

**Joint Meeting  
Alaska Board of Fisheries  
and  
North Pacific Fishery Management Council  
January 30, 1996**

**TAB 1: INTRODUCTION**

- a. Background Materials on Crab FMP**
- b. Crab Plan Team Report - January 30, 1996**
- c. PNCIAC Meeting Report - October 16, 1995**

## I. INTRODUCTION

### A. Description of Crab FMP

#### 1. Brief History of FMP

The Bering Sea and Aleutian Islands King and Tanner Crab Fishery Management Plan was approved by the North Pacific Fishery Management Council in January 1989 and by the U.S. Secretary of Commerce on June 2, 1989. Though the plan may seem relatively new, it reflects a ten-year history of management experiences and problems (and some failures) with earlier, separate plans for Tanner crab off Alaska, and a draft plan for king crab.

The current plan is summarized in Attachment 1. Attachment 2 contains two brief histories of actions during the 1980s. The first is a letter dated June 17, 1993 that recaps decisions on exclusive area registration and concludes that superexclusive registration is not allowed under the current FMP without plan amendment (as the Council did with Norton Sound recently). The second history is from the Council's January 1989 meeting notebooks. It recaps changes during the 1980s. These histories depict the underlying tension between out-of-state fishermen and state management, and how it influenced the balance in today's plan of Council oversight and State management.

The most debated issues of the 1980s involved management measures that the Pacific Northwest industry viewed as discriminatory. These mainly included pot limits and exclusive registration areas, though fair access by non-residents to management decision-making also was of grave concern to the Pacific Northwest industry. Many in industry wanted full Council management of the crab fisheries through an FMP, while others wanted complete deference to the State.

The final, current plan represents a compromise. It allows for Council oversight by establishing three categories of management measures. The most contentious measures are in Category 1 and require plan amendment and Council approval. The next most contentious issues are frameworked in Category 2 and require the State to address certain criteria when changes are made. The remaining measures are in Category 3 and are completely within the domain of the State to change as determined necessary. The plan also establishes the Pacific Northwest Industry Advisory Committee for input to the Board of Fisheries, and also an extensive appeals process.

Since approval of the plan in 1989, the Council has had annual reports on crab survey information, developed overfishing definitions for the various species within the plan, included the crab fleet of the BSAI in developing a moratorium on groundfish fisheries and further limited entry plans for groundfish and crab. The Council also has included the crab observer program in its North Pacific Fishery Research Plan which will begin charging fees in 1995. Three major management issues have been brought to the Council during the past two years: the opilio optimum yield (OY), pot limits, and the Norton Sound superexclusive registration:

Opilio OY. In April 1992 the Council considered the need to adjust the upper level of the OY range for opilio Tanner crab. ADFG set a GHF of 400 million pounds, which exceeded the upper OY of 333 million pounds. ADF&G later lowered the GHF below the upper limit of OY, but the Council asked its plan team to analyze the impacts of a higher OY. In September 1992 the Council received a report that new survey results indicated a GHF of 207 million pounds. No further action was taken on increasing the opilio OY.

Pot limits. Also in 1992 the Board approved pot limits of 250 pots for Area T Bristol Bay red king crab fisheries and Area J BS Tanner fishery, and 100 pots for smaller crab fisheries in Area Q. The Pacific Northwest industry appealed the pot limits on June 30, 1992, and the Board repealed its pot limits in December after NMFS overturned the regulation because it was inconsistent with plan requirements that pot limits be designed in a non-discriminatory manner. The Council then asked the Pacific Northwest Crab Industry Advisory Committee to suggest pot limits they could live with. The committee met on January 5, 1993 and recommended that the Board

develop pot limits by vessel size. The Board did so in February, using two size classes of vessels, with the break point at 125 ft. These limits are now in force.

Norton Sound Superexclusive Area. In February 1993, the Board adopted a proposal to establish king crab superexclusive registration for Norton Sound. An Alaska Crab Coalition petition to the Board on March 26, 1993 to repeal the action was rejected. The Crab Interim Action Committee (explained below) met on June 18, 1993 to discuss the issue. The Council in turn reviewed the situation on June 21 and decided to meet with the Board and to call for proposals over the summer. NMFS overturned the Norton Sound designation on July 20, 1993, and in September the Council instructed the crab team to move forward with analyzing superexclusive registration for Norton Sound as an amendment to the plan. The Council approved the amendment at its January 1994 meeting and the package was forwarded for Secretarial review on February 10, 1994.

Also in September 1993, because of the increasing number of crab issues that were surfacing of mutual concern to the Council and the Board, the Council endorsed a State-Federal action plan that, among other things, called for representatives of the Board and Council to meet periodically to discuss issues of mutual importance.

## 2. Management Measure Categories

Three categories of management measures are incorporated in the plan: Category 1 - those that are fixed and require an amendment to change; Category 2 - those that are frameworked and the State can change following criteria set out in the FMP; and Category 3 - those measures that are neither rigidly specified nor frameworked in the plan. Category 2 and 3 measures may be implemented through State rulemaking subject to the appeals process outlined in the plan.

Category 1 (fixed): legal gears, permit requirements, federal observers, limited access.

Category 2 (frameworked): minimum size, GHGs, inseason adjustments, districts, seasons, sex restrictions, pot limits, registration areas, closed waters.

Category 3 (State discretion): reporting requirements, gear placement/removal/storage, tank inspections, gear modifications, bycatch limits in crab fisheries, state observer requirements, other.

As noted above, superexclusive registration for Norton Sound was a Category 1 measure requiring plan amendment. Pot limits also have been contentious, not because the State does not have the authority to establish them, but because the plan requires they be fashioned in such a way so as to avoid discriminating against larger vessels from the Pacific Northwest. Optimum yield, while not specifically mentioned in the above categories, is a numerical range in the plan and would require plan amendment to change.

## 3. Appeals Process

The appeals process is shown in Figure 5 of the plan summary (p. 16 of Attachment 1). In general a person that does not like a regulation passed by the Board must first petition the State, and if rejected, then appeal to the Secretary of Commerce to have the regulation overturned. Once appealed to the Secretary, a meeting of the Crab Interim Action Committee (ADF&G Commissioner Rosier, NMFS RD Pennoyer, and WDF representative Millikan) is held. This group has met several times, most recently on June 18, 1993 to consider the Norton Sound issue. Normally their report comes back to the next Council meeting also. However, it is the Secretary of Commerce that must finally make the call on whether to let a challenged management measure stand or not. In both of the last appeals, concerning pot limits and Norton Sound, the Board's decisions were overruled, though for different reasons. It is important to note that the Secretary of Commerce will consider only challenges to regulations alleging that the new regulations are inconsistent with the FMP, the Magnuson Act, or other

applicable Federal law. The Secretary will not respond to comments that merely object to a regulation or state that an alternate regulation is better unless the interested person ties the objection to the appropriate standard of review.

## B. Federal & State Responsibilities in BSAI Crab Fisheries

### 1. Council and Board Roles

As noted earlier, the crab fishery management plan was drafted during a period of considerable tension between non-residents and State management. Alternatives considered in the draft plan ranged from total Council management of the fisheries, to total state control. The FMP came out establishing a State/Federal cooperative management regime that defers crab management to the State while retaining Federal oversight. Instead of relying upon a fully developed and detailed set of Federal regulations to carry out its objectives, the Secretary uses the regulatory regime of the State of Alaska as long as it remains consistent with the plan and the Magnuson Act. The Council and NMFS are always available as venues for addressing complaints about management measures.

### 2. PNCIAC

According to the plan, the Pacific Northwest Crab Industry Advisory Committee is supposed to provide a special means of access to the regulatory process for non-residents of Alaska. It operates under the authority of the Council because State law does not provide for advisory committees located outside the State. However, the PNCIAC is supposed to be recognized by the State as occupying the same consultative role on pre-season and in-season management measures as all other existing State of Alaska Fish and Game advisory committees, no more and no less. The PNCIAC shall review and advise the State on proposed pre-season management measures. During the season, the PNCIAC, on the same basis as any other Board advisory committee, shall monitor ADFG reports and data, may recommend to ADFG the need for in-season adjustments, and may advise on decisions relating to in-season adjustments and emergency-type actions. Membership on the committee is as follows:

Arne Aadland	Ocean Viking Fisheries/Seattle	Robert Miller	Cascade Boat Company/ Seattle
Dave Benson	Arctic Alaska Fisheries/Seattle	Rich White (Ch)	Dutch Harbor Seafoods/ Seattle
Don Giles	Icicle Seafoods/Seattle	Arni Thomson	Alaska Crab Coalition/Seattle
Spike Jones	Snowking Inc/Oregon	Bart Eaton	Trident Seafood/Seattle
Bruce Joyce	Commercial fisherman/Seattle	Gary Loncon	Royal Aleutians Seafood/Seattle
Kevin Kaldestad	Kaldestad Fisheries/Seattle		

The PNCIAC's last meeting was on February 9, 1994 in Seattle, and they will report under agenda item III.B.

### 3. State-Federal Action Plan

The action plan and a status report by Kim Spitler are under Attachment 3. The plan was endorsed by the Council in September 1993 and finalized by ADFG and NMFS in mid-October, 1993. Its purpose is to improve coordination and communication between NMFS and ADFG. It establishes a research planning group, crab plan team, and the state/federal policy group. The research planning group is to consider long-term crab research priorities, current activities, and each agency's particular research needs. The crab team will continue its business as normal, helping to set GHGs and being available to help with analysis of amendments to the plan. The State-Federal Policy group provides an ad hoc mechanism for senior staff and legal counsel to meet to review and discuss management issues, particularly for consistency with the plan and with the Magnuson Act. And finally, the plan also establishes the Board-Council Consultation Group discussed further below.

## II. CONSULTATION GROUP

### A. Terms of Reference

The Consultation Group was established under the auspices of the Bering Sea and Aleutian Islands king and Tanner crab plan. This would appear to constrain the group's purview to just the BSAI and just those species managed by the plan - red, brown, and blue king crab, and *C. bairdi* and *opilio* Tanner crab, as well as lesser known species of Tanner crab. There has been some mention of expanding the group's purview to other jointly managed fisheries such as scallops if a plan is approved there. and perhaps to any other issue, species, and area that needs the joint attention of both the Council and the Board. The Group may wish to discuss whether its scope should be expanded.

### B. Establish Meeting Format and Structure

In arranging future meetings, the Group needs to determine what types of staff presentations are desired and whether there will be public testimony taken on all issues. For this meeting we have scheduled a report on stock status and also indicated that public testimony would be taken. The group needs to give the staff direction on the contents and structure and flow of the meeting that it is most comfortable with. How often should the group meet, at what time of year, and where?

ALASKA DEPARTMENT OF  
FISH & GAME  
DIVISION OF COMMERCIAL FISHERIES  
JUNEAU, ALASKA

NATIONAL MARINE FISHERIES  
SERVICE  
ALASKA REGION  
JUNEAU, ALASKA

STATE/FEDERAL ACTION PLAN  
FOR MANAGEMENT OF  
COMMERCIAL KING AND TANNER CRAB FISHERIES  
OCTOBER, 1993

PURPOSE: To foster improved coordination and communication between National Marine Fisheries Service (NMFS) and Alaska Department of Fish & Game (ADF&G) with respect to crab management under the Fishery Management Plan for the Commercial King and Tanner Crab Fisheries in the Bering Sea and Aleutian Islands Area (FMP). Interagency action groups will implement this coordination.

BACKGROUND: The FMP approved in 1989 establishes a State/Federal cooperative management regime that defers crab management to the State of Alaska with Federal oversight. The Secretary of Commerce defers to the State's regulatory regime providing it is consistent with the FMP, the Magnuson Fishery Conservation and Management Act (Magnuson Act) and other Federal law.

A management goal and specific objectives are identified in the FMP. ADF&G, in consultation with NMFS, recommends to the Alaska Board of Fisheries (Board) appropriate management measure(s) for a given year and geographical area to accomplish the objectives. Three categories of management measures are available for consideration: (1) those that are specifically fixed and require an FMP amendment to change, (2) those that are framework-type measures which the State can change without an FMP amendment but following specified criteria, and (3) measures that are neither rigidly specified nor frameworked in the FMP. The measures in categories (2) and (3) may be adopted as State laws subject to the appeals process outlined in the FMP.

The State is not limited to the measures outlined above. Any other management measures must be justified based upon consistency with the FMP objectives, the Magnuson Act, and other applicable Federal law.

Overall, the FMP has efficiently managed the crab fisheries. The framework approach has worked well for the majority of crab management issues. However, Category 2 management measures have been appealed to the Secretary (specifically, pot limits and registration areas). Members of the industry also have criticized Board actions with respect to Category 2 measures

(setting of guideline harvest levels). In order to avoid future contentious problems, NMFS and ADF&G will adopt this action plan to more formally implement State/Federal cooperation in crab management.

**ACTION:** Three action groups, described below, will facilitate this joint coordination.

- a) Research Planning Group
- b) Crab Plan Team
- c) State/Federal Policy Group

#### Research Planning Group

The purpose of this group will be to consider long-term crab research priorities, current research activities, and each agency's particular research interests. The group will include NMFS, ADF&G and university crab biologists as well as other representatives from NMFS/Fisheries Management Division; Alaska Fisheries Science Center and ADF&G/Division of Commercial Fisheries. Some of these individuals also may be members of the Crab Plan Team.

This group will work on the development of a long-term plan for applied crab research which will help foster a healthy exchange of ideas among fishery biologists and managers on particular needs. The plan will focus on development of optimal long-term harvest policies. The plan will be updated annually and will function as a vehicle to coordinate the expenditure of crab funds between ADF&G and NMFS and to seek additional funding for critical research.

The group will meet annually for a one- or two-day period at a time and place convenient for the majority of group members.

#### Crab Plan Team

The annual development of the preseason guideline harvest levels (GHLs) is a dynamic process dependent on using the most current information available and applying this information via analysis and statistical modeling. Scientists from NMFS and ADF&G are currently involved in this process.

Though individual members of the Plan Team have always participated in the development of GHLs, public perception is that this is an ad hoc process. Due to the timing of the Bering Sea surveys and the openings of the early fall fisheries, only a limited amount of time exists to analyze, discuss, amend and release the GHLs to the public in a timely fashion. To release preseason GHLs that have been reviewed using a Council process, such as that used to establish annual groundfish harvest specifications under the groundfish FMPs, would require that

current season opening dates for the fall fisheries be delayed and/or rescheduled, or the previous year's survey information would have to be used to set GHLS in the current year. The latter option could interfere with the FMP management objective of biological conservation. In addition, the Council would have to schedule a special meeting or allow time during the September meeting to address crab management after the survey information became available.

The purpose of a Plan Team review will be to formally incorporate its input in the GHLS process. The FMP calls for Plan Team input in the preparation of an annual area management report to the Board. This report includes a discussion of the current status of GHLS and support for different management decisions. This report is reviewed by the State, NMFS, and the Council, and available for public comment on an annual basis.

The Plan Team will meet annually to review GHLS in a session that is open to the public.

#### State/Federal Policy Group

The purpose of the State/Federal Policy Group will be to review and discuss crab management issues prior to Board and/or Council review. This group will include senior staff and legal counsel and will meet annually, or more often if necessary. Many issues may be resolved through interagency agreement. For instance, prior to final Board action, this Policy Group could review whether crab management proposals and petitions are consistent with the FMP and reflect an appropriate and desired management strategy. Also, this group will review FMP amendment proposals. Their recommendations will be forwarded to the Board and the Council, providing guidance as the Board establishes management regulations.

#### OTHER ACTION:

In addition to the above action groups, NMFS and ADF&G will meet annually with crab industry representatives to discuss crab management issues such as, but not limited to, setting of GHLS, stock analysis, current research, and harvest strategies. The location of meetings will alternate between Washington and Alaska. These meetings will provide an opportunity for review of crab management issues and industry input to management agencies.


Council and Board members have agreed to form a Consultation Group composed of a subcommittee of Council and Board members that will meet publicly on an annual basis to focus on crab issues. (These meetings could occur at one of the regularly scheduled Council or Board meetings.) This joint subcommittee could review staff data on the status of crab stocks and fisheries and both public and staff information regarding crab



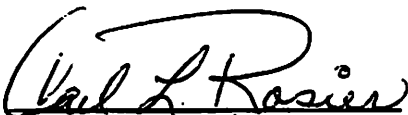
management and then provide guidance to the respective Council and Board on pertinent crab issues. Council and Board representatives would benefit by meeting for the sole purpose of discussing crab-related issues.

Both NMFS and ADF&G agree to jointly request Council and Board concurrence on these action groups and their role in the cooperative management of the king and Tanner crab fisheries in the Bering Sea and Aleutian Islands.

This State/Federal Action Plan for Management of Commercial King and Tanner Crab Fisheries has been approved by:

  
Steven Pennoyer  
Director, Alaska Region  
National Marine Fisheries  
Service

10/12/93  
Date

  
Carl L. Rosier  
Commissioner  
Alaska Department of  
Fish & Game

10/15/93  
Date

**Crab Plan Team Report**  
**Joint Meeting of the**  
**North Pacific Fishery Management Council**  
**and the**  
**Alaska Board of Fisheries**

January 30, 1996

**I. Purpose and Membership**

The Crab Plan Team's primary purpose is to provide the North Pacific Fishery Management Council (Council) with the best available scientific information, including scientifically based recommendations regarding appropriate measures for the conservation and management of Bering Sea/Aleutian Islands (BS/AI) King and Tanner crab. It is the Team's responsibility to evaluate and make recommendation on pertinent management, biological, economic and social conditions of the fisheries.

During 1995, the Crab Plan Team met three times by teleconference: August 30, September 21, and December 14. The Team also traveled to Seattle to participate in the crab rebuilding committee meeting March 21-22. This was a joint meeting with the Groundfish Plan Team. The Team's chair (Kim Rivera) resigned January 6, 1995 and a new chair (Peggy Murphy) was elected August 30. The Crab Plan Team also agreed addition of an economist would be beneficial and welcomed new member, Joshua Greenberg, at their December meeting.

- Ron Berg, Chief, Fisheries Management Division, NMFS, Alaska Regional Office, Juneau.
- Joshua Greenberg, Associate Professor, Univ. of Alaska Fairbanks, Department of Resources Management.
- Ken Griffin, Crab Fishery Management Plan coordinator, ADF&G, Juneau.
- Rance Morrison, Bering Sea/Aleutian Islands Area Management Biologist, ADF&G, Dutch Harbor.
- Peggy Murphy (Chair), Statewide Shellfish Biometrician, ADF&G, Juneau.
- Bob Otto, Director, Kodiak Laboratory, NMFS, Kodiak.
- Doug Pengilly, Westward Region Shellfish Research Coordinator, ADF&G, Kodiak.
- Jerry Reeves, Research Fisheries Biologist, NMFS, Seattle.
- Tom Shirley, Associate Professor, Univ. of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Juneau.
- Dave Witherell, Fishery Biologist, NPFMC, Anchorage.

## **II. Administrative Accomplishments in 1995**

- Compiled the annual SAFE report for the BS/AI king and Tanner crab fisheries. The SAFE report summarizes the best available scientific information on past, present and future biological condition of the crab stocks, social and economic condition of the fishing and processing industries, and any ecosystem concerns.
- Drafted the Crab Plan Team Terms of Reference to detail membership, organization, and functions.
- Updated the Fishery Management Plan (FMP) for the Commercial King and Tanner Crab Fisheries in the BS/AI for the first time since its adoption in 1989. All updates are of a housekeeping nature and will not affect the management of the crab fisheries in any way and therefore can be made as a plan amendment with a simple notice of availability and no need for supporting analyses.
  1. Added language to:
    - Amendment 1: Define Overfishing (1990);
    - Amendment 2: Establish Norton Sound as a superexclusive area (1994);
    - Amendment 3: Detail the pay as you go observer program (1996);
    - Amendment 4: Establish a vessel moratorium (1996).
  2. Updated figures of:
    - a. annual decision making process;
    - b. fishery opening and closing dates; and
    - c. inseason management decision process.
  3. Updated tables of :
    - a. Management measures by category to include Norton Sound superexclusive designation as a category 1 measure; and
    - b. MSY estimates to include 1986-1994 commercial crab harvests .
  4. Updated Appendices to include:
    - a. Federal State Action Plan;
    - b. 1986-1994 commercial crab harvests; and
    - c. current status of stocks.

## **III. Technical Reviews and Recommendations**

- Analysis of Alternative Trawl Closure Areas Designed to Protect Red King Crab by Reducing Bycatch.

**Background.** The closure of the Bristol Bay red king crab fishery in 1994 precipitated closure of the Tanner crab fishery east of 163° W. longitude as mandated by the Board of Fisheries (Board) to minimize bycatch of red king crabs, and closure of a four block area, the red king crab savings area, to trawl fishing during the first four months of 1995 by emergency action of the Council (Figure 1). The purpose of this closure was to prevent high king crab bycatch especially in the first months of the rock sole fishery.

Subsequently, the Council directed staff in April 1995 to analyze six alternatives to the status quo of no closure that represented annual closures of an area varying in size. A model-based economic analysis was performed to evaluate the bycatch, economic tradeoffs, and implications on various fisheries of the six alternatives.

**Crab Plan Team Comments.** The Crab Plan Team reviewed the analysis prior to the September 1995 Council meeting and made the following points:

- An area closure will reduce red king crab bycatch.
  1. The emergency rule closure in place for 1995 did reduce bycatch.
  2. The analysis projects bycatch reductions in all alternatives to the status quo.
  3. The alternatives vary greatly in predicted red king crab bycatch.
- Trawl fisheries are impacted under all alternatives to the status quo.
- Net benefits (\$) to the nation were similar among all alternatives.

The Crab Plan Teams noted the following concerns for red king crab conservation:

- The Bristol Bay red king crab stock is depressed and stable.
- Trawl fisheries occur during the crab molting and mating period.
- Trawl fisheries remove an estimated 0.75% to 1.5% of the mature crab stock each year in addition to natural mortality which removes 25% of the stock annually.
- Trawling may negatively impact crab habitat and may have unseen detrimental effects on non-retained crab.
- The Board has enacted conservation measures to minimize crab bycatch in directed fisheries through adoption of regulations for pot limits, rot cord in pots, and closure of the area E. of 163° W. longitude to Tanner crab fishing when the Bristol Bay red king crab fishery is closed.

The Crab Plan Team agreed that any closure area should be made year round and that a closure area would protect red king crab. The Team also recognized alternatives 4

and 7 provide the most protection for red king crab, however the Team understood there were economic tradeoffs to consider, thus making alternative 3 more preferable. Under any of the alternatives, the Team noted that pelagic trawling would be acceptable and not harm crab stocks if pelagic trawling were defined and monitored.

**Recent Action.** At their September, 1995 meeting the Council chose to close the area from 162° to 164° W. longitude and from 56° to 57° N. latitude from January 1 to March 31 each year to all non-pelagic trawling. Additionally, the area bounded by 56° 00' and 56° 10' N. latitude will be open during the years when a guideline harvest level is set for Bristol Bay red king crabs.

**Additional Crab Plan Team Comments.** Given the Council's decision and perfunctory discussion of this issue at the time of that decision, the Crab Plan Team revisited the Team's initial review and recommendations at their December meeting and made the following points:

- The Crab Plan Team disagrees with the Council's action to limit the closure to three months and reiterated their recommendation that the closure be year round.
- Biological concerns for the conservation of Bristol Bay red king crabs that were listed in September remain the same (see above).
- The Team members emphasized their concern over the depressed status of the red king crab stock, the serious decline in the *Chionoecetes bairdi* Tanner crab stock, and the poor outlook for both stocks.
- Concerns about the impact of trawling on crabs and crab habitat are not resolved with a seasonal closure because red king crab occur in the closure area year-round and are particularly vulnerable to unseen trawl impacts during their spring molt.

The Crab Plan Team wishes to convey to the Council that they continue to have serious conservation concerns for the Bristol Bay red king crab stock and recommend that the Council reconsider its action and close the red king crab protection area to trawling on a year-round basis.

- Enhance the Management Flexibility of the *C. bairdi* Tanner Crab Bycatch Limits Established for Zones 1 and 2 of the Bering Sea and Aleutian Islands Area.

**Background.** A request was submitted to the Council from representatives of the BS/AI trawl industry in June of 1995 to allow increased management flexibility of the Tanner crab Prohibited Species Catch (PSC) limits in Zones 1 and 2 (Figure 2). Currently, the groundfish FMP specifies a 1 million Tanner crab PSC limit in Zone 1 and a 3 million crab limit in Zone 2 with no flexibility in the management of the PSC limits between the zones. Attainment of the Zone 1 limit by trawlers forces the

movement of fishery operations into Zone 2 where typically Tanner crab and Pacific Halibut bycatch rates are higher. If the Tanner crab PSC limit is reached in Zone 2 by a fishery, then Zone 2 is closed to that fishery. In this situation, increased Tanner crab PSC in Zone 2 would be desirable for trawl fisheries. Conversely, unfavorable ice and weather conditions, and distribution of target species can constrain preferable fishing grounds to Zone 1 to avoid high halibut bycatch rates in Zone 2. This is because if the halibut PSC is reached in Zone 2 by a fishery then the entire BS/AI is closed to that fishery. In this situation increased Tanner crab PSC in Zone 1 would be desirable for trawl fisheries.

An analysis of three alternatives to the status quo was prepared by NMFS to examine the relative change in groundfish harvest and value, and bycatch of prohibited species that could occur through transfer of Tanner crab bycatch allowances between Zone 1 and Zone 2.

**Crab Plan Team Comments.** The Crab Plan Team reviewed the analysis at their December meeting and had the following concerns:

- The alternatives to the status quo result in disproportionate impacts on crab and crab habitat because allowing higher bycatch in Zone 1 increases trawling in areas inhabited by mature Tanner and red king crabs.
- The Tanner crab stock is in poor shape and 1995 fishery performance data suggested that the stock condition is even worse than indicated by the NMFS bottom trawl survey. ADF&G staff noted that given the 1995 survey results and fishery performance, but subject to the 1996 survey results, there is a high probability that the directed commercial fishery for Tanner crabs in the Bering Sea may be closed for the next few years.

The Team has serious conservation concerns for the *C. bairdi* Tanner crab stock. Therefore, the Crab Plan Team recommends that any amendment to reapportion Tanner crab among the bycatch limitation zones be tabled at this time. The Team noted that the trawl industry has the flexibility to assign a greater portion of the Zone 1 Tanner crab PSC to affected fisheries during the annual specification process.

**Additional Crab Plan Team Comments.** The Crab Plan Team suggests if the Council moves forward with this amendment that prior to public review, the following information should be added to the analysis to determine impacts of proposed measures on crab stocks:

- Current status of Bering Sea Tanner crab stocks.
- A discussion of the origin of Tanner crab PSC limits.

- Information on the size and sex of Tanner crab bycatch to determine impacts of the alternatives on the Bering Sea Tanner crab stock. The plan team feels this data is imperative to accurately assess the impacts of the alternatives on crabs.
- An estimate of the cost to the crab industry caused by additional bycatch.

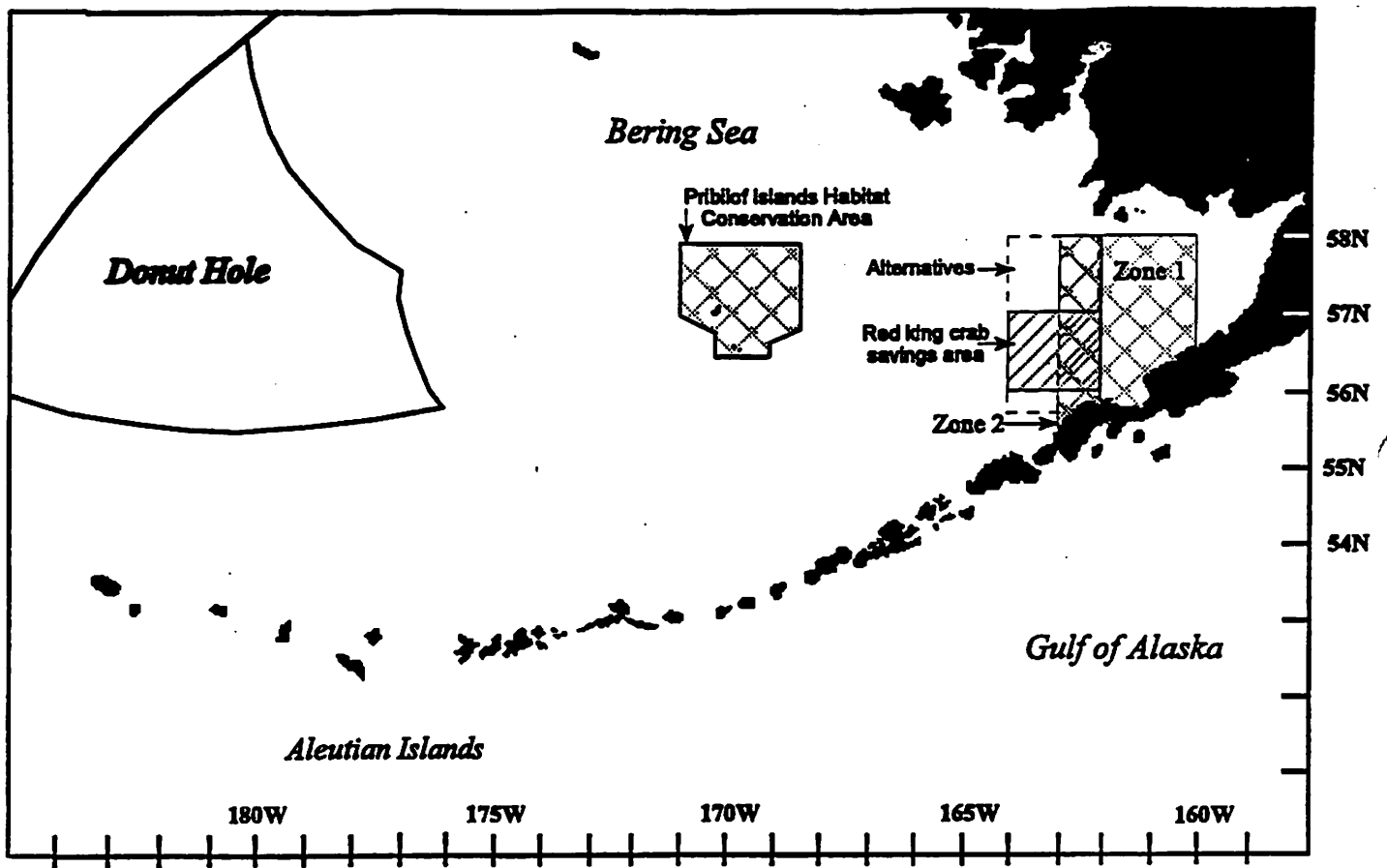


Figure 1. Location of the red king crab protection zone in relationship to existing crab protection zones.

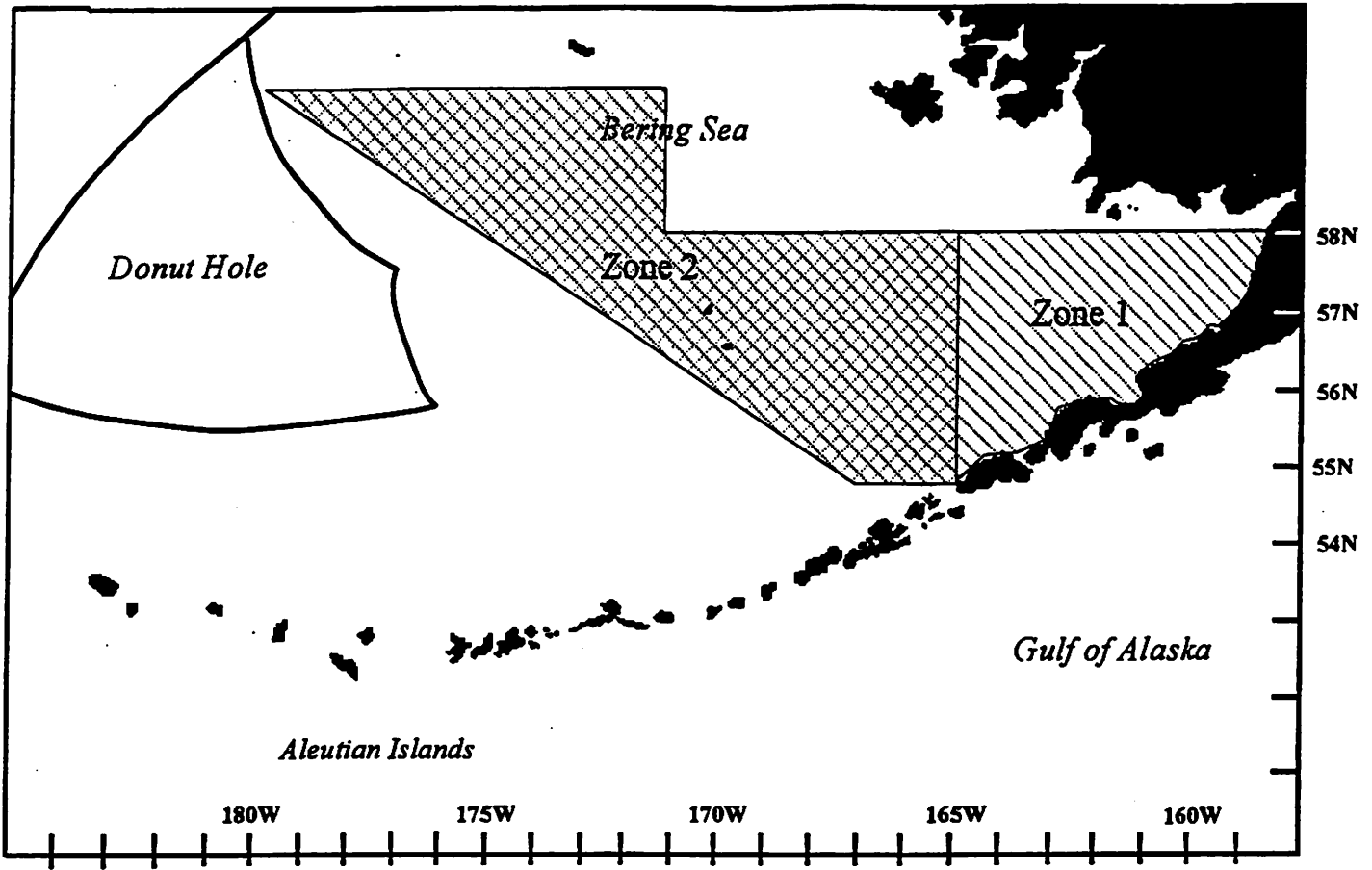


Figure 2. Prohibited species bycatch limitation zones.



**AGENDA**  
**ADF&G STAFF/CRAB INDUSTRY MEETING**  
**9:00 AM OCTOBER 16-17, 1995**  
**HOSTED BY**  
**PACIFIC NORTHWEST CRAB INDUSTRY ADVISORY COMMITTEE**  
**SEATTLE, WASHINGTON**  
**LEIF ERIKSON HALL**  
**2245 NW 57th, BALLARD**

**OCTOBER 16**

- I. Opening Remarks - Clasby
  - a. Department funding levels
  - b. Bering Sea crab increment
- II. Staff Introductions - Clasby/Probasco
- III. Crab Research Projects (up date from 1994 meeting)
  - a. ADF&G Research Project Updates - Pengilly and Murphy
  - b. Specific Project Updates:
    - 1. Bristol Bay red king crab harvest strategy - Murphy, Pengilly
      - a. Length-based model use
      - b. Harvest rates
      - c. Thresholds
    - 2. Bristol Bay test fishery - Pengilly/Tracy
      - a. St. Matthew Tagging Study - Pengilly & Tracy
      - b. Bering Sea Tanner crab pot tunnel restriction study - Tracy
        - 1. will information be used for 95/96 fishery
  - c. NMFS Research Project updates - Otto/Stevens

IV. Crab Management

a. Crab License limitation discussion - Griffin/Krygier

b. St. Matthew/Pribilof fishery review - Morrison

c. Bristol Bay/Bering Sea Tanner crab management -  
Spalinger/Morrison

1. Bristol Bay red king crab GHL

Otto/Pengilly a. Augmented Survey results & usage -

b. No fishery (female threshold)

2. 163 degree closure line (closure/baridi quota)

3. East/West BS opilio quotas & management

a. GHL

4. Nine inch mesh requirement

d. King crab management

1. Adak

a. use of observers

b. red king crab fishery

c. brown king crab fishery

2. Dutch Harbor

a. use of observers

b. brown king crab fishery

e. other fisheries

1. Haircrab

2. Tanneri/cousi

V. Status of North Pacific Fisheries (observer) Research Plan -  
(NMFS regional staff)

OCTOBER 17

- I. BOF Proposal Discussions
  - a. staff positions on each (IF available)
  - b. Agenda change requests
- II. Announcement of joint BOF/Council meeting on January 9, 1996  
in Anchorage.

DATE: October 16, 1995

MINUTES OF THE ALASKA DEPT. OF FISH & GAME ANNUAL MEETING  
WITH THE BERING SEA CRAB INDUSTRY, HOSTED BY THE PACIFIC  
NORTHWEST CRAB INDUSTRY ADVISORY COMMITTEE

Seattle, Washington

Area/Species: Bering Sea/Aleutian Islands king and tanner  
crab fisheries.

Committee present: Gary Loncon, Chair., Rich White, Robert  
W. Miller, Kevin--Kaldestad, Dave Benson, Arni Thomson, Secy.

Committee not present: Konrad Uri, Bart Eaton, Don Giles,  
Gary Painter, Bruce Joyce

ADF&G staff: Bob Clasby, Dir. Com. Fish; Pete Probasco,  
Suprvsr. Westward Region; Earl Krygier; Ken Griffin; Peggy  
Murphy; Rance Morrison; Al Spallinger; Doug Pengilly; Donn  
Tracy.

NMFS staff: Bob Otto, Jerry Reeves

Industry present: See attached sign in sheets, 40 persons,  
on 10/16 and 38 on 10/17.

Convene: 9:30 AM

Introduction: Garry Loncon, Chair

Welcome to ADF&G and NMFS staff and the industry. Apprecia-  
tion to ADF&G for their commitment of time and expenses  
necessary for preparation and attendance at this meeting.

REPORT ON ADF&G BUDGET: Bob Clasby, Dir. Comcl. Fisheries

ADF&G is faced with declining budgets as a result of cost  
reduction measures being explored by the Alaska Legislature  
to reduce the \$500 million deficit. The Legislature will  
likely be proposing new taxes on the fishing industry and  
looking at royalty fees on limited entry fisheries. The  
concept of user fees are also being discussed.

The ADF&G budget has increased from \$1.1 million in 1991 to  
\$1.8 in 1995. In addition, the State received an additional  
\$90,000 for FMP management costs and \$230,000 for research  
funds from the NMFS budget. In FY 1996, the ADF&G budget  
will total \$2.7 million plus \$660,000 for research. The ACC  
is greatly responsible for the budget and research  
allocation increases through its lobbying efforts in Juneau  
over the last four years.

ADF&G is anticipating an overall decrease in the Commercial  
Fisheries budget from \$40 million to \$38 million this coming

year and there is likely to be significant reductions in the Westward Shellfish research and management budget this coming year and in the years to come.

REPORTS ON ADF&G RESEARCH PROJECTS: Pete Probasco, Westward Regional Supervisor, introducing biologists.

\*PEGGY MURPHY, SUMMARY: She identified several research projects that have been completed during 1994 and 1995 and she also listed several projects that are planned for 1996. See the attached lists-Murphy.

\*\*CRAB RESEARCH--SUPPORTED BY ADF&G IN 1995: (Copies of the completed 1995 reports are available by contacting Rance Morrison (D.H.), Al Spallinger (Kodiak) or Peggy Murphy (Juneau).

1. Shell condition and breeding success in Tanner crab
2. Effects of handling on feeding, activity and survival of red king crabs.
3. Crab genetics
4. Long term dynamics of Alaskan crab stocks
5. Lenth Based Analysis for Tanner crab in Bristol Bay.
6. Catch length analysis for crab populations
7. Updated LBA and stock-recruitment relationship
8. Revised and completed harvest strategies
9. Initial analyses of Bristol Bay red king crab rebuilding strategies
10. Comparison of methods to estimate abundance of red king crabs in Bristol Bay and Kodiak
11. Changes in red king crab and Tanner crab population dynamics, a function of density or environmnet
12. Biological reference points for red king crabs in Bristol Bay, Kodiak and Norton Sound
13. ADF&G shellfish literature database
14. Annotated bibliography on capture and handling
15. Density dependence in red king crab collectors

\*\*ADF&G CRAB RESEARCH PLANNED FOR 1996:

1. Breeding success of legal sized male red king crab
2. Genetic stock identification, S. Merkouris and L. Seeb
3. Relative roles of fishing, predation, and environment on long-term dynamics of Alaskan crab stocks, A. Tyler
4. Population estimates and alternative crab harvest strategies. J. Zheng, M. Murphy, and G. Kruse
5. Red king crab pot design and catch efficiency. S. Zhou

**\*\*RESEARCH RECOMMENDATIONS FROM ADF&G/NMFS INTERAGENCY MEETING**

1. Larval ecology and oceanography
2. Crab collectors
3. Image processing
4. St Matthew blue king crab harvest strategy
5. Chionoecetes tag
6. Gear studies
7. Review biological seasons
8. Industry input to review of proposals for funding
9. Interaction between crab and groundfish plan teams

Crab plan team will continue to be involved in the issue of crab bycatch in groundfish fisheries

**\*DOUG PENGILLY:**

Doug has recently been charged with the responsibility for developing a Bering Sea crab research program that will be coordinated with the research identified by Peggy Murphy. See attachment, Westward Region Bering Sea/Aleutians Crab Crab Research; Pengilly.

**\*PEGGY MURPHY:** Length based model use, harvest rates, thresholds. Paper available from Morrison, Spallinger or Murphy.

Reference paper: Overview of Population Estimation Methods & Robust Long-term Harvest Strategy, Red King Crabs in Bristol Bay

Previous method, outdated and less accurate

New LBA method averages multi year abundance estimates

Recruit curve/effective spawning biomass: Used for projecting; spawning most effective with modest spawning biomass, not either high or low spawning biomass

Introduces a new definition of handling mortality, to encompass all types of mortality and estimates that it is 20 to 50% overall.

**DISCUSSION:**

Questions about data source for 50% handling mortality rate. Murphy says that 20-50% mortality rates are lab estimates. Materials to be reviewed by the Board of Fish in March, 1996.

Tom Casey raised his members concerns that implementation of the new strategy and minimum thresholds could result in protracted closure periods and no income for fishermen. Raises questions about scientific assumptions and conclusions in the new strategy.

P. Murphy responds that the strategy has already been reviewed by scientific peers extensively and it has already been implemented. However, it is subject to modification and refinement.

K. Kaldestad: Concern that the new definition for handling mortality could be misinterpreted and severely impact bycatch rates in the crab fisheries.

\*DONN TRACY: Tanner board study, 3" vs. 5" openings  
Copies available from Tracy.

**Preliminary results:**

Study focuses on size of crabs, not the total number of crabs caught in each pot. The study is therefore somewhat inconclusive. However, the survey showed that there is a substantial bycatch of juvenile king crabs caught in the pots, even with the restrictive 3 inch tunnel opening and this gives ADF&G cause for concern.

**BOB OTTO:** NMFS research projects

Handling mortality: After the completion of its recent studies by Macintosh and Stevens, NMFS has come to the conclusion that handling mortality in directed crab fisheries is non significant, less than 3%. The new study will be available soon for distribution.

In regards to predation by cod, NMFS feels that predation by cod (from stomach analysis, P. Livingston) shows very little signs of predation on mature size crabs, only small

crabs.

**\*EARL KRYGIER:** License limitation program

Addressed questions about crossover provisions for pot boats.

Strong opposition to CDQ program, placed a heavy burden on industry in light of declining crab stocks.

Question about future superexclusive areas:

Bob Clasby stated that on behalf of ADF&G, this is an allocation issue, ADF&G would be neutral. Do not foresee future superex areas under the license program.

**\*RANCE MORRISON:** St. Matthew/Pribilof fishery review

**\*\*PRIBILOF RED AND BLUE CRAB:**

GHL, combined, 2.5 million lbs.

Red crab: catch .9 million lbs.; 130 boats; 5,400 pots; 3.2 CPUE; \$3.50/lb.; \$3.1 million value.

Blue crab: catch 1.2 million lbs.; same # boats and pots; 4.8 CPUE; \$3.00/lb.; \$3.6 million value.

Average number of pots pulled per day, 4,852.

**\*\*ST. MATTHEW BLUE CRAB:**

GHL, 2.4 million; catch, 3.2 million lbs.; 90 boats; 5,970 pots; CPUE 15; \$2.30/lb.; \$7.36 million value.

Average number of pots pulled per day, 9,000.

October 17, 1995

**PNCIAC PRESENT:** G. Loncon, B. Miller, R. White, K. Kaldestad, D. Benson, A. Thomson.

**ADF&G & NMFS PRESENT:** Same as October 16th. Jerry Reeves not present.

**RANCE MORRISON:** King crab management reports

Upcoming seasons, new information:

No 14 day wait switching from bairdi to hair crab, invalidate bairdi registration and then vessel can immediately enter hair crab fishery.



Tank inspections will be conducted in the Pribilofs 24 hours in advance of the Nov. first bairdi fishery opening.

No wet storage of gear east of 166 W. longitude prior to bairdi season. An emergency rule will be coming out very soon.

REVIEW OF BOARD OF FISHERIES PROPOSALS:

#455: ADF&G feels that the westward line for DH area should be moved west or eliminated, possibly consolidating the Adak and DH areas. Concern about DH red crab. This makes a lot of sense for the brown crab fishery. DH would become another sub district of the Adak area. There are already other subdistricts in the Adak area. ADF&G looking at simultaneous opening date, either, September 1 or November 1. ADF&G will not finalize recommendations until the Board meeting in March.

R. Miller: Concern about gear conflict between single and longlining pots for Pacific cod --above the 100 fathom line, if Adak and DH brown crab registration areas are combined. This needs to be resolved if the areas are to be combined. Presently, longlining of pots for cod is legal in the Adak area. Maybe single line gear should remain the only legal pot gear for P. cod, above 100 fathoms, in the DH area. Also need to consider standardizing brown crab gear requirements in the area, presently they are not the same for the two areas.

#473: Opening the area east of 163 to bairdi fishing.

ADF&G, Spallinger: Ref. D. Tracy tunnel height experiment. As noted, small king crab are still able to enter 3" tunnel opening. ADF&G could look at eliminating the 163 line, but leave selected areas east of 163 closed. Still have to do the analysis.

Morrison: Would have to design the closed area so it would be easy to enforce.

D. Tracy: Area of 161-30 and 56-30, abundance of large bairdi overlapping with large concentrations of small red king crab. There is large bycatch of king crab in pots, even with 3" tunnel opening. Fishery east of 163 would be a problem, but we will be taking a hard look at it.

B. Otto: A large number of the mature crabs east of 163 are old shell crabs that will not likely molt again and recruit into the fishery. They are just below the legal size. He also states that large females and small juveniles are found in large concentrations west of 163 and there are impacts to these stocks from conducting the entire fishery in the area west of 163.

T. Parks: Critical of ADF&G for not having come up with the answers to the stock recruit problems, despite the passage of ten years since the collapse of king crab. The fishermen are not the problem, we have not had an opportunity to fish in the area east of 163. However, the draggers are still allowed to fish there and take crab as bycatch.

D. Pengilly: In response to industry concerns, he expressed very low confidence in the bycatch estimates of the ground-fish observer program.

G. Loncon: Asked Pengilly what he meant by low confidence in estimates--did he mean understated?

D. Pengilly response: Yes.

Discussion ensues about the problem of bycatch in the trawl fisheries and the bifurcation in management of crab and bycatch. Request from industry reiterated that ADF&G and Board of Fisheries get aggressively involved in the issue of bycatch.

G. Loncon: Recommends that the Crab Plan Team become strong advocates of the crab industry, with a focus on the issue of bycatch. The crab industry and ADF&G have done what they can.

There was also a lot of discussion about the recent NPFMC vote on the expanded Bristol Bay trawl closure, from 162 - 164 W. longitude and 56 - 57 N. latitude. The Council modified the 1995 emergency rule, providing for a year-round closure, such that the recently adopted permanent rule will be a seasonal closure from Jan. 1 - March 31, by a 6/5 vote.

All three Washington State representatives voted against it, including Dr. David Fluharty, U.W., Chairman of the Crab Rebuilding Committee.

Dr. Fluharty was present at the meeting and provided no substantial reasons for his position, other than a need to maintain communication with the affected sectors of the industry and the need for more information on yellowfin sole predation on king crab larvae. He also stated that the Crab Rebuilding Committee does not support adoption of new permanently closed protection areas.

R. Miller: Noted that predation is no doubt a factor, but sole and cod can be harvested outside of the expanded no trawl zone with less damage to critical crab habitat.

At the close of the discussion, the Chairman reiterated the PNCIAC support for aggressive action to develop additional protection areas and restraints on the trawl industry in regards to bycatch of crabs. The Chairman also noted for

the record of this meeting, that this is an issue of grave concern to the Bering Sea crab industry and they want reductions of crab bycatch in the groundfish industry as soon as possible.

#462: ADF&G supports removing September 22, closure date for the St. Matthews blue king crab fishery and going to closure by emergency order. The date is too restrictive and it makes sense to close by emergency order.

#461: Industry concerned about uncertain implications of 20-50% handling mortality rate in the harvest strategy and the new minimum thresholds being proposed for females. High thresholds equate to protracted closure periods in crab fisheries and resultant impacts to the livelihoods in the fishing community.

P. Murphy: Clarifies that the LBA harvest strategy is not static, but something ADF&G will continue to evolve as we move along with implementation. We are willing to adjust mortality rates as fishermen improve on their mortality.

Industry identifies that there are problems with the definition of handling mortality as used in LBA strategy versus common usage of the term.

Gretar Gudjonsson: Suggestion that ADF&G use their mortality percentage as a "percentage of total population," because that appears to be what it means. 20% handling mortality seems to equate to 2% of the total population.

Industry also adamantly disagreed with ADF&G on their estimation of mortality rates in the directed fisheries, and makes reference to recently completed studies by Macintosh (NMFS) and S. Zhu (ADF&G/U. of A.)--nonsignificant mortality, 3-5%.

Industry also noted that capture of small crabs has decreased considerably since implementation of the 7.75 inch mesh in Area T king crab fishery.

#471: Tanner crab harvest strategy: ADF&G intends to withdraw this proposal from the Board of Fish. agenda. Analysis not ready yet.

#479: Modify the size limit for *c. opilio* tanner crab. Preliminary recommendations.

B. Otto: Current size limit of 3.1 is based on old information about size at maturity. New information leads us to recommend revising the size limit to 88 - 90 mm. I would foresee that based on new information we would recommend that the minimum size be increased to 90 mm (3.5 inches). The objective is to insure a molt after maturity.

ADF&G: No enforcement concerns with an increase in size limit to 3.5 inches. If this meets biological concerns for size at maturity, that would satisfy us. We would only be concerned if the market size dropped to 3.5 or less.

Question: What might GHL be for opilio if based on 3.75 minimum size instead of 4 inch?

Otto: 50.7 to 82 million lbs. GHL.

R. Morrison: Concerned that if GHL based on 3.75 that industry will still be harvesting 4 inch crab and overharvest that age group. (Assumption is made here that ADF&G will still be estimating GHL based on 4 inch size limit even if size limit is increased to 3.75, just as they are presently doing under the 3.1 inch minimum size limit with 4 inch industry standard.)

#465 and 486: ADF&G supports additional running time to ports east of King Cove.

#498: ADF&G, allow observers on floaters to board and inspect catches of vessels delivering to floaters. Observers presently do not have authority to board. Samples can only be taken while on board floaters. ADF&G supports this proposal.

#478: Create a Northern district, north of 60 degrees, with its own GHL.

Griffin and Morrison: Present GHL for opilio based on the entire range of stocks, including north of 60 degrees.

B. Otto: Does not agree that creating a new district would result in an increase in GHL. Only a small portion of the stocks are above 60 degrees.

ADF&G: In response to a question from ACC/Thomson states that they have in season management authority to have a split season and they have offered to manage in this fashion if industry can come to a consensus on the opening date for the second part of the season in the northern area. However industry and the PNCIAC have not been able to come to a consensus the reopening date for the second season in the Northwestern subdistrict.

#496 and #497: Proposals to authorize longlining of pots for deep water crab species, tanneri, angulatus and cousei in Area M and K.

ADF&G doesn't seem to have objections to longlining, other than possible gear conflicts.

1 million lbs. caught thus far this year in Area M, 5 boats. They are using single line gear.

R. White: Concerns, not a lot of fishable ground in Area M, patchy concentrations of crabs; existing regulations restrict gear to single line pots and 150 pot limit. There should definitely be a pot limit.

A. Thomson: Noted that he had preliminary discussion with FVOA in Seattle about potential conflicts with sablefish hook and line boats and that it seems that if pot fishing were done after the close of the hook and line season, that this should not be a problem. Also, 100% observer coverage is required in the deep water permit fisheries, so there would be close monitoring. Board of Fish has a lot of latitude in terms of pot limits, to control the amount of gear, as these areas are managed solely by the State of Alaska, without a federal FMP. This means the Board could set a single tiered pot limit for the fleet, as in other areas around the State.

#470: Standardize king and tanner crab pot definitions for deep water tanneri, cousei and angulatus crab. ADF&G supports this proposal.

#465: Additional running time for delivery in King Cove.

Dale Schwartzmiller speaks to the problem on behalf of the fleet that fishes out of King Cove.

P. Probasco: ADF&G willing to work with industry to come up with a reasonable extension of time for delivery to King Cove.

#475 and #476: Change opening date of opilio for safety reasons. What date would be satisfactory?

G. Loncon: Whatever change is made, consider the impacts of the trawl fleet entering the fishery if they are idle.

R. White: Some in the industry have suggested November, but this raises quality concerns for processors. April 15th, another date that has been suggested, may not give us enough time to harvest GHL.

R. Miller: ADF&G supports opening the opilio season at varied times to avoid heavy icing conditions and unnecessary loss of lives from fishing in these conditions. Crab quality is consistently good March 15th through June 20th, for seasons of low GHL.

G. Loncon: January 15th season has acquired a quality reputation in the market. Need to seriously consider this before making any changes. A change could affect the price.

#500: 30% observer coverage for catcher boats

G. Loncon: Need for cost-benefit analysis. This program

will be costly. Will the data and information justify the costs to the industry?

R. Miller: It seems that 30% observer coverage would be impossible to implement in a fair and equitable way unless, there is a fixed number of days in a fishery. It also seems as if the industry-wide tax based program would have to be in place and the NPFMC rejected that at their September meeting.


ADF&G: We have no idea how to devise such a program for the short king crab seasons. The opilio fishery might be the only fishery which could accommodate a rotating observer program. Not ready to respond to this. Have to look at what level of coverage is needed for statistical validity. It is unlikely that staff will have the time before the meeting to conduct the analysis needed to determine what level of coverage is needed for statistical reliability as a random sample of fleet coverage.

The meeting closed with the PNCIAC chairman, Garry Loncon, noting that on behalf of the committee, he felt that the two day workshop had been very productive and a worthwhile exchange between the managers and biologists and the industry. He also reiterated the PNCIAC's appreciation of the strong commitment in time and expenditures by ADF&G to participate and encouraged ADF&G to continue this kind of industry liaison in the years to come.

Mr. Loncon also announced that the PNCIAC would be meeting sometime in early December to formulate its recommendations for the Board of Fisheries proposals, in order to give vessel operators and processing representatives involved in the opilio fishery ample opportunity to participate in the discussions.

The meeting adjourned at 3:45 pm.

(Since the PNCIAC adjourned, the Board of Fisheries conducted their fall workshop and confirmed that the Statewide Shellfish Meeting will be held the week of March 9-18, 1996, not in Dutch Harbor as previously planned, but in Anchorage.)

Garry Loncon, Chairman, PNCIAC   
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Please copy correspondence and notices to:  
Arni Thomson, Secretary, PNCIAC  
c/o Alaska Crab Coalition, 3901 Leary Way NW, Ste. 6,  
Seattle, WA 98107  
206 547 7560 Fax: 206 547 0130

**Attachments:**

**cc: Pete Probasco, Westward Regional Supervisor, Kodiak  
Al Spallinger, Westward Shellfish Biologist, Kodiak  
Rance Morrison, Regional Biologist, Dutch Harbor  
Bob Clasby, Director, Com. Fish./Mgmt., Juneau  
E. Krygier, K. Griffin, Extended Jurisdiction, Juneau  
Laird Jones, Executive Director, AK, BOF, Juneau  
David Witherell, Crab Plan Team Coordinator, NPFMC,  
Anchorage  
Ron Berg, Chief, Fisheries Management, NMFS, Juneau**

**FY 96 ALLOCATION - BERING SEA/ALEUTIAN ISLANDS EEZ CRAB (General Funds and Program Receipts only)**

**Commercial Fisheries Management and Development Division**

Project	Salaries	Travel	Contracts	Supplies	Equipment	Total	General Funds	Test Fish	Adj. Months	PFT Equivs.
Norton Sound Crab	5.2	0.0	2.0	11.4	0.0	18.6	18.6	0.0	0.9	0.1
Westward Vessels	27.5	0.1	2.8	8.5	0.3	39.2	39.2	0.0	3.6	0.3
Bering Sea Crab	826.6	60.3	347.3	202.7	28.0	1,464.9	832.1	632.8	143.0	11.9
Westward Region Administration	231.3	10.2	36.2	11.3	10.3	299.4	299.4	0.0	42.5	3.5
Headquarters Planning & Review	60.0	3.3	30.4	1.5	0.9	96.1	96.1	0.0	13.0	1.1
Chief Fisheries Scientist	46.3	2.1	3.6	0.8	1.3	54.1	54.1	0.0	7.6	0.6
<b>FY 96 TOTALS</b>	<b>1,197.0</b>	<b>76.1</b>	<b>422.3</b>	<b>236.2</b>	<b>40.8</b>	<b>1,972.3</b>	<b>1,339.5</b>	<b>632.8</b>	<b>210.6</b>	<b>17.5</b>
<b>FY 95 TOTALS</b>	<b>1,198.9</b>	<b>60.7</b>	<b>307.1</b>	<b>200.4</b>	<b>24.3</b>	<b>1,791.4</b>	<b>1,150.8</b>	<b>640.5</b>	<b>202.6</b>	<b>16.9</b>
<b>FY 94 TOTALS</b>	<b>1,131.9</b>	<b>64.7</b>	<b>306.2</b>	<b>243.0</b>	<b>17.6</b>	<b>1,763.4</b>	<b>1,118.1</b>	<b>645.2</b>	<b>197.6</b>	<b>16.5</b>
<b>FY 93 TOTALS</b>	<b>1,099.1</b>	<b>65.1</b>	<b>400.5</b>	<b>250.4</b>	<b>17.6</b>	<b>1,832.7</b>	<b>1,089.4</b>	<b>743.2</b>	<b>194.1</b>	<b>16.2</b>
<b>FY 92 TOTALS</b>	<b>913.9</b>	<b>64.9</b>	<b>467.1</b>	<b>88.5</b>	<b>134.7</b>	<b>1,669.1</b>	<b>1,001.4</b>	<b>667.7</b>	<b>160.5</b>	<b>13.4</b>
<b>FY 91 TOTALS</b>	<b>960.3</b>	<b>41.1</b>	<b>108.1</b>	<b>59.5</b>	<b>12.6</b>	<b>1,181.6</b>	<b>1,181.6</b>	<b>0.0</b>	<b>186.1</b>	<b>15.5</b>
<b>FY 90 TOTALS</b>	<b>718.5</b>	<b>30.3</b>	<b>66.8</b>	<b>51.8</b>	<b>14.5</b>	<b>881.9</b>	<b>881.9</b>	<b>0.0</b>	<b>147.6</b>	<b>12.3</b>
<b>FY 89 TOTALS</b>	<b>714.2</b>	<b>26.7</b>	<b>182.1</b>	<b>49.6</b>	<b>11.2</b>	<b>983.8</b>	<b>867.8</b>	<b>116.0</b>	<b>151.3</b>	<b>12.6</b>
<b>FY 88 TOTALS</b>	<b>586.4</b>	<b>13.3</b>	<b>243.3</b>	<b>39.9</b>	<b>3.1</b>	<b>886.0</b>	<b>686.0</b>	<b>200.0</b>	<b>115.1</b>	<b>9.7</b>

**Division Of Fish And Wildlife Protection**

Project	Salaries	Support	Shipyard	Vessel Insurance	Total	General Fund	Test Fish	Adj. Month	PFT Equivs.	
Dutch Harbor Enforcement	54.6	2.7	0.0	0.0	57.3	57.3	0.0	0.0	0.7	
Kodiak Enforcement	30.3	1.6	0.0	0.0	31.9	31.9	0.0	0.0	0.4	
P/V Wolsted and Trooper	266.5	113.2	189.2	51.6	620.5	620.5	0.0	0.0	3.2	
King Air Support	6.2	62.2	0.0	0.0	68.4	68.4	0.0	0.0	0.5	
<b>FY 94 TOTALS</b>	<b>357.6</b>	<b>179.7</b>	<b>189.2</b>	<b>51.6</b>	<b>778.1</b>	<b>778.1</b>	<b>0.0</b>	<b>0.0</b>	<b>4.8</b>	
<b>FY 89 TOTALS</b>	<b>424.5</b>	<b>120.2</b>	<b>150.0</b>	<b>52.0</b>	<b>746.7</b>	<b>746.7</b>	<b>0.0</b>	<b>49.2</b>	<b>4.1</b>	
<b>FY96 CF &amp; FY94 F&amp;WP Allocation</b>	<b>1,554.6</b>	<b>255.8</b>	<b>611.5</b>	<b>287.8</b>	<b>40.8</b>	<b>2,750.4</b>	<b>2,117.6</b>	<b>632.8</b>	<b>210.6</b>	<b>22.3</b>

NOTES: PFT Equivalents = total adjusted man months divided by 12

Adjusted Months = total personnel months in each unit multiplied by the percentage allocated to EEZ crab.

NOTE: FY 95 and 96 funds respectively, do not include federal research funds of \$300,000 and \$600,000. A.T.