan Congressional delegation in addition to State legislators occupy a leading role in securing much needed funds for research and management that will contribute to long term sustainable shellfish harvests.

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Kevin Kaldestad, President Alaska Crab Coalition

BERING SEA/ALEUTIAN ISLAND CRAB RESOURCES

Area/Fishery	season: 9/90-8/15/91 1990/91 Harvest (Millions lbs.)	1990/91 ExVessel Value (Millions of \$)	1991/92 Projected Harvest (Millions lbs.)
BERING SEA Blue King Crab (S & Matt) Red King Crab (Area T) C. Bairdi C. Opilio	1.7 20.4 39.9 328.6	5.7 100.0 59.9 164.3	3.2 18.0 32.8 333.0
Sub TOTAL	390.6	329.9	387.0
DUTCH HARBOR Brown King Crab C. Bairdi Sub TOTAL	1.7 .05 1.75	5.1 0.075 5.175	N.A N.A
ADAK Brown King Crab Red King Crab C. Bairdi	5.2 0.7 .015	15.6 2.8 0.022 18.422	N.A N.A N.A
Sub TOTAL	5.915	10.422	***
MISC. SHELLFISH ¹	0.2	1.0	N/A
GRAND TOTAL ²	398.465	354.497	?

¹Includes Dungeness, shrimp, scallops, hair crab and octopus.

² 1990/91 ExVessel value of Bering Sea/Aleutians crab resources is an historic record for those fisheries.

'DRAFT Findings: Alaska Board of Fisheries
Bering Sea/Aleutian Islands
Crab Fisheries
Pot Limits

The Alaska Board of Fisheries (Board) met March 3-5, 1992 in Anchorage at the Anchorage Hilton Hotel to discuss gear limitations for Bering Sea/Aleutian Islands (BS/AI) king and Tanner crab fisheries. The Board had generated an agenda change request on March 20, 1991 to hear this issue out of cycle, in response to a request submitted by the industry. This request was supported with preliminary Alaska Department of Fish and Game (ADF&G) data which indicated that the levels of gear deployed in these fisheries were creating conservation and management difficulties.

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The March 1992 public meeting was publicly noticed consistent with Alaska Administrative Procedures Act and well attended by members of the industry and other concerned parties (Fishery Management Plan for the king and Tanner crab fisheries in the Bering/Aleutian Islands (FMP) Sec. 7.2.6., 9.2). In addition, representatives from the National Marine Fisheries Service (NMFS), the North Pacific Fishery Management Council (NPFMC), State of Alaska Attorney General's Office (AG) and the ADF&G were in attendance. The AG representative maintained communications with NOAA General Counsel during the proceedings.

The Board considered the following reports and presentations prior to their deliberations.

- 1. Bering Sea/Aleutian Islands (BS/AI) Shellfish Fisheries and Gear Utilization (Ken Griffin, ADF&G).
- Norton Sound Harvest Evaluation (Charles Lean and Fred Bue, ADF&G).
- 3. Review of Existing Regulations, Gear Loss and Pot Usage in BS/AI (William Nippes, ADF&G).
- 4. Economic Impacts of Alternative Pot Limits to Bristol Bay Red King Crab and Bering Sea C. opilio Fishermen, Executive Summary (27 pp) and draft document (115 pp.) (Dr. Joshua Greenberg, University of Alaska-Fairbanks Dr. Mark Herrmann, University of Alaska-Fairbanks Dr. Paul J. Hooker, ADF&G/NOAA).
- 5. Report illustrating the State/Federal responsibilities frameworked in the FMP, and evaluation of the Crab Fisheries by Type-Indicating Options for Management Within the FMP process (Dr. Ray Baglin, NMFS and Earl Krygier, ADF&G).
- Overview of FMP Criteria and Magnuson Act (Bonnie Harris, Alaska Attorney General Office).



Bering Sea - Aleutian Islands Finding #: FB-Crab Fisheries Pot Limits

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7. Enforcement Considerations and Options for Crab Pot Sticker Identification (Captain Phil Gilson, Division of Fish and Wildlife Protection).

The Board considered public testimony from over 30 individuals, representatives and organizations, plus Committees representatives from the Pacific Northwest Crab Industry, Dutch Harbor, and Kodiak.

Public input was also incorporated into the Board's decision by the formation of a nine member committee whose composition represented large and small vessel owners and operators, processors and catcher processors. Members were: Kevin Kolestad, Phil Chitwood, Dick Powell, Chris Fanning, Louie Lowenberg, Earling Skar, Jerry Nelson, Bart Eaton, Larry Hendricks, Peter Liske. As the Board weighed alternatives for management, this industry group was able to comment and respond. It is noteworthy that the Board took no action on issues/fisheries that were substantially advised against by this group.

During public testimony, many people expressed concern that the imposition of pot limits in the fisheries, in the absence of a vessel limitation, would be an exercise of questionable value. The Board acknowledged this issue and expressed their concerned about However, they clarified to the public that under the FMP (8.1), a moratorium decision is solely the responsibility of the NPFMC and beyond the authority of the Board.

Board scheduling was also an issue which emerged during public testimony. It is understood that BS/AI crab fisheries will be before the Board in their entirety February of 1993 (FMP 7.2.6). With this in mind, the Board had the option to defer any action until that time, or could choose to implement some program of gear restrictions for the 1992/1993 season and look to refining or redesigning it, if necessary, in 1993.

Under status quo, goals and objectives of the FMP are not being met or are in jeopardy, therefore the current conduct of the fishery is inconsistent with these goals and the National Standards of the Magnuson Act (FMP Chapter 7 and Appendix B). The Board found the following facts identified in staff reports and through public testimony to be specific issues of concern:

1. The Bristol Bay king crab fishery was identified as a high value, high effort fishery in which increases in the number of vessels and pots, combined with moderate Guideline Harvest Levels (GHLs), have led to derby-style fishing with



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increasingly shorter seasons which are increasingly more difficult to manage in-season.

This fishery is being conducted on a rebuilding stock which dictates conservative management. Since the 1983 closure of the Bristol Bay red king crab fishery due to depressed stocks, the fishery has started a slow recovery and is the only Bering Sea red king crab fishery to re-open after a closure.

In the Bristol Bay red king crab fishery, the following historic performance data indicate the trend of the fishery to increased effort since reopening in 1984:

1984	1991
15 days	7 days
89 vessels	302 vessels
4.1 mil/lbs	17.1 mil/lbs
21,762 pots	89,068 pots
112,556	227,555
	89 vessels 4.1 mil/lbs 21,762 pots

Although the presence of observers on catcher-processor vessels has allowed better estimates of in-season harvest, effort relative to GHL continues to increase at a rate which jeopardizes the ability of management to prevent overfishing. In 1991, the catching ability of the fleet was <u>estimated</u> at over 2 million lbs/day. <u>Actual</u> harvest indicated a rate in excess of 2.4 million lbs/day.

Extending season lengths in the future was identified to the Board as an important management objective with respect to this fishery. The ADF&G staff indicated to the Board they required a season length of at least two weeks to properly manage this fishery in-season.

- 2. The Norton Sound red king crab, Pribilof Islands red and blue king crab, and St. Matthew blue king crab were all identified to the Board as fisheries that would not likely occur, despite the presence of a harvestable surplus, due to the currently uncontrolled fishing capacity. The potential level of effort was so high in relation to GHL, that the ability to manage these fisheries and prevent overfishing had been lost.
- 3. Fast moving ice conditions in \underline{C} . \underline{opilio} fisheries have been causing excessive pot loss which results in intolerable levels of increased crab mortality and habitat degradation.

The Board heard repeated public testimony that the department estimate of 100,000 pots on the Bering Sea grounds in 1991 was



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low and that actual pots on the grounds likely numbered in excess of 120,000.

Industry non-compliance with minimum cotton twine size in the biodegradable escape panel was reported be widespread by both Fish and Wildlife Protection and industry; this exacerbates mortality associated with lost pots.

Testimony from fisherman, confirmed with survey information, indicated crab are not evenly distributed over the fishing grounds; rather they are found in concentrated amounts in discrete areas. Thus, once crab locations are determined, intensive gear deployment occurs in those areas. Sheer numbers of pots on the grounds have exacerbated gear conflicts, increasing gear loss and creating conflicts over grounds pre-emption. Density of buoys and floating lines creates a hazard to navigation to the conscientious vessel operator. The Board heard repeated testimony that gear is so dense that it is difficult to operate vessels in a manner that will not run over gear and cause increased pot losses. Lost pots continue to capture and kill crabs.

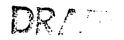
Additionally, lost pots conflict with activities of bottom trawl fishermen, thereby increasing the trawlers costs of operation and decreasing their fishing efficiency.

Fisheries can no longer be identified as orderly. Public testimony indicated that historically, fishery execution relied on a combination of luck, skill, and experience in finding crab and keeping gear on them. This style of fishing has been replaced by a new style of fishing in which large areas are saturated with gear. The Board heard testimony to the effect that large numbers of pots are being abandoned or not maintained by vessel operators, a condition not previously seen in the fishery.

Only three individuals testified during public testimony against adopting gear restrictions in the form of pot limits. Every other vessel owner, operator, processor and catcher processor present and testifying, supported some concept of pot limits. Support for pot limits was qualified by whether or not an enforceable program could be implemented, and most fishermen wanted an avenue whereby lost pots could be replaced.

The Board began deliberations with these identified concerns in mind. The industry committee was appointed and the Board reviewed the following management options with their input. In part, the board considered the following:

1. Close fisheries where status quo did not allow prevention of over fishing. This option was rejected. Industry and Board



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would rather see change to allow utilization of harvestable surplus.

- 2. Change dates of fisheries to force redistribution of effort. Rejected as a management option available at this meeting since public notice spoke specifically to pot limitations. Identified as a management option to be considered in February 1993.
- 3. Imposition of trip limits. This option was rejected. Opposed by segments of industry as counter-productive to free market and competition in fisheries. Identified as an option for future consideration, especially if tied to vessel length.
- 4. Exclusive or super-exclusive registration areas. Identified as an option for action at this meeting, but did not receive much industry support. Board expressed concern that the written findings, including an economic analysis, required in FMP 8.2.8 would be difficult to generate within time constraints of the meeting. Rejected as option for this meeting.
- 5. Determine GHL for fishery, require vessels to pre-register; divide GHL among participants evenly or use a sliding scale. A variation of #3 above, this was also rejected for lack of industry support.
- 6. Proportional pot limits based on vessel length. The Board engaged in an extensive discussion of this topic. The impacts of a fixed versus a proportional limit were weighed in terms of enforceability, discrimination between vessel classes, and achievement of FMP objectives. The Board rejected this option and specifically discussed:
 - A. The Board found proportional limits presented no distinct enforcement difficulties different from those which might be encountered in a straight fixed pot limit program.
 - B. Proportional limits could achieve objectives of FMP as well as fixed limits could, but several Board members felt the 4th standard of the Magnuson Act could be violated by imposition of proportional limits. They felt that proportional limits could be viewed as discriminatory in assigning varying levels of fishing capacity to individual vessels.
 - C. The Board found that a pot limit based on vessel size would not be less discriminatory than a fixed pot limit for all participants for the following reasons:

DRAFT

Bering Sea - Aleutian Islands Crab Fisheries Pot Limits Finding #: FB- ____ 92
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- i. ADF&G information indicated that numbers of pots fished by vessels do not track directly with vessel length.
- ii. Wet storage areas allow small and medium size vessels to deploy large numbers of pots if they choose to fish in this manner.
- iii. Liberal hours to deliver to port after season closures allows small and mid-sized vessels to remain competitive by fishing large numbers of pots despite weather variables.
- iv. Some large vessels are able to fish smaller numbers of pots competitively due to skill and experience of operators.
 - v. Data presented on pages 11, 13, and 16 of Economic Impacts Study Draft document, for years 1986-1990, do not conclusively demonstrate that the largest vessels fish the largest numbers of pots and control a larger proportional share of harvest.
- vi. Public testimony indicated that a minimum pot soak time of 18 24 hours was required to reach acceptable harvest levels. Even the largest vessels would not normally turn over 250 pots within a 24 hour period.
- 7. At this point, the Board determined fixed pot limits would be the preferred management alternative to discuss with industry. The Board then focused its discussion on determining the appropriate number of pots to apply to the Bristol Bay red king crab fishery.

For discussion purposes, after input from the industry committee, the Board adopted 250 pots per vessel as a reasonable number to focus on.

The Board engaged in a lengthy discussion of enforcement issues and found the following:

- A. An important benefit of imposing <u>any</u> fixed pot limit would be to generate accurate numbers of how many pots are actually being fished and how many pots are actually being lost. Industry saw that attainment of real numbers would greatly improve ADF&G's ability to determine the catch per unit effort.
- B. A sticker program could be implemented consistent



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with existing state regulations.

- C. Replacement of lost pots could be provided for in the 1992/1993 fishery.
- D. Division of Fish and Wildlife Protection may experience difficulty proving cases if replacement pots are allowed. The Board considered non-replacement of lost pots and double sticker requirements. However, the Board found that hardship to industry by not providing some replacement program would be unnecessarily burdensome, especially in light of a first year program of gear limitation. Special conditions regarding replacement were included to accommodate the concerns of Fish and Wildlife Protection. They rejected the double sticker standard.
- E. Board discussed the manner in which it could provide for pots fishing cod for bait. There may be future need for coordinated regulation or cod pot definition between NPFMC and the Board.

In their final summations, Board members found that establishment of 250 fixed pot limit for the Bristol Bay red king crab fishery would be desirable for several reasons. In addition, this management option would be consistent with Magnuson Act standards and would achieve objective of FMP in the following ways:

- 1. Pot limits would likely lengthen season and would provide for greater management precision and prevent over harvest of stocks.
- 2. Pot limits would decrease crab mortality by increasing incentive to retrieve lost gear.
- 3. Pot limits would allow for greater level of maintenance of gear in terms of better quality lines and buoys, thereby decreasing pot loss.
- 4. Pot limits will result in greater ability to maintain biodegradable twine, thereby decreasing crab mortality due to ghost fishing of lost pots.
- 5. Pot limits encourage vessel operators to fish more efficiently thus decreasing capitalization costs relative to value of harvested species.
- 6. Pot limits will minimize gear conflict within and

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between fisheries.

- 7. Pot limit of 250 is an appropriate level which will not result in a significant increase in mortality due to handling relative to increased pot limits, when weighed against the savings in crab mortality presently incurred by the lost pot problem.
- 8. Pot limit of 250 is the mid-point of the range of values considered in the economic study, and is close to the 275 pots per vessel average currently being fished.
- Industry committee, with the exception of 1 catcher processor, indicated they could "live with" a 250 pot limit.
- 10. Pot limits with the pot sticker requirements and with the special replacement conditions can be enforceable, but it may take time to work out ideal implementation.
- 11. Pot limit of 250 would not unduly discriminate against any component of the fleet and should not result in a reallocation of harvest between historic components of fishery to a significant degree.
- 12. Pot limit of 250 for Bristol Bay red king crab will result in a more orderly fishery.

With respect to \underline{C} . \underline{bairdi} , the Board discussed whether similar concerns existed in that fishery which were identified in the red king crab fishery. Hearing that this was indeed the case, and with concurrence of the industry committee, the Board extended the 250 pot limit to the Bering Sea \underline{C} . \underline{bairdi} Tanner crab fishery as well. Similar administrative procedures for the stickers and replacement were also approved.

Moving to the Bering Sea \underline{C} . \underline{opilio} fishery, the Board found the following identified concerns.

- 1. The fishery is distinguished by fast moving ice conditions which are causing, in some years, intolerably high levels of pot loss which degrade habitat and increase crab mortality and gear conflicts (pot and trawl fisheries).
- If pot limits are implemented, they would cause greater vigilance in gear placement and would decrease the number of pots being lost.



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 Pot replacement should be provided for under special conditions to accommodate Fish and Wildlife Protection's concerns.

The Board found that benefits of this limit are similar to those of the Bristol Bay red king crab fishery but recognized increasing season length as not the compelling reason necessary in this fishery at this time. The Board also found that benefits outweigh projected hardship to industry. However, if during their review at the 1993 Board meeting they find plan objectives or Magnuson Act Standards are not met under this regime, the Board can take corrective measures based on information available and industry recommendations.

After lengthy discussion with the industry committee and among itself, the Board chose to apply the 250 pot limit to the Bering Sea <u>C. opilio</u> fishery, for the 1992-1993 season.

The Board considered the Norton Sound red king crab, Pribilof blue king crab, and St. Matthew blue king crab fisheries and established a 100 pot limit for each, based upon the following reasons:

- 1. Industry support for fixed limit, over any other option reviewed during the red king crab fishery discussion.
- 2. Department recommended 50 pot limit, but the Board liberalized this to decrease possible handling mortality which would occur through increased pot limits.
- Those fisheries would have remained closed, or have been closed, if a pot limit was not instituted.

In 1993, the Board may revise this level downward or consider other options if overfishing occurs in 1992/1993.

Regulations for the remaining Bering Sea/Aleutian Island crab fisheries (Dutch Harbor and Adak) remained status quo, as the Board found no pressing concerns requiring regulatory change for those fisheries at this time.