AGENDA D-4
SEPTEMBER 1988

M E M O R A N D U M

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director

DATE: September 21, 1988

SUBJECT: Bering Sea/Aleutian Islands Groundfish FMP

ACTION REQUIRED

(a) Final approval of Amendment 12a (Bycatch Controls).

(b) Review draft Resource Assessment Document.

(c) Set initial total allowable catches, apportionments, and prohibited species catch limits for 1989.

(d) Review request for emergency action to reduce retainable bycatch of sablefish and allocate the directed fishery by gear type.

BACKGROUND

Amendment 12a

The Bycatch Committee's proposal for control of bycatch of C. bairdi, red king crab, and Pacific halibut was referred back to the committee and Council staff after the June Council meeting. Since that time the proposal has been modified, based upon discussions by the Bycatch Committee and the concerns of NMFS and Council staff. A revised EA/RIR for Amendment 12a was sent to you on September 16, and you will have received a briefing on the Bycatch Committee's deliberations this week by Committee Chairman Larry Cotter. The three other alternatives for bycatch control considered by the Council in June included:

1. Do nothing, allowing Amendment 10 to expire at the end of 1988.

2. Continue Amendment 10 controls indefinitely.

3. Establish numerical bycatch limits for specific zones in the BS/AI.

To implement any option for 1989 other than simply letting Amendment 10 expire, the Council should take final action on a preferred alternative at this meeting.

Attachment D-4(a) describes our current understanding of the bycatch proposal, has several examples of how it would work, and a summary of the Committee's recommendations.

Review Draft Resource Assessment Document

A copy of the draft Resource Assessment Document (RAD) was sent to you on September 16. Item D-4(b) contains a table of estimates of current biomass, recommended ABCs, comments on the abundance and trend of the stocks, and a table showing ABCs and TACs for 1988. Item D-4(c) is a more complete summary of the RAD.

Set Initial Total Allowable Catches, Apportionments, and Prohibited Species Catch Limits for 1989.

As a starting point the Council may wish to use 1988 TACs as the basis for initial harvest levels for 1989 with the exception of yellowfin sole, Greenland turbot, and Bering Sea sablefish, all of which have experienced some decline in estimates of ABC. Also, this year the Council must treat rock sole distinct from the "other flatfish" group.

In accordance with the Council's new RAD policy, the plan team requests guidance on preferred harvest strategies for any, or all, species in the groundfish complex. Within the bounds of the Council's preferences, the team will attempt to estimate more appropriate ABCs and risk assessments applicable to those species and associated strategies.

Finally, in order to fulfill requirements of Amendment 12, the Council must set PSC limits, applicable to joint venture and foreign fisheries, for fully-utilized species (e.g., Greenland turbot, sablefish, Pacific ocean perch, and other rockfish). These PSC limits will be non-retainable amounts of those species which joint venture operations may need as bycatch to prosecute other groundfish target fisheries.

Using information on joint venture performance in 1987 and 1988 and the 1988 apportionments, PSC limits presented in the RAD for 1989 would be:

Greenland turbot		60 mt
Sablefish	BS	1.45 mt
	AI	8 mt
POP	BS	28 mt
	AI	1,126 mt
Other rockfish	BS	31 mt
	AI	583 mt

If TACs and apportionments change for 1989, then new PSC limits would need to be calculated.

The initial specifications for 1989 will be sent out for public review after this meeting. Final Council action is scheduled for the week of December 5.

Review Emergency Request to Address Sablefish Bycatch Issue

The directed fishery for sablefish in the Bering Sea was closed June 11 when NMFS announced that the remaining TAC would be needed as bycatch in other target fisheries. There was public testimony urging the Council to address the issue in time for the 1989 fishery. The Council agreed to agenda it for the September Council meeting.

The Kodiak Longline Vessel Owners' Association submitted a proposal (D-4(d)) on August 29 requesting emergency action, followed by plan amendment, to reduce retainable sablefish bycatch in the Bering Sea and Aleutians to 4% and allocate the directed sablefish quota between fixed and trawl gear (70/30 in the Bering Sea and 90/10 in the Aleutian Islands). The proposal was reviewed by the Bering Sea and Aleutian Islands groundfish team whose suggestions have been incorporated in the brief assessment by Council staff in D-4(e).

The BSAI groundfish Interim Action Committee also was requested to meet because of the emergency nature of the proposal. Committee members John Peterson, Ron Berg for Jim Brooks, Don Collinsworth, Rich Marasco, and Loh-Lee Low teleconferenced on September 13. Council members Tony Knowles and Bob Alverson and Council and NMFS staff also participated.

They heard from the plan team that a preliminary review showed that bycatches of sablefish for the affected fisheries were substantially below 4%. Asked whether the current situation could be classified as an emergency under NOAA's criteria, NOAA General Counsel Jon Pollard said there were no hard and fast rules for determining an emergency and that the Secretary has considerable discretion in dealing with emergency regulations.

Bob Alverson said this could be considered a serious economic and management problem if the 15 to 17 freezer longliners planning to fish in January find there are no sablefish available. He noted that if the Council doesn't take any action, the 20% rule will still be in place and the fishery will be very short. He suggested the Council should begin considering new bycatch limits as soon as possible and put the allocation issue on the regular amendment cycle.

The consensus of the Interim Action Committee was that there was insufficient information to recommend a specific course of action but that the Council should fully address the matter at the September Council meeting. By that time perhaps more analysis can be made available to Council members, including some kind of indication from NMFS on whether emergency action would be acceptable to the Secretary.

NMFS and NOAA General Counsel have been requested to be prepared to outline criteria for emergency action and comment on procedures to implement measures for the 1989 fishing year. If the Council desires to take action on one or both of the proposals in time for the 1989 fishery, the following schedule of events is suggested:

Emergency Action to Cover Period of January 1 - June 30, 1989:

1. Council passes emergency request at September meeting recommending the Secretary publish a notice of proposed rulemaking of the intended action such that the comment period overlaps the December Council meeting.

2. Council staff would provide copies of the proposed rule and any additional supporting materials to the public to facilitate their review.

3. At the December 7-9 Council meeting, the Council could go on record as either supporting, revising or rejecting the proposed rule after further public comment and analysis.

4. If supported, a final rule could be published with appropriate waivers to be effective January 1, 1989, for 90 days and renewable for a second 90-day period.

Regulatory Amendment to Cover Period of July 1 - December 31, 1989:

1. In addition to the emergency request described above, Council requests that NMFS initiate a Regulatory Amendment reducing the percentage bycatch allowance only (an allocation between fixed and trawl gear would require a full plan amendment).

2. NMFS would bring regulatory amendment package back to Council in December for final review.

3. NMFS would process the amendment over the following 4-6 months with the expectation that it would be in place by June 30, 1989, when the emergency rule expired.

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Bycatch Framework

The Council recommends that NMFS design a bycatch system during 1989 which will account for more specific target fisheries as in the Ad Hoc Bycatch Committee proposal using all technical expertise and resources available. The Council intends to take final action on the NMFS plan at their June or September 1989 meeting such that the plan will be implemented for the 1990 fishery.

1. During 1989 prohibited species catch (PSC) limits will be specified in the regulations:

   For C. bairdi: 846,500 crabs in Zone 1,

   1,988,500 crabs in Zone 2

   For red king crab: 135,000 crabs in Zone 1

   For halibut: 3,300 mt catch Bering Sea/Aleutians-wide

2. The PSC limit for C. bairdi will be apportioned to the following in proportion to their anticipated bycatch:

   1. JVP flatfish (yellowfin sole, other flatfish, rock sole);
   2. other JVP fisheries;
   3. DAP flatfish (yellowfin sole, other flatfish, rock sole);
   4. other DAP fisheries.

If a DAP or JVP flatfish fishery reaches its Zone 1 bycatch apportionment, Zone 1 will be closed to that fishery. If other JVP or other DAP fisheries reach their Zone 1 bycatch apportionments, Zone 1 will be closed to JVP or DAP directed bottom trawl fishing for pollock and cod.

If a JVP or DAP flatfish fishery reaches its Zone 2 bycatch apportionment, Zone 2 will be closed to that fishery. If other JVP or other DAP fisheries reach their Zone 2 bycatch apportionments, Zone 2 will be closed to JVP or DAP directed bottom trawl fishing for pollock and cod. Zone 2 for C. bairdi is the same as adopted with Amendment 10.

3. The PSC limit for red king crab will be apportioned to the following in proportion to their anticipated bycatch:

   1. JVP flatfish (yellowfin sole, other flatfish, rock sole);
   2. other JVP fisheries;
   3. DAP flatfish (yellowfin sole, other flatfish, rock sole);
   4. other DAP fisheries.

If a DAP or JVP flatfish fishery reaches its Zone 1 bycatch apportionment, Zone 1 will be closed to that fishery. If other JVP or other DAP fisheries reach their Zone 1 bycatch apportionments, Zone 1 will be closed to JVP or DAP directed bottom trawl fishing for pollock and cod.

4. The PSC limit for halibut will be apportioned to the following in proportion to their anticipated bycatch:

    1. JVP flatfish (yellowfin sole, other flatfish, rock sole);

    2. other JVP fisheries;

    3. DAP flatfish (yellowfin sole, other flatfish, rock sole);

    4. other DAP fisheries.

If a DAP or JVP flatfish fishery reaches its bycatch apportionment, Zones 1 and 2H (Areas 513 and 515) will be closed to that fishery. If other JVP or other DAP fisheries reach their bycatch apportionments, Zones 1 and 2H will be closed to JVP or DAP directed bottom trawl fishing for pollock and cod.

5. The Crab and Halibut Protection Zone (160 to 162 W, south of 58 N) will remain closed, except for the Port Moller 25 fathom exemption for DAP Pacific cod trawling. The same provisions adopted with Amendment 10 (50 CFR 675.22 a-d) also apply for 1989.

Amendment 12a
Proposed Changes to the FMP

1. In Section 14.4 of the Bering Sea/Aleutian Islands Groundfish FMP titled, "Management Measures - Domestic Fishery", under subsection 14.4.2, "Prohibited Species", delete item E and replace with the following:

   E. PSC Limits and Time/Area Closures for DAP and JVP Fisheries

   The PSC limits and area closures for DAP and JVP fisheries expire on December 31, 1990.

2. In subsection 14.4.2.1, "Bycatch Limitation Zones", delete items A through D and replace with the following:

   A. Zone 1 is that area bounded by 165 W. longitude and 58 N. latitude extending east to the shore.

   B. For purposes of managing C. bairdi bycatch, Zone 2 is defined as that area bounded by 165 W. longitude, north to 58 N., then west to the intersection of 58 N. and 171 W. longitude, then north to 60 N., then west to 179 20′ W longitude, then south to 59 25′ N latitude, then diagonally extending on a straight line southeast to the intersection of 167 W longitude and 54 30′ N latitude, and then extending eastward along 54 30′ N latitude to 165 W longitude.

   C. For purposes of managing halibut, Zone 2H is defined as that area bounded by 165 W longitude, north to 58 N, then west to the intersection of 58 N and 170 W longitude, then south to 52 48′ N, then northeast to 54 30′ N, 165 W longitude.

   D. The Crab and Halibut Protection Zone is defined as that area of the EEZ north of the Alaska Peninsula, south of 58 N latitude, east of 162 W longitude, and west of 160 W longitude. All domestic and foreign trawl fishing is prohibited within this area unless otherwise provided for in the regulations.

3. In subsection 14.4.2.2, "Prohibited Species Catch Limits", delete items A through D and replace with the following:

   A. The PSC limit for C. bairdi will be apportioned to the following in proportion to their anticipated bycatch:

      1. JVP flatfish (yellowfin sole, other flatfish, rock sole);

      2. other JVP fisheries;

      3. DAP flatfish (yellowfin sole, other flatfish, rock sole);

4. other DAP fisheries.

If a DAP or JVP flatfish fishery reaches its Zone 1 bycatch apportionment, Zone 1 will be closed to that fishery. If other JVP or other DAP fisheries reach their Zone 1 bycatch apportionments, Zone 1 will be closed to JVP or DAP directed bottom trawl fishing for pollock and cod. If a JVP or DAP flatfish fishery reaches its Zone 2 bycatch apportionment, Zone 2 will be closed to that fishery. If other JVP or other DAP fisheries reach their Zone 2 bycatch apportionments, Zone 2 will be closed to JVP or DAP directed bottom trawl fishing for pollock and cod. The JVP and DAP trawl fisheries and their respective PSC limits are specified in the regulations.

B. The PSC limit for red king crab will be apportioned to the following in proportion to their anticipated bycatch:

1. JVP flatfish (yellowfin sole, other flatfish, rock sole);

2. other JVP fisheries;

3. DAP flatfish (yellowfin sole, other flatfish, rock sole);

4. other DAP fisheries.

If a DAP or JVP flatfish fishery reaches its Zone 1 bycatch apportionment, Zone 1 will be closed to that fishery. If other JVP or other DAP fisheries reach their Zone 1 bycatch apportionments, Zone 1 will be closed to JVP or DAP directed bottom trawl fishing for pollock and cod. The JVP and DAP trawl fisheries and their respective PSC limits are specified in the regulations.

C. The PSC limit for halibut will be apportioned to the following in proportion to their anticipated bycatch:

1. JVP flatfish (yellowfin sole, other flatfish, rock sole);

2. other JVP fisheries;

3. DAP flatfish (yellowfin sole, other flatfish, rock sole);

4. other DAP fisheries.

If a DAP or JVP flatfish fishery reaches its bycatch apportionment, Zones 1 and 2H (Areas 513 and 515) will be closed to that fishery. If other JVP or other DAP fisheries reach their bycatch apportionments, Zones 1 and 2H will be closed to JVP or DAP directed bottom trawl fishing for pollock and cod. The JVP and DAP trawl fisheries and their respective PSC limits are specified in the regulations.

Specifications for Implementing Regulations for Amendment 12a

A. Fishery Definitions (new)

1. DAP flatfish (i.e., yellowfin sole, rock sole, and other flatfish).

2. other DAP.

3. JVP flatfish (yellowfin sole, rock sole, and other flatfish).

4. other JVP.

B. PSC Limits (new)

1. For C. bairdi in Zone 1, 846,500 crabs.

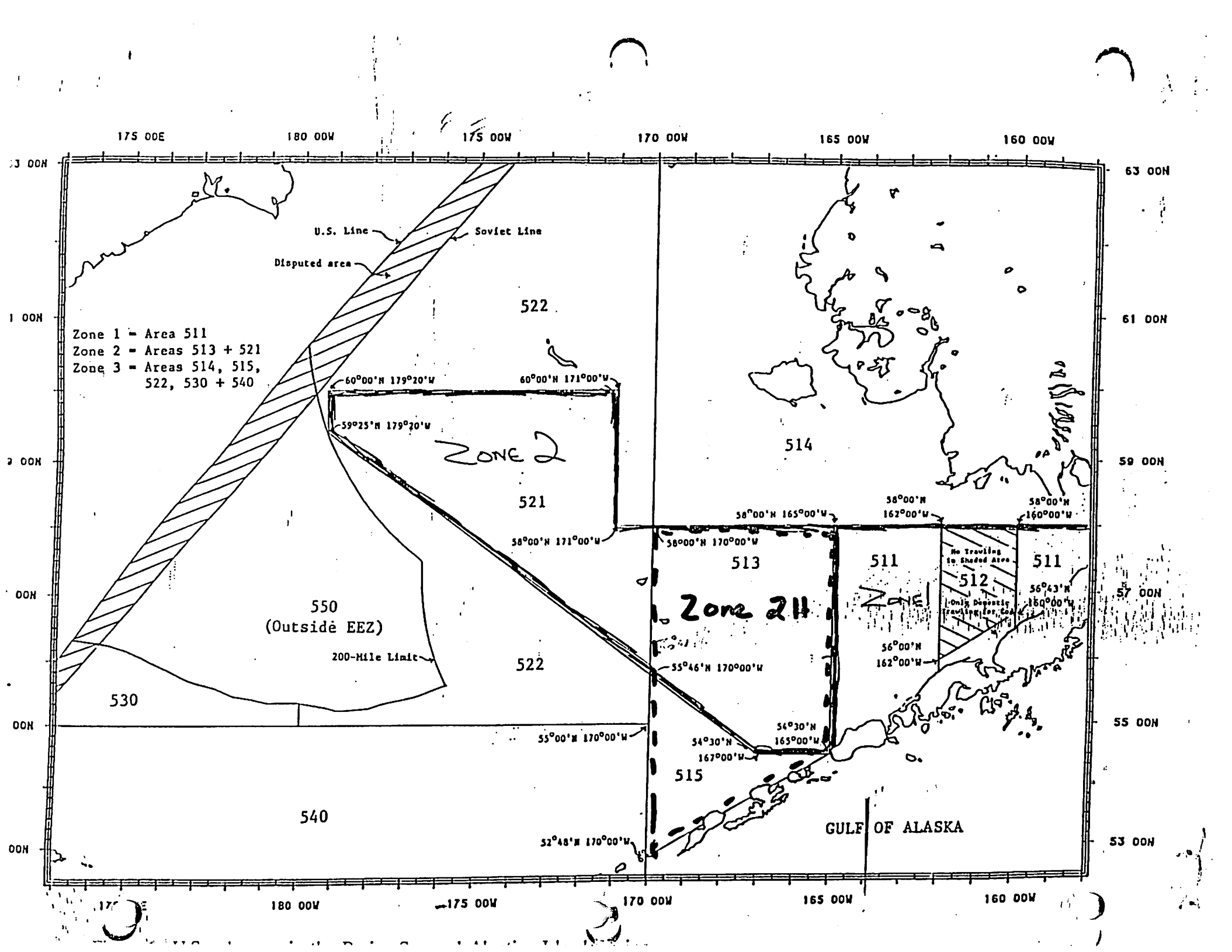
2. For C. bairdi in Zone 2, 1,988,500 crabs.

3. For red king crab in Zone 1, 135,000 crabs.

4. For Pacific halibut in the entire Bering Sea and Aleutian Islands management area, 3,300 mt of catch.

5. PSC limits to be apportioned among defined fisheries in direct proportion to their anticipated of the applicable species.

6. For the DAH fishery for Pacific cod south of a straight line approximating the 25 fathom curve in the Crab and Halibut Protection Zone identified in 14.4.2.1 D, 12,000 red king crabs.


175 00E
180 00W
175 00W
170 00W
165 00W
160 00W
63 00N
61 00N
59 00N
57 00N
55 00N
53 00N
U.S. Line
Soviet Line
Disputed area
Zone 1 = Area 511
Zone 2 = Areas 513 + 521
Zone 3 = Areas 514, 515, 522, 530 + 540
522
60°00'N 179°20'W
60°00'N 171°00'W
59°25'N 179°20'W
Zone 2
514
521
58°00'N 165°00'W
58°00'N 162°00'W
58°00'N 160°00'W
58°00'N 171°00'W
58°00'N 170°00'W
513
511
No Trawling in Shaded Area
512
511
Zone 1
Zone 2
56°43'N 160°00'W
Only Domestic Trawling for Cod
550
(Outside EEZ)
200-Mile Limit
56°00'N 162°00'W
522
55°46'N 170°00'W
530
54°30'N 165°00'W
55°00'N 170°00'W
54°30'N 167°00'W
515
540
GULF OF ALASKA
52°48'N 170°00'W

SUMMARY OF CURRENT DERIVATION OF BYCATCH PROPOSAL

The current derivation of the Bycatch Committee's original proposal relies upon a series of preseason and inseason estimates and measures of fishery performance, as well as coincident management actions, that will minimize the bycatch of crab and halibut while assuring the groundfish fleet a reasonable level of bycatch required to pursue their target fisheries. Specific estimations, check points, and management actions are outlined below.

PSC Limits

The prohibited species catch (PSC) limits for C. bairdi, red king crab, and Pacific halibut will be defined as the absolute annual limit to the bycatch of these prohibited species by all groundfish fisheries combined. These aggregate PSC limits are:

C. bairdi: an annually determined number of animals equal to one percent (1%) of the current population estimate in the Bering Sea.

Red king crab: an annually determined number of animals equal to one percent (1%) of the current population estimate in the Bering Sea.

Pacific halibut: an annually determined tonnage of animals equivalent to 3900 metric tons of mortality, applicable to the Bering Sea and Aleutian Islands.

Target Fisheries

Target fisheries would be defined by the following rules, based upon weekly catch composition per vessel:

(1)	Pacific cod, longline:	70% or more of the catch is P. cod
(2)	Pacific cod, trawl:	60% or more of the catch is P. cod, plus any trawl fishery within the 25 fathom line in the Closed Area.
(3)	Rock sole, trawl:	35% or more of the catch is rock sole
(4)	Pollock, trawl:	50% or more of the catch is pollock
(5)	Turbot, trawl:	35% or more of the catch is G. turbot
(6)	Yellowfin sole/ other flatfish:	Any bottom trawl operation not classified into one of the above

Notes: If any fishery satisfies two of the above definitions simultaneously and one of the target fisheries is rock sole (e.g., rock sole/pollock, rock sole/cod, rock sole/turbot) it would be classified as a rock sole fishery. If any bottom trawl fishery fails to be defined by the above rules it would be defined as a yellowfin sole/other flatfish fishery. All target fisheries are defined for both DAP and JVP.

Initially, in order to simplify implementation, target fisheries could be defined by gear type as:

(1) DAP bottom trawl.
(2) JVP bottom trawl.
(3) DAP longline.
(4) JVP longline.

Individual Fishery Bycatch Allowances

Within the PSC limits identified above, an initial bycatch allowance will be estimated annually for each individual groundfish target fishery based upon a realistic assessment of the bycatch needs of each fishery. Such an assessment will be made by the Council, with assistance from the Plan Team and public comment. Each initial bycatch allowance will be composed of two parts: a reasonable bycatch rate (bycatch per amount of target groundfish harvested) and an estimate of the amount of groundfish anticipated to be harvested by each target fishery:

Initial bycatch allowance = bycatch rate x anticipated target catch

The initial bycatch allowances for each individual target fishery will be summed and compared to the overall PSC limits (1% of the population estimate for C. bairdi and red king crab, 3,900 mt mortality for halibut). If the sum exceeds a PSC limit, then the individual allowances will be reduced accordingly.

If initial bycatch allowances sum to less than any PSC limit, then there would be room for inseason augmentation. The resulting sum of initial bycatch allowances plus inseason augmentation is limited by a target fishery's potential bycatch allowance as calculated below.

The following example illustrates derivation of the two types of individual fishery bycatch allowance, initial and potential, for target fisheries under a hypothetical PSC limit of 2000:

	Initial allowance		Potential allowance
Target fishery	(#)	(%)	(#)
Fishery 1	100	11.8	236
Fishery 2	200	23.5	470
Fishery 3	250	29.4	588
Fishery 4	300	35.3	706
Total anticipated need =	850	100.0	PSC = 2,000

According to the example above, Target fishery #1 is estimated to require 100 bycatch, which becomes its initial bycatch allowance; this is 11.8% of the summed anticipated need (850) of all target fisheries. The potential bycatch allowance of Target fishery #1 becomes the same percentage (11.8%) of the aggregate PSC limit (2000), which equals 236. The difference between the potential bycatch allowance of 236 and the initial bycatch allowance of 100 becomes the limit to any inseason adjustments of allowable bycatch for that target fishery.

Again, if the initial sum of anticipated need of all target fisheries had equalled or exceeded the PSC limit, then there could be no inseason augmentation of initial bycatch allowances.

Inseason Check Points

Inseason management controls are related to preseason estimates of total bycatch needs (the sum of initial bycatch allowances) in relation to aggregate PSC limits:

(1) More lenient controls are used first when total anticipated need is below 75% of a PSC limit (Category I).

(2) More severe controls are imposed initially when total anticipated need falls within 75% to 100% of a PSC limit (Category II).

(3) The most stringent controls are imposed immediately when total anticipated need is equal to or greater than 100% of a PSC limit (Cagtegory III).

For C. bairdi and red king crab, 75% and 100% equal 0.75% and 1.0% of the current estimate of population size; for halibut, 75% and 100% equal 2,925 mt and 3,900 mt, respectively, of halibut mortality.

Specific management actions are triggered at check points that are based on percentages of the initial fishery bycatch allowances (100%, 75%, 50%, and, in the extreme, 25%), as outlined in more detail below.

Course of Management Actions

The Council and NMFS Regional Director have prescribed roles related to estimating, monitoring, and controlling bycatch. The Council's role has been identified above as the definition of target fisheries, their bycatch rates, their target harvest amounts, and their consequent individual fishery bycatch allowances. Council action in making these estimates will result in one of three scenarios for each bycatch species:

I. Aggregate anticipated bycatch needs are less than 75% of a species' PSC limit. In this instance the Council will issue each target fishery a full initial bycatch allowance. The Council will also calculate each potential bycatch allowance.

II. Aggregate anticipated bycatch needs are equal to or greater than 75%, but less than 100%, of a species' PSC limit. In this instance the Council will also issue each target fishery a full initial bycatch allowance and calculate each potential bycatch allowance.

III. Aggregate anticipated bycatch needs are greater than 100% of a species' PSC limit. In this instance the Council will adjust initial bycatch allowances so that the sum does not exceed 100% of a species' PSC limit. Initial bycatch allowances may equal potential bycatch allowances. The Council may also prescribe time/area closures for particular target fisheries to assure that bycatch allowances and PSCs are not exceeded.

The duties of the NMFS Regional Director are described below, beginning with preseason determinations outlined by the Council and ending with closure of fisheries after several possible adjustments to bycatch allowances. Possible inseason adjustments to initial bycatch allowances will depend upon, as explained below, the relative "cleanliness" of target fisheries under different conditions.

I. If preseason calculation of anticipated bycatch needs of target fisheries is, in aggregate, less than 75% of a PSC limit, then each target fishery is assigned its full initial bycatch allowance.

A. If, during the fishing year, a fishery reaches its initial bycatch allowance, then the fishery will be issued additional bycatch based upon its relative "cleanliness:"

1. If the fishery's measured bycatch rate to that point is less than or equal to 150% of the originally anticipated bycatch rate, then it is assumed to be a "clean fishery," and will be issued more bycatch allowance in an amount equal to the originally anticipated bycatch rate times the amount of target harvest remaining.

So long as a fishery does not violate a definition of "dirty fishing" explained below, it will be issued subsequent additional bycatch allowance until it has obtained its groundfish limit or its potential bycatch allowance.

2. If the fishery's bycatch rate to that point is greater than 150% of the originally anticipated bycatch rate, then it is defined as a "dirty fishery." The dirty fishery will be issued more bycatch allowance, but at a rate equal to its originally anticipated bycatch rate minus the extent to which it was dirty (the difference between its measured bycatch rate and 150% of the originally anticipated rate). This new rate would be multiplied by the amount of target harvest remaining.

For example: if the fishery's measured bycatch rate is equal to 175% of its originally anticipated rate, then it is 25% (175 - 150) over the definition of dirty fishing. Additional bycatch allowance would be issued in an amount equal to 75% (100 - 25) of its originally anticipated bycatch rate times the amount of target harvest remaining to be caught.

B. If a "dirty fishery," defined under I.A.2 above, requires even more bycatch, a second adjustment will be made. Again, an assessment is made whether this fishery is now clean or dirty, but with

a more stringent standard. If bycatch during the first adjustment was taken at a rate equal to or less than the originally anticipated rate, then the fishery is considered clean and issued more bycatch under I.A.1 above. If bycatch during the first adjustment was taken at a rate greater than the originally anticipated rate, then the fishery is considered "dirty" again: this "doubly dirty" fishery will be closed in the area exhibiting the highest bycatch and will be issued additional bycatch at a rate equal to its originally anticipated rate minus the difference between its measured rate and the originally anticipated rate.

For example: if the fishery's measured rate is 125% of its originally anticipated rate, then it is 25% over the second definition of dirty fishing. Additional bycatch would be issued in an amount equal to 75% of its originally anticipated rate times the amount of target harvest remaining. The fishery would also be closed in the area exhibiting the highest bycatch.

C. If a "doubly dirty" fishery, defined under I.B above, requires even more bycatch, another assessment is made whether this fishery is now clean or dirty. If bycatch during the second adjustment was taken at a rate equal to or less than the originally anticipated rate, then the fishery is considered clean and issued more bycatch under I.A.1 above. If bycatch during the second adjustment was taken at a rate greater than the originally anticipated rate, then the fishery is considered "triply dirty" and shut down.

D. All of these various additions to bycatch allowances are limited by the individual fishery's potential bycatch allowance. No fishery will be issued total bycatch in excess of its potential bycatch allowance.

E. There is provision, however, that, during the fishing year, the NMFS Regional Director may determine that potential bycatch allowances should be recalculated among fisheries for reasons of unanticipated changes in the amount of target groundfish harvests to be taken. Such an inseason adjustment will require analysis and, therefore, will not be an immediate action, and it will not be based on unanticipated bycatch rates. Any such adjustments cannot allow the sum of potential bycatch allowances to exceed any PSC limit.

II. If preseason calculation of anticipated bycatch needs of target fisheries is, in aggregate, equal to or greater than 75% of a PSC limit but less than 100% of a PSC limit, then each target fishery is also assigned its full initial bycatch allowance.

A. If, during the fishing year, a fishery reaches 50% of its initial bycatch allowance, then the NMFS Regional Director will provide a status report.

B. If, during the fishing year, a fishery reaches 75% of its initial bycatch allowance, then an assessment is made regarding the "cleanliness" of the fishery:

1. So long as a fishery does not violate a definition of "dirty fishing" explained below, it is considered clean and will be allowed to continue unimpeded.

2. If the fishery's bycatch rate to that point is greater than its originally anticipated bycatch rate plus a value equal to the percentage difference between total anticipated need and the PSC limit, then it will be considered "dirty." The dirty fishery will be allowed to continue but will be closed in the area exhibiting the highest bycatch.

   For example: if total anticipated need is defined preseason at 1700 and the PSC limit is 2000, then total need equals 85% of the PSC limit. This is 15% less than the PSC limit, therefore "dirty fishing," in this case, will be defined by a bycatch rate greater than 115% (100 + 15) of the originally anticipated bycatch rate.

C. If, during the fishing year, a fishery reaches its initial bycatch allowance, then another assessment is made regarding its cleanliness.

1. So long as the fishery has remained clean, it will be issued additional bycatch allowance in an amount equal to its originally anticipated bycatch rate times the amount of target harvest remaining.

2. If the fishery's bycatch rate is now for the first time greater than the "dirty fishing" rate described in II.B.2 above, it will be issued additional bycatch allowance in an amount equal to its originally anticipated bycatch rate times the amount of target harvest remaining, but the fishery also will be closed in the area exhibiting the highest bycatch.

3. If the fishery's bycatch rate is for the second time greater than its originally anticipated bycatch rate, it is considered "doubly dirty" and shut down.

D. All of these various additions to bycatch allowances are limited by the individual fishery's potential bycatch allowance. No fishery will be issued total bycatch in excess of its potential bycatch allowance.

E. There is provision, however, that, during the fishing year, the NMFS Regional Director may determine that potential bycatch allowances should be recalculated among fisheries for reasons of unanticipated changes in the amount of target groundfish harvests to be taken. Such an inseason adjustment will require analysis and, therefore, will not be an immediate action, and it will not be based on unanticipated bycatch rates. Any such adjustments cannot allow the sum of potential bycatch allowances to exceed any PSC limit.

III. If preseason calculation of anticipated bycatch needs of target fisheries is, in aggregate, greater than 100% of a PSC limit, then initial bycatch allowances will be adjusted downward to achieve a sum not to exceed 100%.

A. If, during the fishing year, a fishery reaches 25% of its initial bycatch allowance, then the NMFS Regional Director will provide a status report.

B. If, during the fishing year, a fishery reaches 50% of its initial bycatch allowance, then an assessment is made regarding the cleanliness of the fishery.

1. So long as a fishery does not violate a definition of "dirty fishing" explained below, it is considered clean and will be allowed to continue unimpeded.

2. If the fishery's bycatch rate to that point is greater than its originally anticipated bycatch rate, then it will be allowed to continue but will be closed in the area exhibiting the highest bycatch.

C. If, during the fishing year, a fishery reaches 75% of its initial bycatch allowance, then another assessment is made whether this fishery is clean or dirty.

1. If the fishery is still considered clean, then it will be allowed to continue unimpeded.

2. If the fishery's bycatch rate is now for the first time greater than its originally anticipated bycatch rate, it will be issued additional bycatch allowance in an amount equal to its originally anticipated bycatch rate times the amount of target harvest remaining, but the fishery also will be closed in the area exhibiting the highest bycatch.

3. If the fishery's bycatch rate is, for the second time, greater than its originally anticipated bycatch rate, it is considered "doubly dirty" and shut down.

D. If, during the fishing year, a fishery reaches 100% of its initial bycatch allowance, then it will be shut down.

E. There is provision, however, that, during the fishing year, the NMFS Regional Director may determine that potential (in this case equal to initial) bycatch allowances should be recalculated

among fisheries for reasons of unanticipated changes in the amount of target groundfish harvests to be taken. Such an inseason adjustment will require analysis and, therefore, will not be an immediate action, and it will not be based on unanticipated bycatch rates. Any such adjustments cannot allow the sum of potential bycatch allowances to exceed any PSC limit.

Table 7.--Summary of stock abundance and ABC estimates for groundfish in the eastern Bering Sea (EBS) and Aleutian Islands (AI) for 1989.

Species/Region		Biomass (t)	Annual exploitation rate (%)	ABC (t)	Abundance and trend
Pollock	EBS	5,300,000	25.3	1,340,000	Moderately high, moderate decline
	Area 515	1,000,000	23	230,000	High, trend unknown
	AI	690,000	23	160,000	Relatively high, stable
Pacific cod		1,190,000	31	370,600	Very high, stable
Yellowfin sole		1,530,000	15.8	241,000	Very high, stable
Greenland turbot		370,700	3.4	12,600	Average,declining
Arrowtooth flounder		552,600	31	171,300	Very high, stabalizing
Rock sole		1,103,000	13	143,400	Very high, increasing
Other flatfishes		1,188,700	15.5	184,300	Very high, stable
Sablefish	EBS	16,900	11.2	1,900	Average, declining
	AI	96,800	6	5,800	High, stable
Pacific ocean perch	EBS	101,000	6	6,000	Below average, slow increase
	AI	276,500	6	16,600	Below average, slow increase
Other rockfish	EBS	7,100	6	400	Average, stable
	AI	18,500	6	1,100	Average, stable
Atka mackerel		--	--	21,000	Below average, trend unknown
Squid		--	--	10,000	Unknown
Other species		673,600	9	59,000	High, stable
Groundfish complex		>12,604,400		2,975,000	High, stable

BERING SEA / ALEUTIAN ISLANDS GROUNDFISH: Council Recommendations for 1988 Groundfish ABC, TAC, DAP, JVP, and Reserves (all in metric tons).

Species	Area	1987 ABC	1987 TAC	Council Recommendations for 1988 ABC	Council Recommendations for 1988 TAC	Reserves 1/	DAP	JVP 2/	Initial Reserve Release
Pollock							900,000	300,000	
	BS	1,200,000	1,200,000	1,500,000	1,300,000	195,000	~~614,162~~	~~490,838~~	0
	AI	100,000	88,000	160,000	45,000	6,750	4,160	34,090	0
Pacific cod		400,000	280,000	385,300	200,000	30,000	87,416	82,584	0
Yellowfin sole		187,000	187,000	254,000	? 254,000	38,100	26,356	189,544	0
Greenland turbot		20,000	20,000	14,100	11,200	1,680	9,520	0	31
Arrowtooth flounder		30,900	9,795	99,500	5,531	830	3,808	893	0
Other flatfish		193,300	148,300	331,900	? 131,369	19,705	26,403	85,261	0
Sablefish									
	BS	3,700	3,700	3,400	3,400	510	2,890	0	37
	AI	4,000	4,000	5,800	5,000	750	4,250	0	47
Pacific ocean perch									
	BS	3,800	2,850	6,000	5,000	750	4,250	0	28
	AI	10,900	8,175	16,600	6,000	900	5,100	0	441
Other rockfish									
	BS	450	450	400	400	60	340	0	30
	AI	1,430	1,430	1,100	1,100	165	935	0	228
Atka mackerel		30,800	30,800	21,000	21,000	3,150	80	17,770	0
Squid		10,000	500	10,000	1,000	150	850	0	25
Other species		49,500	15,000	54,000	10,000	1,500	2,000	6,500	0
BS/AI TOTAL		2,245,780	2,000,000	2,863,100	2,000,000	300,000	792,520	907,480	867

1/ Each species TAC is reduced by 15% to provide for 300,000 tons of nonspecific reserves; 867 tons of reserves will be immediately released to JVP for bycatch.

2/ JVP for pollock is apportioned over two seasons: Part One for BS equals 274,335, for AI equals 16,336; Part One is applicable to Jan. 15 to April 15.

AGENDA D-4(c)
SEPTEMBER 1988

DRAFT

RESOURCE ASSESSMENT DOCUMENT

FOR THE

1989

BERING SEA-ALEUTIAN ISLANDS

GROUNDFISH FISHERY

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September 16, 1988

INTRODUCTION

This Resource Assessment Document (RAD) for Bering Sea/Aleutian Islands groundfish resources is applicable for management of the 1989 fishery under Amendment #1 of the Fishery Management Plan (FMP). In this RAD, the status of the stocks and their acceptable biological catches (ABCs) are described. The ABC values, together with socio-economic considerations, will be used by the North Pacific Fishery Management Council to determine total allowable catches (TACs) by species, and other management strategies for the fishery under the Magnuson Fishery Conservation and Management Act and the FMP. The sum of TACs equals optimum yield (OY) for the groundfish complex, which is currently constrained to a range of 1.4 to 2.0 million metric tons (t). This RAD was complied by scientists from the Northwest and Alaska Fisheries Center (NWAFC) and the Bering Sea/Aleutian Islands Groundfish Plan Team (PT):

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Management Areas and Species

The management area lies within the 200-mile U.S. Exclusive Economic Zone (EEZ) of the eastern Bering Sea (EBS) and Aleutian Islands region (Fig. 1). International North Pacific Fisheries Commission (INPFC) statistical areas 1 to 5 are also illustrated. INPFC areas 1 and 2 make up the EBS. The Aleutian region is INPFC area 5.

Four categories of finfishes and invertebrates have been designated for management purposes (Table 1). They are (a) prohibited species, (b) target species, (c) other species, and (d) non-specified species. This RAD describes the status of the stocks in categories (b) and (c) only.

Historical Catch Statistics

Catch statistics since 1954 are shown for the EBS (Bering Sea subarea) in Table 2. In this region, the initial target species was yellowfin sole. During the early period of these fisheries, total catches of groundfish reached a peak of 674,000 metric tons (t) in 1961. Following a decline in abundance of yellowfin sole, other species were targeted upon, principally pollock, and total

catches rose to 2.2 million t in 1972. Catches have since varied from 1.2-1.9 million t as catch restrictions and other management measures were placed on the fishery.

Catches in the Aleutian Islands region (Aleutian Islands subarea) have always been much smaller than those in the EBS and target species have generally been different (Table 3). Pacific ocean perch (POP) was the initial target species and during the early years of exploitation overall catches of groundfish reached a peak of 112,000 t in 1965. With a decline in abundance of POP, the fishery diversified to other species including turbots, Atka mackerel, Pacific cod, sablefish, and pollock. Overall catches in recent years have been about 100,000 t annually.

Recent Total Allowable Catch

Total allowable catches (TAC) established by the NPFMC since implementation of extended jurisdiction in 1977 are given in Table 4. The overall TAC (equals optimum yield) for all species combined has steadily increased from 1.4 million t in 1977 to 2.0 million t in 1984-88.

Acceptable Biological Catch Levels for 1989

Amendment #1 to the Bering Sea/Aleutian Islands groundfish FMP provides the framework to manage the groundfish resources as a complex. The MSY of this complex was originally estimated at 1.8 to 2.4 million t. The OY is set at 85 percent of the MSY range, or 1.4 to 2.0 million t.

Tables 6 and 7 provide summaries of the current estimates of MSY and ABC. The sum of individual species MSY's has has been estimated to be 3.5 million t.

The sum of ABC's for the groundfish complex has increased from 2.88 million t in 1988 to 2.97 million t in 1988. This increase resulted from a combination of two key factors--(1) real increases in the abundance of some stocks (primarily flatfish species) and (2) an addition of 230,000 t to the pollock ABC in the EBS for a component of the pollock resource that was not previously estimated.

Plan Team Procedure for Estimation of ABC

As in past years, calculation of ABC has varied from species to species depending upon the quality of data available and prior knowledge on the status of stocks. Since data and knowledge are continually being improved, the Plan Team has adopted the following steps to estimate ABC's:

1. First, age-structured models are used extensively to estimate the status of stocks. Whenever possible, the model is extended to project the dynamics of the stock into

the near future so that potential impacts of different catch levels can be evaluated.

2. Second, ABC = an exploitation rate x exploitable biomass is often used. The default procedure adopted by the Council is to apply the MSY exploitation rate. This rate is used when the stock is known to be in good condition, high in abundance, and not in danger of drastic declines.

   In some cases, the proposed exploitation rate should deviate from the MSY exploitation rate as more information is known about the stock. Sissenwine and Shephard (1986) reviewed some stock exploitation histories and reported that the Fmsy exploitation strategy often leads to over-exploitation. They recommend that the F0.1 exploitation strategy (ICES 1984) be used instead, since it leads to a more conservative exploitation strategy. Therefore, the F0.1 exploitation strategy is used when particular conservation or caution is determined to be required for the stock.

   In addition to the Fmsy and F0.1 exploitation rates, historical exploitation rates have been used to estimate ABC when the history of the fishery suggests that the stock is not adversely affected when exploited at such rates.

3. Finally, when information is insufficient to estimate the biomass of the stock, an empirical approach of setting ABC according to historical catch levels may be applied.

The Plan Team has also calculated ratios to describe exploitation, by dividing the recommended ABC for each species by an appropriate estimate of exploitable biomass. The exploitation percentages are provided as a guide only; they do not necessarily reflect specific instantaneous, conditional, or annual exploitation rates used in the detailed modeling efforts.

SUMMARY ON STATUS OF STOCKS AND ESTIMATION OF ABC

Walleye Pollock:

EBS	1988 ABC = 1,500,000 t	1989 ABC = 1,340,000 t
(Area 515)	1988 ABC = not estimated	1989 ABC = 230,000 t
Aleutians	1988 ABC = 160,000 t	1989 ABC = 160,000 t

EBS — Projected 1989 exploitable biomass = 5.3 million t
Exploitation = 25.3 percent; F0.1 rate

(Area 515) — 1989 exploitable biomass = 1 million t
Exploitation = 23 percent; F0.1 rate

Aleutians — Projected 1989 exploitable biomass = 690,000 t
Exploitation = 23 percent; F0.1 rate

Although abundance has declined slightly, this stock has been exploited lightly in the past (10% to 18%). Based on current exploitation rates for Asiatic stocks and model projections, it appears the pollock resource can be exploited at higher rates without loss in productivity.

In recent years, the Bogoslof Island area has become an important area for U.S. fisheries on spawing pollock. This area (Area 515) is statistically part of the Bering Sea management region, but the pollock harvested there is of a different age/size component of the stock than that harvested in the EBS shelf and slope. In previous years, the status of the stocks analyses for the EBS did not incorporate this Area 515 component of the stock. This year, the Area 515 component has been estimated to have an ABC of 230,000 t. This component, when added to the EBS component provides an ABC of 1,570,00 t for the entire Bering Sea management subarea.

The "donut hole" area of the Bering sea has become an important fishing ground for foreign pollock fisheries since the early 1980s. The estimated 1987 annual catch has reached 1.25 million t, almost as high as taken in the U.S. Bering Sea management area. It is not known if this level of catch would have an appreciable impact on the stock harvested within the U.S. EEZ. Any impact through contributions in progeny recruitment, however, are not expected to be detected on the EBS shelf/slope region for 4-6 years after the fishery in the donut area. If this lag time is correct, it may be deduced that the donut hole catches of 200,000 t in 1984 and 340,000 t in 1985 did not appear to have had impacted the biomass in the EBS shelf/slope region. It is not known if the higher catches in excess of 1 million t in 1986 and 1987 would affect the EBS resource.

Pacific Cod:

1988 ABC = 385,300 t 1989 ABC = 370,600 t

Projected 1988 exploitable biomass = 1.19 million t
Exploitation = 31 percent; Fmsy rate

An age-structured model was used to simulate the structure and dynamics of the EBS cod population. The 1989 biomass was projected and ABC was calculated based on the MSY exploiation rate. In the past 7 years, exploitation has only been 5-18 percent, with actual catch substantially less than ABC. The current biomass has remained very high and is projected to be so in 1989 and later.

Yellowfin Sole:

1988 ABC = 254,000 t 1989 ABC = 241,000 t

Current exploitable biomass = 1.53 million t
Exploitation = 16 percent; F0.1 strategy

The slight decrease in ABC reflects the results of an age-structured model that estimates population levels and exploitation with the F0.1 fishing strategy. Exploitable biomass has been projected to increase from 1.4 million t in 1988 to 1.53 million t in 1989. Exploitation this year is 16 percent as applied to current exploitable biomass. The rate used last yaer was 18%.

Greenland Turbot:

1988 ABC = 14,100 t 1989 ABC = 12,600 t

Projected 1989 exploitable biomass = 370,700 t
Exploitation = 3.4 percent; F0.1 rate

The exploitable biomass of Greenland turbot is probably below average level, and declining. As such, a low F0.1 exploitation rate of 3.4 percent is again applied to calculate ABC for the species in 1989. Poor recruitment has been observed throughout the 1980s which indicates that abundance of the adult population is expected to decline well into the 1990s. Because of this poor recruitment pattern, forecasts for all conservative fishing strategies (including no fishing) show projected declines in biomass through 1993, or later.

Arrowtooth Flounder:

1988 ABC = 109,500 t 1989 ABC = 171,300 t

Current exploitable biomass = 552,600 t
Exploitation = 31 percent; Fmsy rate

The resource continues to be in excellent condition and biomass continues to be high and stable, if not increasing. This trend is

again confirmed from the 1988 summer trawl survey. Because of higher estimation confidence, the current exploitable biomass is estimated to be at the mid-point of it's 95% confidence range (552,600 t), instead of it's lower confidence limit for 1987 (414,000 t). The MSY exploitation proposed (31%) is essentially similar to the rate used last year (29%). The small difference is the result from updating model parameters.

Rock Sole:

1988 ABC = 166,000 t 1989 ABC = 143,400

Current exploitable biomass = 1,103,000 t
Exploitation = 13 percent; Fmsy rate

For the first time, rock sole is separated out from the "other flatfish" category for management purposes. Trawl surveys confirm that the biomass of rock sole is high and continuing to increase. The resource is in excellent condition and biomass is above the level that produces MSY. Therefore, the MSY exploitation is applied to calculate ABC for the species. The slight decrease in the 1989 ABC estimate from 1988 reflects a lower exploitation rate used this year (13% versus 15.5%), rather than a decrease in biomass.

Other Flatfishes:

1988 ABC = 165,900 t 1989 ABC = 184,300 t

Current exploitable biomass = 1,188,700 million t

Exploitation = 13 percent, Fmsy rate for flathead sole and Alaska plaice.
Exploitation = 15.5 percent, Fmsy rate for miscellaneous flatfishes.

Biomass for this category of flatfishes is high and increasing. It is above the level capable of producing MSY; thus their MSY exploitation rates are used to estimate ABCs. The increase in the 1989 ABC reflects an increased abundance of the stocks.

Sablefish:

EBS	1988 ABC = 3,400 t	1989 ABC = 1,900 t
Aleutians	1988 ABC = 5,800 t	1989 ABC = 5,800 t

EBS — Current exploitable biomass = 16,900 t
Exploitation = 11%; F (equilibrium biomass) rate

Aleutians — Current exploitable biomass = 96,800 t
Exploitation = 6%; F (equilibrium biomass) rate

The ABC for 1989 is reduced from 1988 due to a decrease of the biomass in the EBS. The 6% exploitation rate corresponds to the

F(eq) rate--the rate that is expected to keep the biomass in equilibrium. Although the sablefish stocks appear to be in relatively good condition, particularly in the Aleutian region, the sudden decrease in biomass in 1987 in the EBS introduces more uncertainty about the stock's ability to produce catches at MSY levels.

Pacific Ocean Perch:

EBS	1988 ABC = 6,000 t	1989 ABC = 6,000 t
Aleutians	1988 ABC = 16,600 t	1989 ABC = 16,600 t

EBS — Current exploitable biomass = 101,100 t
Exploitation = 6%; F0.1 rate

Aleutians — Current exploitable biomass = 276,500 t
Exploitation = 6%; F0.1 rate

In general, POP stocks continue to remain low but relatively stable compared to biomass levels of the early 1960s. No new data are available to change, nor is any expected to change, the 1989 ABC levels from the estimates for 1988. The F0.1 exploitation strategy at 6% is expected to provide for some rebuilding of the POP complex of stocks.

Other Rockfishes:

EBS	1988 ABC = 400 t	1989 ABC = 400 t
Aleutians	1988 ABC = 1,100 t	1989 ABC = 1,100 t

EBS — Current exploitable biomass = 7,100 t
Exploitation = 6 percent; F0.1 rate

Aleutians — Current exploitable biomass = 18,500 t
Exploitation = 6 percent; F0.1 rate

Maintenence of ABCs at 1988 levels continue to reflect the relative stability of the stocks. As with the 1988 estimates, the mean biomass derived from recent years' trawl surveys were used to estimate ABCs. Because there are insufficient data for this complex, the exploitation rate was based on the F0.1 exploitation strategy derived for POP. Also, like the POP complex, this strategy is expected to promote rebuilding for the "other rockfish" category.

Atka Mackerel:

1988 ABC = 21,000 t 1989 ABC = 21,000 t

Current exploitable biomass was not determined
Exploitation based on F0.1 strategy

The status of stocks for Atka mackerel is difficult to assess because surveys that cover it's range in the Aleutian region are

conducted only once every 3 years. The latest survey in 1986 indicate that biomass decreased 74% from 1983 and was even lower than the estimate from 1980. The absolute level of biomass, however, cannot be accurately estimated. As such, estimation of ABC using F x Biomass cannot be applied. Instead, the F0.1 concept of exploitation from catch-at-age analysis using recent trends (1982-86) in weak recruitment was used to estimate ABC. This analysis, performed last year, estimated the 1988 ABC at 21,000 t. Since new information is not available to re-analyse the data, and catch trends in 1988 indicate that the stock has probably not changed appreciably from last year, the 1989 ABC is again recommeded to be 21,000 t.

Squid:

1988 ABC = 10,000 t 1989 ABC = 10,000 t

There is insufficient information to determine abundance and appropriate exploitation rates for squid stocks. The estimate of ABC is based on historical catches and is conservative.

Other Species:

1988 ABC = 49,500 t 1989 ABC = 59,000 t

Current exploitable biomass = 673,600 t
Exploitation = 9 percent = Historical rate

The change in ABC from 1988 to 1989 reflects the change in biomass determined from trawl surveys. The biomass has essentially remained relatively high.

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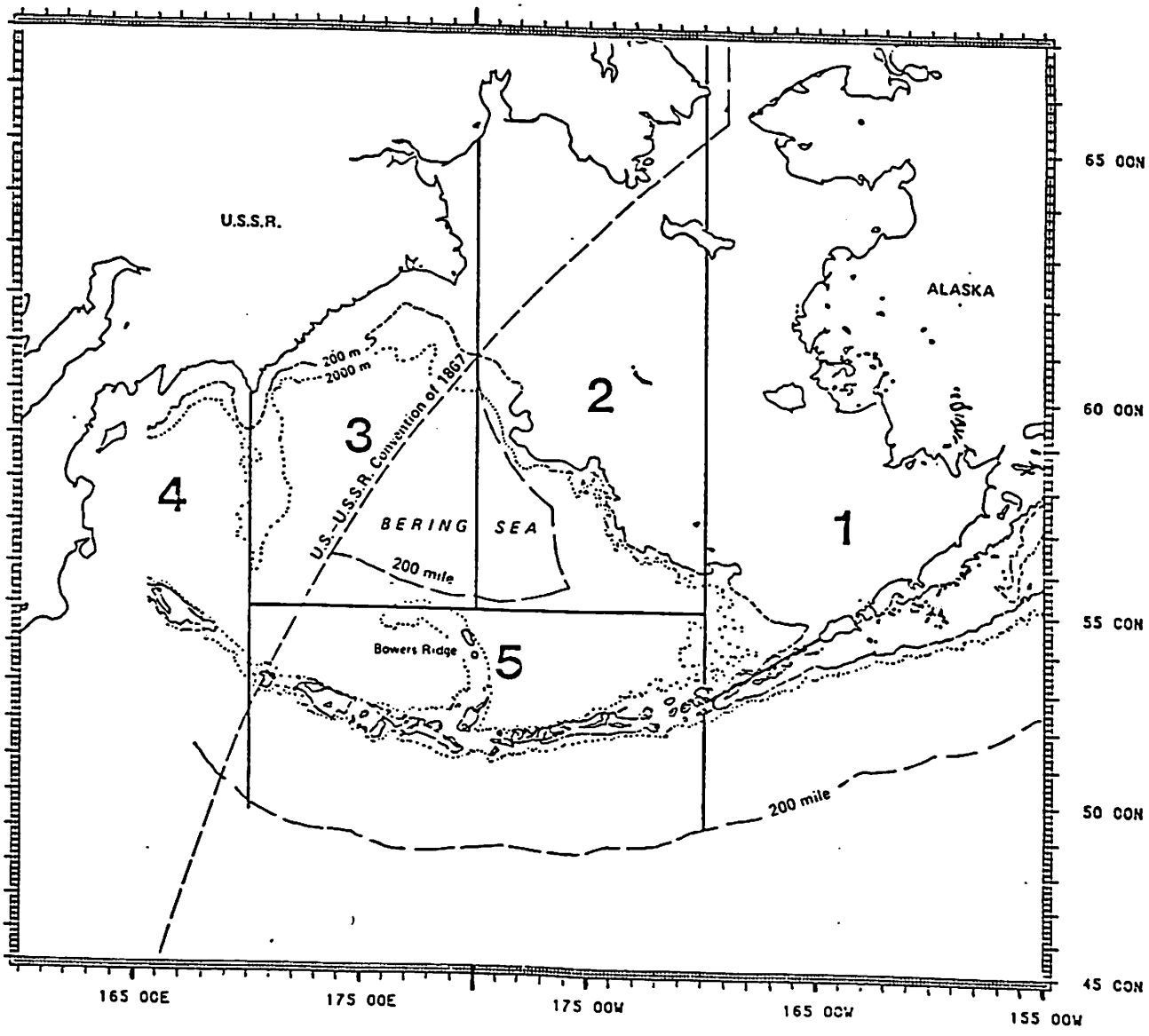

Figure 1.--Bering Sea showing U.S. 200-mile fishery conservation zone and eastern Bering Sea (areas 1 and 2) and Aleutian Islands region (area 5) management areas. Areas 1-5 are International North Pacific Fisheries Commission statistical areas.

Footnote on Area Notations

INPFC Areas	1	2	3	4	5
U.S. Management Areas ...	I	II	III	None	IV

Table 1.-- Species categories established for management of Bering Sea-Aleutian Islands groundfish fishery.

Prohibited species(a)	Target species(b)	Other species(c)
FINFISHES		
Salmonids	Walleye pollock	Sculpin
Pacific halibut	Pacific cod	Shark
Pacific herring	Yellowfin sole	Skate
	Greenland turbot	Smelt
	Arrowtooth flounder	
	Rock sole	
	Other flatfish	
	Sablefish	
	Pacific ocean perch	
	Other rockfish	
	Atka mackerel	
INVERTEBRATES		
King crab	Squid	Octopus
Snow (Tanner) crab		
Coral		
Shrimp		
Clams		
Horsehair crab		
Lyre crab		
Dungeness crab		

(a) Species when caught must be returned to the sea.
(b) Total allowable catch established for each species.
(c) Aggregate total allowable catch established for the group as a whole.
(d) A nonspecified species category is also established to cover all other species not listed in categories (a)-(c).

Table 2.--Groundfish and squid catches (metric tons) in the eastern Bering Sea, 1954-86.

Year	Walleye Pollock	Pacific cod	Sablefish	Pacific ocean perch	Other rockfish	Yellowfin sole	Greenland turbot	Arrowtooth flounder	Other flatfish	Atka mackerel	Squid	Other species	Total all species
1954						12,562							12,562
1955						14,690							14,690
1956						24,697							24,697
1957						24,145							24,145
1958	6,924	171	6			44,153						147	51,401
1959	32,793	2,864	289			185,321						380	222,647
1960			1,861	6,100		456,103	36,843	a					500,907
1961			15,627	47,000		553,742	57,348	a					673,717
1962			25,989	19,900		420,703	58,226	a					524,818
1963			13,706	24,500		85,810	31,565	a	35,643				191,224
1964	174,792	13,408	3,545	25,900		111,177	33,729	a	30,604			736	393,891
1965	230,551	14,719	4,838	16,800		53,810	9,747	a	11,686			2,218	344,369
1966	261,678	18,200	9,505	20,200		102,353	13,042	a	24,864			2,239	452,081
1967	550,362	32,064	11,698	19,600		162,228	23,869	a	32,109			4,378	836,308
1968	702,181	57,902	14,374	31,500		84,189	35,232	a	29,647			22,058	977,083
1969	862,789	50,351	16,009	14,500		167,134	36,029	a	34,749			10,459	1,192,020
1970	1,256,565	70,094	11,737	9,900		133,079	19,691	12,598	64,690			15,295	1,593,649
1971	1,743,763	43,054	15,106	9,800		160,399	40,464	18,792	92,452			33,496	2,157,326
1972	1,874,534	42,905	12,758	5,700		47,856	64,510	13,123	76,813			110,893	2,249,092
1973	1,758,919	53,386	5,957	3,700		78,240	55,280	9,217	43,919			55,826	2,064,444
1974	1,588,390	62,462	4,258	14,000		42,235	69,654	21,473	37,357			60,263	1,900,092
1975	1,356,736	51,551	2,766	8,600		64,690	64,819	20,832	20,393			54,845	1,645,232
1976	1,177,822	50,481	2,923	14,900		56,221	60,523	17,806	21,746			26,143	1,428,565
1977	978,370	33,335	2,718	2,806	311	58,373	27,708	9,454	14,393		4,926	35,902	1,168,296
1978	979,431	42,543	1,192	2,230	2,614	138,433	37,423	8,358	21,040	832	6,886	61,537	1,302,519
1979	913,881	33,761	1,376	1,723	2,018	99,017	34,998	7,921	19,724	1,985	4,286	38,767	1,159,457
1980	958,279	45,861	2,206	959	459	87,391	48,856	13,761	20,406	4,955	4,040	34,633	1,221,506
1981	973,505	51,996	2,604	1,186	331	97,301	52,921	13,473	23,428	3,028	4,182	35,651	1,259,606
1982	955,964	55,040	3,184	654	273	95,712	45,805	9,103	23,809	328	3,837	18,200	1,211,909
1983	982,363	83,212	2,695	440	220	108,385	43,443	10,216	30,454	141	3,470	15,465	1,280,503
1984	1,098,783	110,944	2,329	1,760	143	159,526	21,317	7,980	44,286	41	2,824	8,508	1,458,455
1985	1,179,759	132,736	2,348	821	81	227,107	14,698	7,288	71,179	5	1,611	11,503	1,649,135
1986	1,188,449	130,555	3,518	838	17	208,597	7,710	6,761	76,464	12	848	10,471	1,634,240
1987	1,237,597	144,539	4,178	1,392	474	181,429	6,533	4,380	50,771	118	12	8,569	1,639,988

aMixed in Greenland turbot category.

Table 3.--Groundfish and squid catches (metric tons) in the Aleutian Islands region, 1962-86.

Year	Pollock	Pacific cod	Sablefish	Pacific ocean perch	Other rockfish	Greenland turbot	Arrowtooth flounder	Atka mackerel	Squid	Other species	Total all species
1962			-	200		7	a				200
1963			664	20,800		504	a			66	21,471
1964		241	1,541	90,300		300	a			768	92,652
1965		451	1,249	109,100						131	111,868
1966		154	1,341	85,900		63	a			8,542	87,589
1967		293	1,652	55,900		394	a			8,948	66,781
1968		289	1,673	44,900		213	a			3,088	56,023
1969		220	1,673	38,800		228	a			10,671	44,009
1970		283	1,248	66,900		285	274	949			80,610
1971		2,078	2,936	21,800		1,750	581			2,973	32,118
1972		435	3,531	33,200		12,874	1,323	5,907		22,447	79,717
1973		977	2,902	11,800		8,666	3,705	1,712		4,244	34,006
1974		1,379	2,477	22,400		8,788	3,195	1,377		9,724	49,340
1975		2,838	1,747	16,600		2,970	784	13,326		8,288	46,553
1976		4,190	1,659	14,000		2,067	1,370	13,126		7,053	43,465
1977	7,625	3,262	1,897	8,010	3,043	2,453	2,035	20,975	1,808	16,170	67,278
1978	6,282	3,295	821	5,286	921	4,766	1,782	23,418	2,085	12,436	61,092
1979	9,504	5,593	782	5,486	4,517	6,411	6,436	21,279	2,252	12,934	75,194
1980	58,156	5,788	274	4,011	420	3,697	4,603	15,533	2,332	13,028	107,842
1981	55,516	10,462	533	3,668	328	4,400	3,640	16,661	1,762	7,274	104,244
1982	57,978	11,526	955	1,741	2,114	6,317	2,415	19,546	1,201	5,167	108,960
1983	59,026	9,955	673	667	1,046	4,115	3,753	11,585	510	3,675	95,005
1984	81,834	22,216	999	826	65	1,803	1,472	35,998	343	1,670	147,226
1985	58,730	12,690	1,448	509	62	33	87	37,856	9	2,050	113,474
1986	46,641	10,332	3,028	341	20	2,154	142	31,978	20	1,509	96,165
1987	28,720	13,207	3,834	1,482	148	3,066	159	30,068	24	1,155	81,863

aMixed in Greenland turbot category.

Table 4.--Total allowable catches (t) for groundfish of the eastern Bering Sea and Aleutian Islands region 1977-88.

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Eastern Bering Sea[a]												
Walleye pollock	950,000	950,000	950,000	1,000,000	1,000,000	1,000,000	1,000,000	1,200,000	1,200,000	1,200,000	1,200,000	1,300,000
Yellowfin sole	106,000	126,000	126,000	117,000	117,000	117,000	117,000	230,000	226,900	209,500	187,000	254,000
Greenland turbots	-	-	-	90,000	90,000	90,000	90,000	59,610	42,000	33,000	20,000	11,200
Arrowtooth flounders[b]	-	-	-	-	-	-	-	-		20,000	9,795	5,531
Other flounders[c]	100,000	159,000	159,000	61,000	61,000	61,000	61,000	111,490	109,900	124,200	148,300	131,369
Pacific cod	58,000	70,500	70,500	70,700	78,700	78,700	120,000	210,000	220,000	229,000	280,000	200,000
Sablefish	5,000	3,000	3,000	3,500	3,500	3,500	3,500	3,740	2,625	2,250	3,700	3,400
Pacific ocean perch	6,500	6,500	6,500	3,250	3,250	3,250	3,250	1,780	1,000	825	2,850	5,000
Other rockfish	-	-	-	7,727	7,727	7,727	7,727	1,550	1,120	825	450	400
Squid	10,000	10,800	10,000	10,000	10,000	10,000	10,000	8,900	10,000	5,000	500	1,000
Other species[a]	59,600	66,600	66,600	74,249	74,249	74,249	77,314	40,000	37,580	27,800	15,000	10,000
Aleutians												
Walleye pollock	-	-	-	100,000	100,000	100,000	100,000	100,000	100,000	100,000	88,000	45,000
Sablefish	2,400	1,500	1,500	1,500	1,500	1,500	1,500	1,600	1,875	4,200	4,000	5,000
Pacific ocean perch	15,000	15,000	15,000	7,500	7,500	7,500	7,500	2,700	3,800	6,800	8,175	6,000
Other rockfish	-	-	-	-	-	-	-	5,500	5,500	5,800	1,430	1,100
Atka mackerel	-	24,800	24,800	24,800	24,800	24,800	24,800	23,130	37,700	30,800	30,800	21,000
Other species	34,000	34,000	34,000	-	-	-	-	-	-	-	-	-
Optimum yield[d]	1,346,500	1,467,700	1,466,900	1,571,226	1,579,226	1,579,226	1,623,591	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000

[a]Total allowable catches are for the eastern Bering Sea and Aleutian Islands areas combined for pollock in 1977-79 other rockfish in 1980-83, other species in 1980-85, and in all years for yellowfin sole, turbot, other flounders Pacific cod and squid.
[b]Combined with Greenland turbot until 1986.
[c]Excludes halibut but includes turbot until 1980.
[d]Optimum yield = sum of total allowable catches.

Table 5.--Bering Sea/Aleutian Islands groundfish apportionments and foreign allocations in metric tons, 1985-88.

	1985	1986	1987	Sept. 1988
ABC	2,149,330	2,199,000	2,245,780	2,876,100
TAC	2,000,000	2,000,000	2,000,000	2,000,000
DAP	137,210	243,849	336,723	708,520
JVP	697,850	1,155,863	1,484,110	1,282,784
Reserve	1,345	10,121	46,471	8,696
TALFF	1,163,595	590,167	132,696	0
Japan	861,332	455,439	101,446	0
ROK	239,872	112,177	29,900	0
West Germany	0	0	0	0
Portugal	600	0	0	0
Poland	35,295	8,043	0	0
USSR	10,782	0	0	0
China	0	4,920	1,350	0
Unallocated	15,714	9,545	0	0

Table 6. Estimates of maximum sustainable yields (MSYs) and comparisons of acceptable biological catches (ABCs) for 1988 and 1989 for groundfish in the eastern Bering Sea (EBS) and Aleutian Islands.

Species/Region	MSY (t)	ABC (t)	
		1988	1989
Pollock			
EBS	2,300,000	1,500,000	1,340,000
(Area 515)		--	230,000
Aleutians	245,000	160,000	160,000
Pacific cod	323,300	385,300	370,600
Yellowfin sole	150,000	254,000	241,000
Greenland turbot	22,500	14,100	12,600
Arrowtooth flounder	55,300	109,500	171,300
Rock sole	112,500	166,000	143,400
Other flatfish	123,300	165,900	184,300
Sablefish			
EBS	2,200	3,400	1,900
Aleutians	8,800	5,800	5,800
Pacific ocean perch			
EBS	7,400	6,000	6,000
Aleutians	18,900	16,600	16,600
Other rockfish			
EBS	500	400	400
Aleutians	1,300	1,100	1,100
Atka mackerel	38,800	21,000	21,000
Squid	> 10,000	10,000	10,000
Other species	59,000	54,000	59,000
Total all species	3,478,800	2,873,100	2,975,000

Table 7.--Summary of stock abundance and ABC estimates for groundfish in the eastern Bering Sea (EBS) and Aleutian Islands (AI) for 1989.

Species/Region		Biomass (t)	Annual exploitation rate (%)	ABC (t)	Abundance and trend
Pollock	EBS	5,300,000	25.3	1,340,000	Moderately high, moderate decline
	Area 515	1,000,000	23	230,000	High, trend unknown
	AI	690,000	23	160,000	Relatively high, stable
Pacific cod		1,190,000	31	370,600	Very high, stable
Yellowfin sole		1,530,000	15.8	241,000	Very high, stable
Greenland turbot		370,700	3.4	12,600	Average,declining
Arrowtooth flounder		552,600	31	171,300	Very high, stabalizing
Rock sole		1,103,000	13	143,400	Very high, increasing
Other flatfishes		1,188,700	15.5	184,300	Very high, stable
Sablefish	EBS	16,900	11.2	1,900	Average, declining
	AI	96,800	6	5,800	High, stable
Pacific ocean perch	EBS	101,000	6	6,000	Below average, slow increase
	AI	276,500	6	16,600	Below average, slow increase
Other rockfish	EBS	7,100	6	400	Average, stable
	AI	18,500	6	1,100	Average, stable
Atka mackerel		--	--	21,000	Below average, trend unknown
Squid		--	--	10,000	Unknown
Other species		673,600	9	59,000	High, stable
Groundfish complex		>12,604,400		2,975,000	High, stable

AGENDA D-4(d)
SEPTEMBER 1988

KODIAK LONGLINE VESSEL OWNERS ASSOCIATION

HALIBUT, SABLEFISH AND PACIFIC COD

P.O. BOX 135, KODIAK, ALASKA 99615 TELEPHONE (907) 486-3781

August 29, 1988

		INITIAL
	Exec. Dir.	
	Deputy Dir.	
	Ad. Bd. Ch.	
cc: DL	Exec. Sec.	
	Staff Asst. 1	
	Staff Asst. 2	
	Staff Asst. 3	
	Secretariat	
	Sec./Clerk.	
	Sec./Typist	

Dr. Clarence Pautzke
Executive Director
NORTH PACIFIC FISHERY MANAGEMENT COUNCIL
P. O. Box 103136
Anchorage, Alaska 99510

RE: BS/AI Emergency Action

Dear Clarence,

The Kodiak Longline Vessel Owners are requesting that the Council address the sablefish fishery in the Bering Sea and Aleutian Islands at the September, 1988 Council meeting. Emergency action effective January 1, 1989 is requested with a Plan Amendment to follow. The attached proposal consists of two actions which we feel are necessary to allow this fishery to continue in an orderly manner. The first part is a reduction of sablefish bycatch allowed and the second part is an allocation between users.

As you are aware, the directed sablefish fishery in the Bering Sea subarea was unexpectedly closed on June 11, 1988 with over 49% of the TAC remaining. NMFS personnel indicated that under the current management scheme, there may not be a directed sablefish fishery in the Bering Sea subarea in 1989. The entire total allowable catch (TAC) may be needed for bycatch needs.

After reviewing data from National Marine Fisheries Service regarding historical catches and current trends in the fishery, it appears necessary for us to request emergency action in not only the Bering Sea, but the Aleutian Islands as well. The closure in the Bering Sea came as a surprise to NMFS and industry alike. While it may not now appear that this situation will happen as quickly in the Aleutian Islands, it does seem prudent to also address the Aleutian Islands at this time.

Thank you very much for your review and consideration of this request. If you require additional information or clarification, please contact us.

Sincerely,

Linda Kozak

Linda Kozak

REQUEST FOR EMERGENCY ACTION

BERING SEA AND ALEUTIAN ISLANDS

INTRODUCTION:

Prior to 1985, the sablefish fishery in the Aleutian Islands and Bering Sea subareas was primarily a large directed Japanese longline effort and a smaller bycatch by various multi-national trawl operations targeting on other species.

The first year of any significant domestic fishing activity for sablefish in the two subareas was 1985. Fixed gear users (longline and pot) caught 96% of the total catch of sablefish in the Bering Sea and 91% of the total catch in the Aleutian Islands. The remaining percentages of the total catch were taken as bycatch in various trawl operations.

In 1986 and 1987, the combined factors of increased U.S. trawl activity and higher market values for sablefish have contributed to cause some potentially serious fishery management problems, especially in the Bering Sea subarea.

In 1986 for the Bering Sea subarea, National Marine Fisheries Service allowed the sablefish fishery for the combined fleet of fixed and trawl gear to harvest near the total allowable catch (TAC) prior to closure of the directed fishery. However, the sablefish TAC was exceeded by 36% (812 MT) as a result of sablefish taken as bycatch in other groundfish fisheries.

In 1987, NMFS closed the directed sablefish fishery in the Bering Sea on August 15 with a lower level of the TAC being harvested. This allowed greater amounts of the TAC to be taken as bycatch. Although these precautions were taken, the TAC was still over-run by more than 10%.

On June 11, 1988, NMFS closed the directed sablefish fishery in the Bering Sea subarea. Approximately 49% of the TAC remained. The NMFS news release stated that, "NMFS has determined that the remainder of the 3,400 MT total allowable catch (TAC) is necessary for bycatch in domestic groundfish fisheries planned for the remainder of 1988." Since the sablefish taken as a bycatch while harvesting other groundfish in the Bering Sea is of most benefit to the trawl fishery, this action effectively allocated the remaining sablefish TAC to the trawl operations.

Due to ever increasing numbers of trawl participants in the Bering Sea subarea, if the bycatch allowance in the sablefish management plan is maintained at the current level of 20%, it is anticipated by NMFS personnel that there will be little or no directed fishery for sablefish in the Bering Sea in 1989. All of the TAC will be needed as bycatch in present and proposed groundfish operations, most of which involves the trawl fishery.

Clearly all directed fishing efforts for sablefish are being impacted by the bycatch problems which occur in trawl fisheries. Only by having the North Pacific Fishery Management Council make an allocative decision regarding a division of the sablefish resource between user groups, can NMFS proceed with the proper management authority to effectively manage the sablefish resource. Without that mandate, the trawl fishery will completely supercede both the longline and pot fisheries as being the only economically viable fishery in the Bering Sea and Aleutian Island subareas.

REQUEST FOR EMERGENCY ACTION - BERING SEA AND ALEUTIAN ISLANDS

SABLEFISH BYCATCH REDUCTION

PROPOSAL:

Emergency action is requested for 1989 followed with a Plan Amendment to the BS/AI FMP as follows:

Lower the bycatch allowances for sablefish in the directed fishery harvest of other groundfish from the presently allowed 20% to 4% for all gear types in the Bering Sea and Aleutian Island subareas.

JUSTIFICATION:

The recent NMFS short-notice closure in the Bering Sea for the directed sablefish fishery was unexpected with over 49% of the TAC remaining. This closure has resulted in adverse economic repercussions for the fixed gear users. If emergency action is not taken to lower the sablefish bycatch, there may be no directed sablefish fishery in the Bering Sea in 1989 and an unexpected short-notice closure for the Aleutians may also occur.

Shown below are DAP estimates for 1989 in the Bering Sea fully utilizing the currently allowed 20% sablefish bycatch (except Trawl Pollock):

GEAR SPECIES	1989 DAP (MT)	RATE	SABLEFISH BYCATCH* (MT)
Trawl Pollock	800,000	.00056	448
Trawl Pacific Cod	16,000	.20	4,000
Trawl Greenland Turbot & POP	10,000	.20	2,500
Longline Pacific Cod	8,400	.20	2,100
		TOTAL	9,048

* Bycatch is calculated as a percentage of the total catch, not simply a percentage of the target catch.

Assuming that the sablefish TAC will be the same as 1988 (3,400 MT), these figures show potential overfishing by 5,648 MT in order to fully utilize the other groundfish fisheries.

Additionally, since the trawl fleet takes a substantial portion of all sablefish bycatch, this virtually eliminates the fixed gear harvest of sablefish in the Bering Sea. The result would have severe monetary consequences for the longline and pot fishermen who have historically depended on a directed fishery.

DATA BASE:

Catch reports and 1989 estimated DAP needs were provided by Ms. Janet Smoker with the National Marine Fisheries Service.

Foreign catch data for 1985 as relayed by National Marine Fisheries Service personnel reflect a sablefish bycatch rate of significantly less than 4%. NMFS staff indicate that a 4% sablefish bycatch for all gear types is more than sufficient to prosecute the fisheries.

REQUEST FOR EMERGENCY ACTION - BERING SEA AND ALEUTIAN ISLANDS

SABLEFISH ALLOCATION BETWEEN USERS

PROPOSAL:

Emergency action is requested for 1989 followed by a Plan Amendment to the BS/AI FMP for a permanent regulation change to allocate the Bering Sea and Aleutian Island sablefish fisheries in the following manner:

Bering Sea:

Fixed Gear - 70% of TAC
Trawl Gear - 30% of TAC

Aleutian Islands:

Fixed Gear - 90% of TAC
Trawl Gear - 10% of TAC

JUSTIFICATION:

The Bering Sea catch records provided by NMFS for the years 1985 through 1987 are attached. They show the average sablefish catch for the trawl fleet and the fixed gear users (longline and pot). This catch is for the entire year, both in the directed fishery and bycatch taken while directing on other groundfish.

The allocation percentages are rounded figures based on the estimates of sablefish taken only during the directed harvest after reviewing the limited NMFS data available.

If emergency action is not taken to allocate the sablefish resource in the Bering Sea and Aleutians, there will be a loss of approximately 1,000 MT to the fixed gear users in the Bering Sea alone for 1989. This loss will occur even if the sablefish bycatch percentage is lowered from the currently allowed 20% to 4%. Shown below are DAP estimates for 1989 showing a maximum bycatch allowed of 4%:

GEAR SPECIES	1989 DAP (MT)	RATE	SABLEFISH BYCATCH* (MT)
Trawl Pollock	800,000	.00056	448
Trawl Pacific Cod	16,000	.04	667
Trawl Greenland Turbot & POP	10,000	.04	417
Longline Pacific Cod	8,400	.04	350
		TOTAL	1,882

* Bycatch is calculated as a percentage of the total catch, not simply a percentage of the target catch.

SABLEFISH ALLOCATION BETWEEN USERS CONTINUED...

If the Bering Sea sablefish TAC were the same as 1988 at 3,400 MT, the bycatch needs would be 55% of the TAC, which would allow only 1,518 MT for the directed fishery. The following conclusions may be reached as a comparison of catch for the users in the sablefish fishery:

TRAWL GEAR
Directed Fishery (36%) = 546 MT
Bycatch (90%) = 1,694 MT
TOTAL 2,240 MT
(66% of TAC)

FIXED GEAR
Directed Fishery (64%) = 972 MT
Bycatch (10%) = 188 MT
TOTAL 1,160 MT
(34% of TAC)

It is easy to see that even while reducing the bycatch allowance without an allocation between users, there will be a significant disparity from historical catches. This will only become worse as more factory trawlers begin production and their bycatch needs increase. The longline and pot fishermen who depend directly on this resource will suffer a severe economic loss which cannot be justified.

Because this situation has, as yet, only occurred in the Bering Sea subarea, some may believe that emergency action in the Aleutian Islands is not warranted. The 1988 short-notice closure in the Bering Sea directed sablefish fishery was a surprise to industry and NMFS alike. This same situation could easily occur in the Aleutian Islands. It is important to address the current and potential problems in both the Bering Sea and Aleutian Islands now.

DATA BASE:

Catch reports and 1989 estimated DAP needs were provided by Ms. Janet Smoker with the National Marine Fisheries Service. Bycatch rates are a reasonable assumption according to NMFS personnel.

The following total catches include both the directed sablefish fishery and sablefish taken as bycatch while directing on other groundfish.

BERING SEA SUBAREA

YEAR	TAC	TOTAL CATCH	FIXED GEAR	TRAWL GEAR
1985	2,825	2,059.5	1,973	86.4
1986	2,250	3,062.1	1,725.4	1,336.7
1987	3,700	4,076.1	2,153.1	1,923.7
Average Catch (directed and bycatch):			64%	36%

ALEUTIAN ISLANDS

YEAR	TAC	TOTAL CATCH	FIXED GEAR	TRAWL GEAR
1985	1,875	1,315.2	1,191.7	123.5
1986	4,200	2,944.9	2,521.1	423.8
1987	4,000	3,778.7	3,299.2	479.5
Average Catch:			87%	13%

D R A F T

DISCUSSION PAPER ON

PROPOSAL TO AMEND SABLEFISH REGULATORY REGIME IN

BERING SEA/ALEUTIAN ISLANDS

(Original proposal submitted by
Kodiak Longline Vessel Owners Association)

Prepared by the
Staff of the North Pacific Fishery Management Council
and the
Bering Sea/Aleutian Islands Groundfish Plan Team
Anchorage, Alaska

September 1988

The Kodiak Longline Vessel Owners Association, in a letter dated August 29, 1988, has asked that the Council consider immediate action to (1) reduce allowable bycatch of sablefish in other target fisheries in the Bering Sea and Aleutian Islands management areas by amending the definition of directed fishing; and, (2) allocate BSAI sablefish TAC between gear groups. For both of these actions the proposal requests emergency action followed by plan amendment.

This discussion paper is a preliminary examination of the efficacy of the proposal. If the Council wishes to formally advance all or part of the proposal as an emergency rule and/or as a groundfish amendment, then the BSAI plan team and Council staff may expand the present analysis.

BACKGROUND

The allocation of sablefish between totally domestic (DAP) gear groups in the Bering Sea has become an issue in 1988. On June 11, 1988, NMFS closed the sablefish fishery in the Bering Sea to directed fishing when only 51% of the TAC had been taken. The remaining TAC was deemed necessary as bycatch in remaining trawl fisheries for pollock, Pacific cod, Greenland turbot, and Pacific ocean perch (POP) and in the longline fishery for Pacific cod. In anticipation of future DAP gear conflicts in the Aleutian Islands management area, similar to that currently occurring in the Bering Sea management area, the Kodiak longliner's proposal also includes recommendations for controls in the Aleutian Islands to limit sablefish bycatch and to allocate catch by gear.

The DAP harvests of sablefish from the Bering Sea/Aleutian Islands areas, by gear group, for the years 1985 through mid-August 1988 are presented in Table 1. Harvests by wholly domestic operations by gear group before 1985 are not reported because of the confidentiality of the catch statistics for longliners (fewer than four longliners participated).

Prior to 1988 no formal procedure was used to determine the proportion of sablefish allowed as bycatch and as target catch (Janet Smoker, pers. comm.). In 1988, however, NMFS instituted a procedure to calculate the sablefish bycatch needs in the non-target fisheries. The rates and predictions used to justify the June 11 closure are shown in Table 2. The rates of incidental trawl catch of sablefish in the pollock fishery and in the Greenland turbot and POP fisheries are based on observed rates in 1987 by domestic catcher/processors. These "bycatch" rates are based on the total amount of the species taken by that gear type. This means, for instance, that the pollock catch used to calculate the sablefish bycatch rate in that fishery includes pollock taken in the Pacific cod fishery.

Two comments on the rates used by NMFS in predicting shares of sablefish by target fishery deserve note. The catcher/processor rates are production rates rather than actual catch rates. This means that the rates represent the round weight ratio of products processed rather than actual catch proportions (that is, discards are not counted). Second, the proportion of sablefish taken in both the Pacific cod trawl fishery and in the Pacific cod longline fishery has been arbitrarily set to 4%. Thus, the rates used are approximate proportions and do not necessarily represent the naturally occurring species mix in current fisheries.

ANALYSIS

History of Performance

In an attempt to examine the appropriateness of the 4% proportion assumption, the predictions of Table 2 were compared with actual observations of sablefish catch in various fisheries (Table 3; Bering Sea and Aleutian Islands separately).

The data in Table 3 are derived from various sources. In general, our ability to immediately summarize these catch observations is restricted to existing reports or data summaries. For the foreign fisheries, only data on the bycatch of sablefish in the fishery for Greenland turbot were available. During the period 1980-1983 sablefish proportions in the Japanese small trawler fishery were examined. As indicated in Table 3, sablefish proportions in that fishery ranged from less than 1% to just under 3% of total harvest. More recently, summaries from 1985 and 1986, indicate that the foreign Greenland turbot fishery's proportion of sablefish to total groundfish at about 1/4 of 1%.

Recent joint venture catch statistics reported in Table 3, taken from an internal NWAFC report (Baldwin, 1988)[1], indicate sablefish bycatch rates of 0.1% or less for bottom trawl operations targeting on pollock in the Bering Sea (1987), and from approximately 0.1% to 0.2% in the Aleutians (1987 and 1988). Mid-water trawl operations targeting on Atka mackerel and pollock in the Aleutian Islands management area also reported low rates of incidental catch of sablefish (0.1% or less).

These data were generated from catches aggregated by sub-management area using the following rules for assigning a week's catch to a target fishery (Berger, 1988)[2]:

- If "other flatfish" constituted at least 35% of the catch the harvest was assigned to the "other flatfish" target fishery; else,
- If Pacific cod accounted for at least 60% of the catch the harvest was assigned to the Pacific cod target fishery; else,
- If pollock made up more than 95% of the catch the harvest was classified as occurring in the mid-water trawl fishery for pollock; else,
- If pollock catch was greater than 50% of the total landings the harvest was placed in the bottom trawl pollock fishery; else,
- If Greenland turbot constituted at least 35% of the catch the harvest was assigned to the Greenland turbot fishery; else,
- If Atka mackerel made up at least 20% of the catch, the harvest was classified as in the Atka mackerel fishery; else,
- If yellowfin sole catch was at least 20% of the total, the harvest was classified as occurring in the yellowfin sole fishery; else
- The harvest was placed in a catch-all target fishery called "other fish".

Sablefish Catch in Domestic Fisheries

NMFS, in deciding to close the directed fishery for sablefish, used bycatch rates for sablefish observed in the 1987 catcher/processor fisheries for pollock (0.056%, Table 2), and Greenland turbot and POP (in the aggregate 7.83%, Table 2). If we apply these rates against the 1987 and 1988 year-to-date domestic catch of pollock and of Greenland turbot and POP, sablefish bycatch is as indicated in Table 4. Note that these estimates assume that the entire apportionment is taken by the target fishery.

NMFS assumed that the bycatch rate for sablefish in the Pacific cod trawl fishery was 4%. We chose to calculate the bycatch of sablefish in this fishery in a different manner. The total sablefish taken in the pollock, Greenland turbot, and POP fisheries was subtracted from the total trawl caught sablefish as reported in PacFIN for 1987 and 1988 year-to-date (September 9, 1988). This difference was assigned to the Pacific cod trawl fishery. As a final step, this amount of sablefish was divided by the trawl cod landings to yield a sablefish bycatch rate in the P. cod trawl fishery (Table 4).

NMFS also assumed a 4% bycatch rate in the domestic Pacific cod longline fishery. We are unable to estimate an actual percentage for that fishery as the total longline caught sablefish is not separable between the directed and non-directed longline fisheries.

---

[1] Memorandum to Rich Marasco and Loh-Lee Low, dated September 12, 1988, 3 pp.

[2] Berger, Jerry. 1988. By-catch rates in the Bering Sea Joint Venture Groundfish Fishery: An informational paper, manuscript, 45 pp.

It is clear from these data that, for the most part, sablefish bycatch in non-directed fisheries is less than 4% of target catch. Exceptions are, apparently, the DAP trawl fisheries for Greenland turbot and POP (7.83%), and the trawl fishery for Pacific cod in the Aleutian Islands (10-19%).

Predictions for 1989

Historical bycatch rates, such as those presented in Tables 3 and 4, provide some useful background on sablefish bycatch in non-directed fisheries but the issue facing the Council, assuming they wish to amend the current 20% targeting definition, is determining an appropriate definition of directed fishing for sablefish.
It is clear that, even at current TAC levels, and assuming an allocation priority of sablefish to non-target fisheries, there is insufficient sablefish to accommodate a directed fixed gear fishery (longline and pot) for sablefish. Conversely, assuming an allocation priority to fixed gear, there is insufficient sablefish available to allow full prosecution, at current rates, of DAP fisheries which take sablefish incidentally.

To examine the consequences of amending the directed fishing definition for sablefish, sablefish bycatch "needs" in the non-directed fisheries in comparison to the harvest in the directed sablefish longline fishery were examined. This is done separately for the Bering Sea Management Area (Table 5) and for the Aleutian Islands management area (Table 6) using the preliminary 1989 ABCs for sablefish in the BSAI as recommended by the Bering Sea plan team.

Sablefish catch proportions of 20%, 4%, 2%, and 1% were examined for each area under the assumption that the DAP for sablefish in the Bering Sea will be 1,900 mt in 1989 and that the sablefish DAP in the Aleutians will be 5,800 mt.

For the Bering Sea, projections indicate that with a 4% bycatch of sablefish (except in pollock trawl which is assumed to remain at 0.056%) no significant directed fishery will be possible in 1989. At a 2% bycatch level some 760 mt of sablefish may be available to the fixed gear fishery, while at the 1% bycatch level the predicted directed fishery share would be about 1,100 mt. Note that these projections assume that (1) the non-directed fisheries take sablefish up to the regulatory limit, and, (2) bycatch is accounted for first. Thus, these projections underestimate the amount of sablefish available to the directed fishery.

For the Aleutian Islands, given the relative larger estimated sablefish DAP (5,800 mt) and lesser amounts of target species harvested in other groundfish fisheries, the bycatch needs are a smaller proportion of total sablefish available. Assuming a definition of directed fishing for sablefish at the 20% bycatch level, the directed fishery is predicted to take some 2/3 of the total sablefish available. If the directed fishery definition for sablefish were set at 4%, the directed fishery could take approximately 96% of the sablefish DAP.

Vessels Affected, Revenues and Costs

If DAP of sablefish is allocated so that all or most of it is harvested as bycatch in other fisheries, those fishermen who would have participated in the directed fishery will have to choose a different alternative. This section attempts to briefly outline the number of vessels that might be involved, some of the substitute activities for those displaced vessels that could generate revenue to offset, at least in part, the loss of revenue from the direct sablefish harvest and what, if any, impact on the gross revenues from the sablefish harvest this would have.

Based on information from the industry, freezer/longliners have crew size of 12-15 each, with the majority of vessels ranging from 85' to 180' in length (Table 7). In addition, there are smaller ice boats that are 60' to 80' long and have a crew of approximately 7 (Table 7).

Vessels that are closed out of the Bering Sea directed sablefish fishery can switch target species and/or area. Some individual boats could prolong sablefish fishing in the Aleutian Islands or in the Gulf of Alaska or along the coasts of Washington, Oregon, and California. As these fisheries' TACs are fully U.S. utilized, this would result in a displacement of other vessels' activity.

Alternatively, vessels could switch targets in the Bering Sea. Longliners have the option of participating in either the Pacific cod or Greenland turbot fisheries. These fisheries would provide the vessels with a different target species, and would also allow them to utilizes sablefish as a portion of their catch. Trawl vessels could target on a variety of groundfish species.

How successful any one of these alternatives would be depends, in part, on the price received for the substitute target species, the catch per unit effort, and the ability of the individual vessels within the fleet to switch their fishing strategies. It should be noted that individual vessels may prefer different options. For example, many of the smaller vessels do not have the freezer capacity because of their smaller size. The ice boats that switched to Pacific cod, for instance, would only be able to bleed and ice and, thus, would receive a lower price for their product.

Price Data

Currently, there is a positive price differential for larger size sablefish. In addition, there is a higher price paid for sablefish caught by longline then that paid for black cod caught by trawls. A large part of this price differential is due to the fact that longliners tend to catch larger fish than the trawl vessels. The rest of the difference is most likely due to differences in product form and quality. Presumably, if the sablefish are handled the same way, the quality of the fish is the same regardless of what gear it was caught with.

A review of Japanese wholesale prices and ex-vessel prices for 1986-1988 indicates that both kinds of price differentials are decreasing. In 1986, the price per product pound for sablefish, size 5-7 lb., averaged 33% more than the per pound product price paid for the 3-4 lb sablefish in the Tokyo wholesale market. By 1987, the average difference was 15%, and in 1988 (through August), it has decreased to 12%. Similarly, at the ex-vessel level, the average price for sablefish in the longline fishery was higher than that in the trawl fishery by 37-65% in 1986 in various areas of the Bering Sea. In 1988, the reported difference is only 14-16%.

Gross Revenues

If the bycatch amount in 1989 is caught by the same gear type that would have caught the sablefish in the directed fishery, then the size distribution of the catch, product form, and quality should remain the same; therefore, there should be no difference in the prices offered for these fish and gross revenues from the fishery will not change, regardless of the allocation of total harvest between bycatch and catch.

If there is a reallocation in favor of the trawl fisheries that take sablefish as bycatch, gross revenues from sablefish will either be about the same or slightly lower. Again, if gross returns are lower, most of this can probably be attributed to the difference in the size of fish caught.

Although the gross ex-vessel returns from the sablefish DAP would probably be higher if a larger share is taken as target catch, net returns may be lower. This follows from the fact that, in the trawl fishery, the cost of harvesting and utilizing sablefish while pursuing another groundfish target is quite low. Whether total cost is lower under a greater allocation to bycatch depends on the relative cost differences between trawl and longline operations. Currently, this difference is unknown.

Table 1. Domestic sablefish landings (in metric tons) and gear shares (%) in the Bering Sea, 1985-1988.

Year	Longline	Pots	Trawl	Other	Total
Bering Sea Management Area					
1985	1,443.7	437.2	78.5	0.0	1,959.4
	73.68%	22.31%	4.01%	0.00%	
1986	1,374.7	350.7	1,336.7	0.0	3,062.1
	44.89%	11.45%	43.65%	0.00%	
1987	1,879.0	120.1	1,923.7	89.0	4,011.8
	46.84%	2.99%	47.95%	2.22%	
1988 1/	1,019.0	61.8	1,558.2	0.0	2,638.9
	38.61%	2.34%	59.05%	0.00%	
Aleutian Islands Management Area					
1985	183.2	1,442.3	238.0	92.1	1,955.6
	9.37%	73.75%	12.17%	4.71%	
1986	1,582.3	938.8	423.8	0.0	2,945.0
	53.73%	31.88%	14.39%	0.00%	
1987	2,628.3	530.5	479.5	140.4	3,778.8
	69.55%	14.04%	12.69%	3.72%	
1988 1/	1,705.9	245.8	206.7	0.0	2,158.4
	79.04%	11.39%	9.58%	0.00%	

1/ Through September 7, 1988.

Source: PacFIN, monthly landings reports, September 7, 1988 and earlier editions.

Table 2. Calculations used by NMFS to predict 1988 sablefish bycatch amounts in the Bering Sea (as of June 11, 1988).

Gear	Target Species	Remaining DAP (mt)	Rate (%)	Sablefish Amount (mt)
Trawl	Pollock	504,000	0.056	282.2
Trawl	Pacific cod	14,600	4.000	584.0
Trawl	Greenland Turbot & POP	11,748	7.832	920.1
Longline	Pacific cod	8,400	4.000	336.0
Remaining Bering Sea sablefish TAC:				1,673.0
Sablefish required for bycatch:				2,122.3
Sablefish available to directed sablefish fisheries:				(449.3)

Source: NMFS quota management document, August 4, 1988 and NMFS-AK Region, Juneau, AK.

Table 3. Sablefish observed taken in non-directed fisheries: foreign and joint venture, 1980-1987.

Year	Fishery	Total Groundfish (mt)	Target Harvest (mt)	Sablefish Harvest (mt)	Sablefish Proportion (%)
Bering Sea Management Area					
Foreign					
1980	G. turbot, Jap. small trawl	N/A	N/A	N/A	2.46
1981	G. turbot, Jap. small trawl	N/A	N/A	N/A	2.80
1982	G. turbot, Jap. small trawl	N/A	N/A	N/A	1.22
1983	G. turbot, Jap. small trawl	N/A	N/A	N/A	0.78
1985	G. turbot, lower slope	N/A	N/A	N/A	0.24
1986	G. turbot, lower slope	N/A	N/A	N/A	0.20
Joint Venture					
1987	Pollock, bottom trawl, E. Zone 2 (513)	44,951	38,674	55	0.14
	Pollock, bottom trawl, W. Zone 2 (521)	29,719	26,858	12	0.04
Aleutian Islands Management Area					
Joint Venture					
1987	Pollock, bottom trawl	23,777	16,567	20	0.12
1987	A. mackerel	41,777	26,761	35	0.13
1988	Pollock, mid-water trawl	37,080	36,935	3	0.01
	Pollock, bottom trawl	1,060	949	2	0.21

Note: "N/A" indicates information is not available. Lower slope is that portion of the management area deeper than 200 fm.

Source: Foreign, joint venture - Foreign observer program, NWAFC, memorandum from Rebecca Baldwin, dated September 12, 1988.

Table 4. Sablefish taken in non-directed domestic fisheries: observed and estimated, 1987-1988.

Year	Fishery	Total Groundfish (mt)	Target Harvest (mt)	Sablefish Harvest (mt)	Sablefish Proportion (%)
Bering Sea Management Area					
1987	Pollock, trawl	N/A	214,086	20	0.056
	G. turbot, P.O.P., trawl	N/A	5,457	428	7.83
	P. cod, trawl	N/A	40,646	1,376	3.39
	All trawl	278,427	276,564	1,924	0.70
1987	P. cod, longline	N/A	1,344	54	4.00
1988	Pollock, trawl	N/A	248,031	139	0.056
	G. turbot, P.O.P., trawl	N/A	3,748	293	7.83
	P. cod, trawl	N/A	45,876	1,126	2.45
	All trawl	329,828	297,655	1,558	0.47
1988	P. cod, longline	N/A	652	26	4.00
Aleutian Islands Management Area					
1987	Pollock, trawl	N/A	249	0.1	0.056
	G. turbot, P.O.P., trawl	N/A	2,661	208	7.83
	P. cod, trawl	N/A	2,662	271	10.18
	All trawl	6,572	5,572	480	7.87
	P. cod, longline	N/A	21	8	4.00
1988	Pollock, trawl	N/A	2,232	1	0.056
	G. turbot, P.O.P., trawl	N/A	695	54	7.83
	P. cod, trawl	N/A	803	152	18.91
	All trawl	4,730	0	207	4.57
1988	P. cod, longline	N/A	70	3	4.00

Note: "N/A" indicates information is not available.

Source: PacFIN database, 1987 final, and 1988 year-to-date (September 9, 1988). See text for derivation of numbers.

Table 5. Projections of sablefish bycatch amounts in 1989 for non-directed fisheries in the Bering Sea management area.

(20% directed fishing definition)

GEAR	SPECIES	DAP apportionment (mt)	Sablefish rate (%)	Sablefish amount (mt)
Trawl	Pollock	800,000	0.056%	448
Trawl	Pacific cod	16,000	20.000%	3,200
Trawl	Greenland Turbot & POP	10,000	20.000%	2,000
Longline	Pacific cod	8,400	20.000%	1,680
Overall		834,400	0.878%	7,348
1989 Bering Sea sablefish TAC, mt:				1,900
Sablefish required for bycatch:				7,348
Sablefish available to directed sablefish fisheries:				(5,448)

(4% directed fishing definition)

Gear	Species	DAP apportionment (mt)	Sablefish rate (%)	Sablefish amount (mt)
Trawl	Pollock	800,000	0.056%	448
Trawl	Pacific cod	16,000	4.000%	640
Trawl	Greenland Turbot & POP	10,000	4.000%	400
Longline	Pacific cod	8,400	4.000%	336
Overall		834,400	0.219%	1,824
1989 Bering Sea sablefish TAC, mt:				1,900
Sablefish required for bycatch:				1,874
Sablefish available to directed sablefish fisheries:				76

Table 5 (cont.). Projections of sablefish bycatch amounts in 1989 for non-directed fisheries in the Bering Sea management area.

(2% directed fishing definition)

Gear	Species	DAP Apportionment (mt)	Sablefish Rate (%)	Sablefish Amount (mt)
Trawl	Pollock	800,000	0.056%	448
Trawl	Pacific cod	16,000	2.000%	320
Trawl	Greenland Turbot & POP	10,000	2.000%	200
Longline	Pacific cod	8,400	2.000%	168
Overall		834,400	0.136%	1,136
1989 Bering Sea sablefish TAC, mt:				1,900
Sablefish required for bycatch:				1,136
Sablefish available to directed sablefish fisheries:				764

(1% directed fishing definition)

Gear	Species	DAP Apportionment (mt)	Sablefish Rate (%)	Sablefish Amount (mt)
Trawl	Pollock	800,000	0.056%	448
Trawl	Pacific cod	16,000	1.000%	160
Trawl	Greenland Turbot & POP	10,000	1.000%	100
Longline	Pacific cod	8,400	1.000%	84
Overall		834,400	0.095%	792
1989 Bering Sea sablefish TAC, mt:				1,900
Sablefish required for bycatch:				792
Sablefish available to directed sablefish fisheries:				1,108

Table 6. Projections of sablefish bycatch amounts in 1989 for non-directed fisheries in the Aleutian Islands management area.

(20% directed fishing definition)

Gear	Species	DAP Apportionment (mt)	Sablefish Rate (%)	Sablefish Amount (mt)
Trawl	Pollock	36,000	0.056%	20
Trawl	Pacific cod	1,800	20.000%	360
Trawl	Greenland Turbot & POP	6,800	20.000%	1,360
Longline	Pacific cod	200	20.000%	40
Overall		44,800	3.974%	1,780
1989 Aleutian Islands sablefish DAP, mt:				5,800
Sablefish required for bycatch:				1,780
Sablefish available to directed sablefish fisheries:				4,020

(4% directed fishing definition)

Gear	Species	DAP Apportionment (mt)	Sablefish Rate (%)	Sablefish Amount (mt)
Trawl	Pollock	36,000	0.056%	20
Trawl	Pacific cod	1,800	4.000%	72
Trawl	Greenland Turbot & POP	6,800	4.000%	272
Longline	Pacific cod	200	4.000%	8
Overall		44,800	0.831%	372
1989 Aleutian Islands sablefish DAP, mt:				5,800
Sablefish required for bycatch:				372
Sablefish available to directed sablefish fisheries:				5,428

Table 6 (cont.). Projections of sablefish bycatch amounts in 1989 for non-directed fisheries in the Aleutian Islands management area.

(2% directed fishing definition)

Gear	Species	DAP Apportionment (mt)	Sablefish Rate (%)	Sablefish Amount (mt)
Trawl	Pollock	36,000	0.056%	20
Trawl	Pacific cod	1,800	2.000%	36
Trawl	Greenland Turbot & POP	6,800	2.000%	136
Longline	Pacific cod	200	2.000%	4
Overall		44,800	0.438%	196
1989 Aleutian Islands sablefish DAP, mt:				5,800
Sablefish required for bycatch:				196
Sablefish available to directed sablefish fisheries:				5,604

(1% directed fishing definition)

Gear	Species	DAP Apportionment (mt)	Sablefish Rate (%)	Sablefish Amount (mt)
Trawl	Pollock	36,000	0.056%	20
Trawl	Pacific cod	1,800	1.000%	18
Trawl	Greenland Turbot & POP	6,800	1.000%	68
Longline	Pacific cod	200	1.000%	2
Overall		44,800	0.241%	108
1989 Aleutian Islands sablefish DAP, mt:				5,800
Sablefish required for bycatch:				108
Sablefish available to directed sablefish fisheries:				5,692

Table 7. Vessels that landed sablefish in the Bering Sea/Aleutian Islands by gear and year.

Year	Gear Type	Number of Vessels
1986	Pot	7
	Longline	50
	Trawl	18
1987	Pot	9
	Longline	91
	Trawl	18
1988*	Pot	5
	Longline	66
	Trawl	16

* Based on data through August

Source: CFEC/NWAFC vessel file

September, 1988

JUVENILE HALIBUT MIGRATION AND BYCATCH MANAGEMENT IMPLICATIONS

By

Staff of the International Pacific Halibut Commission

Introduction

Pacific halibut are most vulnerable to bycatch in groundfish fisheries during the juvenile (<65 cm in length) stage. Juvenile halibut are highly migratory, widely distributed, and inhabit grounds typically used by many groundfish species. Information on the pattern of migration by juvenile halibut and the effect of bycatch mortality on the directed halibut fishery is provided as background for discussions of halibut bycatch management.

Egg and Larval Drift

Adult halibut generally spend the late spring through early fall period on feeding grounds in waters shallower than 100 fathoms. Pre-spawning halibut move during the fall to spawning grounds on the upper continental slope in depths of 100 to 250 fathoms (Figure 1), and spawn from November through March. Eggs and larvae spawned at depth by adult halibut drift passively with the ocean currents and gradually rise toward the ocean surface (Thompson and Van Cleve, 1936). Prevailing currents at spawning depth and near the surface tend to flow counterclockwise, parallelling the British Columbia and Alaska coastline (Figure 2). Winds heavily influence the actual flow of surface waters, and cause a stronger or weaker inshore component, depending on the strength and direction of the wind (Parker, in press). Eggs and larvae drift for hundreds or thousands of miles before reaching the surface, yet the survival of the larvae may require inshore flow to bring the larvae into shallow water where the larvae can settle to the bottom.

Recent surveys of postlarval halibut distribution from Dixon Entrance to the Bering Sea just prior to larval settlement (May and June) during 1985 and 1986 showed very few postlarvae in the inside waters of southeast Alaska, but large concentrations off central and western Alaska (St-Pierre, in press). Continuous distribution of postlarvae in the Alaska Coastal Current from the Gulf of Alaska through Unimak Pass, Akun Strait, and Akutan Pass into the Bering Sea strongly suggested transport of larvae through the Aleutian Islands with the surface flow of water (Figure 2). Larval abundance remained high along the north shore of the Alaska Peninsula until no more larvae were caught well into the eastern Bering Sea (Figures 3a and 3b).

Larvae settle throughout Alaskan waters, but most commonly from Cape St. Elias and west around Kodiak Island, along the Alaskan Peninsula, out the Aleutian Islands, and in the eastern Bering Sea (IPHC, 1986). Very few zero-

age halibut were found from Cape St. Elias east to Cape Spencer, but were at higher abundance in the outside and inside waters of southeast Alaska.

Countermigration

Continuity of the halibut resource requires that the progeny migrate to the east and south at some stage in the life history to counter the drift of eggs and larvae. Best (1977) and Skud (1977) present evidence that the counter migration occurs primarily during the juvenile stage, and that most juveniles migrate between 2 and 6 years of age.

Tag recovery data from juvenile halibut tagged from trawlers as 2-, 3-, and 4-year-olds shows considerable migration to the east and south (Figure 4). Only rarely have tagged juvenile halibut been documented moving to the west or from the Gulf of Alaska into the Bering Sea. Extreme migration from the Bering Sea to waters off northern California have been documented (IPHC, 1987), but migration from the Bering Sea, Unimak Pass, and Kodiak Island areas to southeast Alaska and British Columbia is common. Migration rates cannot be reliably calculated from available data because of differential non-reporting of tags (Trumble et al., in press). Preliminary migration rates were calculated (Quinn et al., 1985), but have not been used for management purposes.

Age composition of migrating juvenile halibut presented by Skud (1977) and updated through 1980 in Figure 5 (IPHC unpublished) supply additional information supporting countermigration primarily by juvenile halibut. One- and 2-year old halibut are commonly found by trawl surveys in inshore areas of central and western Alaska, but are seen only sporadically in waters of southeast Alaska and British Columbia. Juvenile halibut tend to move to more offshore areas at age 2 or 3. Mean and modal ages in the offshore surveys increase to the east and south, with the youngest trawl-caught halibut off southeast Alaska tending to be age 5 and older (Figure 5). Trawl and longline surveys conducted in 1987 east of Kodiak Island and near the Queen Charlotte Islands also show the pattern for younger halibut in the Gulf of Alaska than in British Columbia waters (Figure 6) (Kaimmer et al., in press).

Effects on Harvest

Juvenile halibut spawned from adults in the Gulf of Alaska may reside in the Gulf of Alaska or in the Bering Sea, and juvenile halibut from the Bering Sea may stay there or migrate into the Gulf of Alaska and as far south as Oregon. Management of halibut bycatch should consider coast-wide effects of bycatch mortality. Migration of juvenile halibut has major domestic allocation and international management implications: nearly all adult halibut harvested in southeast Alaska, British Columbia, and Washington-Oregon passed through western and central Alaska as juveniles.

Any fishing activity that diminishes the flow of juvenile halibut directly reduces available resource downstream from the interception. Bottom

trawling for groundfish species catches halibut incidentally. Trawling is selective for juvenile halibut (Myhre, 1969; Hoag, 1976). Juvenile halibut add biomass to the resource faster than natural mortality reduces biomass (Myhre, 1974), so juvenile halibut bycatch mortality causes lost yield to the directed longline halibut fishery that is greater than the actual biomass killed as bycatch. The expansion factor for converting bycatch mortality to lost yield is estimated as 1.58 times bycatch mortality (IPHC, unpublished). Estimates of bycatch mortality and yield loss for halibut in the North Pacific for 1987 are presented in Figure 7.

The amount of potential harvest lost to southeast Alaska, British Columbia, and Washington-Oregon depends on the bycatch mortality and migration rate. Bycatch mortality is fairly well estimated for joint venture and foreign fishing (Berger et al., 1987), but comparable rates are not available for wholly domestic fishing and processing. Migration rates of juvenile halibut are not available. An example of how migration might be approximated follows. The 1987 exploitable biomass of halibut in British Columbia and Washington-Oregon waters was approximately 12-15% of the coast wide exploitable biomass (Deriso et al., 1988), which suggests that a similar proportion of juveniles migrate to British Columbia or south. However, migration of juvenile halibut is probably not uniform from all areas. For example, extensive migration of juvenile halibut from the area near Kodiak Island to British Columbia and Washington-Oregon waters is suggested by Skud (1977) and by previously unpublished data from IPHC (Table 1). If so, halibut bycatch mortality in the Kodiak area may cause a differentially higher yield loss in waters south of Alaska.

Summary

Egg and larval drift due to ocean currents carries progeny of halibut spawning to the north and west, many miles away from the spawning grounds on the upper continental slope. A countermigration to the east and south, necessary to maintain continuity in the population, occurs during the halibut juvenile phase. Juvenile halibut intercepted and killed as bycatch in groundfish fisheries in the Bering Sea and western and central Alaska diminish available harvest in southeast Alaska, British Columbia, and Washington-Oregon.

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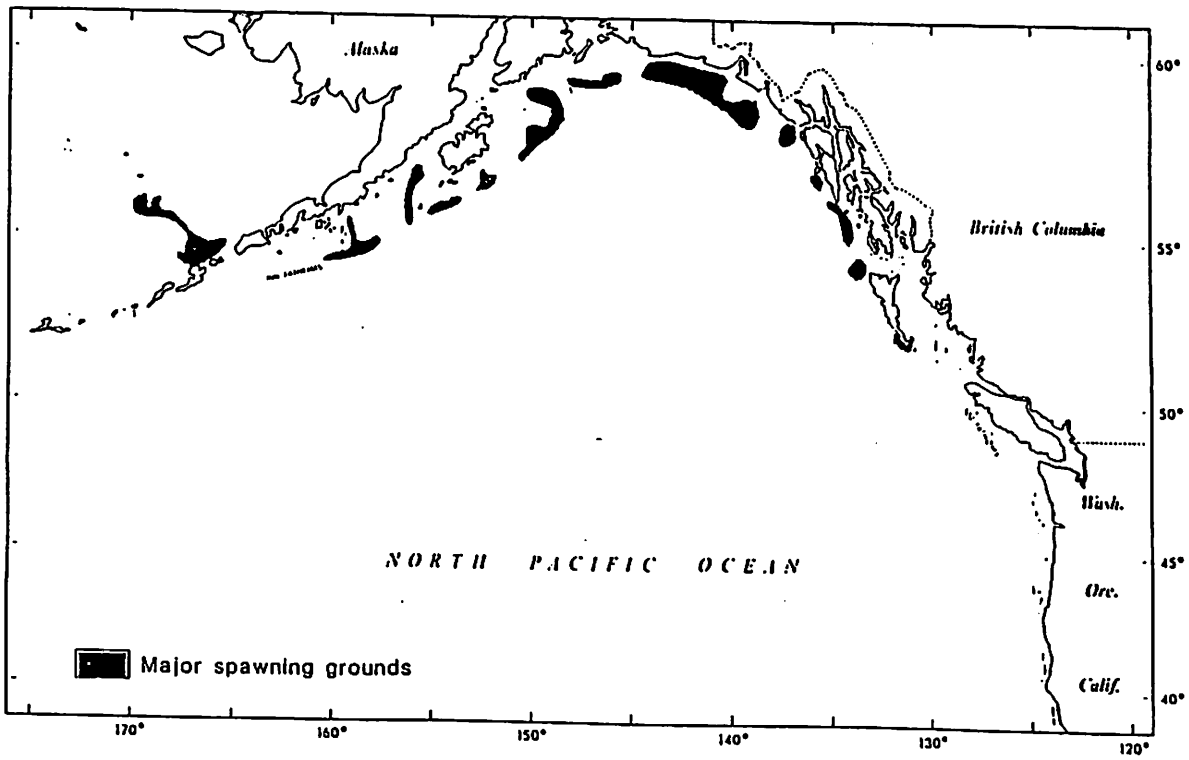


Figure 1. Major spawning locations in the northeast Pacific.

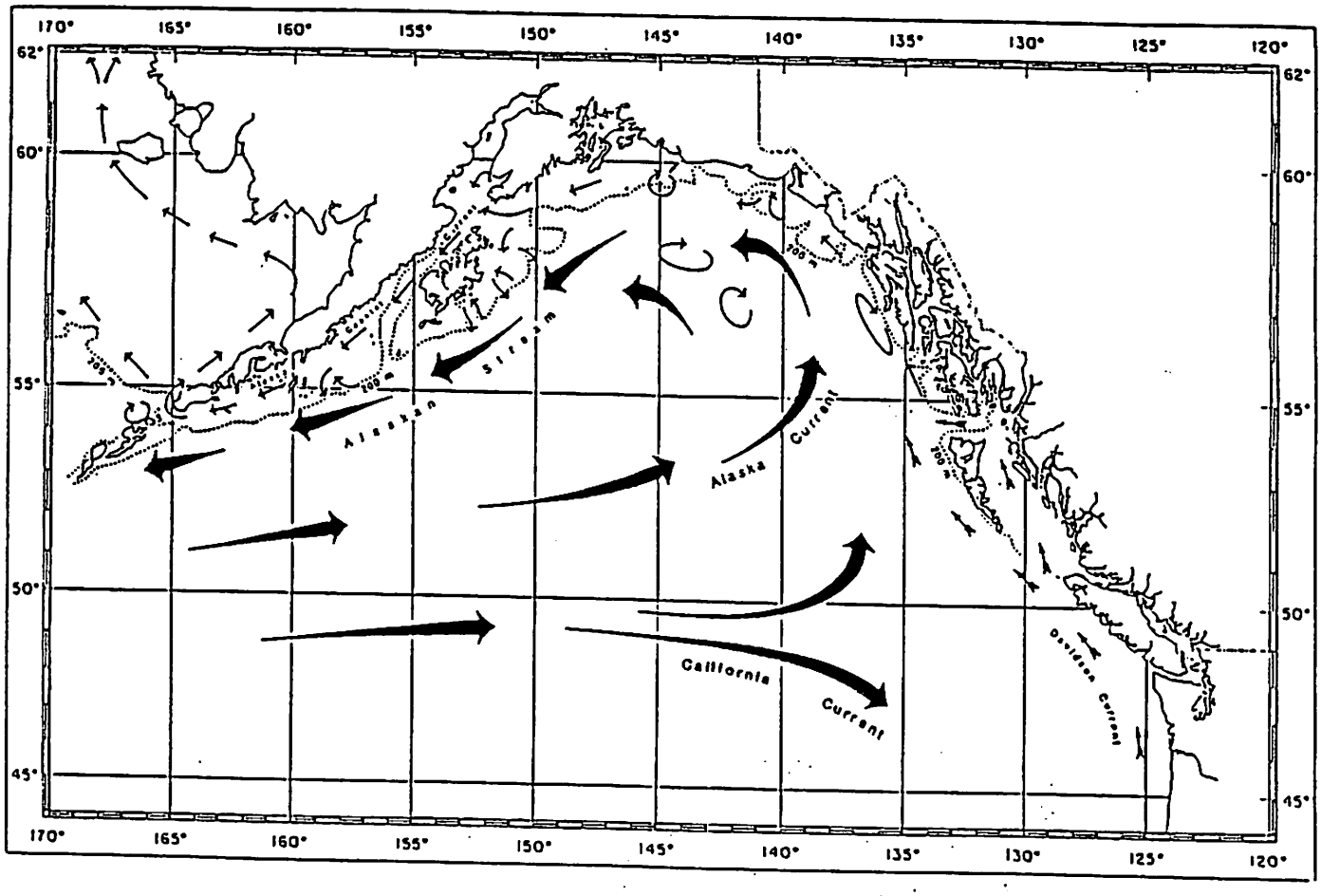


Figure 2. Generalized pattern of ocean currents in the North Pacific during winter.

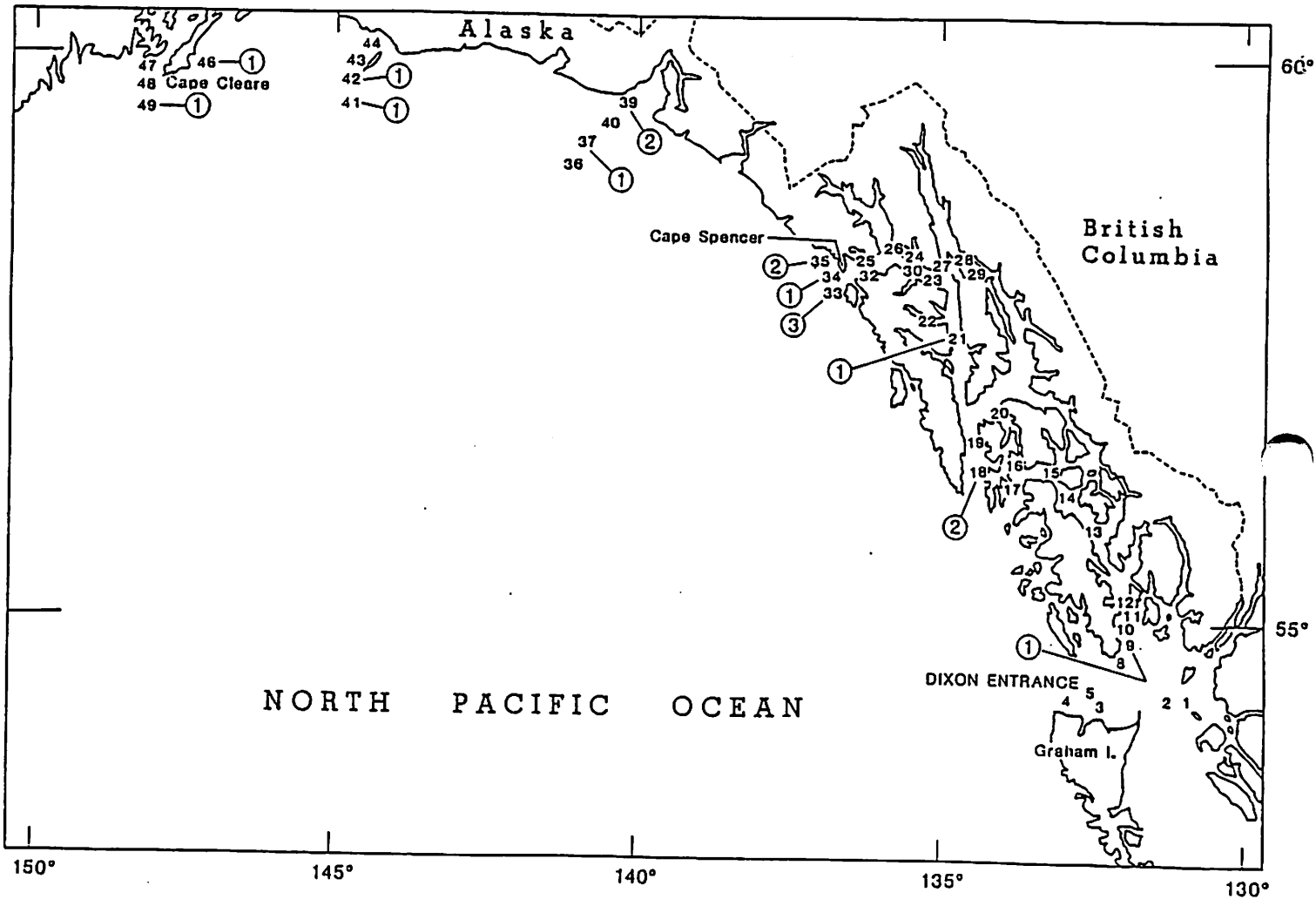


Figure 3a. Location of plankton tows (small numbers) and catch of halibut postlarvae (circled numbers) in the eastern Gulf of Alaska.

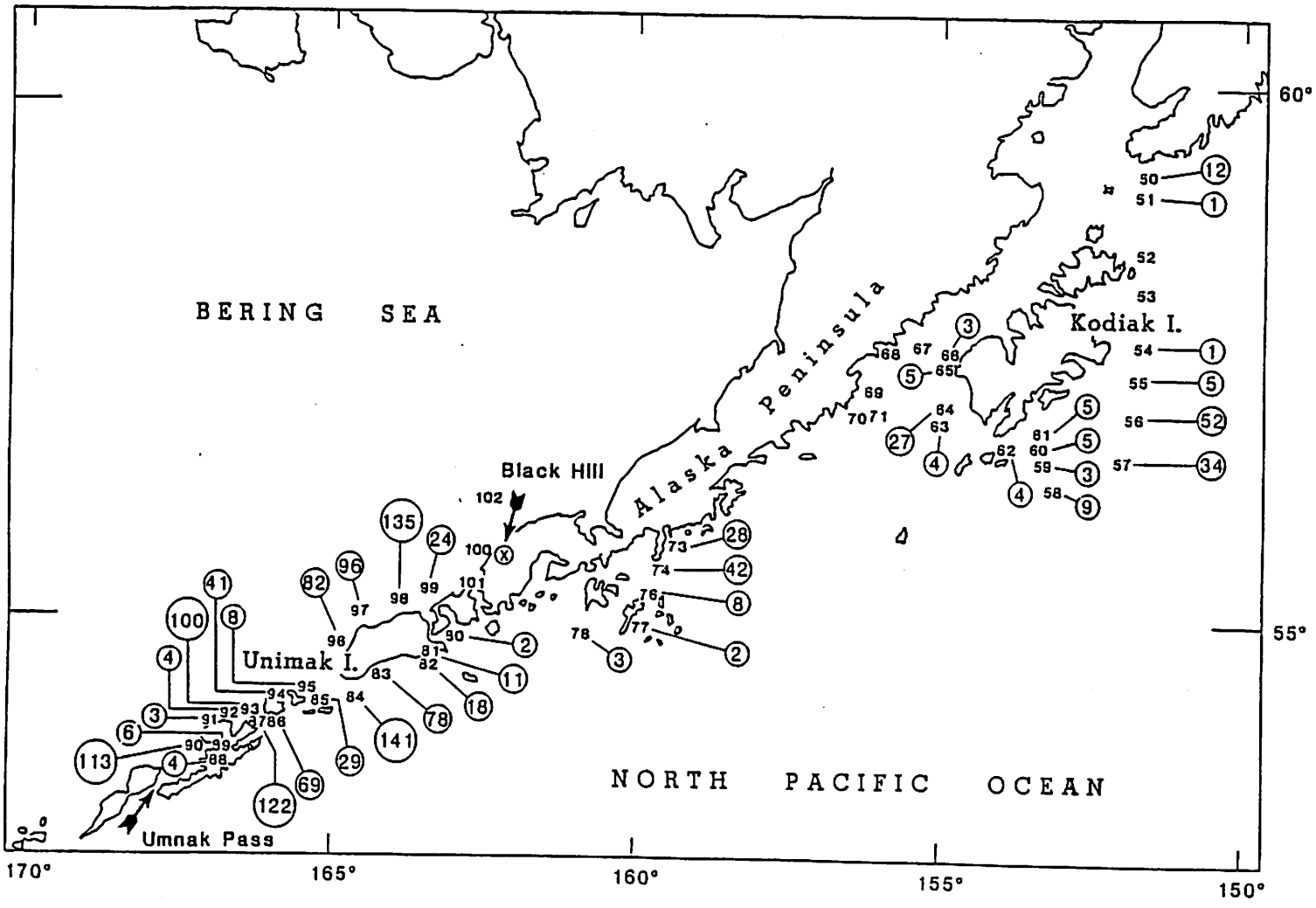


Figure 3b. Location of plankton tows (small numbers) and catch of halibut postlarvae (circled numbers) in the western Gulf of Alaska.

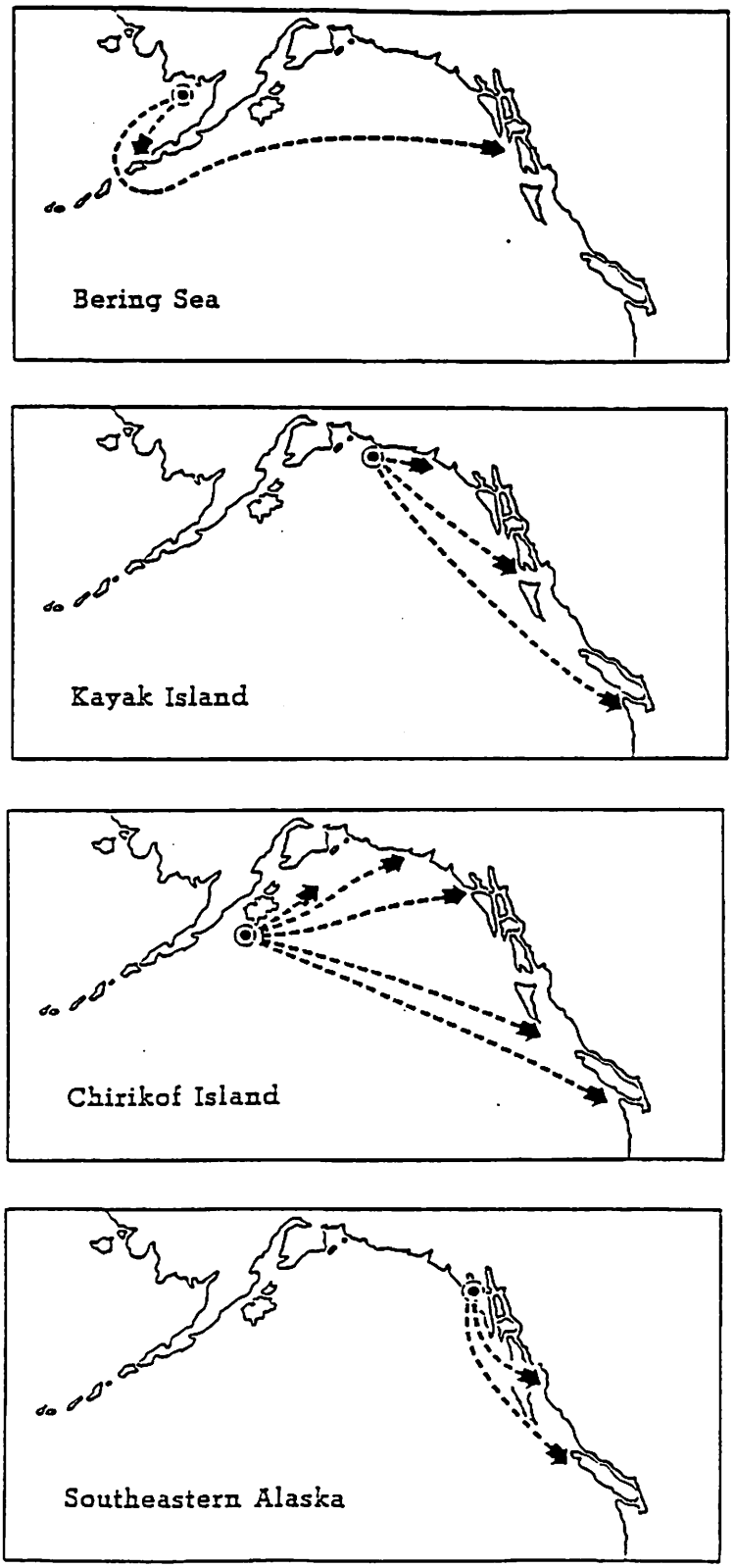


Figure 4. Migratory patterns of juvenile halibut from different tagging sites.

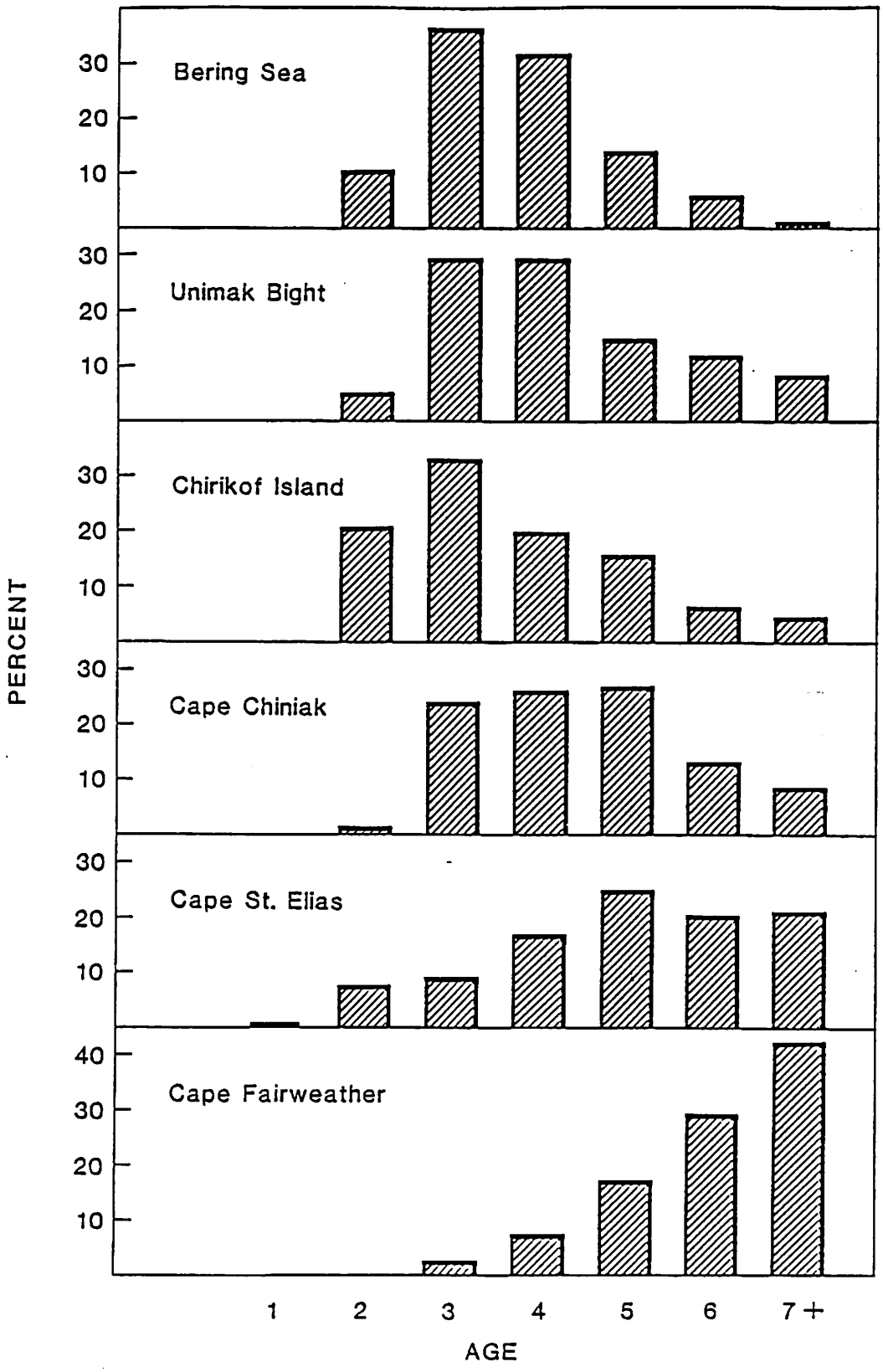


Figure 5. Average catch in percent numbers of fish by age in offshore areas, 1973-1980.

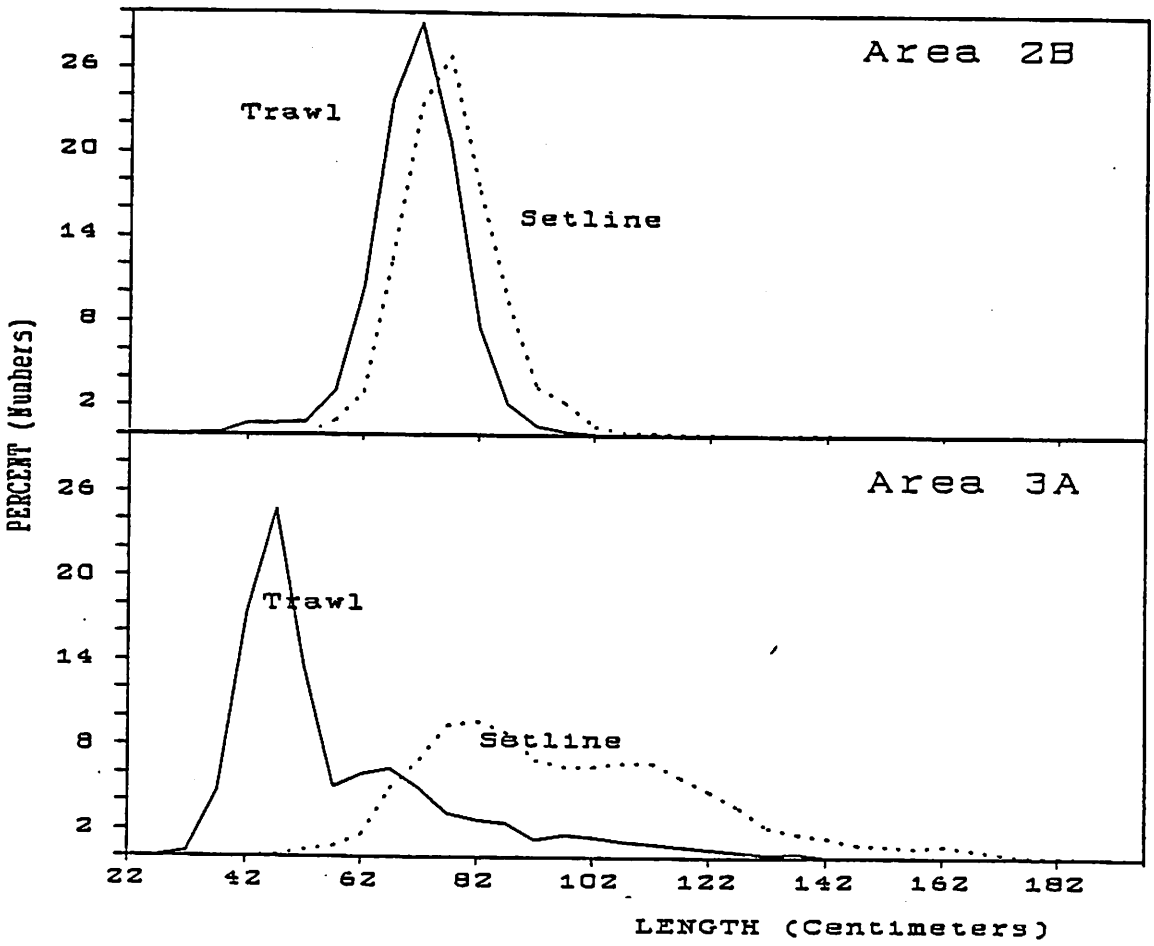


Figure 6. Percentage of halibut by 5 cm length group in trawls and setlines by IPHC regulatory subarea.

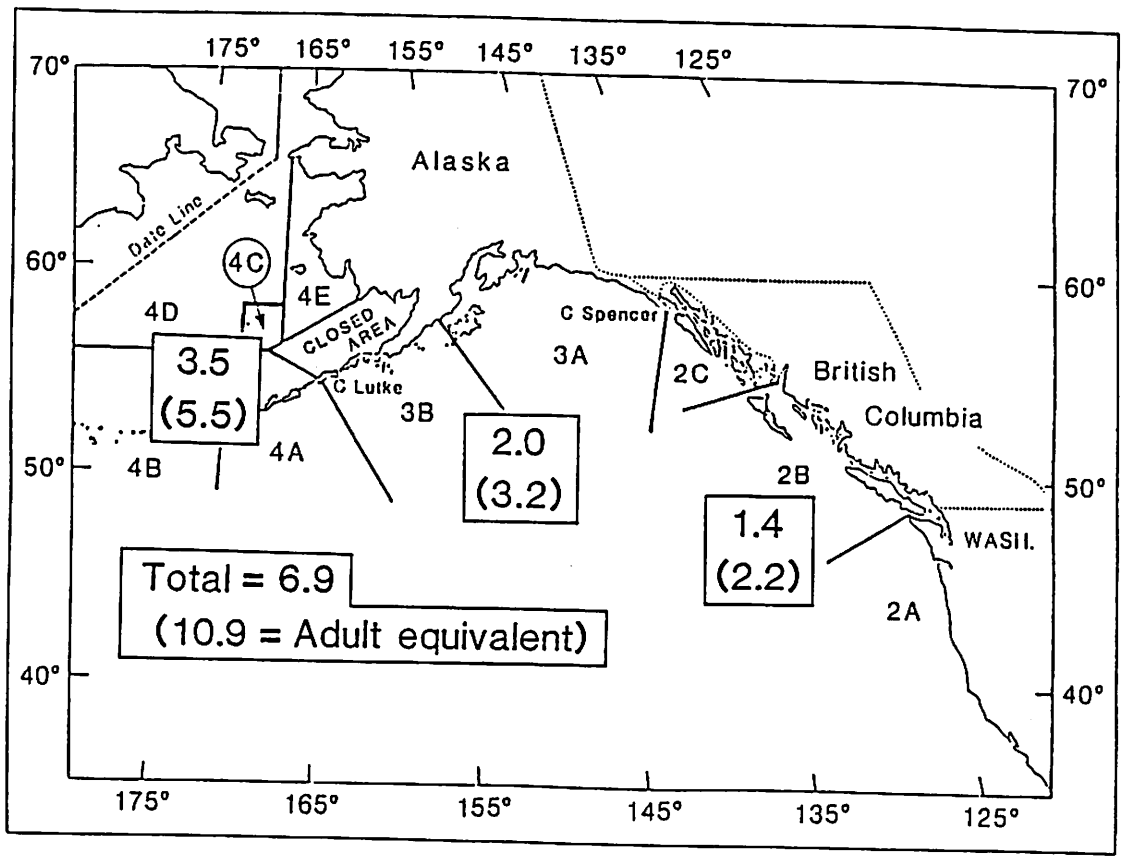


Figure 7. Estimated bycatch mortality for 1987 in millions of pounds, net weight, for IPHC regulatory areas 2B, 3A/3B, and 4.

Pete Orange

Request for Emergency Action

Bering Sea FMP

Introduction

In the Spring of 1987 an industry compromise agreement on the issue of a 100 mile exclusive zone around Dutch Harbor resulted in a separation of the JVP 1988 season into "A" and "B" segments. The "A" season began on Jan. 15 and allowed for a catch of 40% of the JVP allocation. The fishery then closed and reopened on April 15 and fished until the remaining 60% of JVP was taken. This regulation is to run for two years and will thus be in effect for the 1989 JV season.

Now, a rough estimation of potential JVP initial 1989 allocation produces figures in the 300,000 mt range. These numbers are drastically reduced from last year and 1987 when the split season was introduced. (1987 = 1.1. million mt) (1988 est. JVP = 800,000 mt)

The JV fleet and its partners are now faced with a split season on a much lower total amount of pollock allocation. The fleet is capable of taking 40% of the initial JVP in an very short period of time - perhaps within 2 weeks. Then the fleet would leave the Bering Sea and the motherships would disperse. Most vessels would remain idle until the April 15 start and then return to the Bering Sea for another fishery of very short duration.

The JV industry feels this will inflict an unnecessary economic hardship on itself. The reasons for splitting the season in 1987-88 are not relevant for the 1989 season. The JVP allocation is only a fraction of what it was two years ago and will not impact the roe-bearing resource in a measurable way. It would save this industry literally millions of dollars if these two seasons were combined and the JV fleet allowed to take all of the initial JVP allocation in one season. Each trawler will spend an estimated $20,000 in fuel to steam from Washington or Oregon ports to the Bering Sea and back. If a conservative figure of 80 trawlers had to make the second round trip in April they would spend a collective 1.6 million dollars. If the season were combined, this second trip would be eliminated and that fuel expenditure saved. In addition, hundreds of hours of opportunities would be lost by crewmembers of these vessels in this unnecessary second trip up and back. The trips is generally 10 days in duration oneway. The foreign fleets would likewise save on time and money if these seasons were combined.

PROPOSAL:

Emergency action is requested for 1989 to combine the "A" and "B" JVP pollock season. It is proposed that the combined season begin Feb. 5 and take 100% of the JVP pollock allocation. This action is requested for Bering Sea JVP pollock only.

JUSTIFICATION:

This request is based on what we believe is an economic emergency. This fleet would unnecessarily spend as much as 1.6 million dollars in fuel, etc. to prosecute A & B seasons. This kind of expenditure cannot be tolerated by this fleet with the severely reduced revenues anticipated from lowered JVP allocation. Personnel will suffer hours of lost opportunity with the split season. It will also be much more difficult for JV companies to put processing fleets together for two seasons on very reduced amounts of pollock.

The JV industry has reached a consensus on the Feb. 5 start date. Opinions from industry groups were solicited and no opposition to this proposal was encountered.

Submitted By: Pete Granger
AMERICAN HIGH SEAS FISHERIES ASSOCIATION

Arni Thomson

JVP PERFORMANCE IN ZONE 1 FLOUNDER FISHERIES UNDER AMENDMENT 10 CAPS
BERING SEA/ALEUTIAN ISLANDS FMP, 1986, 1987, 1988

YEAR	GROUNDFISH MT	RKC BYCATCH NO. ANIMALS	RKC RATE PER TON	BAIRDI BYCATCH NO. ANIMALS	BAIRDI RATE PER TON
1983	34,233	497,285	14.5	361,152	10.5
1984	45,924	230,050	5.0	149,786	3.2
1985	207,000	813,000	4.0	669,000	3.2
1986	75,942	127,571	1.6	117,000	1.5
1987	74,269	64,398	.87	98,161	1.3
1988	100,768	50,722	.5	92,492	.9

SOURCE: NMFS, Russ Nelson, Foreign Observer Program

COMMENTS:

1. 1985, voluntary rates started by MRC, little or no change over 1984 bycatch rates.

2. 1986, Emergency Rule (Zone 1 caps) implemented, RKC and Bairdi bycatch rates are reduced more than 50%.

3. 1987, 1988, Bairdi survey estimates indicate population doubles each year; RKC and Bairdi bycatch rates continue to decrease due to improved fishing strategies and industry and S-K gear development efforts, combined with Amendment 10 closed area and fixed caps.

CONCLUSIONS:

1. Fixed caps and time and area closures provide incentives for clean fishing, and given time will stimulate the development of king and bairdi stocks.

2. Since Bairdi bycatch decreased dramatically, while the stocks were doubling, what is the rationale for a floating "1% of biomass for bycatch" formula, as a management philosophy to promote clean trawling? And without a defined data collection program in place for the DAP trawl industry?

3. Fixed caps, gear modifications and time and area closures are simplified mechanisms for controlling bycatch in trawl fisheries.

Unofficial translation
from Russian

Att. Mr. Arni Thomson,
Executive Secretary,
Alaska Crab Coalition (A.C.C.), 3901 Leary Way (Bldg.)
N.W., Suite 9
Seattle, Washington 98107

Dear mister Arni Thomson,

I thank You and other chiefs of Alaska Crab Coalition for hospitality provide for the soviet fishery delegation in Seattle. Our visits to fisheries enterprises, crab boats and in the scientific centre were most interesting. We could see mutual interests and possible fields of cooperation between American and Soviet fisheries industries. It was a pleasure for us to discuss with You and other leaders of Alaska Crab Coalition the practical ways of creation of such cooperation.

Sincerely yours

(signature)

V. Zilanov,
Chief of the Foreign
Relations Department,
USSR Ministry of Fisheries

USSR Catch of Sedentary Species

(units not specified, possibly metric tons)

	1980	1981	1982	1983	1984	1985	1986
Total	25181	27821	31090	36834	43937	46233	65499
including:							
crabs	18800	20600	22643	24637	30459	32720	37943
sea mussels	--	--	--	78	113	136	277
scallops	1639	1760	1645	2138	1532	2425	3005
unknown	2280	2511	4099	5814	7237	6020	11682
sea urchin	--	--	--	40	32	51	79
trepang	--	--	77	92	42	45	42
sea cucumbers	--	--	260	700	362	418	6207
kelp	462	810	1169	1403	2028	2017	3300
ahnfeltia	2000	2190	1197	1932	2132	2401	2964

check numbers against original - some are virtually indistinguishable.

Jim Casey

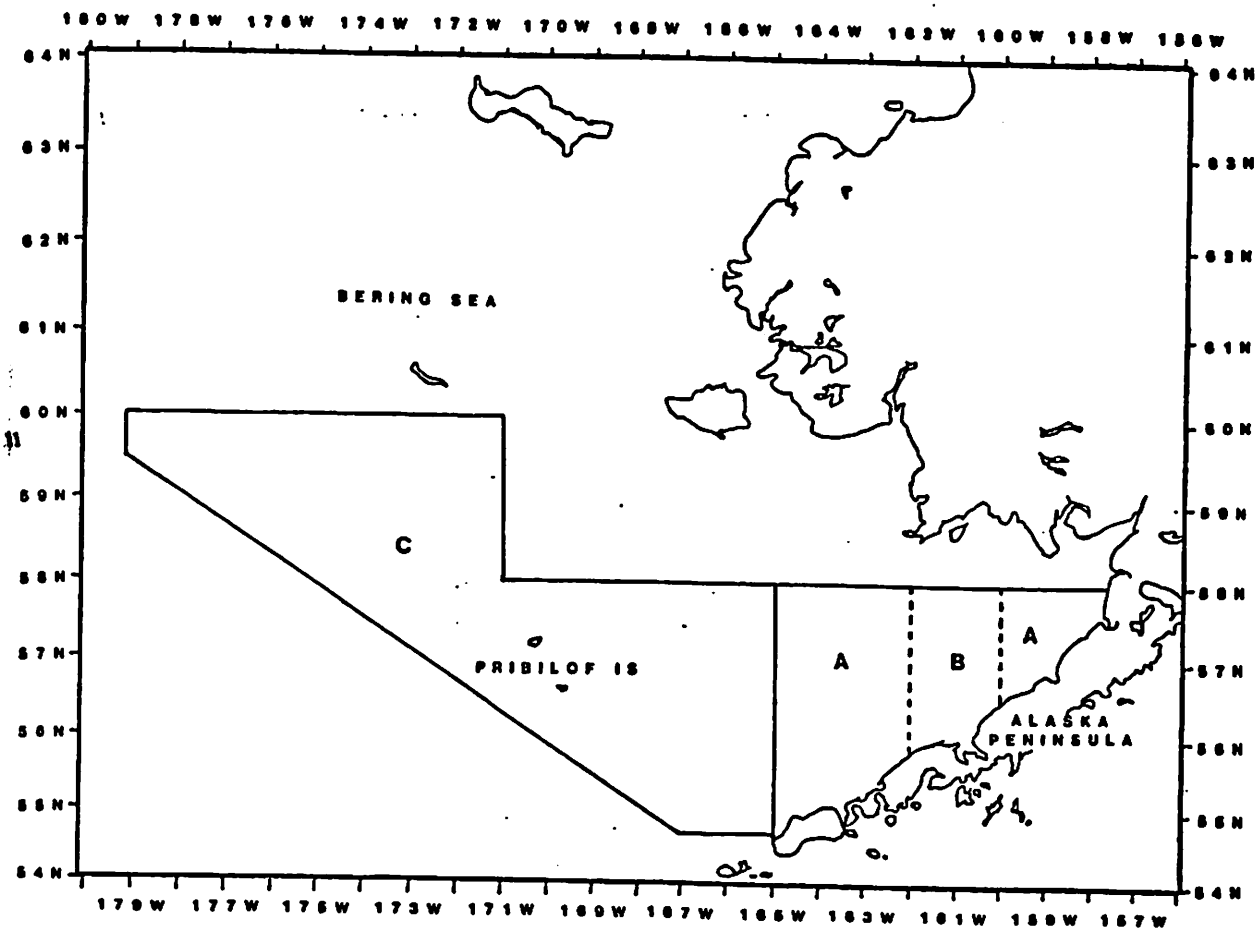
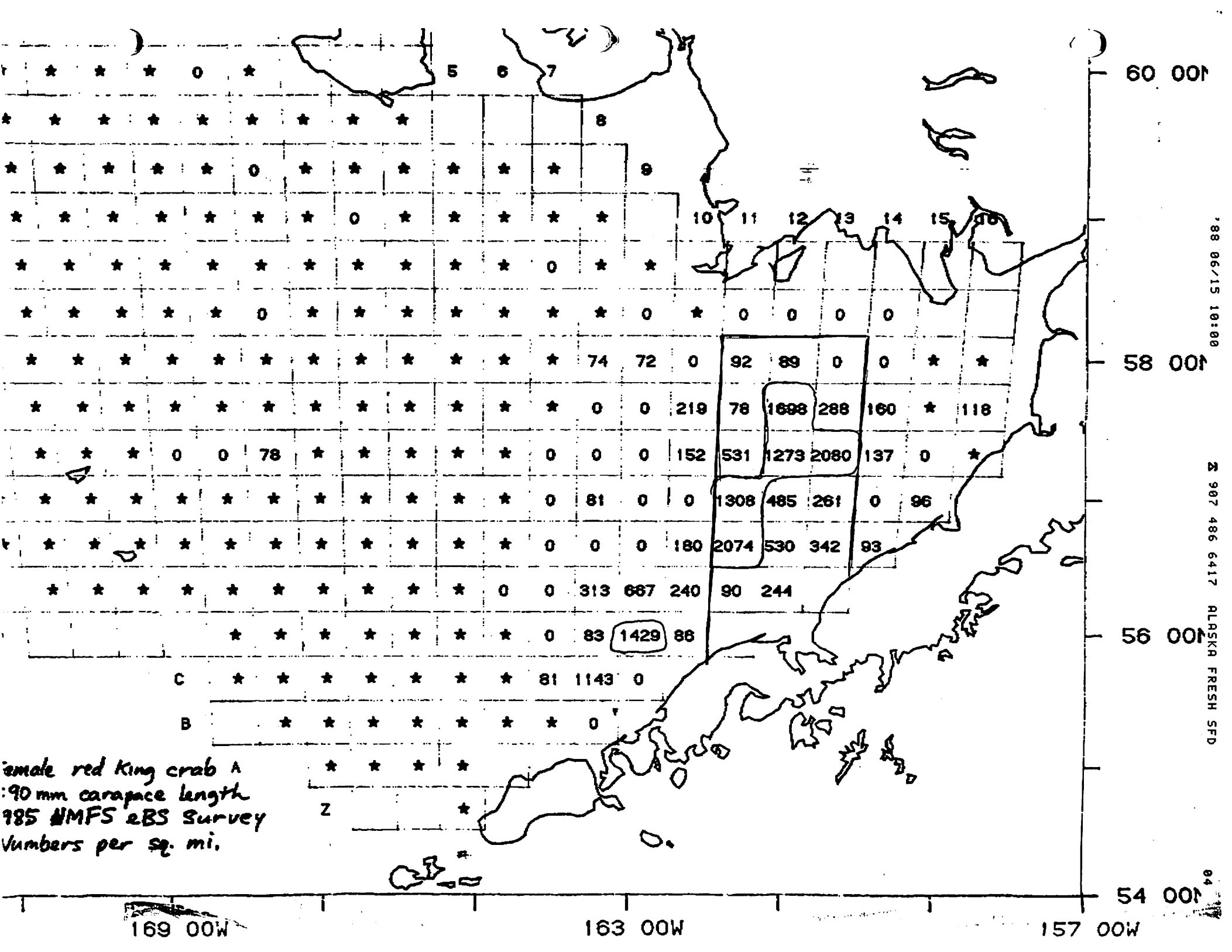
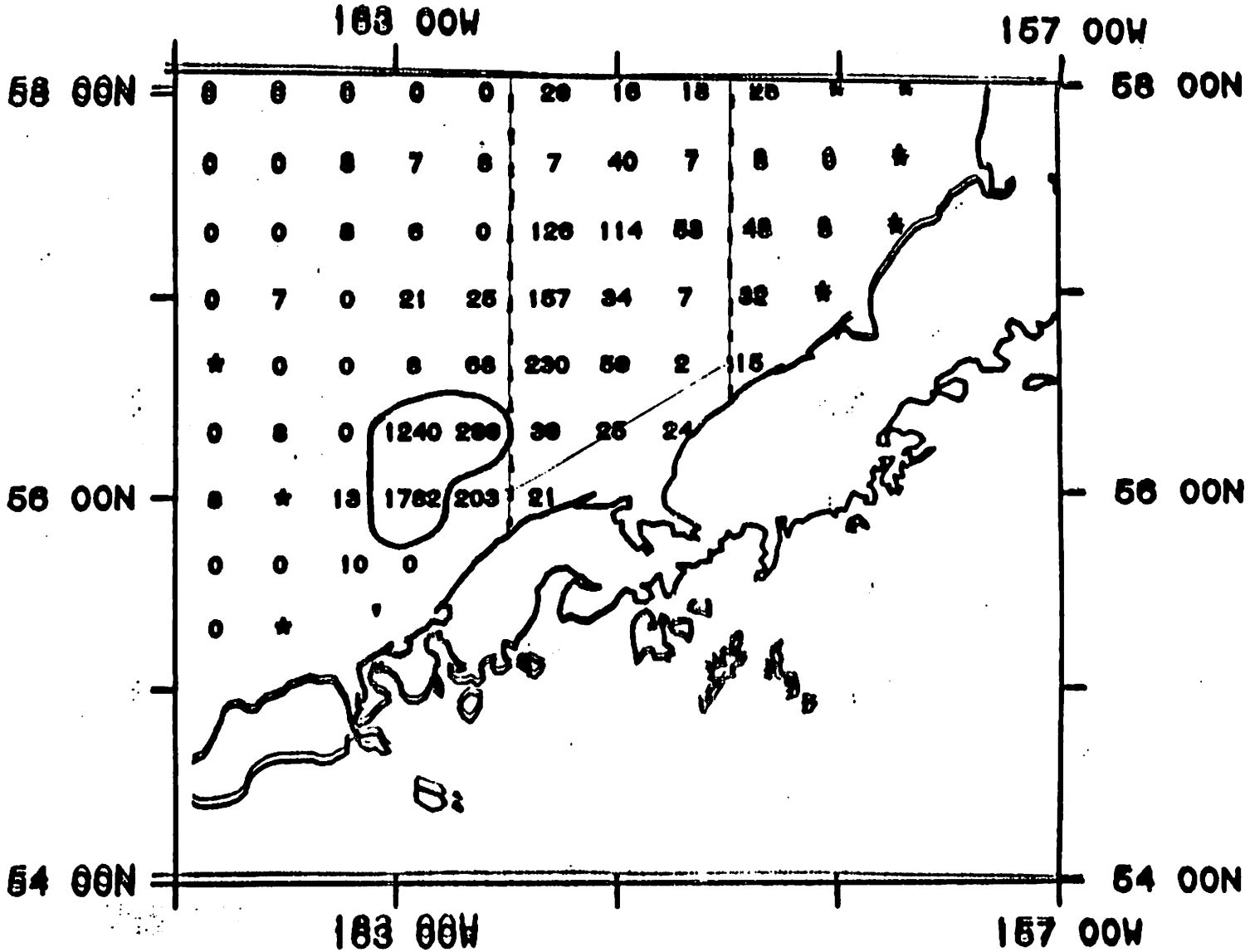


Figure 2.1 Bering Sea/Aleutian Islands:

A = Zone 1
B = Closed area defined at 50 CFR 675.22(a)
C = Zone 2
Rest of BS/AI is considered Zone 3.


Female red King crab
>90 mm carapace length
1985 NMFS eBS Survey
Numbers per sq. mi.
60 00N
58 00N
56 00N
54 00N
169 00W
163 00W
157 00W
'88 06/15 10:00
907 486 6417 ALASKA FRESH SFD



1988 NMFS SURVEY

RKC MATURE FEMALES

Table 1. Historic Bering Sea C. bairdi catch statistics by season.

Year	Vssls.	Lndgs.	No. Crab[1]	No. Pounds[1]	Pots Lifted	CPUE	Avg. Wt.	Avg. Width(mm)	% New Shell	Pounds Deadloss
1968		7	6,400	17,900	1,400	5	2.8	-	-	NA
1969		131	353,300	1,008,900	29,800	12	2.9	-	-	NA
1970		66	482,300	1,014,700	16,400	29	2.1	-	-	NA
1971		22	61,300	166,100	7,300	8	2.7	-	-	NA
1972		14	42,061	107,761	4,260	10	2.6	-	-	NA
1973		44	93,595	231,668	15,730	6	2.5	-	-	NA
1974		69	2,531,825	5,044,197	22,014	115	2.0	-	-	NA
1975	28	80	2,773,770	7,284,378	38,462	72	2.5	-	-	NA
1976	66	305	8,949,886	22,341,475	141,179	63	2.5	-	-	NA
1976-77	83	541	20,251,508	51,455,221	297,171	68	2.5	-	-	NA
1977-78	120	861	26,350,688	66,648,954	516,350	51	2.5	152.8	88.0	218,099
1978-79	144	817	16,726,518	42,547,174	402,697	42	2.5	152.7	95.0	76,000
1979-80	152	804	14,685,611	36,614,315	488,434	30	2.5	151.4	90.0	56,446
1981	165	761	11,887,213	29,732,086	559,626	21	2.5	149.4	86.6	101,594
1982	125	791	4,830,980	11,008,779	490,099	10	2.3	148.8	85.4	138,159
1983	108	448	2,286,756	5,273,881	282,006	8	2.3	148.8	70.5	60,029
1984	41	134	516,877	1,208,223	61,357	8	2.3	146.5	40.0	5,025
1985	44	166	1,283,474	3,151,498	104,707	12	2.4	150.0	65.0	14,096
1986	-	-	SEASON	CLOSED	-	-	-	-	-	-
1987	-	-	SEASON	CLOSED	-	-	-	-	-	-

1988 2,000,000

[1] Deadloss included

JVP PERFORMANCE IN ZONE 1 FLOUNDER FISHERIES UNDER AMENDMENT 10 CAPS BERING SEA/ALEUTIAN ISLANDS FMP, 1986, 1987, 1988

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1987	74,269	64,398	.87	98,161	1.3
1988	100,768	50,722	.5	92,492	.9
		135,000 CAP		80,000 CAP	

SOURCE: NMFS, Russ Nelson, Foreign Observer Program

COMMENTS:

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CONCLUSIONS:

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3. Fixed caps, gear modifications and time and area closures are simplified mechanisms for controlling bycatch in trawl fisheries.

United States
ARCTIC RESEARCH COMMISSION

September 4, 1988

The Honorable
Paul Fuhs
Mayor
Unalaska, Alaska

Dear Mayor Fuhs:

I am pleased to inform you that the Arctic Research Commission has considered with great interest the proposal which you and State Senator Sturgulewski have presented to the Commission on occasion of its public meeting in Dutch Harbor on August 30.

The suggestion of a major study to enumerate research needs, funding sources, and resultant management systems for the Bering Sea is an excellent one, and the topics to be addressed listed in your letter of August 29 are most appropriate.

The Commission discussed your proposal during its meeting in Anchorage, and suggests that it be expanded into a proposal for a full-fledged major international, interdisciplinary study to be entitled "The Bering Sea as a System".

Such an expanded proposal would fit very well into the priorities adopted by the Commission for research in the Arctic, and it would come at a very opportune time. Indeed, within the framework of the International Council of Scientific Unions (ICSU), which has a membership of seventy-plus countries, a monumental program of international scientific cooperation is being planned for the next decade. It is called the International Geosphere-Biosphere Program (IGBP), intended to provide the scientific information needed to assess the future of the Earth in the next 100 years. More specifically, the main objective of the IGBP is to describe and understand the interactive physical, chemical and biological processes that regulate the total Earth system, the unique environment that it provides for life, the changes that are occurring in this system, and the manner in which they are influenced by human actions.

ICC BLDG., ROOM 6333, 12TH AND CONSTITUTION AVE., N.W. • WASHINGTON, D. C. 20423
(202) 371-9631
GEOPHYSICAL INSTITUTE UNIVERSITY OF ALASKA • FAIRBANKS, ALASKA 99775-0801
(907) 474-5099

The Arctic is an integral component of the Earth system, and so is the Bering Sea within the Arctic. As a matter of fact, the Bering Sea is a system in its own right, with all the interacting components that the total Earth has: the water, ice, atmosphere, the surrounding land and rivers with which it interacts, and the complex ecosystems on which human activity and economics so much depend, and which, in turn, depend so much on human activity.

We know pretty well the parts of this complex "machine", but we know very little how these parts work together. And we know practically nothing about how the "machine" reacts when we humans throttle it up or down!

A five-year program on "The Bering Sea as a System" might include: (i) an assessment of past research work and existing data on the physical, chemical, biological and ecological properties and dynamics of the region; (ii) the coordination of existing and planned research projects; (iii) the identification of gaps of knowledge; (iv) the design of major interdisciplinary measurement projects using state-of-the-art technology and engaging local people, especially the fishermen; (v) numerical modeling of the system; (vi) the application of the results to develop decision-making strategies for the long-term protection and enhancement of Bering Sea fishing.

The advantage of such a proposal is that it could be considered as a prelude to, or a pilot project of, the International Geosphere-Biosphere Program. While at the present time, governments and science-funding agencies in many countries are trying to come to grips with the tremendous complexity and the high cost estimates of the IGBP, an international cooperative program like the one we envisage for "The Bering Sea as a System" could be carried out with comparatively modest incremental funds; it would involve only a few countries and only a few key agencies in each. In our country it could be developed as a joint federal-state venture. In other words, I believe that such a project would be absolutely "doable".

It will take some time to flesh out the idea, and to formulate a formal proposal. We will contact at once our "sister body" in the Federal Government, the Interagency Arctic Research Policy Committee, and begin with informal discussions on this subject.

I will maintain you and Senator Sturgulewski apprised of the developments.

Sincerely yours,

Juan G. Roederer
Chairman

? Chris Blackburn
Steve Hughes
Dave Fraser
+?

By-CATCH CONCEPTS

1) That By-CATCH CAPS for Red King crab, Bairdi Tanner crab and halibut be based upon A percentage of the biomass of these species.

2) That Numerical caps be established annually based upon the NMFS Bering Sea Trawl survey and the established percentage of biomass allocated to by-catch.

3) That by-catch allocations be adequate to support Target groundfish fisheries but on an insignificant percentage of crab biomass. 1% of RKC + TC is recommended for Red King and Bairdi. No Halibut biomass estimate is available.

4) That identified Target fisheries consist of:

A. JVP Flounder Trawl

B. DAP Flounder Trawl

C. JVP other bottom Trawl

D. DAP other bottom Trawl

5) That the 1988 Trawl industry by-catch monitoring committee continue to operate in future years to monitor by-catch at the company level. This effort should be coordinated with NMFS and include procedures to penalize companys for "Dirty Fishing"

CATCHES BY GEAR (mt)

Species	Area	Bottom trawl DAP	Bottom trawl JVP	Bottom trawl TALFF	Midwater trawl DAP	Midwater trawl JVP	Midwater trawl TALFF	Longline DAP	Longline JVP	Longline TALFF
Pollock	BS	583,333	233,333	0	291,664	116,666	0	0	0	0
	AI	25,333	28,000	0	12,667	14,000	0	0	0	0
Pacific cod		97,000	100,000	0	0	0	0	3,000	0	0
Yellowfin sole		50,000	180,000	0	0	0	0	0	0	0
Greenland turbot		9,250	100	0	0	0	0	3,250	0	0
Arrowtooth flounder		4,900	100	0	0	0	0	0	0	0
Rock sole		25,000	25,000	0	0	0	0	0	0	0
Other flatfish		50,000	100,000	0	0	0	0	0	0	0
Sablefish	BS	945	5	0	0	0	0	945	5	0
	AI	1,737	3	0	0	0	0	4,053	7	0
Pacific ocean perch	BS	5,170	30	0	0	0	0	0	0	0
	AI	5,384	437	0	0	0	0	167	14	0
Other rockfish	BS	352	30	0	0	0	0	19	0	0
	AI	510	500	0	0	0	0	90	0	0
Atka mackerel		0	0	0	200	20,800	0	0	0	0

Predicted C. bairdi bycatch for 1989 under Alternative 3.

C. bairdi TANNER CRAB

Target Fishery	Area	Bycatch Rate #/mt-target	Bycatch Amount (animals) DAP	JVP	TALFF	Total
			Bottom trawl			
Pollock	BS	4.11	2,316,567	727,624	0	3,044,190
	AI	4.11	100,605	87,315	0	187,920
Pacific cod	BSAI	1.52	24,118	70,564	0	94,683
Rock sole	BSAI	5.67	57,379	101,922	0	159,302
Greenland turbot	BSAI	0.13	1,192	4	0	1,196
Y. sole/O. flatfish (default)	BSAI	1.46	99,684	377,166	0	476,850
		TOTAL	2,599,545	1,364,596	0	3,964,141
			Mid-water trawl			
Pollock	BS	0.01	2,858	1,143	0	4,002
	AI	0.01	124	137	0	261
Atka mackerel	BSAI	0.00	0	0	0	0
		TOTAL	2,982	1,281	0	4,263
			Longline			
Pacific cod	BSAI	0.33	941	0	0	941
Other longline	BSAI	0.01	85	0	0	85
		TOTAL	1,026	0	0	1,026
		GRAND TOTAL	2,603,553	1,365,877	0	3,969,430

Predicted other Tanner crab bycatch for 1989 under Alternative 3.

OTHER TANNER CRAB

Target Fishery	Area	Bycatch Rate #/mt-target	Bycatch Amount (animals) DAP	JVP	TALFF	Total
			Bottom trawl			
Pollock	BS	0.70	394,741	123,987	0	518,728
	AI	0.70	17,143	14,878	0	32,021
Pacific cod	BSAI	0.45	7,136	20,877	0	28,013
Rock sole	BSAI	12.20	123,505	219,381	0	342,887
Greenland turbot	BSAI	5.00	45,829	161	0	45,990
Y. sole/O. flatfish (default)	BSAI	3.54	242,364	917,011	0	1,159,375
		TOTAL	830,718	1,296,296	0	2,127,013
			Mid-water trawl			
Pollock	BS	0.01	2,858	1,143	0	4,002
	AI	0.01	124	137	0	261
Atka mackerel	BSAI	0.00	0	0	0	0
		TOTAL	2,982	1,281	0	4,263
			Longline			
Pacific cod	BSAI	1.00	2,850	0	0	2,850
Other longline	BSAI	0.01	85	0	0	85
		TOTAL	2,935	0	0	2,935
		GRAND TOTAL	836,635	1,297,576	0	2,134,212

Predicted red king crab bycatch for 1989 under Alternative 3.

RED KING CRAB

Target Fishery	Area	Bycatch Rate #/mt-target	Bycatch Amount (animals) DAP	JVP	TALFF	Total
Bottom trawl						
Pollock	BS	0.14	80,696	25,346	0	106,043
	AI	0.14	3,505	3,042	0	6,546
Pacific cod	BSAI	0.04	588	1,721	0	2,309
Rock sole	BSAI	0.44	4,453	7,910	0	12,364
Greenland turbot	BSAI	0.01	49	0	0	49
Y. sole/O. flatfish (default)	BSAI	0.12	7,983	30,204	0	38,187
		TOTAL	97,274	68,224	0	165,498
Mid-water trawl						
Pollock	BS	0.01	2,858	1,143	0	4,002
	AI	0.01	124	137	0	261
Atka mackerel	BSAI	0.01	2	164	0	166
		TOTAL	2,984	1,445	0	4,429
Longline						
Pacific cod	BSAI	0.01	29	0	0	29
Other longline	BSAI	0.01	85	0	0	85
		TOTAL	114	0	0	114
		GRAND TOTAL	100,372	69,669	0	170,041

Predicted halibut bycatch for 1989 under Alternative 3.

HALIBUT

Target Fishery	Area	Bycatch Rate #/mt-target	Bycatch Amount (animals) DAP	JVP	TALFF	Total
Bottom trawl						
Pollock	BS	4.20	2,368,447	743,919	0	3,112,366
	AI	4.20	102,858	89,270	0	192,129
Pacific cod	BSAI	12.61	199,957	585,019	0	784,976
Rock sole	BSAI	15.51	157,014	278,902	0	435,916
Greenland turbot	BSAI	0.85	7,791	27	0	7,818
Y. sole/O. flatfish (default)	BSAI	1.28	87,634	331,575	0	419,209
		TOTAL	2,923,701	2,028,713	0	4,952,414
Mid-water trawl						
Pollock	BS	0.02	5,717	2,287	0	8,003
	AI	0.02	248	274	0	523
Atka mackerel	BSAI	0.27	43	4,437	0	4,479
		TOTAL	6,008	6,998	0	13,005
Longline						
Pacific cod	BSAI	4.96	14,136	0	0	14,136
Other longline	BSAI	1.00	8,523	26	0	8,549
		TOTAL	22,659	26	0	22,685
		GRAND TOTAL	2,952,367	2,035,737	0	4,988,104

C 7300 tons

IMPLEMENTATION OF BYCATCH CONTROLS

1. ADOPT FRAMEWORK. Amend FMP to include the following PSC limits:

Halibut - 3900 mt
Bairdi - 1% of population
King crab - 1% of population

2. PHASE IN DETAILED MANAGEMENT. Detailed implementation of bycatch controls are done by regulation in a step-wise manner:

1989 - The following Target Fisheries are identified:

- JVP Flatfish (Yellowfin sole, other flatfish, rock sole)
- JVP ~~bottom trawl~~ sfet (pollock, cod)
- DAP Flatfish
- DAP bottom trawl (pollock, cod?)
- ~~DAP longline cod~~

The bycatch allowance for 1989 will be allocated to fisheries by NMFS, with the following allocations recommended:

For the flatfish fishery, the Bairdi and King crab numbers generated by the AP will apply. The remainder of the 1% will apply to other fisheries.

The caps apply to the Target Fisheries in the following areas:

Halibut - Zones 1 ~~and~~ 2 & 3
Bairdi - Zones 1 and 2
King crab - Zone 1

3. TEST RUN AD HOC IMPLEMENTATION PLAN. In 1989, NMFS will "dry run" the Ad Hoc committee's management system to work out the bugs. The industry Bycatch Steering Committee, expanded to include DAP, will monitor this dry run and work with NMFS to prepare a report forthe Council.

4. FUTURE ACTION. Based on the results of 1989, the Council will decide what, if any, additional regulations need to be promulgated to manage bycatch in a more detailed manner. No additional amendment to the FMP is required.

5

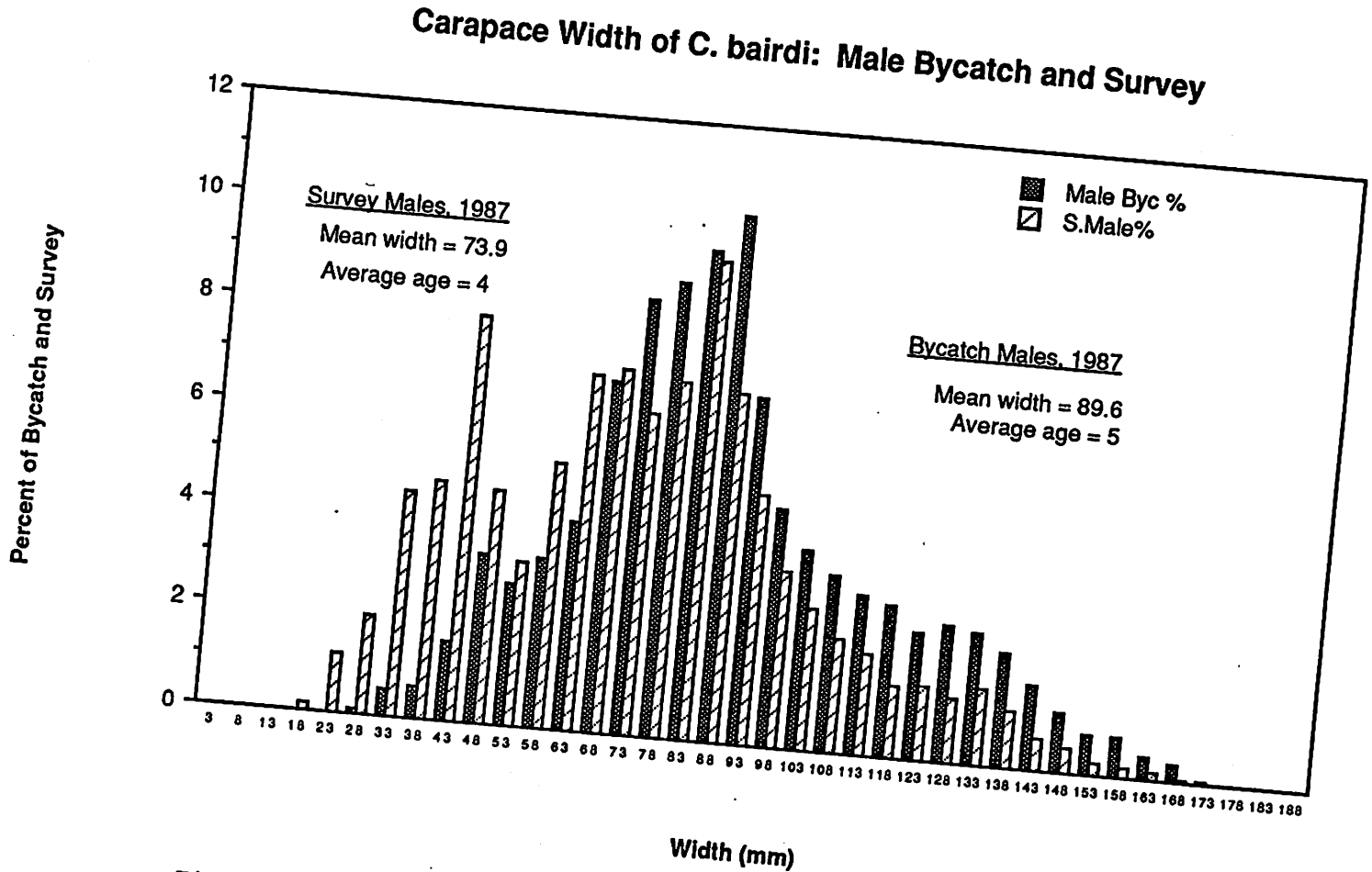

Figure 2.5 Size distribution of C. bairdi in population trawl surveys and trawl bycatch. Sources: Brad Stevens (NWAFC); Russ Nelson (NWAFC).

C. bairdi Width Frequency

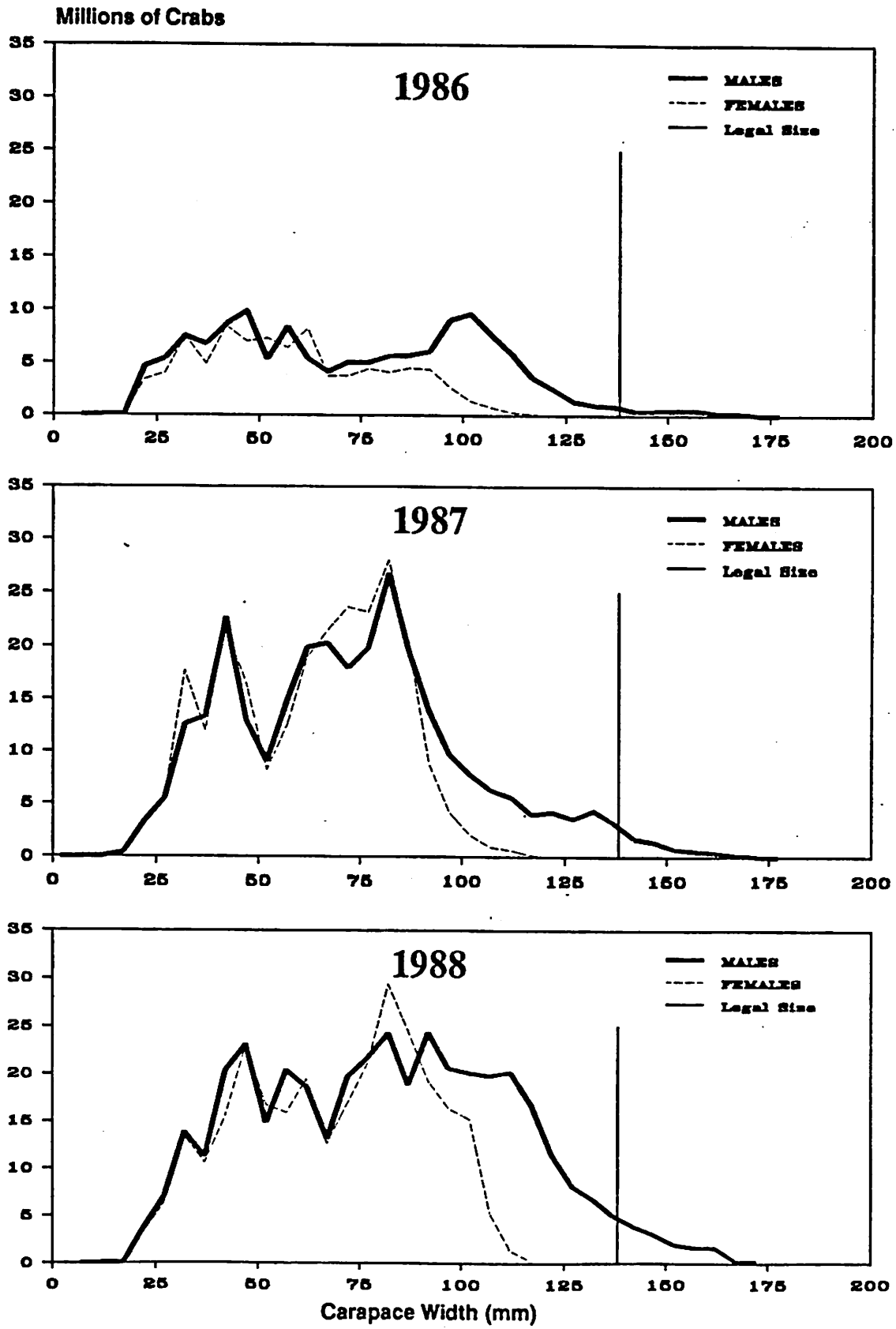

Figure 11. Estimates of abundance for *C. bairdi* in Bristol Bay and the Pribilof District by 5 mm width classes, 1986-1988. Vertical line indicates lower limit of legal size.

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RESOLUTION NO. 88-38

A RESOLUTION OF THE SWAMC ON THE OPTIMUM YIELD IN THE BERING SEA.

WHEREAS, harvest levels in the Bering Sea have remained stable within the current Optimum Yield range for twenty years: and

WHEREAS, there are currently many uncertainties in the management of the bottomfisheries in the Bering Sea including the impact of fishing the donut hole, loss of observer coverage, and the impact of concentrated fishing efforts on roe bearing fish.

NOW THEREFORE BE IT RESOLVED, that the SWAMC urges the North Pacific Fisheries Management Council to conduct a full EIS before making any decisions on changing the Optimum Yield Cap in the Bering Sea.

PASSED AND APPROVED THIS 28TH DAY OF AUGUST, 1988.

James M. Selby
President

MaryAnn Wideman
Attest

Southwest Alaska Municipal Conference

Putting Resources to Work For People

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RESOLUTION 88-39

A RESOLUTION OF THE SWAMC SUPPORTING INCREASED FUNDING FOR NATIONAL MARINE FISHERIES SERVICE.

WHEREAS, research, monitoring and surveys are necessary for the management of the U.s. fishery resources: and

WHEREAS, the U.S. has been dependent on foreign research to help manage the fisheries resources off Alaska; and

WHEREAS, the U.S. policy of Americanization of Alaska's fishery resources has eliminated foreign fisheries off Alaska and eliminated foreign nations' interests in joint research; and

WHEREAS, foreign fisheries in the Donut Hole area have not only created an enforcement problem, but also jeopardize the U.S.'s ability to manage its own fish stocks; and

WHEREAS, research on marine mammals is inadequate to identify the reasons for the apparent declines in Northern fur seals and Stellar sea lions; and

WHEREAS, the National Marine Fisheries Service faces increasing demands for enforcement, research and monitoring; and

WHEREAS, the National Marine Fisheries Service budget has been declining annually despite its increased responsibilities.

NOW THEREFORE BE IT RESOLVED that the SWAMC supports substantially increased budgets for National Marine Fisheries Service to allow for adequate enforcement, monitoring and research of and on Alaska's fisheries resources.

PASSED AND APPROVED THIS 25TH DAY OF AUGUST 1988.

Jerome M. Selby
President

Mary Ann Wideman
Attest

Southwest Alaska Municipal Conference
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RESOLUTION NO. 88-34

A RESOLUTION OF THE SWAMC ON ROE STRIPPING.

WHEREAS, roe stripping operations are increasing in Alaska's bottomfish industry, resulting in the dumping of more than 1.5 million pounds of pollock in 1987; and

WHEREAS, this is a terrible waste of a public fisheries resource; and

WHEREAS, the dumping of these fish carcasses has damaged the environment of the ocean bottom to the point that other commercial species have been killed.

NOW THEREFORE BE IT RESOLVED that the SWAMC urges the North Pacific Fisheries Management Council to adopt regulations prohibiting the practice of roe stripping.

PASSED AND ADOPTED THIS 28TH DAY OF AUGUST, 1988.

Jerome M. Selby
President

MaryAnn Weideman
Attest

Final

BERING SEA / ALEUTIAN ISLANDS GROUNDFISH: Preliminary Recommendations for 1989 Groundfish ABC, TAC, DAP, JVP, and Reserves (all in metric tons).

		1988		Council Recommendations for 1989				
Species	Area	ABC	TAC	ABC	TAC	Reserves 1/	DAP	JVP
Pollock								
	BS	1,500,000	1,300,000	1,340,000	1,300,000	195,000	900,000	205,000
	AI	160,000	45,000	160,000	45,000	6,750	4,160	34,090
Pacific cod		385,300	200,000	370,600	200,000	30,000	87,416	82,584
Yellowfin sole		254,000	254,000	241,000	241,000	36,150	60,000	144,850
Greenland turbot		14,100	11,200	12,600	11,200	1,680	9,520	0
Arrowtooth flounder		99,500	5,531	83,000	5,531	830	3,808	893
Rock sole		(Previously in other flatfish)		143,400	70,000	10,500	50,000	9,500
Other flatfish		331,900	131,369	184,300	76,269	11,440	50,000	14,829
Sablefish								
	BS	3,400	3,400	1,538	1,500	225	1,275	0
	AI	5,800	5,000	5,800	5,000	750	4,250	0
Pacific ocean perch								
	BS	6,000	5,000	6,000	5,000	750	4,250	0
	AI	16,600	6,000	16,600	6,000	900	5,100	0
Other rockfish								
	BS	400	400	400	400	60	340	0
	AI	1,100	1,100	1,100	1,100	165	935	0
Atka mackerel		21,000	21,000	21,000	21,000	3,150	3,000	14,850
Squid		10,000	1,000	10,000	1,000	150	850	0
Other species		54,000	10,000	59,000	10,000	1,500	2,000	6,500
BS/AI TOTAL		2,863,100	2,000,000	2,656,338	2,000,000	300,000	1,186,904	513,096

1/ Each species TAC is reduced by 15% to provide for 300,000 tons of nonspecific reserves.

(October 1, 1988)

Bycatch discussions after public testimony, etc.

CRAIG O'CONNOR reported that in his opinion any of the proposals brought forward in the AP recommendation or public comment would fall under the options presented during the public review period and could be considered at this time.

JIM BROOKS: . . .We're going to have to determine whether what you're proposing will achieve your objectives and we may be able to approve things that don't achieve your objectives. For example, in Amendment 10 we approved a halibut conservation measure that was a little bit bizarre and never invoked but had it been invoked it would have been fairly meaningless. We do have some conservation objectives here with this bycatch plan and there are certainly meritorious aspects to the ad hoc committee concept and to the AP plan and I think between them it's possible for us to develop something that will get us from here down the road to something in two or three years that is much better than what we have but we will have more tools and more knowledge, a better grasp of the problems down the road and we can't jump to those immediately. These may be interim measures, but let me point out one of the things that bothers us about the ad hoc committee plan. That identifies target fisheries that consist of flounder trawl for JVs, flounder trawl for DAP, other bottom trawl (JV) and other bottom trawl for DAP. I think it contemplates that separate PSC limits be stated for each Zone according to those four categories. But, in fact, a bottom trawl operating for flounders in that zone is just exactly the same as the bottom trawl operating for codfish in that zone. So, if you should close out the JV fishery in Zone 2 because the flounder part of it had taken its PSC, that fleet of vessels would simply continue to operate in Zone 2, the same gear making the same catches but they would have to discard any flounder that was more than 20% of their hauls and so you're not achieving anything. We believe that at this point it would be better to regulate on the basis of all bottom trawl species being aggregated, simply specify the PSC limits for bottom trawl gear separately for DAP and JVP according to the estimated amount of target fishing that each one of those categories would utilize. The enforcement people tell me that this system proposed simply is unworkable. It does give some reassurance to the fishermen that the yellowfin sole fishery is not going to close out the pollock or codfish fishery; they have uncertainties and I can understand they would, but what they're proposing just sort of renders the whole attempt futile because it won't function. That part of it we would have some problems with. I don't know at this point whether it have to result in disapproval, I can say that, but I can say that it isn't going to achieve what the Council wants to achieve at best. Otherwise, I think it would be necessary to do something special with halibut beyond what Amendment 10 proposes; we might even improve on that. I think that they saving grace there is that the numbers are high enough so that probably it's not going to close down a fishery if it goes to 35 or 3,900 tons when the recent year catches have been on the order of 2,000 tons so there we may not have a problem but if we did begin to feel a squeeze on halibut it would be better to be able to manage on smaller areas than Zone 1 or Zone 2. We would recommend, if it can be done with this amendment, to go to the three-digit statistical areas which are much smaller and would give the fleet assurance that should we bump up against the halibut PSC we weren't going to close enormous areas, but we would be able to close areas of high halibut abundance with a minimum of disruption on other target fisheries; so there could be improvement in that area. I don't have

specifically in mind the parts of these proposals that the Council may wish to consider therefore I would like to defer further comment on the efficacy of these various proposals with respect to your conservation objectives until we get to them.

JOHN PETERSON: . . . I think we should proceed now with discussion of the various bycatch plans and come to a decision on this issue. Does anyone want to take the first salvo?

HENRY MITCHELL: It's allright to discuss plans but I think Mr. Brooks made some very good points and that was discussing what our objectives are and as an example, if you take halibut I think you have to form a consensus of where the Council wants to go and then fit that into a plan as we go through this. We've heard a lot of testimony about halibut, there are developing fisheries that need halibut bycatch; there are other nearshore individuals that want to have halibut available to them; these are competing interests. Whatever you do as far as the bycatch for halibut is going to be subtracted from that amount that would be available to the 4- or 5,000 individuals already involved in the fishery and we've heard figures that that's a very substantial sum of money that will be lost to them over time and a lot of the plans that have been forth here were sort of hastily conceived and I have some very serious questions about what they exactly mean. So I think the way to proceed on this is to go through and identify what the goals are and try to structure a plan based on our goals are. . .

PETERSON: I do not believe these plans have been hastily conceived. There's been a enormous amount of work put into them and all of these issues have been considered in the past. I don't think this is the appropriate time to go back and discuss our goals. I think we need to identify which plan is most acceptable to the Council and if there is an issue on halibut in that plan it can be discussed at that time. But I would like to see if we can narrow it down to one plan.

COTTER: It seems to me that there are really two issues. One issue is what do we do for 1989. The other issue is what do we do beyond 1989. It seems to me that the thorniest issue is what do we do for 1989. Therefore, what I would like to suggest is we initially take up what do we after 1989 and I suspect that can be resolved rather rapidly and we can then turn our attention to 1989 itself and if that's agreeable to you Mr. Chairman, I'm prepared to make a motion for what do we do beyond 1989.

PETERSON: That sounds like an acceptable plan. We can certainly make more progress if we have a motion on the floor.

COTTER: I move that the Council provisionally adopt the ad hoc Bycatch Committee's recommendations with an effective date of January 1, 1990 and that the Council schedule this motion for reconsideration at the June 1989 Council meeting by which time the plan team and NMFS will have reviewed the ad hoc program and addressed positively the technical problems that may exist in that program. Bob Mace seconded the motion. (Subsequently Failed 9 to 2) May I speak to the motion, Mr. Chairman?

PETERSON: O.K., the motion has been made that the . . . you refer to that as the ad hoc plan? (COTTER: Yes) . . .be provisionally accepted, the provision be that it be studied by NMFS in the interim between now and the June Council meeting to be reconsidered by the Council at the June meeting of 1989. That is, essentially, your motion?

COTTER: Yes, and that it have an effective date of January 1, 1990.

PETERSON: I think that we should have this written down.

PAUTZKE: The motion is that the Council provisionally adopt the ad hoc committee recommendation, and by ad hoc I guess from now on in the discussion ad hoc recommendation is the one, Larry, and the Bycatch Committee came up, not the Hughes group that was up here yesterday? (COTTER: Yes, the one that I explained on Tuesday) . . .and that the Council would recommend that that would be effective January 1, 1990 and the Council schedule it for reconsideration at the June 1989 Council meeting. Between now and then the Team and NMFS would review the program and address the technical problems with it.

COTTER: That's correct.

KNOWLES: Point of information. Is that the document that we received that is dated September 26, Agenda D-4(a), called "Report of the Bycatch Committee by Larry Cotter"?

PAUTZKE: Yes.

COTTER: The process that we're going to go through in the next few minutes or the next few hours once we deal with this particular issue is not a good process. We will be attempting to pick numbers and to somehow develop a system where those numbers will be accounted and distributed and monitored for the upcoming fishing year. It's very painful, very difficult, and indeed it borders on being very arbitrary. I think that what we need for the long term is a succinct bycatch management program that begins to remove from our annual argument many of the type of number-fixing activities that we'll be engaging in later today. At the June Council meeting, or following the June Council meeting, the Bycatch Committee received comments from NMFS and Council staff that identified six areas of problems with the previous Bycatch Committee recommendation. We addressed those problems positively and I think we developed a program that is defensible from a conservation perspective, that allocates bycatch in a manner that makes some sense, that provides for inseason mechanisms to encourage clean fishing, and detail exactly what happens in the event that clean fishing does not take place. I don't think that it makes a lot of sense for professional fishery managers or any other group to revisit the bycatch issue and attempt to recreate the wheel. I think that instead what ought to happen is that the wheel ought to be looked at now and to the extent that there are technical problems with the wheel, I think they ought to be addressed. Furthermore, I think that it is high time for NMFS to recognize that they are simply going to have to do whatever it takes to put a program into effect or to develop the internal mechanisms which would allow them to put a program into effect in the very near future. I think that if we adopt a motion such as this, NMFS out to develop a ghost program that would be in effect in 1989 so that they could in essence develop the computer

program and monitoring aspects necessary to test the ad hoc program and get it up to speed and get it working and I think that it is very realistic to have such a program go into effect 1/1/90. Lastly, Mr. Chairman, there's been a lot of discussion about 1%; I just want to make the comment that the 1% figure is important to the crab industry when the crab population becomes severely depressed. In all likelihood, trawl bycatch needs at a time like that may be far in excess of what constitutes 1% in terms of numbers of animals that they need to take as bycatch. The 1% cap then will function as a restraint on the trawl industry which is not to their liking, but what it does is it protects the crab resource to the extent that it will not allow more than 1% of the crab to be taken. I don't know where red king crab is going but I do know that once out of the last ten years we did have a situation where crab bycatch exceeded 1% and without that type of a cap there is no provision to protect crab in the event that the resource is severely depressed.

MACE: I seconded the motion and want to speak to it. The ad hoc proposal in my view pretty much represents what industry compromised on originally; there's been some changes and some clarification but I think it represents a road map that we can build on and I'd like to pursue that course. It gives us some time to review at least some of the doubts that NMFS has with respect with the practibility of it and I just think it makes sense to follow the course that this industry group has laid out for us. It represents a lot of effort and a lot of compromise and I think it's the best building block that we can start with.

KNOWLES: A question of Mr. Cotter. If your motion is passed, are we adopting the figures of 1% of the C. bairdi and 1% of the red king crab and the 3,900 mt of halibut, is that the proposal?

COTTER: If this motion is adopted and, remember it is subject for reconsideration in June, but if this motion is adopted, the PSC caps would be 1% of the C. bairdi and red king crab populations and 3,900 mt of the halibut population. Having said that, I would just like to reiterate that the internal mechanisms that are incorporated into the ad hoc report separate fisheries into categories and in the case of C. bairdi, it becomes a Category 1 fishery which is treated the most liberal of all the fisheries and the end result is that total bycatch needs in that fishery cannot exceed and increase of 80% beyond what the Council allocates at the December meeting. So my point is that even though 1% of the C. bairdi population may indeed be 6.7 million animals, if the initial allocation by the Council in the determination of bycatch needs is 1 million animals, the most that can be taken is 1.8 million animals, well below the 1% figure.

MITCHELL: I have two very serious problems with this at this point. Number one, this motion, which includes the option to reconsider in June of 1989, gives me a little bit of heartburn because if I make a motion here and it fails to change this slightly and then vote against the plan, I will be in a poisition in June even if I wanted to to amend this and not even being able to propose bringing this up for consideration, so automatically your adopting this because if I don't vote on the prevailing side I would be unable to bring this up for reconsideration to change it and I would like clarification of this from the legal counsel.

O'CONNOR: I would say, Henry, that if it is the intent of the Council that this decision be reflected upon given additional information in June with regard to the ability of the National Marine Fisheries Service to implement the program as requested, that that in and of itself should not be considered to be subject to Robert's Rules of Parliamentary Order which would not allow a person from the losing side to request reconsideration. I think we have a different type of situation than we would ordinarily have because this is actually a motion that contains that right for the Council and I would say any member on that Council to reconsider their decision because it is subject to reconsideration by its terms.

PETERSON: I was going to ask for further clarification from Larry which may help somewhat, and that is, you're talking about this plan going into effect January 1, 1990; however, in the interim, you're asking NMFS to operate it as a "ghost program" during which time there may be, and probably will be, glitches and problems that will surface. Is your intention that those glitches be resolved by the Council at the June meeting; how will these defects as they crop up be handled; how will solutions be achieved and how will they be implemented or folded into this plan?

COTTER: I have given this some thought and initially I questioned whether or not it would be more appropriate to have this issue up for reconsideration at the June meeting or at the September meeting, feel that by the September meeting NMFS should have had adequate opportunity to test the program and be able to identify the bugs and that would be a better time to deal with it. I then thought though that if the Council took final action at that meeting it kind of puts us behind the eight ball once again in terms of getting a program in place for 1990 because it wouldn't go into effect theoretically until February in a best-case scenario. So, I thought that we should stick with the June schedule and two things would occur during the interim time period between now and then.

The first is that a review would be made of the technical problems, for instance I think that it's unrealistic to expect NMFS to release ever smaller amounts of bycatch; there's a probably a minimum amount that they need to be able to release. The plan currently doesn't incorporate that. Aside from the technical details like that, I had hoped that if the ghost program would be up and running there would be sufficient DAP and JVP activities in the first three or four months of 1989 to be able to give NMFS some idea of what type of on-hand problems they have and they could hopefully address some of those in time for the June meeting. As a fallback, Mr. Chairman, I thought that in the event things could not go on schedule we could also move the issue back to September if necessary.

WINTHER: I understood from this motion that would be put on the agenda for the June meeting but I didn't think that NMFS would be operating a ghost program under this bycatch proposal in the meantime and there's two sides of this that people are quite far apart on some issues and unless we can reconsider some of those in June other than just the mechanical things that NMFS find that they can't work with, I can't support this motion because to me we're saying this is going to be the program and NMFS is going to tell us what's wrong with it so they can make it operative and in June if we can't change some of the internal things in this bycatch proposal that will address some of the concerns out there, I just can't support this motion. I thought in

the interim we were going to develop a program for 1989 that this wouldn't have any effect on 1989 seasons and now I'm hearing different, that this will be a guideline for the 1989 season.

PETERSON: No, I don't think that's the intent at all, but Larry maybe before we get to Bob Alverson's questions you could address not only the mechanical problems that might come up, but the ghost program would show what fisheries would be shut down based on these limits that are in it and so we would know what benefit or havoc would be caused by this plan and maybe you want to talk about those.

COTTER: Exactly, Mr. Chairman. The ghost program was not incorporated into my motion. The ghost program is really an assumption and a hope and also I think an expression that I've heard from NMFS that it might intend to do anyway, that they would develop a ghost program that would allow them to get their monitoring systems and computer programs and bycatch tracking mechanisms or whatever, begin to put those into place and for the purpose of just seeing how things work, apply it to the 1989 fishing year so that we're able to see what would have happened to specific fisheries had this program been in effect. There is no intention with this motion to have any aspect of this program be formally in effect at all in 1989.

The other item that you touched on, John, regarding reconsideration. My motion did not limit the item subject to reconsideration to merely technical details that are worked out by NMFS. My motion spoke to reconsideration of the entire issue.

ALVERSON: I would like to see something done that does not have some interim disruptive element in June. I think industry's worked hard and they want to see something that they can count on and plan around. I've been on the Bycatch Committiee, participated in all those arduous meetings, and my one position has always been that I was always willing to agree on anything that is logical and for the needs of the industry but the underlying caveat is that it had to be doable and the comments that I've earlier this week from Jim Brooks is that the plan that we worked so hard on and I think in terms of being responsive to different elements of industry, particular bottom trawl versus flounder trawl, the plan is good, it's sound. But it's not doable at this time and now if I can't drive the Mercedes away today I'd like to get in the Buick and drive it away and I'm not going to be able to support this because the government says it's not doable and we're going to have to devise something else in the next hour I believe.

BROOKS: First, to clarify my earlier remarks when I said that a blend of the AP plan proposal and the ad hoc committee plan seem to hold the elements of a workable arrangements. I did not intend that my ad hoc committee plan would be understood to mean the bycatch committee plan; by ad hoc committee I was referring to the "group of four" (Hughes group) that presented the plan yesterday. That clarified, I don't quite understand what you mean by provisional approval. I don't know when you would intend to have this plan presented to the Secretary for review. Provisional approval is something that we haven't encountered before and I don't think it has any fixed understood meaning. Beyond that, I would reiterate as it is presently drafted, it would not be approvable, whether it's given to us now or in June or in September. If you intend for it to be effective in 1990, I don't think it would be

approvable.

COTTER: Why?

BROOKS: For the reasons I pointed out. The way it is presently drafted it is simply not a functional system. It is possible for anyone to fish out there and elude being classified into any one of these categories except when you get down to yellowfin sole and if you're classified in yellowfin sole you may in fact not be catching any yellowfin sole at all, so how in the world are you going to regulate these people. And, further, mention of a ghost program, that's just about what it will be, about as realistic as a ghost, because we can monitor the composition of catches by the fleet or elements of the fleet but that is the way they're performing, without any constraints. If you put them under a set of constraints they're going to manipulate those catches. So what you see in an unregulated fishery is going to be entirely different than what you see when you begin putting constraints on that means if they go a little bit this way they're penalized, or another way they're penalized; you're going to have a different performance. So the ghost program is not going to be indicative of whether this thing is going to work or not.

COTTER: I hope that there is more of a reason why it cannot be implemented than what I just heard. What I just heard is a technical detail that I would hope would be addressed by the plan team and NMFS between now and next June. It is not an overwhelming problem to devise target fishery definitions which address the item that was raised by Mr. Brooks. Frankly, I wonder whether it is a problem that deals with policy or a problem that deals with ability and I think there is a difference and I think we ought to know which one it is.

MACE: The term "ghost program" sort of bothers me. I don't think this is another Star Wars; I think that what we're really looking at is a practice run. Let's take a shot at it and see whether it's going to work. I can appreciate Mr. Brooks' concern, it's a big load . . . but I think we ought to take a run at it and see what we achieve.

CAPT. WHITE: I'd just like to make an observation, that any fishery management plan that you have still requires enforcement and the more complicated you make these plans the more difficult it is for us to enforce on the scene and I think that's our concern with this very complicated plan to manage these fisheries. It will require more time on the scene and I'm not even sure that I can explain to my ships exactly what they're enforcing out there on this plan. It will require more time in domestic enforcement which we need elsewhere for foreign fisheries enforcement. Just an observation.

COLLINSWORTH: I would like to ask Mr. Brooks if he believes that the AP's recommendation, or at least a portion of the AP's recommendation, that which dealt with the language that says, "The AP recommends that the Council direct NMFS to design a bycatch system to 1989 which could account for more specific target fisheries as in the ad hoc bycatch committee's proposal - I guess using that proposal as a kind of a benchmark and a structure from which to modify and change, with appropriate modifications to make it a practical and usable tool, would that be an acceptable approach to dealing with the 1990 fishery to NMFS?

BROOKS: It would be an improvement but I don't think anyone can guarantee that we can come up with a program that would be effective and approvable and in place for 1990. I think it's unrealistic to expect that if, in fact, it's as comprehensive and detailed and complicated as the ad hoc committee plan that Mr. Cotter is advocating. What I was hoping was that we could assign shortly the task of developing something that would be workable, that would achieve the conservation objectives, to the professional managers who would work with industry and have them come forward with something which, in their view, would be workable. We have largely ignored the professional side of our team thus far. They have been used a go-fers - bring us this set of date, bring us that set of data - and you give it to the Bycatch Committee and for the most part these people are skilled fishermen, but they've accepted management and regulation; they themselves have not specialized in that area and we do have professionals who have spent long careers working in that area. They been essentially left out of this process with, I think, the result that we have, and the Council ought to take advantage of that pool of professional talent, trained and experienced in finding solutions to this very sort of problem.

COLLINSWORTH: We're dealing less with a conservation issue here than we are with an allocation issue. Managers are worried about how many fish you kill and generally no so worried about who kills them; that's more in the domain of the regulatory bodies and the policy decisionmakers who have to choose what's fair and equitable and in the best public interest about how the value of those resources accrue to the various users and while it is true that there may be some conservation concerns given the status of stocks and the rates of exploitation, the rates of mortality that may occur as bycatch in some of these fleets, it's principally an allocation issue and the reason we're building such a system is principally again to deal with allocation. I think that there's reason to do that because what we want to do I think is try to accure the maximum value and wealth that can be generated by those marine resources that we're utilizing in the Bering Sea and the way you do that, I think, is that you try to (achieve) a constrained optimization or a maximization process looking at all of the resources and trying to determine how you derive the greatest value from those resources. Clearly if we're going to maximize the value from the groundfish fishery it is going to require a bycatch and some reallocation of product from traditional fisheries that were in place prior to the development of the trawl fishery, but that's probably in the public interest. But it's also in the public interest to try to accrue the maximum amount of value of those bycatch species in the directed fisheries that traditionally have used them. In other words, if we wanted to maximize the value out of the Bering Sea, we would harvest the bottomfish species but we would keep the bycatch requirements down to an absolute minimum so that those bycatch losses would be minimized and the product accruing to directed fisheries in the crab fishery and halibut fishery and so on. So that's our objective, I think, and what I'm hearing is that we lack the tools to do that. We're trying to build a rather sophisticated house and all we've got in our tool box is a rusty old hammer and I'm not even sure we have a level, but maybe a screwdriver and a couple handfuls of eight-penney nails and that's going to make it a difficult. But I think that's what we're ultimately . . . at least that's my objective, that's where I think we ought to go and so I think it does require some serious attention if we are to really try to achieve the economic and social objectives that I think we should be focusing on.

BLUM: I concur wholeheartedly with Don has just said. Also, I think the record at this point is such that the inability of this plan to succeed with the Secretary compels this Council member to oppose this motion. But we've got to get somewhere and we've got to get somewhere for 1989 pretty darn fast, so maybe it's time to call for the question and get on with the 1989 issue and then address the '89 and beyond if there's anything left to address.

PETERSON: There's a call for the question. Roll call vote.

PAUTZKE: The motion is that the Council provisionally adopt the ad hoc committee recommendation under D-4(a), effective January 1, 1990, and the Council schedule for reconsideration this plan in June of 1989. The team and NMFS would review the program and address technical problems between now and June.

VOTE: Fails, 9 to 2.

COLLINSWORTH: I move that the Council direct the NMFS to design as bycatch system during 1989 which could account for more specific target fisheries as in the ad hoc bycatch committee proposal and that the NMFS use resources that may be available to them in the industry and other management agencies in the process of designing that system. Seconded by Joe Blum. (Subsequently carried, 7 to 3, with Brooks abstaining.)

COTTER: When is NMFS supposed to have this program prepared and presented to us and when would we take action to implement it for 1990?

COLLINSWORTH: I said during 1989; I guess that in trying to be practical I would, to be more specific in the motion, ask for some comments from the NMFS to see if we can get some guidance from them with regard to the time frame that might be required to develop such a system, albeit that we don't know what that system is going to be because we're asking them to design it, but what is a reasonable time taking into account the logistical resources that we have, the technology that we have available to us, the work that has been done over the last year and a half on bycatch, using our experiences under Amendment 10, using the best ideas and thoughts that the scientists within the NMFS, the managers, and other agencies, perhaps other Councils or other experiences where we can derive some information about their successes and failures in trying to deal with this kind of problem. I think that there's a lot of work that has been done and it's going to require somebody to pull that together and focus it and see what it is that we can practically do given the constraints of our logistics and technical tools.

ALVERSON: Is the intent of your motion that this be in addition to a permanent vote to take up caps and areas or is it your intent that this action stand by itself, we take no definitive action on any system or plan and have NMFS develop through '89 some alternative?

COLLINSWORTH: I think that the difficult thing that we have -- we can set caps and we can set appropriate bycatch levels I would imagine under any system but it seems to me that the real problem at this point is identifying a system that we think we can practically implement and that we have the logistical tools and technology and information available to implement. If we

know that I think we can always specify objectives and I'm not suggesting that we adopt at this point any objectives in terms of 1% or 3,900 tons or 3,500 tons or anything at this point. I think once the system is developed . . . perhaps we should provide additional guidance to NMFS that we want a system that will not only account after the fact for bycatch, but we want a system that we can monitor and control levels of bycatch across the management years, and so I think it should be one that would allow us to be able to specify bycatch levels or bycatch objectives as discretely as the system will allow and then we can set those when we know the kind of framework that we can put them into.

PETERSON: I would like to clarify one point that you made. Although NMFS would be taking the lead on this, it was your intention, I believe, that talent and resources available from state agencies, the Council staff, and especially industry that have been involved in this issue, also be cranked into this process of developing a plan. Is that your itent?

COLLINSWORTH: My intent was that the NMFS should exploit and use all of the resources that are available to them that they can identify that would assist them in getting this job done.

MITCHELL: That is basically formulating a plan. How would we manage for this coming year on the bycatch issues, for instance with halibut, bairdi and king crab?

COLLINSWORTH: What we were trying to do initially was to separate our longer term direction and proposal to deal with the issue in, say 1990 or 1991, hopefully 1990, and separate that from the coming year's season which I think we're going to take up separately, and I don't see that these two are necessarily linked in this motion.

MACE: I can't help that observe that those instructions that are included in the present proposal are pretty much what we gave the Bycatch Committee several years ago and now, as I see it, we're passing the ball to Brooks and if he was concerned about the original motion he ought to be frightened to death of this one because I'm sure the Council would be much more comfortable in not having to make this decision now, but all I see we're doing is putting the charge on NMFS' shoulders rather than on an industry bycatch committee and that really bothers me. We gave up an opportunity to do a practice run on a system that's been developed over several years and now we're coming back and saying "NMFS, you have a try at it," and I just think it's a lot of wasted motion even though we're going to be more comfortable with it.

COTTER: I have a couple of questions. I asked them a few minutes ago and they have yet to be answered. We have an amendment process that we need to adhere to. The day closed yesterday as a matter of fact for groundfish for 1989. Presumably that can be modified so that when the NMFS proposal on bycatch comes in it could be placed on a special amendment cycle which could be accommodated during 1989 and so that a program, if adopted, could go into effect in 1990. But the fact is, even if we can accommodate that, we still need to receive a report, we then need to decide whether or not we like it, we then need to send it out for public comment, we then need to approve it, we then need to send it to the Secretary. It seems to me that that then necessitates that this project conclude by a particular date in order for us

to be able to fit the proposal into the cycle. That is one question - when will it be done? Another question is, does NMFS, and all of us are certainly aware of the manpower problems that you have in terms of money and how that impacts your ability to do certain things. Do you have sufficient funds and manpower to dedicate the time and money necessary to take on this project? Those are my two questions.

BROOKS: I think it's probable that we could have a revised system in place in 1991. It's virtually impossible that we could expect to have it in place in 1990. As far as the money, I think that we do have a base of resources that would be adequate to take care of this.

PETERSON: You say in place by 1991. You need to back that into present time, then . . .

BROOKS: To get it in place in 1990 would mean that we would have to make all of the final decisions and have the amendment submitted to the Secretary fairly early in 1989, and I don't believe that we're going to be able to do that and I don't think we should do that. I believe we should give the industry at least two years of stability and allow whatever interim short-term measures we adopt to have a chance to function and be evaluated. It might be that the first thing we come up with is going to work so well that we will want to leave it in place. It may achieve our conservation, our allocation objectives and be very workable and efficient. So, give it a chance. Let it play out until we can evaluate it. In the meantime, we are getting more information on the additional complexities that can be absorbed will in fact be improvements so that as we change it in the future we will be making positive constructive changes to adopt something and before you get a chance to see if it functions, to evaluate it, you immediately shift to something else that's unknown, I don't think that's fair to industry and I don't think it's a very good way to proceed.

PETERSON: Establishing stability for industry is certainly desirable, but it seems there needs to be a date certain when you could get back to this Council with your recommendations of a new bycatch plan. That's what we're trying to determine.

BROOKS: My intention would be, and all I can do is express my intentions at this point, it would be brought back to you sufficiently early to go through whatever reveiw process you like, to have it finally approved and submitted to the Secretary for review and approval to be implemented without any emergency actions for the beginning calendar year 1991. That would be our target.

WINTHER: I've been thinking about this motion. I think it has a lot of merit. After a year-and-a-half or whatever of everybody trying to get together it seems to me they've explored every possible option that there is and coming in from this direction there might be some ideas we might take and develop further that would be workable. I think it would certainly be worth some time to let NMFS have a stab at it and show it to us and see what they can do.

KNOWLES: A question of Mr. Brooks. In establishing your conservation and allocation figures in the plan that you would make recommendations, how would you propose that those catches be verified and how dependable would those

numbers be?

BROOKS: I'm glad that you asked that. We may have an observer program in our domestic fisheries within the next year or so and if we do have it probably would change the character of the program that could be handled, how it would function.

KNOWLES: Just one follow-up question to that. So, would you read into the motion that Mr. Collinsworth has made that an observer program would then be part of the recommendations that you would come forward to in the plan; is that inherent in that, or would his motion need to be amended to include that?

BROOKS: I think the kind of program that would be brought forward would take into account the existence or the prospect of an observer program and if it turns out that there is little chance of having an observer program, the program would look a little different than it would if we did have observers. But by not rushing it, it would allow us to make that judgement.

COLLINSWORTH: I'd like to respond a little bit to Mr. Mace's comments. I would like to have been able to support the last motion and the reason I voted no was that I heard from the NMFS that they said you may have designed a real nice house but we can't build it, and I guess that's the reason I've proposed this as an alternative. At least it would give the NMFS an opportunity to input into the process the facts that they have to deal with, what they can do. We can develop the greatest system in the world and the Council approve it and if it's not doable, it's not going to be effective. So I do think the ad hoc bycatch committee did a great deal of work; I would like to see the NMFS take maximum advantage because I think it is an expression of a general direction that the industry would like to see this thing go and I can find some value as well and I think it's generally the way the Council would like it to go, but if it can't be implemented, and we're told that, then I don't think it does much good to approve something that's not going to be practical. This way it seems to me that NMFS is onboard fully throughout the process, doing the reality checks as it goes all the way through the development so that hopefully what they'll bring back to us is a program that they can implement with the resources that they have.

PETERSON: I would like to add to what Dr. Collinsworth said. Not only was Mr. Brooks expressing the opinion that the plan was not doable, but Capt. White also commented on the extreme difficulty of enforcing the plan, so it seems to me there were two reasons why it was not doable.

COTTER: For the record, it sounds to me as if people have the opinion that NMFS did not participate in the development of this program. That is blatantly false, and if the only role that was played by NMFS in the development of that program was to serve as go-fers, I'm frankly amazed. I thought that everybody had the right and opportunity and did indeed participate to the fullest extent possible and if I needed as chairman to specificially involve the use of creative minds and talents in order to have access to that, I guess I erred. The committee asked at the last meeting when we came up with the ad hoc report, specifically asked, time and time and time again, NMFS and NOAA-GC, "Is this doable?, because I do not want to be in a position to take a report to the Council that is not doable." And the response, time and time and time again, was, "Yes, as long as we get the other

things worked out too," and we're getting them worked out. Mr. Chairman, the only nice thing about this motion in mind is that presumably if NMFS develops the plan they won't be able to change their mind after they proposed it regarding its doability. The other problem with it is, frankly, we're recreating the wheel. You either use discretionary authority or you don't use discretionary authority and we were told that you can use discretionary authority but if you do it's going to take about six months before it can be applied, therefore your tools to manage bycatch really don't exist, so, the question then becomes and it was framed by NMFS and NOOA-GC, "what do you want to do, how do you determine when the RD should take some action and determine what that action is?" All of these problems that have been grappled with have already been grappled with, with the full participation of NMFS. Frankly, Mr. Chairman, I think we ought to reconsider the previous motion because the previous motion really said, "Look, you guys, you take a look at this plan and you say you've got some problems with it, you take a look at it, come up with the problems, you develop the solutions and you bring them back to us in June," and that may include great deviations from where the plan is, but in the meantime you do what you have told me privately that you're going to do, and that is to put a little draft "ghost" program together to see how it works as well, which includes Coast Guard problems. I don't know where we're going on this issue, frankly I think that nobody does either and I think we ought to reconsider the previous motion, for all practical purposes it gives NMFS the same type of authority that's being contemplated in this one, except at least there's some time frame from which we're going to get some responses. Also, at least we don't have to recreate totally the wheel again. Thank you.

PETERSON: Larry, I can certainly understand your frustration. I think many of us are as frustrated as you are at not having a doable plan to consider at this time. Is there any other discussion?

MITCHELL: I've just heard one of the Council members say that these various options that were discussed through lengthy meetings, the questions were asked of NMFS staff and the General Counsel about whether these options were doable and we've heard Mr. Cotter's allegations. I would like to know if in fact they were told that certain elements of these plans were because I'd like to see some definitive action here and I want to know about this because I think this is very shocking. I think we're wasting alot of the taxpayers' dollars.

O'CONNOR: I'll respond from the point of view of NOAA General Counsel since I participated in the last meeting from beginning to end. I did provide guidance to the committee as to the legal deficiencies of the program that they had suggested when we went into that meeting and many of those deficiencies were responded to and I certainly advised the committee that the proposal that they had to bring forward to the Council fit within the paramenters of the Magnuson Act and I reaffirmed that position this morning with my "okey dokey" legal opinion. What I also brought to the attention of the committee and to the point of vigorous discussion, was the question that I raised yesterday, and that is why should the federal government do it, given the compelling needs that we have with regard to fishery management and the limitations we have on our budget and manpower and frankly what I was doing was interposing a lawyer into the policy analysis process but frankly that goes into a determination as to the necessity and propriety of a particular management regime that is adopted by the Secretary and I think, from my point of view as I'm listening to Mr. Brooks, he is simply saying we do not disagree

as an agency with the goals of the Council to minimize the waste of valuable resources and we recognize as well there may be needs to make sure within a waste management program that various sectors of the industry are encouraged to constrain their harvest and to modify their harvesting activity. What I'm hearing Mr. Brooks say is that they're laudable goals but they can be accomplished at this point with much less involved processes and we may be able at some point in time, given increases budget and a very strong showing of the necessity to micro-manage the constituency to assure that bycatch levels are not exceeded, but at this point we do not have the resources and the capabilities to do it to the level that you have asked and we will respond to you in a fashion that will tell you what we can do and we will do all that is possible but realize the limitations on our capabilities. And I think that certainly is within the realm of the authority of the Secretary to take that position and take it through the RD at this stage. And I think that those arguments were made not only by myself but also by NMFS staff at the time this was developed. That is not to say that NMFS staff carries with it the authority of the RD to make final conclusions, particularly in light of the comments that were elicited over the past few days, and continuing re-representation by the NMFS of its limitations and that's all it's telling you is it has limitations. It does not disagree with what your attempting to accomplish over all, but it's not capable at this time of doing so.

PETERSON: I wonder if Mr. Brooks has anything to add to that.

BROOKS: No, I concur completely with Mr. O'Connor.

ALVERSON: I was going to call for the question, Mr. Chairman.

COLLINSWORTH: I guess I'd like to explain my intent a little bit in this motion. My intent was not to have NMFS go out and reinvent the wheel. My intent was to have the NMFS, just as the motion says, and I read it right off the AP report, "that the Council direct NMFS to design a bycatch system during 1989 which could account for more specific target fisheries as in the ad hoc bycatch committee's proposal." And I was intending that NMFS use that proposal as a point of departure and try to come up with a system that is feasible, within budget, practical from a logistical standpoint, implementable, but that does accommodate to the extent that those other limitations require, to implement the intent of that ad hoc committee's proposal. I think we ought to take maximum advantage of it; that was something that was fought hard over and it represents probably the best point of departure and I guess we do need to depart for the reasons that were articulated by NMFS and the General Counsel. That was the intent of the motion.

PETERSON: I believe the motion is still somewhat ambiguous with reference to timing. Mr. Brooks was talking about having a response back to the Council sufficiently early so that an amendment could be in place by January 1, 1991. Is that acceptable, I don't know if that is what you would intend in your motion, Don, it seems a little longer to me than you had in mind.

COLLINSWORTH. I guess that's why I sought advice from the NMFS to get some idea of the time that they might identify as being necessary to accomplish the task. If it is going to take all of 1989 to develop, I mean if we're talking 14 months to develop the system and then another 12 months to implement, or

whether there might be a shorter time frame that they could operate under.

COTTER: Mr. Chairman, I move to amend the motion to have the report from NMFS received in time to implement for the 1990 fishing year. Henry Mitchell seconded.

COTTER: The process that we're going to go through in a few minutes is going to make the process that we've been going through for the past two hours seem easy and simple. I do not want to have to go through a process again next year where we're picking numbers out of the sky and that's exactly where we're headed. We've had a process that NMFS has fully participated in for a year-and-a-half now to develop a bycatch program. I think that there are probably not too many different directions, new and different directions, that remain to be explored and I expect that, given the participation that we've already had with NMFS, and given their knowledge of the alternatives that have been looked at, it is reasonable to expect them to be able to come up with a program in the very near future. Thank you.

PETERSON: In your motion, just for clarification, you said in time to be in place for 1990. Do you have a specific date in mind?

COTTER: I guess I'm thinking of final action scheduled for the June Council meeting, possibly that could be the September Council meeting. I didn't specifically pick a time, though.

PETERSON: Is there any further discussion on this amendment to the main motion?

COLLINSWORTH: If the Council took final action in September, in other words approved, not for public review, approved the plan in September, 12 months from now, could that system be in place for the 1990 season?

PAUTZKE: Probably about early February with a waiver of the 30-day cooling period.

PETERSON: There's another question. The Council has established an amendment cycle. Is there any freedom to deviate from that cycle on an issue of this sort?

PAUTZKE: We have deviated before. It's the general policy, of course, to follow that cycle with final decision in June.

COLLINSWORTH: So, Mr. Chairman, what I'm hearing is that even if the NMFS were to be able to in the course of about six or eight months put together a doable plan that uses the ad hoc committee's work as a point of departure, and we took final action in September, that then it would take more than three months for the Secretarial review and implementation?

PAUTZKE: If you wrap up the documents at the September meeting and you get them off by mid-October, then it's a 110-day process without the 30-day review period, which gives you just shy of three months, which would be mid-November, mid-December, mid-January, and that's the Secretarial review cycle.

COLLINSWORTH: Is there not any opportunity to on occasion when necessity seems to compel, to ask the Secretary for an expedited review process that takes less than 110 days?

BROOKS: It could be shortened a little bit if you ask that the Secretary adopt it as a Secretarial plan. If you go the way you're discussing now, you would have to have the final plan approved at the June meeting to go out for public review and adopted at the September meeting. It takes a while after that, if you can do it in two weeks you're lucky, to get the plan submitted to the Secretary and I think that that is 140 days from mid-October. You could perhaps implement by emergency rule but I think you'd have a tough time justifying an emergency rule given the history of this thing, so my recommendation is that we shoot for January 1, 1991 and, for the reasons I've stated before, I think that we would come up with a better product if we had a year to see how an interim measure works, to determine whether we're going to have an observer program at some level, and to examine more carefully the kinds of target fisheries that would be appropriate in a regulatory scheme, building on the work that's already been done. I just feel that we wouldn't get the best job done if we try to rush it to the extent that you would be if you aim for January 1990 implementation.

WINTHER: If we went on this cycle and ended up being implemented February of whatever, 1990, would any of the numbers or bycatch levels in that plan be effective from that date on or would they be effective from January 1 of the year it was implemented?

COTTER: I asked that question earlier today and my understanding was that NMFS calculates the caps for the entire calendar year so for all practical purposes it would take into account all removals that had occurred from the first of the year forward.

BROOKS: I think probably the rules could be written so that a delayed implementation time would not be a fatal defect because we could be monitoring the catch rates. On the other hand, it can't be delayed too long because we have early fisheries out there. Some of those early fisheries would be important fisheries as far as bycatches go.

WINTHER: I think with Amendment 10, wasn't it a similar situation where it went in later on in the year but everything was accountable?

PETERSON: Any further discussion on the amendment to the motion?

BLUM: If we're concerned about what happens between today and whatever day the system allows a more permanent plan to be in effect, we can the next action we take dealing with 1989 number and process can be expanded to deal with 1989 until modified and so we have covered industry's needs and our tails if we take appropriate action at that point. I think it's time for the question and start to get serious about what we want to do in 1989.

PAUTZKE reads amendment to motion: It's been moved to amend the main motion to have NMFS report back to the Council in time to have a bycatch plan in place for the 1990 fishing year. This was followed by comments by the mover of the motion, Larry Cotter, that there would be Council action at the June 1989 meeting. [Larry Cotter clarified he said the June or Sept meeting]

COLLINSWORTH: Before we vote, just one more clairifcation from Mr. Brooks. Can you do it or can't you do it? That is the question.

BROOKS: The impossible takes just a little longer. Even if we had a plan that the Council approved to send out for public review at the June meeting, we could not have it in place January 1, 1990 without an emergency rule.

COTTER: If I understood Mr. Brooks' comments correctly, it is a fact that if the Council takes final action in September that the plan would not be in final approval until February perhaps. I think it's also been clarified that any bycatch removals that may take place prior to that date can fit within the limits established under that plan.

PETERSON: It seems to me that there has been sufficient work done and enough information has been developed that NMFS should have no difficulty in meeting these deadlines. Just an opinion.

VOTE ON THE AMENDMENT: Brooks objected; motion carried.

BACK TO THE MAIN MOTION:

MITCHELL: To the mover of the main motion, was it your intent that in looking at the ad hoc bycatch committee's proposal that NMFS should use the information on proposed caps, percentages and stuff, as the best available information, or do you want them to look at all other information. For instance, other bycatch limits, other percentages have been suggested.

COLLINSWORTH: The numbers and percentages I think are something the Council will establish once you have a program that you can put the numbers into. I don't know what . . . the intent is to get the program. They can, for planning purposes, use the numbers that are there for example purposes, I guess, but first we have to know the kind of system so that we can put the numbers into it.

BLUM: I'd like to enforce what Don has just said. We are not asking the NMFS to unilaterally set numbers, but to give us a manageable framework within which the Council can set the numbers and we are over the hurdle of whether can you do it or not do it, then into the much easier hurdle of how much you are going to do.

PETERSON: Any further comment on the main motion. Roll call vote.

PAUTZKE: The motion is that NMFS design a bycatch system during 1989 which could account for more specific target fisheries as in the ad hoc bycatch committee report under D-4(a) proposal using all technical expertise and resources available and the Council would take action on this proposal by June of 1989, or possibly September 1989, and implementation would be scheduled for the 1990 fishery.

Motion carried, 7 to 3, with Brooks abstaining.

Bycatch Motion for 1989:

ALVERSON: This an attempt to build a system and in so doing I'm not going to put numbers of bairdi, king crab and halibut in it at this point. My motion, Mr. Chairman, would be to:

> Adopt that part of the Advisory Panel recommendations that are found in the RAD as well that continue the closure in INPFC Area 512 with a northern boundary of 58° latitude, to establish Zone 1 as recommended by the AP and as outlined in the RAD, to establish a Zone 2 which I will propose be modified to reflect the recommendations of Jim Brooks to the Bycatch Committee in August, essentially that area would be smaller than the existing Zone 2, the northern boundary being 58°, the eastern boundary 165°, and the western boundary being 170°. I would also include those target species that would be counted the ones proposed in item 4 of the proposal from (Hughes et al) to be JVP flounder, DAP flounder, JVP bottom trawl and DAP other bottom trawl. I'd also propose that we establish caps for bairdi, red king crab and halibut as proposed by the AP. Motion seconded by Don Collinsworth (for discussion).

And if this foundation can be agreed upon, Mr. Chairman, I recommend that we establish those caps in a different debate.

COLLINSWORTH: Perhaps we should table it until we get the motion in written form with the chart and identification of the boundaries and have that in front of us when we start to debate the motion. . .

PETERSON: I agree with that. Does anyone on the Council object to that suggestion? I think it's important that we do have it in writing since it is so complex.

MACE: One thing we will need is the impact of these particular numbers upon the progress of the various fisheries. And, if they're based upon what we approved for the yellowfin sole fishery in the JV segment in 1985 and do not account for the needs of the other groundfish fisheries then we're going to have some difficulties. So, how those numbers relate to the progress of the various fisheries are important to me.

- - - - (waiting for motion to be typed up)

PETERSON: Bob, for clarification purposes, you say adopt a portion of the AP report that contains closures between . . . and I want to be sure we're looking at the same AP report. You're talking about the AP consensus framework or the written report that the AP made?

ALVERSON: It's the AP consensus framework and it is the second-to-the last paragraph where it says "The crab and halibut (Port Moller 25 fathom) protection . . .

PAUTZKE: Same closure as we have now.

PETERSON: That's the only part of the report that you're accepting?

ALVERSON: Well, the establishment of the caps on bairdi, king crab and halibut, establishment of Zone 1 or, as we have discussed, using INPFC statistical areas and the numbers I see are 511 and 512 which are found within Zone 1.

BLUM: But the numbers you're not accepting?

ALVERSON: That's not part of the proposal, no; not at this time.

PETERSON: It's still not clear to me, "and include target species and establish . .

ALVERSON: That should be "fisheries" not "species".

PAUTZKE: Mr. Chairman, under fisheries, should read "JVP flounder trawl and DAP flounder trawl" then it would pretty much be like the industry proposal.

COTTER: Just to make sure that I understand, . . Bob, as I read it, the only items and i underline only, the only items that this motion refers to in the AP Consensus Framework are those items which are specifically stated in your motion.

ALVERSON: Correct.

COTTER: This question is directed to NMFS. Are there now in effect regulations which require DAP vessels to report the amount of crab and halibut that they take as bycatch?

DALE EVANS. Perhaps more pertinent to the discussion is that we'll be revising regulations for next year to make that more explicit in keeping with the updated fish ticket report.

COTTER: So we don't need to add that to this motion. Thank you.

KNOWLES: (To Alverson) Are you basically adopting the AP Consensus Framework, are you working from that as the basis of the motion. I a little bit confused as to, for instance, are you including the bycatch limit for red king crab to be apportioned among the JVP as well as DAP trawl fisheries; is that included in your motion?

ALVERSON: That's affirmative. That would be seen in adopting that portion of the industry (Hughes group) proposal which would divvy up proportionately the DAP . . .if there was a cap on king crab it would proportionately allocate that cap between DAP flounder and JVP flounder, JVP bottom trawl and DAP other bottom trawl.

KNOWLES: So, you are just going further in defining the fisheries; but you're adopting basically the AP consensus framework?

ALVERSON: Yes.

COTTER: The question I asked earlier and received an affirmative response is a little bit different than the answer I was just given, so I'll specifically ask whether or not on the AP Consensus Framework whether or not you are also

including the last paragraph on that page regarding the use of discretionary authority by the Regional Director. I didn't think that was included in your original motion and I just want to clarify.

ALVERSON: I'm not sure where the confusion comes in. It would seem to me that at that point when we establish caps and, for instance for bairdi or red king crab, when those are reached, these fisheries drop out of the zones. The only thing that I've expanded from the AP Consensus Framework is it's not just DAP and JVP, there's four fisheries identified that would have apportionments and they would close down respectively when the caps are reached. On halibut, I think there needs to be some work done on how we apportion that out and I'm not quite sure how that's done.

BROOKS: One way of taking care of the halibut problem, and I hope this is the way the AP intended, is to apply the halibut PSC Bering Sea-wide. You monitor the catches, aggregate them from the entire Bering Sea area but, if that cap is reached then you exclude the fisheries only from Zone 1 and Zone 2, you don't stop the fisheries in the rest of the area. This was a recommendation from the Halibut Commission. We queried them as to what kinds of protection would be needed and they say that the halibut are distributed widely over the Bering Sea in the summertime but the important areas to protect, particularly for small halibut, are Zone 1 and the amended Zone 2, the new Zone 2 that Mr. Alverson described. On this map you have, the heavily outlined Zone 2 is not what is in the motion. If you draw a line straight down 170° it goes between St. George and St. Paul Islands all the way down to the Aleutians and that Area of 515 and 513 constitutes the new Zone 2. Those ares, 513, 515, 511, of course 512 is closed, those would close if the total Bering Sea halibut limit is attained. That's my understanding. Is that what you meant, Bob?

ALVERSON: No, it's not, at least in the way I understand what you said. What you're suggesting would allow a mortality larger than the cap that we agree on if fishing were to continue to take place in Areas 514, 521 and 522. The cap is to be as negotiated in the Bycatch Committee and I think, understanding the AP, Bering Sea-wide. The was the agreement between industry as well. How that is apportioned and closures established in Zone 1 and Zone 2 because of those being the higher concentrated and problem areas for halibut, and also king and bairdi Tanner crab, . . .

BROOKS: Yes, that's true. On the other hand, it's miles ahead of what we had with Amendment 10 which essentially provided no protection. And, further, as an interim measure here, probably isn't that important because the halibut catch limit of 35- or 3,900 tons is probably considerably more than the fleet would take without exercising any special effort to avoid them.

COTTER: With the Chair's indulgence, I will try to simplify this. It seems to me that the maker of the motion is attempting to establish a framework that leaves a few issues to be decided separately. The issues that I believe he wishes to set aside for the moment are the numbers of PSC that would apply and the actions that would occur in the event one of those numbers is reached in an area or in the Bering Sea and that otherwise what the maker of the motion is attempting to do is (1) maintain the closed zone between 160° and 162°; (2) identify four specific target fisheries; and (3) establish that whatever PSC caps are agreed upon in a subsequent motion would be apportioned between DAP and JVP proportionate to their particular share of the TAC. That is my

understanding of the motion and that is my understanding of just how far it goes. I would only suggest that in order to allow us to have some flexibility to deal with the next series of motions dealing with caps and what happens, that it may be appropriate for us to, instead of referencing Zone 1 or Zone 2 we agree to use INPFC substatistical areas with an identification of this new subarea between 513 and 515 and call it 513A. If we were able to do that with a motion, then I suspect we can adopt this and then turn to the other issue of establishing the PSC limits and what happens in the event that they are reached in any INPFC substatistical area as we have defined.

BROOKS: I'm confused by that. I thought Mr. Alverson's motion described a Zone 2 which included also Stat Area 515, everything between 165° and 170° south of 58°. Is that right, Bob?

ALVERSON: That's correct. I understand what Larry's saying. He's saying within that stat area I described why don't we use the 515 and 513; I think he's thinking it would help you if there was a hot spot within that area then you wouldn't have to shut everybody down within the whole area that I described initially and I don't have any problem using the stat areas that Larry suggested.

PETERSON: I'm still very confused with this motion because people are reading into things that I don't see. For example, apportioning between JVP and DAP; the motion doesn't say anything about that. The motion separates the fisheries out, JVP, DAP, but it doesn't say that there will be an apportionment or how that apportionment would be made. It doesn't say anything about a framework; there seems to be some deficiencies here, unless more of the AP proposal is intended to be included. You've excluded everything except these things that you've specifically mentioned.

MITCHELL: I think if a little more time was taken in the drafting of this we wouldn't be have all these problems and I suspect that it probably is best to go back and draft a more complete proposal so we can deal with it and come back to this in about a half hour and go on to something else.

COTTER: I'm prepared to offer an amendment that I believe will address the issues that you just identified and perhaps clarify this.

> I move to amend the motion by in the second line where it says "establish zone 1 and zone 2" by using instead INPFC substatistical areas, including the creation of a new substatistical area or sub-sub identified as 513A which would incorporate the boundaries shown on the map. Further, I would amend the motion to have the PSC limits that are established later be apportioned between the DAP and JVP target fisheries proportionate to their share of the TAC.

PETERSON: I think you need to substitute the INPFC areas for Zone 1 and Zone 2, I think all you did was identify 513A.

COTTER: I meant to clarify that the reference in (the main motion) to Zone 1 and 2 would be replaced with a reference instead to all INPFC substatistical areas including the new one that I defined.

BROOKS: Point of clarification, Mr. Chairman. Would the intention be then to allocate according to these statistical areas or merely to use them later as a means to redirecting fishing effort.

COTTER: I viewed that issue as one that would be taken up next; however, in my own opinion, in the case of king crab, Area 511 for all practical purposes is exactly the same as Zone 1, so I would assume the king crab would be allocated to 511 and otherwise I think we would be using the INPFC substatistical areas for monitoring and perhaps and management actions in the event that a cap is reached.

BROOKS: I see. Then your intention would be that likely the allocations of prohibited species would be to 511 on one hand and then to 513A-B and 515 together on the other.

COTTER: Again, I view that as a subsequent issue.

WINTHER: Where's Area 513 A&B? Would someone identify them on that chart up there?

COTTER: 513A is . . .if you look at the bottom of Zone 2 and you see the dotted line, it is the area south of the dotted line bounded otherwise by Zone 2. Is that correct?

WINTHER: So Area 515 stays as?

COTTER: I believe so. Again, I'm relying upon the report from the Halibut Commission and NMFS that identified this specific area as one which warranted increased attention for halibut bycatch purposes.

WINTHER: This thing is getting so confusing I don't know if people know where the bycatch is in what area and what time it's going to be caught. It just seems to me we're really getting into some muddy water.

MITCHELL: Under this proposal, the caps that might be set - those caps as they're divided up, would they be applicable to just within all the statistical areas there? For instance, for 514, could we thus divide the caps up within that area also?

PETERSON: I think we need to get back to the maker of the motion to explain his intent on this.

ALVERSON: Surely there's someone in this room associated with INPFC and can tell us what the damn areas are up on that chart without making new areas. The heavy drawn line was not drawn by myself; it was drawn by staff and represents the old Zone 2 under Amendment 10 and as it cuts through 515, I don't believe that's part of an INFPC district; it may be, but surely . . . there's someone from scientific staff that can tell us what the areas are in that . .

WINTHER: If this is going to be an interim measure is it worth going to all the trouble of redefining area for one or two years or for whatever this is going to be in place for?

PETERSON: What's the purpose of redefining the areas?

ALVERSON: As you and I were at the Bycatch Committee meeting, the letter drafted by Mr. Brooks clearly indicated that there was no need to have such a large area because the bairdi population would be adequately protected by the northern part of 513 and the southern part would adequately protect the problem they have on halibut. There was no clear rationale why we should have an expanded Zone 2. As it is in my motion, that it adequately covers the king crab, bairdi and halibut problems.

PAUTZKE. Amendment 10 put in some specific inseason adjustments that the Regional Director, Secretary of Commerce, was allowed to do inseason when a PSC or a TAC limit was reached. He could modify seasons in part or all of the management area, modify allowable gear in all or part of a management area, and he could adjust the TAC and PSC limit, but he had to determine certain things: would it prevent overfishing of the species and so on, and in choosing whether to modify seasons or gears the Regional Director must choose the least restrictive action of the following which will still serve the purpose: A gear modification which would protect a species needing conservation and still allow other fisheries to continue; a time/area restriction which would allow other fisheries to continue in non-critical areas and time and a complete closure of an area to all groundfish fishing. So it seems to me that if we use some of the words that we have for inseason adjustments from Amendment 10, that the Regional Director would have the discretionary authority he needs to close a smaller area than all of Zone 2 or all of Zone 1 if he can determine that you will allow non-critical fisheries to continue but save the prohibited species. And, maybe we just need to continue with the inseason management measures that are already on the books.

KNOWLES: . . .we might take the AP Consensus Framework as the initial motion and any changes to that through amendment would accomplish at least what he intended to do if he wants to change the boundaries as described or we can address it, as has been discussed, in later discussion of the specific numbers of the catch. And if that purpose would include Mr. Alverson would do, I would move a substitute motion which would be an appropriate way to get back to that to adopt the AP Consensus Framework for the bycatch proposal for the amendment and then utilize that as a point of reference to include any amendments that Mr. Alverson would like to make. I think that would accomplish the same thing and establish at least . . . a clearer track. (Cotter seconded).

. . .discussion on whether to substitute and how to proceed.

The motion to substitute carried with no objection.

O'CONNOR: . . .part of the problem is that we're trying to develop a rule and the regulatory package that we're going to implement and I'm not sure that that's necessary. I think that if you take a look at the amendment that you have in the books right now, Amendment 10, and recognize that there is certain discretionary authority incorporated as Clarence mentioned, and recognize that one of the functions of the Council is to provide policy guidance to the Secretary, and perhaps what you ought to do at this point is to request that Amendment 10 be extended, as written, provide guidance to the Secretary in the following fashion: (1) We recognize the caps that may have been established under Amendment 10 are too low and that the Secretary has the authority, or

the Regional Director has the authority to increase caps under the discretionary provisions; (2) and recognize as well that the Amendment does not cover all of the fisheries that we're concerned with and we don't want the lack of authority over those fisheries to impinge upon our ability to reduce bycatch and reduce bycatch levels during 1989; (3) and provide guidance to the Secretary in terms of what you consider to be reasonable levels of bycatch harvest and request that the Secretary monitor closely during 1989 the level of those bycatch levels in the other fisheries with the understanding that if they reach levels that are unacceptable to the Council, and those are those that you have articulated by policy, that the Secretary will so advise you; you will discuss with the Secretary at that time the appropriateness of imposing emergency regulations to restrict bycatch on those fisheries that are not otherwise under your control in this point in time. I realize that there is a certain element of this that is based on trust and mutual accommodation between the Secretary and the Council; I recognize also that you're going nowhere at this point and if you're going to put together of what's taking on the nature of the ad hoc committee's recommendation one more time and getting into micro-management and having to make some very significant within constituency allocation decisions that you haven't addressed yet, then we're not going to go any further than we've already gone and perhaps you might just consider some policy guidance at this point to the Secretary on how to monitor these fisheries for 1989 and how to respond under the existing framework within his authority and what to do if he doesn't have the authority to address the problem.

PAUTZKE: If think the way that the rules are written for Amendment 10 that are on the books right now is that adjustments of TAC or PSC must be reasonably related on the basis of the best scientific information to a change in the biological status of the stocks and it goes on to list the factors--effects of overall fishing effort, CPUE and rate of harvest, relative stock abundance and conditions, economic impacts and any other factor relevant to conservation and management. Then it says, any proposed adjustment must have been published in the Federal Register for 30 days public comment unless this is waived for good reason and if waived a 15-day public comment period will be allowed after the adjustment. (Asked Brooks if this is the way it would work, would there be opportunity for Council and public comment?)

BROOKS: I sure am timid about the practicality of the approach Mr. O'Connor has indicated the Council might consider. The way these fisheries have performed in the past under Amendment 10 wouldn't give us time to come back and contact the Council and give 30 days notice to the change. In fact, we were trying to contact vessels out there on a daily basis. We have the Coast Guard pulling its hair. If in fact you do, as Amendment 10 we had to, regulate the fisheries in consequence of reaching PSC allocation. You don't have time for that kind of procedure and I'm more hopeful than Mr. O'Connor that we are very close to agreeing on something. Basically, the AP approach to it, modified according to the industry (Hughes et al) recommendations on the four classes of fisheries, and then once we're there we do have a little bit of debate as to what numbers we put in, but once again I say I had an upwelling of optimism when I looked at what might be acceptable to the industry and acceptable to us and certainly I believe something we could work with. I hope that we can tough it out here a little bit longer and make some progress and that we don't bog down and fall into the hole Mr. O'Connor thinks we're in. I think we're closer than he does.

ALVERSON: I think what I was trying to accomplish with my motion perhaps can be accomplished through the substitute motion by Tony Knowles. If we were to use that as a framework and if the numbers were not specified at this time, I think the pill might go down a little easier for a foundation to build on and start amending from, and I can support the substitute motion.

BLUM: I believe the consensus framework was blank of numbers; the written report of the AP contains numbers. If Mr. Knowles would agree that the consensus framework that he is talking about is the one that was blank of numbers, I think we can get on with it and start debating the numbers.

KNOWLES: That was the intent of the motion.

MACE: It would appear to me that the simple way would be for Mr. Alverson to withdraw his motion and no debate the substitute issue and then go on and have a new motion.

ALVERSON: Mr. Chairman, I would so do.

COTTER: Frankly, we have a substitute motion on the floor; I don't think it's appropriate to withdraw the other one without withdrawing the substitute. I suggest we just vote on it and get moving.

PETERSON: We'll vote on the substitute motion first and then this would be in place when . . . The question is whether the substitute motion is acceptable to the Council, the substitute motion being to put before the Council the AP Consensus Framework Proposal without numbers and which would be subject to amendment on the individual points that were made in that. Are there any objections to that motion? (None) Then, that motion passes. The issue before the Council, then, is the AP Consensus Framework proposal and that issue is now open for discussion.

COLLINSWORTH: Just for purposes of reference, if everyone has the AP Consensus Framework document in front of them, why don't we identify as paragraph #1, that portion that starts, "During 1989 bycatch limits will be specified . . ." including the blanks for C. bairdi, red king crab, and halibut, and call that Paragraph #1; call Paragraph #2 the one that starts with "The bycatch limit for C. bairdi . . .," Paragraph #3 starts, "The bycatch limit for red king crab . . .", and Paragraph #4, "The bycatch limit for halibut . . .", Paragraph #5, the crab and halibut protection zone issue, and Paragraph #6 is the last paragraph on that page. Then we'll have a numerical system we can all refer to the paragraph we're talking about.

BLUM: I think that's a good idea, Mr. Chairman. The first two paragraphs prior to that are what we adopted earlier in a motion this morning.

PETERSON: A question I have on the AP Consensus Framework. Is it specified in here which areas this covers, the bycatch limits for example, in 2, 3, and 4, does that cover the entire Bering Sea, or is it restricted to areas? I hadn't noticed that any place in it. Is it all Zone 1 and 2, does it say that?

PAUTZKE: Halibut it leaves open, but . . .

PETERSON: This subject is now open for discussion and I think we should discuss Paragraph #1 as identified by Dr. Collinsworth.

BROOKS: Could you consider an amendment to Paragraphs 2, 3, and 4 first of all. I believe we might make some progress by doing that and if you would, I would like to move that Paragraphs 2, 3, and 4 be amended to read:

> "Will be apportioned to the JV and DAP bottom trawl fisheries for (1) yellowfin sole and other flounder and (2) all other species taken by bottom trawl.

I'm attempting to incorporate in those paragraphs the four fisheries recommended by the group for four (Hughes group). I'm not sure that my wording is as precise as it could be, but that is my intention.

MITCHELL: That wording would not be as suggested by the group of four.

BROOKS: I think that the group of four intended that JV flounders be yellowfin sole and other flounders and that everything else taken in bottom trawls would be the other category.

PETERSON: The group of four had JVP flounder trawl, DAP flounder trawl, JVP other bottom trawl, DAP other bottom trawl.

BROOKS: That is true, and those are the categories that I would like to incorporate in Paragraphs 2, 3, and 4, but we have to separate out yellowfin sole and other flounders because otherwise we're incorporating the deep water turbot, we're incorporating rock sole, and a mix of things that are oddball and don't go together. Generally, the yellowfin sole and other flounder fisheries are . . .[interrupted here about discussion of a second to the motion; the motion was seconded by Alversion (?)] . . .my failure to observe proper etiquette here allowed me to explain my point, anyway.

COTTER: I have one question I shouldn't ask, but I will. Mr. Brooks, can you manage those four target fisheries?

BROOKS: Yes, my druthers would be something else but I think that we can handle those.

PETERSON: Mr. Brooks, you have changed the terms used by the, excuse me for call you folks "the gang of four," but you have changed those terms, is that a significant change?

COTTER: If you look on the "gang of four"'s list, on the fourth page they define JVP flatfish in parentheses as yellowfin sole and other flatfish rock sole. I think this is consistent.

PETERSON: Is there any further discussion on Jim Brooks' amendment to the main motion.

BLUM: I missed what Larry Cotter said, I found page 4, but what's the significance of it?

COTTER: I meant page 5 . . .

PAUTZKE: Mr. Brooks has just mentioned yellowfin sole and other flatfish . . .

COTTER: But rock sole would be included in that, I believe, and because it has its own TAC perhaps it should be identified as such.

PETERSON: Yes, yellowfin sole, rock sole and other flatfish. Do you want that in your motion, Jim? I think it should be in.

BROOKS: I would like an expression from the staff as to whether or not it would be best to incorporate rock sole with the yellowfin sole and other flounder category.

DALE EVANS: Yes, I think we agree that it would, and we're just debating amongst ourselves what we really mean here. It seems to me we've go the four categories, the four fisheries that we would be monitoring and two of them, JV and DAP, would each encompass flatfish and within that flatfish category we would be looking at yellowfin sole. The rest would be lumped.

BROOKS: Yellowfin sole, other flounder and rock sole, but Greenland turbot would be in the other bottom trawl category.

EVANS: O.K., that's what we were not sure of. But, then within the flatfish category, what are we going to be monitoring separately?

BROOKS: None separate. We will get separate reports on yellowfin sole, other flounder and rock sole, but they would be aggregated for purposes of describing this fishery.

EVANS: O.K., I think we can do that.

BROOKS: You will notice that I inserted "bottom trawl" in my amendment because I don't think it appeared in those paragraphs.

BLUM: Would it be inappopriate to get an expression from a member of the "gang of four" if we can find one that's brave enough . . .

BILL ORR (I think): The way that these have identifed under the Bycatch Committee's agreement and under the presentation that we made was that you'd have the flatfish fisheries, yellowfin sole, other flatfish and rock sole as one category, other bottom trawl as another category, but a closure of the "other bottom trawl" portion would not close down the turbot, rockfish, sablefish or POP fisheries. Those caps that were designed by the Bycatch Committee did not apply to those fisheries, they were seen as not having significant bycatch and it would not make any sense to close those down if, for example, the king crab cap was reached it would not make sense to close down the sablefish fishery.

BROOKS: Mr. Chairman, that interpretation is very different than what I had in mind and it may affect the meaning of the amendment that I'm proposing. I can tell you, though, that our records indicate that bottom trawling for pollock does have incidental catches.

ORR: I agree and that would, as shown on the sheet that we presented and defined other bottom trawl, it did include pollock and cod, but did not include POP, rockfish and sablefish.

BROOKS: I see, all right.

COTTER: Correct me if I'm wrong, Bill (Orr), but the essence of your comments really result in an additional category, and that additional category would be for all other bottom trawl fisheries, not including bottom trawl for pollock or bottom trawl for P. cod, because you're not going to include the Greenland turbot and the sablefish and those other species for closure purposes in the event a cap is reached.

ORR: Well, they don't. For monitoring purposes it would not make any difference. You would take all of the other bottom trawl bycatch and count it towards the cap, but when it came time for a closure, you would not close those fisheries, and that is why the discretionary authority is written into the last paragraph of the AP's proposal and that's whay our proposal is written as it was.

BROOKS: Could I ask Bill what he meant by "DAP . . .", oh I see.

COTTER: I apologize in advance for what I'm about to ask. In the event that we follow their proposal and the target fishery definitions that were just outlined, do we not then have to define what constitutes a hard-on-bottom Greenland turbot fishery, a hard-on-bottom sablefish fishery, etc., in order to make sure that for enforcement purposes in the event the other bottom trawl fisheries are closed, that those can be allowed to continue? And, if that's the case, may I ask what the definition is?

BROOKS: I think that there is validity in simply excluding them by not identifying them in the description of these target fisheries because it's quite true, as Mr. Orr pointed out, that bottom trawl fishery for sablefish and Greenland turbot is not going tc be taking any of the prohibited species in numbers of significance, so if we don't mention them, we just have an open-ended arrangement for those as we have open areas for crabs.

PETERSON: Do we have any further discussion on the amendment to the main motion that Mr. Brooks has proposed?

MACE: Only to the extent are the terms Zone 1 and Zone 2 included?

MITCHELL: It's not clear to me exactly which fisheries are included within these categories and I would like a succinct list and I think you should list all the fisheries and describe them and additionally, if you want to exclude them, that can be noted. But I think there's some real confusion here exactly what the fisheries are, what species are necessarily included within those categories and I am not going to vote on this until I see that spelled out in front of me, and it has not been spelled out here significantly for me to do that.

BROOKS: My intention was that they would coincide with the definitions provided to us by the group of four. [I don't use the ""gang of four" anymore; it occurred to me that after their usefulness was viewed as being past, they

were eliminated]. My amendment was intended to incorporate the definitions provided to us by the group of four and that would be as listed on page 5 of their handout, JVP flatfish would be yellowfin sole, other flatfish and rock sole; or other flounder I think we have in the plan; JVP bottom trawl would include pollock and cod, DAP would be congruent with those above. I would leave out . . .

MITCHELL: Mr. Chairman, they have DAP flatfish; now is DAP flatfish there include yellowfin sole?

BROOKS: Yes, it includes the same as JVP flatfish.

PETERSON: Brooks said it would be congrent with JVP flatfish.

BROOKS: But I have left out DAP longline and I think that's extraneous, they don't catch crab and the halibut mortality is fairly low in the longline fishery as compared to the trawl fishery.

MITCHELL: Does JVP bottom trawl, they have pollock and cod; are there any other species that are fished within that category of JVP bottom trawl?

BROOKS: There is a category of other species in the regulations, but those are generally bycatch species. We don't mention Atka mackerel, but those are generally taken in the Aleutian area where bycatches are absent. I don't see any problem.

MACE: Somewhere in the process my question got lost. I asked if the motion included Zones 1 and 2 as listed in the paragraph.

BROOKS: I think that's subject for another amendment which can be addressed. I'm only attempting to deal with the categories of fisheries.

PETERSON: I think, Bob (Mace), that would be subject to further amendment as needed. Mr. Brooks, you are eliminating DAP longline cod as a category? (BROOKS: Yes)

WINTHER: Just a clarification. The DAP bottom trawl would be pollock and cod, the same and JVP bottom trawl?

BROOKS: It would be apportioned to the JVP bottom trawl fishery for flatfish (yellowfin sole, other flatfish and rock sole) and DAP bottom trawl fishery for pollock and cod. I think my intention is clear . . .

O'CONNOR: Jim, falling back to a point that you had made earlier, and this is just for my education because I think Mr. Cotter mentioned an interesting point. Is there going to be a problem with us being able to direct an enforcement effort on any particular fishery because an individual or group of individuals were pursing something that is not covered by your plan and therefore we can continue to fish in Zone 1.

BROOKS: Yes. That's why I said if I had my druthers I'd cast this differently, but in the interest of getting it through, the enforcement problem will exist because our policy has been and it will shortly be a rule, I think, that in establishing whether or not you have a directed fishery we

consider the fish retained so that it is possible to discard and torque (?) around the identity of your fishery by manipulating what you retain. On the other hand, I don't think that's important here because we're going to have, I think, PSC caps on each of these fisheries so that even though they torque it around, the bycatches are going to be counted within one of the caps so that we're still achieving that goal. You see, if they're fishing the flatfish category and they reach the allocation of bairdi crabs, the JVP flatfish category attains its permitted bycatch of bairdi crabs, we will then stop that fishery. They may continue to fish as they were, discarding any flatfish over 20%, retain only 19% and they're legal. But the crabs that they are taking are going to begin to be charged against the other bottom trawl crab cap, so our conservation and allocation ends are being met even though we may not be able to enforce with these categories very precisely because of the latitude that exists within the rules. I really don't think that's important here.

PETERSON: Is there any other discussion on the amendment?

ALVERSON: I attempted to redefine Zone 2 that came out of a letter to the Bycatch Committee from Jim Brooks, and I guess I would ask Jim if it's worth going through the attempt of redefining that. I attempted once and I'm not sure it got real far.

PETERSON: That's not the issue before us right now. . .The issue is whether the amendment that Jim Brooks has made, and perhaps, Clarence, you should read that.

PAUTZKE: O.K. We've got an amendment on the floor to modify Paragraphs 2, 3 and 4 to say, and it would modify each paragraph when you get done with bairdi, king crab and halibut, they will be apportioned to JVP and DAP bottom trawl fisheries for (1) yellofin sole, other flatfish and rock sole, and (2) all other species, in proportion to their division of TAC. And then later Mr. Brooks clarified his intention that we would follow the DAP/JVP categories listed on Page 5 (of the industry proposal). The JVP other bottom trawl is pollock and cod, and leave out the longline cod.

MITCHELL: And DAP bottom trawl was identified as pollock and cod also.

WINTHER: Why can't we just insert those four categories after "apportioned to" in each paragraph? Seems that would explain it the way it should be.

PAUTZKE: In proportion to their division of TAC.

WINTHER: Insert that in every paragraph after "will be apportioned to" and it would be pretty clear what we're doing.

BROOKS: We could very well do that. It takes a little word crafting. I don't believe there's any confusion as to my intention with this motion.

PETERSON: Is there any further clarification needed or any other questions required on this motion? Are there any objections to the amendment? Roll call vote.

Motion carried unanimously.

PETERSON: Now the chair will consider amendments to other issues, whatever one, there are a lot of them here that we need to talk about.

BLUM: I would propose an amendment to fill the blanks in Paragraph 1 (caps)

for C. bairdi, 1%;
for red king crag, 1%;
for halibut, 3,500 mt.

Motion seconded by Bob Mace.

MITCHELL: In the case of halibut, I feel very strongly that 3,500 mt is not required. I think it's incumbent on this Council to try to put in a level that is high enough but with the idea in mind that the industry probably does have the capability to fish a lot cleaner. I'd like to point out that many years ago, after two-and-a-half years of discussion, finally forced the Japanese to come up with a solution, they'd five years to get their bycatch of king salmon down to 14,000 from 125,000. The Japanese said they couldn't do it, they hit it the first year when they wanted to without any complications to their fishery, losing money, more expense, and there were observers aboard, so I think that a bycatch of 3,000 mt is absolutely adequate at this point and I would hope that you would not support this motion, this amendment, as stated because I really feel the halibut is too high. You're taking that from other fishermen and also other developing fisheries in Western Alaska which are very important.

ALVERSON: One of the reasons I attempted not to fill in the blanks too early was because I want to know what those caps are going to relate to and in the case both bairdi and halibut, as NMFS has indicated to the Bycatch Committee, the INPFC area 515 that I was trying to include in a modified Zone 2 is a critical area for halibut. Area 513, the area to the west of 170° is not critical to the bairdi resource and I'm not going to be able to support the motion unless I know what areas and how the caps are going to be applied. Jim Brooks indicated earlier that his idea of how a cap would apply on halibut is when the cap is reached fishing activity and mortality would continue in outlying areas of the areas that we agreed to. The cap that I would agree to under that scenario is a lot less than what I agreed to under the Bycatch Committee system, so I'm not going to be able to support at this time the motion until I know what the parameters are going to be.

KNOWLES: As a way to approach the issue, I would request that we divide the question and that we take each question invidually and vote on it which I think might help us focus the discuss to a particular point and I would ask the maker of the motion if he would accept that.

PETERSON: Yes, that thought had occurred to me. And also with reference to halibut, we have not established a zone for halibut in Paragraph 4 yet either.

KNOWLES: If that would be acceptable, then we would discuss first the limit for C bairdi.

PETERSON: Is that acceptable to the maker of the motion? and to the second? (affirmative responses)

COTTER: I can't support a 1% PSC cap the way that this particular program is coming together. The 1% concept as envisioned by the Bycatch Committee, and particularly by the ad hoc committee, was a concept that is substantially different from the concept that's being articulated here. Under the other programs it was theoretically possible that you could go that high, but there were mechanisms incorporated to encourage clean fishing and to try and minimize bycatch so that it may well be, indeed it certainly would have been, that we would have not reached the 1% levels. The program that's coming together now merely would establish a bycatch cap in the case of C. bairdi for next year which would in essence equal 6.8 million bairdi without any discussion whatsoever regarding mechanisms to encourage clean fishing or any of the various other very necessary items which need to be incorporated. There's simply no need nor is there any reason to establish a 1989 C. bairdi bycatch cap of 6.8 million animals.

WINTHER: Would NMFS have any information from 1988 on their best guess of the DAP take of bairdi bycatch might have been. Is there any way to determine what that number might have been?

BROOKS: I think we could develop that number, I'm not sure that we have it right at hand, I would have to ask the staff. Jay, would you know whether we could come up with the number of bairdi crabs taken in the DAP fishery last year?

JAY GINTER: It depends on the assumption you want to make about what the DAP bycatch rate. The answer to the question will depend on what assumption you want to make.

WINTHER: So, you don't have any way of coming close without some assumption given to you.

COLLINSWORTH: What if you use the assumption that the catch rate in the DAP fishery were substantially the same, equal to the rates experienced in the JVP fishery?

This is where I am right now — the following pages continue after this section + do not follow this page immediately — I'm still filling in.

H

Brooks:
I move that in the three blank lines we insert, for C. bairdi, one-half of 1%; for red king crab, 135,000 crabs for Zone 1; for halibut, 3,000 tons. Motion seconded by John Winther.

. . . decided to take each species one at a time.

C. bairdi -

BROOKS: The Council has considered 1% and has apparently decided that it is excessive. The numbers proposed by the AP, an expansion of the old amendment 10 numbers based on the increased abundance number of bairdi would not take account of the fact that those numbers were developed originally using as a basis the joint venture yellowfin sole only. If we're going to apply those now to the DAP fleet as well, then we have to expand them and going to one-half of 1% will expand them but still will be much below the 1% level which translated into numbers of about 6 million which seemed excessive by some of the Council members. That is the rationale for my motion.

ALVERSON: I did not hear you indicate zones apportioning that .5%; did you intend to do so as the AP has and as was involved in Amendment 10?

BROOKS: The apportionment would be based upon the relative abundance of crab in Zone 1 and 2 and the projected strength of target fisheries in 1 and 2; that's what I would anticipate would be the manner of allocating.

PETERSON: I think we need some clarification on that, Jim.

COTTER: May I address that from an clarification perspective? Amendment 10 Zone 1 for bairdi is 80,000; Zone 2 for bairdi is 326,000; the sum is about 400,000 which would mean that about 20% is allocated to Zone 1. If we were seeking to apportion the .5% between Zone 1 and Zone 2 a simple way to do it might be to simply take 20% of the .5% figure and have that apply to Zone 1 with the remaining 80% applying to Zone 2. Is that what you envision, Mr. Brooks?

BROOKS: No, I think that we should take .5% of the biomass bairdi crab in Zone 1 and .5% of the biomass bairdi king crab in Zone 2 and establish the numbers in that fashion.

PETERSON: Is that doable? - do we have any . . . . that separation of . . .

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PETERSON: Is that doable? - do we have any . . . . that separation of . . .

BROOKS: I think that the crab survey would allow us to come to a very close approximation of those boundaries within acceptable precision, I'm quite sure.

PETERSON: Would it be appropriate for you to talk in terms of population rather than biomass since we're talking numbers of crabs instead of pounds.

BROOKS: We can certainly produce the numbers from this year's surveys; it may take the scientists a few minutes to do that.

BOB OTTO: I understand you want the numbers by Zone?

PETERSON: Yes, whether the biomass of the population is identifiable by Zone 1 versus Zone 2.

OTTO: Yes, I broke those out prior to this meeting. For the total population of bairdi, for Zone 1 you have 169.3 million animals. If you include the closed area in Zone 1, it would be 251.3 million animals for the whole zone. Zone 2 would be 397.7 and Zone 3 would be 34.7. In terms of percentages, what that comes down to is that for Zone 1, all taken together, you would have about 37% of the total population; Zone 2 would be 58%, and the remainder in Zone 3 would be 5%.

PETERSON: Does that percentage for Zone 1 include the closed area?

OTTO: Yes, it does.

MITCHELL: What would .5% translate to in Zone 1?

OTTO: For Zone 1 plus the closed area, it would be 1.2565 million; Zone 2 would be 1.988, 2 million in round numbers.

PETERSON: The total number then, at .5%, in Zone 1 and Zone 2 would be approximately 3,250,000 crabs.

WINTHER: Is it possible through Amendment 10 as it stands, if the JVs do not use all of their allocated bycatch, if this goes through, can it be reallocated to the DAP fisheries. Seems like we've heard that the JV fisheries fish at a much lower rate than DAP and if we approve this and its there to be used, I'd like to see it used if it can be reallocated from one fishery to another.

[Haven't discussed allocating between fisheries yet . discontinued discussion of this question]

MITCHELL: Just for clarification, at .5% if we adopted this, in Zone 1, 1,256,000 critters would be available for bycatch. That figure right there is approximately 700,000 more than what the AP has recommended in Zone 1. And in the case of Zone 2 at .5%, there would be approximately 2 million bairdi available as bycatch and that is approximately a little more than was was recommended by the AP.

COLLINSWORTH: Did the AP recommendation include DAP fishery.

DENBY LLOYD: Yes, it did.

PETERSON: The AP numbers were arrived at in a different manner.

COLLINSWORTH: Does it make sense to include in the biomass estimate against which you would use the .5%, the estimated biomass in the closed area? He gave two numbers - 169 million for Zone 1 but outside the closed area and then 256 million including (the closed area). Would it make more sense to use the biomass estimate in the area in fact where the mortalities would occur and use the 169?

PETERSON: That would reduce the number of animals in Zone 1 by approximately 400,000, down to about 800,000 animals.
[DENBY: 846,500]
PETERSON: I don't know what the intention of the maker of the motion was.

BROOKS: My intention was to exclude the closed area; that's not a fishing area.

PETERSON: We're talking then 846,000 animals in Zone 1, excluding the closed area; and the 1.988 million animals in Zone 2 remains the same.

BROOKS: To clarify my motion, when I spoke of Zone 1 in answering your question I referred to the part of Zone 1 outside of the closed area. I know the zone does embrace a closed area, but it is excluded from the fishery and I would exclude.

ALVERSON: Does that mean that the number that Mr. Brooks is suggesting is based on 169.3 million?

PETERSON: That's where we got the 846,500 figure from, yes.

BLUM: Mr. Otto, do crabs in the closed area in Zone 1 spend their entire life in the closed area in Zone 1 or do they move in and out of that area?

OTTO: We haven't educated them as to where the lines are, no.

BLUM: So there could be some logic for including the closed area in the Zone 1 numbers as part of the crab population for Zone 1.

PETERSON: Are there any further questions on the first third of Jim Brooks' motion. This has to do with C. bairdi only. It would establish for this coming season a cap of 846,500 animals in Zone 1 and 1,988,500 animals in Zone 2.

VOTE: Carried, 9 to 2, with Blum and Mace voting against.