

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke  
Executive Director



ESTIMATED TIME  
3 HOURS

DATE: September 22, 1994

SUBJECT: Salmon Bycatch Items

**ACTION REQUIRED**

- (a) Receive report from Salmon Foundation on "B" season activities.
- (b) Take final action on Plan Amendment for salmon retention and delivery to foodbanks.
- (c) Initial review of time/area closure analysis to reduce bycatch of chum and chinook salmon.

**BACKGROUND**

(a) Progress of the Salmon Foundation

Among the provisions of the Council's salmon bycatch control policy is the endorsement of the Salmon Research Foundation, a non-profit corporation. The purpose of the Foundation is to use income generated from salmon bycatch assessment payments to develop a salmon bycatch avoidance program for the BSAI trawl fisheries, and to fund research on stock origin of salmon taken as bycatch. Recent regulatory changes allow the release of individual vessel bycatch data on a haul-by-haul basis, and regulations requiring retention until examined by a NMFS certified observer. In June, the Council received a report on recent Foundation activities, including a review of fleet participation and assessment collection, and plans for a pollock "B" season avoidance program. The Foundation will provide an update of its activities at this meeting. (Item D-2(a))

(b) Salmon retention and delivery

In September 1993, the Council adopted a salmon bycatch control policy, which endorses the development of several initiatives to address salmon bycatch problems, including development of regulations requiring retention of salmon for processing and delivery to nonprofit foodbank organizations. As proposed, the groundfish plan amendments (BSAI Amendment 26 and GOA Amendment 29) would authorize retention and processing of salmon taken as bycatch in trawl fisheries for donation to needy individuals. Alternatives considered in the analysis are:

- Alternative 1. Status quo. Salmon retained only until observer has determined the number of salmon and taken scientific samples as required. No other type of retention would be authorized, and salmon must be discarded at sea as PSC.

Alternative 2. Mandatory retention and processing of salmon. All salmon taken as trawl bycatch would be required to be retained, processed for human consumption, and donated to foodbanks. This alternative was not fully evaluated, as NOAA GC has determined that NMFS lacks the statutory authority under the Magnuson Act to implement this alternative.

Alternative 3. Voluntary retention and processing of salmon. All salmon taken as trawl bycatch could be voluntarily retained and processed for foodbanks. This alternative would require that permits be issued to those processing, possessing, or distributing these salmon.

In June, the Council reviewed and released for public review a draft analysis for retention of salmon taken as bycatch in the Alaska trawl fisheries. An executive summary of the analysis is attached as Item D-2(b)(1). The Council may take final action at this meeting.

(c) Salmon Bycatch Reduction Analysis

Salmon bycatch controls originally were part of Amendment 21 to the BSAI FMP. In April 1992, the Council reviewed a draft document and requested additional analysis. A revised analysis, which included time and area patterns in chinook bycatch, was reviewed in January 1993. Further revisions were made and the document was reviewed in April 1993. Although the analysis was released for public review, no action was taken in part due to the development of the Salmon Foundation. In April 1994, the Council reviewed a discussion paper on alternatives to reduce bycatch of "other" salmon (mostly chums) in the BSAI trawl fisheries. The Council requested an Emergency Rule to be in place for the 1994 pollock "B" season that would close five 30-mile by 30-mile blocks within the CVOA (an option analyzed in the discussion paper) to all trawling when 42,000 other salmon were taken as bycatch. For this meeting, analysis of salmon bycatch reduction measures was broken out into two separate documents, with one addressing chum salmon bycatch, and the other addressing chinook bycatch.

Chum Salmon Bycatch Analysis

The purpose of this analysis is to provide information needed to take possible action to reduce "other" (chum) salmon bycatch. The objective of this proposed amendment is to provide a mechanism to accurately assess and reduce excessive "other" salmon bycatch in the BSAI groundfish fisheries with the least impact on the domestic groundfish harvesting and processing industry while assuring that any action is balanced and equitable to all segments of the industry. Three alternatives were examined:

Alternative 1. Status quo. NMFS would not have the authority to close areas of the BSAI to trawling to prevent high bycatch of "other" salmon.

Alternative 2. A specified area of the BSAI (depending upon the closure option selected) would be closed to trawling year-round.

Alternative 3. A specified area of the BSAI (depending upon the closure option selected) would be closed to trawling during the period of high "other" salmon bycatch (generally July through October). An option to this alternative would be to close specified areas when a bycatch limit is reached.

There are seven different options for closed areas under both alternative 2 and alternative 3. These are essentially the areas described in the previous discussion paper. An executive summary, along with selected figures, is provided as agenda Item D-2(c)(1).

The Council can review the draft EA/RIR for adequacy, receive public testimony on this issue, and decide to release the documents for public review. If the decision is to send the document out for public review, it will be scheduled for final action at the December meeting, with possible implementation for mid-1995.

### Chinook Salmon Bycatch Analysis

The purpose of the proposed amendment is to provide a means to control the bycatch of chinook salmon in the BSAI groundfish fisheries should the Council decide that current or other methods (such as the Salmon Foundation) were not effective. The needs for the proposed action are twofold. First, many chinook salmon stocks are fully utilized, and bycatch can comprise an additional, unaccounted removal of the resource. Second, uncontrolled bycatch levels exceeding recent highs may lead to conservation problems for Alaskan and Canadian chinook salmon populations. During the past 10 years, several major river systems have experienced low levels of returns, particularly the Nushagak, Yukon, and Kuskokwim rivers. To address these concerns, three alternatives were analyzed:

- Alternative 1. Status quo. No PSC limit for chinook in the BSAI groundfish fisheries.
- Alternative 2. Implement chinook salmon PSC limits for BSAI trawl fisheries that would trigger a time/area closure. Several options for area closures, and a range of PSC limits (8,000 to 48,000 chinook), apportioned to target fisheries, are evaluated.
- Alternative 3. Implement specific time/area closures on the BSAI trawl fisheries in the absence of PSC limits. Closures would be triggered during times of high chinook bycatch (January-April and September -December), and would be selectively applied to fisheries that have historically accounted for a majority of the chinook bycatch (midwater and bottom pollock, and possibly Pacific cod).

An executive summary, together with selected figures, is provided as agenda Item D-2(c)(2). The Council can review the draft EA/RIR for adequacy, receive public testimony on this issue, and decide to release the documents for public review. If the decision is to send the document out for public review, it will be scheduled for final action at the December meeting, with possible implementation in 1995.

Update: The 5-block area in the CVOA was closed to vessels using trawl gear on August 20, 1994, when bycatch of 42,000 "other" salmon was reached. As of September 10, 1994, bycatch of salmon in BSAI trawl fisheries totalled 40,676 chinook and 89,005 "other" salmon. An additional 11,663 chinook and 35,499 "other" salmon have been taken as bycatch in GOA trawl fisheries (through 9/3/94). These are compared to bycatches for the last few years in the table below.

	<u>BSAI</u>		<u>GOA</u>	
	<u>Chinook</u>	<u>Other</u>	<u>Chinook</u>	<u>Other</u>
1991	35,776	31,987	37,592	13,288
1992	37,372	38,919	15,964	10,126
1993	46,483	240,776	19,193	85,835
1994*	40,676	89,005	11,663	35,499

\*Through Sept. 10, 1994

**Salmon Research Foundation****Report to North Pacific Fishery Management Council  
September 22, 1994**

This report summarizes the Salmon Research Foundation's activities since the last Council meeting. It is divided into two sections:

- I. "B" season bycatch avoidance activities; and
- II. Program development.

**I. "B" Season Bycatch Avoidance Activities**

A. Bycatch "Hot Spot" Reports. The Foundation contract with DataMaxx Systems for upgrade of the Observer Program satellite communication software was completed in late June, and revised versions of the software were distributed to all vessels with SatCom "A" capability prior to the "B" Season. The modifications expanded the fields of individual tow data capable of being transmitted via satellite to include the vessel specific salmon counts now required, and several other tow characteristics (i.e., wind speed and direction, surface and net temperature, etc.) that may be significant in bycatch avoidance.

Since the June meeting, Sea State Inc. has worked with the Observer Program to reduce the data transmission problems identified during the "A" season pilot program, and to facilitate the use of its bycatch reports by the fleet. Major progress has been made in both areas. The motherships EXCELLENCE and OCEAN PHOENIX and approximately 30 factory trawlers have reported salmon bycatch data via satellite, and all shore plants have filed that data by modem. The Observer Program reports that 83% of the bycatch reports are transmitted to it within two days of a tow being brought aboard (offshore and mothership processors) or a delivery being made (shore plants), and another 10% of the reports are received within three days.

In the first 34 days of the "B" season, Sea State received from the Observer Program 5800 haul reports. Of these, 800 were immediately deleted because they contained no position data. Approximately 90% of the deleted reports concerned deliveries to shore plants. The remaining 10% of the deleted reports were dropped because they repeated the same position

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Because shoreplant deliveries are typically composed of multiple tows, and because the species composition of those deliveries is determined at the plant, observers are unable to determine the bycatch rates of those deliveries on a tow specific basis. NMFS does not currently provide any fishing location information for those deliveries.

location for all tows on each day, leading Sea State to conclude that they were probably mothership deliveries for which the mothership location, rather than the catcher boat tow location, was being reported.

The Foundation and industry recognized the problem presented by the lack of locational reporting for tows delivered to shore plants, and took action to produce alternative reports for those deliveries. With the assistance of the Aleutian Seafood Processors Association, the Foundation arranged to have the Aleyeska, Trident, UniSea and Westward plants and the motherships/floating processors operated by Arctic Alaska, Golden Alaska, Supreme Alaska and Victor Seafoods provide daily reports of target species catch (in metric tons) and salmon bycatch (in numbers), broken down by ADF&G statistical area, delivered to Stephanie Madsen. She compiles the data she receives, and distributes to the plants and motherships daily reports on salmon bycatch rates per statistical area. While these reports do not provide the detail contained in the Sea State reports, they do identify areas with extraordinarily high and low rates of salmon bycatch, and have been useful for salmon avoidance.

The timeliness of the data transmitted to Sea State by the Observer Program has improved dramatically since the "A" season; on the average, 50% of the tow records received by Sea State were for tows made the previous day, and another 20% were for tows made within two days. On a number of occasions, Sea State has received information on the same day that the tow was made.

When the reports from the Observer Program reach Sea State, all tow data over 24 hours old is deleted, the remaining haul data is reformatted into plotter data file and graphic forms, and the data and faxes are then transmitted to the fleet. The tow data over 24 hours old is deleted in response to comments from skippers, who believe that it does not reflect current hot spot locations. Currently, the typical daily reports from Sea State are based on data from approximately 75 hauls.

Reports from the Observer Program usually reach Sea State between 2:00 and 4:00 pm, and are formatted and posted on the Sea State bulletin board within two hours. The fax versions of the reports are prepared within that time as well, and transmitted over the course of the evening. As of this report, Premier Pacific Seafoods (the operators of the OCEAN PHOENIX), Oceantrawl and Alaska Trawl Fisheries are regularly accessing the Sea State bulletin board to download new catch data. Approximately 40 companies are receiving fax reports from Sea State.

Sea State has conducted an informal test of report reliability by comparing the "hot spot" locations reflected on

the daily reports with those identified when all reports for a given day (including those received outside of the 24 hour period) are aggregated and displayed. According to Sea State, the preliminary analysis suggests that the daily reports are reliable "hot spot" indicators; the bycatch patterns shown on the daily reports are basically the same as those reflected in reports based on aggregated data. However, daily reports occasionally show less bycatch for an area than shown by the full data set for that day, which could create the impression that an area was "warm" when it actually was "hot."

With significant cooperation and assistance from the Observer Program, the Sea State reports have evolved into useful tools. Notwithstanding their value, a review of the Sea State reports also indicates the limitations of a "hot spot" oriented approach to salmon bycatch management. Put simply, some pollock trawlers catch no salmon in areas where other pollock trawlers, fishing at the same time, catch a large of salmon. This phenomenon must be more clearly understood before an efficient and truly effective salmon bycatch management regime can be designed.

B. Outreach to the Fleet and Fleet Reaction. The Foundation held meetings with trawl vessel skippers in Unalaska on August 12th and 13th. Attendance was very good; a total of approximately 70 skippers and crewmembers representing 44 vessels attended the two sessions. The August 12 session was also attended by representatives of the NMFS Observer Program and Ms. Ann Touza of the Dutch Harbor Fisherman. An article Ms. Touza prepared provides a good summary of the presentation and discussion that took place at the meetings, and is attached for your information as Attachment A. In general, skippers acknowledged the importance of the bycatch issue, and indicated a willingness to modify their fishing patterns in response to the "hot spot" reports so long as the data on which they were based was timely.

As you probably know, the "B" season opened with a significant portion (i.e., approximately 20,000) of the 42,000 "other salmon" trigger having been recorded by NMFS as already taken. This factor, together with the relatively high rate of bycatch experienced by the fleet during the first few days of the fishery, resulted in NMFS announcing the 5 Block closure on August 18th (three days after the fishery opened) and the closure taking effect on August 20. Because the closure was triggered very closely in time to the opening of the season, the fleet had not yet had an opportunity to review and respond to "hot spot" information as of the closure announcement. This caused a great deal of consternation on the part of skippers who had hoped to avoid triggering the cap through the use of that information.

Notwithstanding the closure, skippers continue to use the reports to guide their fishing activities. Because the "B" season remains open as of this report being drafted, the Foundation has not yet been able to debrief them concerning the overall effectiveness of the feedback program. However, informal reports indicate that a significant number of vessels are changing fishing locations in response to the "hot spot" information they receive. Also, the fleet is very interested in the vessel-specific bycatch reports being posted on the NMFS bulletin board, and it appears there will be significant peer pressure applied to operators of vessels with high bycatch rates.

## II. Program Development

The Foundation board has confirmed Dr. Mundy's selection of a Scientific Advisory Panel and a Peer Review Committee for the organization. A list of the individuals who have agreed to serve on those bodies is attached as Attachment B. We are pleased that these highly qualified and respected members of the scientific community have agreed to provide time and expertise in support of the Foundation's efforts.

In late July, seven of the Foundation directors met in a two day work session focused on developing the Foundation's activity plan for 1994 and 1995. A bar chart illustrating the plan is included for your information as Attachment C. The six main Foundation objectives identified at the meeting are described below.

Objective 1: Conduct an ongoing salmon bycatch feedback program for the fishing fleet. As an element of this objective, the Foundation will seek to determine the secondary effects on other prohibited species bycatch of salmon bycatch avoidance. This program is the current primary focus of the Foundation's activities and resources. The timeliness and reliability of the data produced by that program have improved tremendously in the course of two seasons. As the working relationship between the Observer Program, the Foundation and the skippers of the trawl fleet improves, we believe that the feedback program will become a more effective means of reducing bycatch.

Objective 2: Conduct research concerning other salmon bycatch avoidance measures that could be incorporated into the feedback program structure. Within the next few months, the Foundation expects to develop a suite of research projects designed to identify additional methods for reducing salmon bycatch in the Bering Sea trawl fisheries. Dr. Mundy is in the process of collecting suggestions from members of the Foundation's Scientific Advisory Panel, Peer Review Committee and others as to the focus and design of these projects. The projects are expected to focus on factors such as tow duration,

depth and speed, surface and net temperatures, gear design, oceanographic and climatological conditions.

Objective 3: Undertake a comprehensive review of the current status of stock identification research and publication concerning the origin of salmon stocks taken as bycatch in the Bering Sea trawl fishery. Upon completing the literature and research review, identify the areas where research and publication concerning potential impact on Western Alaska stocks is needed, determine the Foundation's role in meeting that need, and undertake and/or support projects as appropriate.

In the course of the last nine months, the Foundation has learned that: (i) a significant amount of stock identification work has been and is being undertaken which could be useful in determining the origin of Bering Sea salmon bycatch; (ii) there are a relatively large number of researchers and facilities with the expertise and capability of addressing this issue; and (iii) the techniques used to perform fishery stock identification research are evolving very quickly. Together, these factors dictate a careful and deliberate consideration of Foundation's role in this area before the organization takes action.

Objective 4: Correlate existing bycatch data bases with those developed under previous management regimes. This function should be performed if historical salmon bycatch trends and patterns are going to be tracked through the adoption of the salmon "retention and counting" regime. Mr. Fraser has submitted a request that the Observer Program initiate action on this matter, and the Foundation would appreciate a request from the Council to NMFS in that regard being made as well.

Objective 5: Secure adequate primary and collateral funding to support Foundation activities. The Foundation board is in the process of addressing this matter, and expects to provide a supplemental report to the Council at the September meeting concerning its funding strategy for the organization. The primary components of the funding plan will be a proposed assessment methodology and identification of other funding sources that could support Foundation activities.

Objective 6: Communications. The Foundation board recognizes the need to stay in regular contact with not only the Council, but other interested parties such as the Alaska Board of Fisheries and the general public.



## ATTACHMENT A

TO: Joe Sullivan  
FR: Ann Touza

Here is 'clean copy' without misspelling, etc..

BYCATCH--  
Ann Touza, Fisherman staff

In an effort to avoid fishing area closures and to head off potential political problems, trawl fishermen and processors met in Unalaska last week to discuss ways to reduce chum salmon bycatch during this fall's pollock B season.

Earlier this year, the North Pacific Fishery Management Council voted in favor of an emergency rule giving the National Marine Fisheries Service 'hotspot' authority to close down areas of the Catcher Vessel Operating Area, or CVOA, during the B season if a chum salmon bycatch cap was reached.

The CVOA is a large area northeast of Unalaska where trawlers delivering shoreside do most of their pollock fishing. Motherships, processing vessels or factory trawlers who take deliveries from catcher vessels, also operate in the CVOA during B season, which opened Aug. 15.

Closure of five 30 by 30 mile blocks will be triggered when bycatch in the 'other salmon' category reaches 42,000 for the entire CVOA.

The 'other salmon' category includes all salmon except chinook, which is dealt with separately.

The emergency rule came about after subsistence fishermen in Arctic-Yukon-Kuskowkim region complained about high chum bycatch in last year's trawl fishery.

Chum bycatch in the trawl fishery has run from 36,000-41,000 in recent years, but for unknown reasons, during last year's B season roughly 245,000 chums were caught as incidental bycatch.

"At same time Western Alaska runs were some of the worst they had seen in a long time," said Joe Sullivan, a Seattle attorney working for the Salmon Research Foundation on the issue.

As a result, the state had put tremendous pressure on the NPFMC by the April meeting to do something about the chum salmon bycatch, Sullivan said.

"It is highly political," said Pete Maloney, production director for UniSea, Inc. and member of the NPFMC's Advisory Panel. "We can't get away from it, so we have to deal with it."

While closing the five blocks will limit, but not end pollock fishing, fishermen are concerned that this sets a precedent for future actions.

"If we don't show significant effort to reduce bycatch of salmon, that square will get bigger," Maloney said.

More than 70 fishermen representing about 45 trawlers, along with processing and NMFS representatives, met days before the August 15 season opening to come up with strategies to beat the problem.

"It sounds like gloom and doom...and in a way, it is," John Gruver, president of United Catcher Boats and owner/operator of the F/V Sea Wolf. "It's going to take team work and cooperation from everybody to beat this down."

Fishermen hope that by sharing information in a timely fashion on which areas have high salmon bycatch, they can move out of or avoid those areas and keep the bycatch numbers down.

Chum bycatch taken earlier in the year in the CVOA will also apply against the 42,000 cap and NMFS figures show that 8,800 other salmon had been taken in the entire Bering Sea/Aleutian Island area through August 6. Although NMFS has not yet determined how many of these 8,800 fish were taken only in the CVOA, it is expected that most of these fish will be subtracted from the 42,000 cap, leaving only 32,000 for the B season.

Although the pollock trawl fishery is one of the cleanest fisheries in the world, some incidental bycatch of salmon is unavoidable and fishermen say the cap is unrealistically low. Salmon caught between August 6 and 15 in the CVOA by Community Development Quota, or CDQ, fisheries will also apply against the cap and at least one representative from CDQ fleet said at one of the meetings said they had run into so many salmon, that it was very difficult to avoid high bycatch.

"That 42,000 that ain't ---," said John Dooley, owner/operator of several trawlers delivering shoreside. "We'll catch that in no time flat."

#### CAUSE AND EFFECT?

Despite the seemingly high numbers, trawl fishermen question whether the salmon bycatch in the trawl fishery really has a significant impact on the AYK runs.

Because most of the chums caught in the 1993 fishery were three-year-old fish and were not expected to return to AYK rivers until 1994 or 1995, the high bycatch last fall probably didn't have any affect on low chum returns in last year.

Ron Sherin, captain of the F/V Commodore, like many other fishermen, also disputes whether these chums are truly headed for western Alaska rivers. Many of these chums could be of Asian or Russian origin, he argues.

Others agree, but at this point, little or no funding exists for costly scale sampling and stock composition analysis.

The emergency rule published in the federal register in July states that "little information exists about the potential effect the 1993 chum salmon bycatch will have on the 1994 returns in western Alaska because stock composition of the chum salmon bycatch during the pollock non-roe (B) season is unknown."

It goes on to say that "the magnitude of the 1993 chum salmon bycatch in the pollock non-roe season is of concern, regardless of the origin of these fish."

Many fishermen feel the bycatch issue is not so much of a conservation issue, as a political issue pitting subsistence fishermen in western Alaska against the commercial trawl fleet.

"It was initially a chinook issue," Sullivan said. Last year, subsistence fishermen in western Alaska were concerned about low chinook returns and felt it was "unfair there was no constraint on the chinook bycatch offshore."

**STEPS TAKEN--**

To deal with this issue, the Salmon Research Foundation, an industry sponsored non-profit was formed to develop chinook salmon bycatch avoidance plans for the Bering Sea trawl fleet and to eventually fund research on stock origin of the salmon taken as bycatch. Funding comes from a voluntary industry assessment of \$20 per bycaught chinook, but so far only about \$150,000 has been raised.

To help fishermen avoid chinook bycatch, and now chum bycatch, the foundation hired Sea State, a data analysis contractor, to develop computer plotter software that will allow fishermen to assess information on salmon bycatch in the pollock and cod fisheries in 1993.

The data is so detailed that fishermen can call up the depth for a particular tow on a certain date.

Vessels with satellite communications capability will also be able to assess 1994 data as it becomes available from NMFS observer reports.

Because salmon move around so quickly, industry representatives have also come up with a way to get the information out to the grounds in a more timely fashion.

Throughout the B season, Stephanie Madsen, executive director for the Aleutian Seafood Processors Association, will be compiling bycatch information for each reporting area from participating processors on a daily basis. Her summaries will pass back to the processors, who will relay this information via side-bank radio to their catcher boats out on the grounds.

Although information from individual companies or vessels will be kept confidential, sharing this type of information is contrary to usual fishing practices.

"Bycatch is the gun that's going to be pointed at us from here on out," said Dave Fraser, owner-operator of the Muir Milach and foundation board member, and fishermen need to work together.

It's more important to share information to keep the fishery open, Fraser said, than to keep secret where they are fishing.

Another change this year will be the posting of the names of individual vessels and their salmon bycatch numbers on the NMFS electronic bulletin board. This step, made possible by a recent change in federal regulations, is intended to put peer pressure to work to help cut down on bycatch.

In addition to moving out of salmon 'hotspots,' fishermen discussed other measures to lower salmon bycatch, such as delaying B season until later in the year.

But Fraser said, based on data from previous years, if the B season was moved to later in the year, fishermen could run into problems with high chinook bycatch.

Because motherships, operating in the CVOA accounted for about half of the salmon bycatch last year.

Some say this is due to the mothership catcher vessel practice of 'short wiring,' towing a cod-end of fish around at a shallower depth while waiting to deliver. As a result, fishermen will be taking a look at the effect of depth and temperature on bycatch.

Fish managers will also be taking a closer look at the mothership operations--this year during B season motherships in the CVOA will be required to carry two NMFS observers on board.

Fishermen will also be looking at the effectiveness of different gear types in lowering bycatch.

**PART OF THE BIGGER PICTURE--**

While the closures of the five blocks seem inevitable this B season, many question the effectiveness of such a step. No one what will happen if we move the fleet to another area, Sullivan said, we might end up with other bycatch problems in a different area.

This season's cap/closure rule is just part of a larger problem. "This is not a one time small issue, it's going to be ongoing for the fleet..." Sullivan said. "And salmon is just one part of the picture."

Although the emergency rule for this B season is intended to be a "one time shot" to prevent a repetition of last year's B season, fishermen are also concerned that if chum salmon bycatch is high again this B season, the council may consider the cap/closure of these areas on a permanent basis.

"When the steam roller gets going and the political pressure gets behind it, we can't stop it," Maloney said. "If we don't improve the problem, it's going to get a lot worse in terms of restrictions."

ATTACHMENT B

Salmon Research Foundation  
NAMES ADDRESSES TELEPHONE NUMBERS

Scientific Advisory Panel Members, July 20, 1994

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Salmon Research Foundation  
NAMES ADDRESSES TELEPHONE NUMBERS

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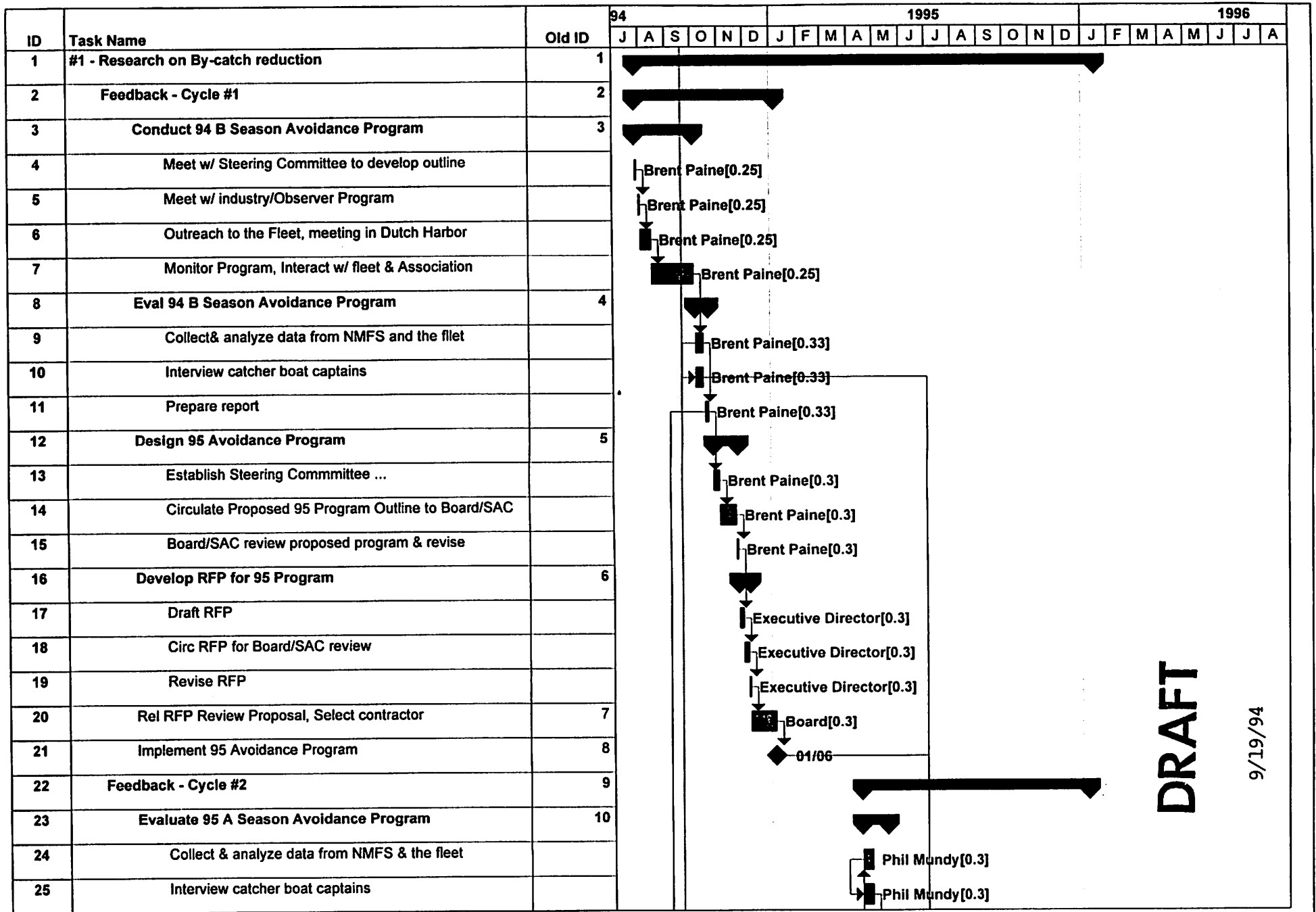
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**DRAFT**

9/19/94







ID	Task Name	Old ID	1995												1996													
			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A
76	Identify other By-catch Avoidance Options	26																										
77	Prioritize options	27																										
78	Design research projects	28																										
79	Develop RFP's	29																										
80	Release review and select	30																										
81	Conduct by-catch avoidance research	31																										
82	#2 - Research on stock identification	32																										
83	Comprehensive Review	33																										
84	Letters to State & Fed. agencies/universities																											
85	Receive comments from SAC & PRC																											
86	Comments of SAC reviewed by Board																											
87	Design, develop, release RFP & select contractor	34																										
88	Identify scope of review																											
89	Develop RFP																											
90	Release RFP																											
91	Select Contractor																											
92	Search literature	35																										
93	Inventory existing data	36																										
94	Letters to State & Federal agencies/universities																											
95	SAC review of inventory																											
96	Recommendation from SAC to Board																											
97	Board develop options																											
98	Write gap analysis & report	37																										
99	SAC review gap analysis & recommend																											
100	Board develops direction																											



ID	Task Name	Old ID	1995												1996												
			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J
126	#5 Communication	60	[Task bar]																								
127	Council reports	61	[Task bar]																								
128	Prepare & Provide council report	62	John White																								
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134	Prepare & Provide council report	68	John White																								
135	Prepare Press Releases	69	[Task bar]																								
136	Prepare press release	70	Dan Albrecht																								
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141	Prepare press release	75	Dan Albrecht																								
142	Prepare Annual report	76	John White[0.3]																								
143	Fleet Outreach	77	Joe Blum[0.3]																								
144	Evaluate feedback program & meeting	78	Brent Paine[0.3]																								
145	Report to Board of Fish	79	Dan Albrecht[0.3]																								
146	Report to Board of Fish	80	Dan Albrecht[0.3]																								
147	Assessment Payment Report	81	Dan Albrecht[0.3]																								

Project: SALMON RESEARCH FOU  
Date: 09/19/94

Task

Progress

Milestone



Summary

Rolled Up Task

Rolled Up Milestone



Rolled Up Progress



# North Pacific Fishery Management Council

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## DRAFT FOR PUBLIC REVIEW

ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW

for

AMENDMENT 26 TO THE FISHERY MANAGEMENT PLAN FOR GROUND FISH  
OF THE BERING SEA AND ALEUTIAN ISLANDS AREA

and

AMENDMENT 29 TO THE FISHERY MANAGEMENT PLAN FOR THE  
GROUND FISH FISHERY OF THE GULF OF ALASKA

Prepared by

**Susan J. Salveson**  
**National Marine Fisheries Service**  
**Alaska Region**

July 1, 1994

## Executive Summary

Salmon are taken incidental to the Alaska groundfish trawl fisheries. These fish are dead when brought on board a vessel and must be returned to Federal waters as prohibited species once a NMFS-certified observer has determined the number of salmon and completed the collection of any biological or scientific data. At its September 1993 meeting, the Council adopted as a statement of intent a "Salmon Bycatch Control Policy." This policy endorsed the development of several different initiatives intended to address the salmon bycatch problem, including the development of regulations requiring retention of salmon for processing and delivery to nonprofit foodbank organizations. The Council's intent for these regulations was to reduce protein waste in the groundfish trawl fisheries, support separate industry initiatives to address the salmon bycatch problem by allowing for verification of the number of salmon taken as bycatch, provide additional opportunity to collect biological samples or scientific data, and potentially provide an incentive to vessel operators to take action to reduce salmon bycatch rates to avoid costs associated with retaining and processing salmon for human consumption.

The proposed action would authorize the retention and processing of salmon taken as bycatch in the Alaska trawl fisheries for donation to needy individuals. This action would be implemented under Amendment 26 to the Fishery Management Plan (FMP) for the Groundfish Fishery of the Bering Sea and Aleutian Islands Area and Amendment 29 to the FMP for Groundfish of the Gulf of Alaska. The following three alternatives are considered:

**Alternative 1 (Status quo).** Under the status quo alternative, all bycaught salmon would be retained until a NMFS-certified observer has determined the number of salmon and collected any biological or scientific data. Salmon could not be retained for reasons other than the collection of biological or scientific data and ultimately must be discarded in Federal waters as a prohibited species.

**Alternative 2 (Mandatory retention and processing of salmon and delivery to a foodbank organization).** Under Alternative 2, FMP amendments would be implemented that require every salmon taken in the Alaska groundfish trawl fisheries to be retained, processed for human consumption, and donated to a nonprofit foodbank organization. NMFS's authority under the Magnuson Act to directly regulate harvesting and processing fishery resources is limited to the EEZ. NOAA General Counsel has determined that NMFS lacks the statutory authority under the Magnuson Act to implement all three parts of Alternative 2, i.e., retention, processing and delivery of salmon to a nonprofit foodbank organization. **Given the lack of statutory authority to implement Alternative 2, this alternative is not developed further in this analysis except to provide a qualitative comparison with Alternatives 1 and 3.**

**Alternative 3: ( Voluntary retention and processing of salmon for delivery to a foodbank organization).** Under Alternative 3, FMP amendments would be implemented that authorize the voluntary retention and processing of salmon taken as bycatch in the Alaska trawl fisheries for donation to needy individuals. This alternative would require that permits be issued to persons authorized to distribute salmon to needy individuals and that vessels and processors be issued permits authorizing the possession of salmon for delivery to an authorized distributor. Salmon retained by permitted vessels must be offloaded at designated ports.

Neither Alternative 1 nor 3 would be expected to change fishing activities in a manner that would affect the amount of groundfish harvested or the amount of salmon taken as bycatch in the Alaska trawl fisheries. Notwithstanding the statutory limitations of Alternative 2, the potential exists that costs associated with mandatory retention and processing of salmon could provide an incentive to vessels operators to take action to attempt to reduce salmon bycatch rates and possibly reduce overall salmon bycatch amounts. None of the alternatives is likely to significantly affect the quality of the human environment, and the preparation of an environmental impact statement for the proposed action is not required by Section 102(2)(C) of the National Environmental Policy Act or its implementing regulations.

Based on the average number of salmon taken during the 1992 - 1993 trawl fisheries (190,000 fish), and assuming that all salmon are retained and processed for distribution to needy individuals under Alternative 2, the total burden to the Alaska trawl industry resulting from mandatory retention and processing of salmon is estimated at \$245,000. Potential benefits to needy individuals resulting from salmon donated to foodbank organizations under Alternative 2 cannot be quantified. If the average number of salmon taken as bycatch in the 1992-93 trawl fisheries were all delivered to foodbank organizations and fit for human consumption, about 1.5 million meals could be provided to needy individuals. These meals likely would provide a healthy alternative to the diets of people who often only have access to meager and inadequate food.

Under Alternative 3, an unknown number of salmon could be voluntarily retained and processed by the groundfish trawl industry for donation to authorized distributors for nonprofit foodbank organizations. Potential costs to the groundfish industry are anticipated to be significantly lower relative to Alternative 2 given that vessel operators or processor managers would have no regulatory requirement to retain and process salmon if the costs of doing so are judged too high or have too great an impact on groundfish operations. The actual costs to vessel operators and shoreside processing operations would be relative to the amount of salmon retained and processed. These costs on a per salmon basis are estimated at \$1.46 and \$1.12 for shoreside and at-sea processing operations, respectively.

Although benefits to needy individuals resulting from salmon donated to foodbank organizations under Alternative 3 cannot be quantified, the number of salmon donated would be less than that under Alternative 2 and the potential benefit to needy individuals would decrease accordingly. Voluntary donation of salmon to needy individuals under this alternative would meet the Council's objective to reduce protein waste in the groundfish fisheries. However, because the salmon donation program is voluntary, Alternative 3 would provide less incentive to vessel operators to take action to avoid salmon to reduce costs associated with the mandatory retention and processing program proposed under Alternative 2. Therefore, Council objectives for the retention and processing salmon for human consumption would be only partially met under Alternative 3.

None of the alternatives considered is expected to result in a "significant regulatory action" as defined in E.O. 12866. NMFS does not anticipate that any vessel or processor that qualifies as a small entity for purposes of the Regulatory Flexibility Act would elect to participate in a voluntary salmon donation program if the costs of doing so reduce gross annual receipts by 5 percent or more. The impacts under Alternative 3, therefore, are not anticipated to result in a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act.



DRAFT FOR COUNCIL REVIEW

Environmental Assessment/Regulatory Impact Review/  
Initial Regulatory Flexibility Analysis

for

**CHUM SALMON BYCATCH IN THE BERING SEA TRAWL FISHERIES  
AND ALTERNATIVES FOR CLOSURE AREAS**

Prepared by

Alaska Department of Fish and Game  
National Marine Fisheries Service

September 21, 1995

## EXECUTIVE SUMMARY

"Other" salmon bycatch in the 1993 BSAI mid-water trawl fisheries, comprised mostly of chums, was significantly higher than in any prior year on record. Historically most of the chum salmon bycatch occurs in an area coincidental with the Catcher Vessel Operational Area (CVOA) during the period which coincides with the pollock 'B' season. The high bycatch caused concern from a management standpoint because there are currently no options available for controlling the bycatch of salmon which are a prohibited species. However, because of this high bycatch the Council took emergency action in April of 1994 to close an area identified as having historically high chum salmon bycatch after a pre-defined cap was attained. This EA/RIR/IRFA contains an analysis of the potential impacts of a range of time and area closure alternatives to control "other" salmon bycatch in BSAI groundfish trawl fisheries.

Specifically, this document examines three management alternatives (and presents one Alternative 4 that is not analysed in this document, see below), and a total of nine closure options (seven options and two suboptions). These include the Status Quo as Alternative 1, and two additional alternatives requiring either year-round or partial-year area closures which could potentially reduce the "other" salmon bycatch especially in the CVOA. Options for "other" salmon bycatch management in this document define areas for closure based upon existing management areas coincidental with high "other" salmon bycatch, as well as discrete areas within larger management areas. This document also outlines two associated factors that, under Alternative 3, are necessary to monitor the "other" salmon bycatch. These include: 1) extra observer coverage on motherships that receive groundfish harvested in the CVOA during the pollock 'B' season and, 2) electronic communication capabilities on affected motherships and shoreside processors with 100 percent observer coverage that receive groundfish harvested in the CVOA during the pollock 'B' season .

In 1993, the "other" salmon bycatch in the Bering Sea and Aleutian Islands management area (BSAI) was approximately 245,000 salmon. This was more than triple the previous high bycatch level, and six times the bycatch level seen in the previous two years. The vast majority of these "other" salmon were assumed to be chums. Conservatively, the historical species composition of "other" salmon bycaught in the BSAI groundfish fisheries is approximately 95% chum salmon in any given year.

Concerns about chum salmon bycatch were exacerbated by the poor returns to Western Alaskan systems in the same year. Commercial, subsistence, and recreational fisheries were closed in several of the Western Alaskan districts in 1993 because of poor returns, and projections for 1994 were for "below average returns" in many of these districts, as well. However, Western Alaskan chum salmon runs were average or above average in number during 1994.

The chum salmon intercepted in the BSAI groundfish fisheries in 1993 were primarily in the size range of 3 year-old fish which would have been expected to mature in 1994 and 1995. The majority of the 1993 chum salmon bycatch occurred after most of the Western Alaskan chum salmon would have returned to their native systems. Little is known about the potential impacts bycatch may have had on returns in 1994 and subsequent years, especially since source of origin stock composition of the bycaught "other" salmon is unknown.

The purpose of this analysis is to provide information needed to take possible action to reduce "other" salmon bycatch. An Emergency Rule (ER), patterned on one of the alternatives and one of the closure options was in place for the 1994 pollock 'B' season. That ER will expire prior to the 1995 fishing season. If the Secretary is to have the management authority to address future "other" salmon bycatch problems in the BSAI trawl fisheries, it will be necessary for the Council to adopt an amendment to the BSAI Groundfish Management Plan, prior to the start of the 1995 pollock 'B' season on August 15.

This analysis examines the domestic groundfish trawl fisheries in 1990 through 1993 for patterns in "other" salmon bycatch. It is important to note, however, that only the fisheries conducted in 1993 were in spatial and temporal patterns similar to those anticipated in the future, given prevailing management regulations. This is so because of recent changes in regulations governing the timing of the pollock 'B' season (August 15 opening date, as of 1993), and the establishment of the CVOA (effective June 1, 1992). The smallest unit examined for potential closure in this document was the 1/2° latitude by 1° longitude block.

Given the intra-annual and inter-annual variability in spatial distribution of observations of relatively high bycatch, as well as the substantial mobility of both pollock stocks and salmon in these areas of the BSAI, a trade-off between potential groundfish catch and potential salmon bycatch savings becomes apparent, though difficult to quantify. That is, either large areas may be selected for closure to ensure larger potential "other" salmon bycatch savings, or small areas may be chosen in order to reduce closure impacts on existing groundfish fisheries.

The specific objectives of this FMP amendment are to, 1) provide a mechanism by which to accurately assess and reduce excessive "other" (chum) salmon bycatch in the BSAI groundfish fisheries, 2) achieve a given bycatch reduction with the smallest possible adverse impact on the domestic groundfish harvesting and processing industry, and 3) assure that any action is balanced and equitable to all segments of the industry.

Four alternatives, seven options, and two sub-options for time/area closures were considered. They include:

Alternative 1: Status quo. Under the status quo, no regulatory authority would exist for NMFS (on behalf of the Secretary) to close areas of the BSAI to trawling to prevent large numbers of "other" salmon from being taken as bycatch in the groundfish fisheries.

Alternative 2: A specific area (depending upon the closure option selected) of the BSAI would be closed to all trawling from January 1 through December 31. This alternative would potentially reduce "other" salmon bycatch, but might be considered to be too restrictive to the affected trawl industry, because it would eliminate all trawling within a specified area for the entire calendar year, whereas "other" salmon bycatch could be a problem only during a portion of the year.

Alternative 3: A specified area of the BSAI (depending upon the closure option selected) would be closed to all trawling during the period of high "other" salmon bycatch. This alternative could be implemented with the adoption of a cap, such as the 42,000 other salmon selected by the Council in April of 1994. This alternative is less restrictive than Alternative 2 because it would close a specified area due to "other" salmon bycatch for only a portion of the year, possibly only after a bycatch limit has been reached in the CVOA. The bycatch limit of 42,000 salmon adopted in 1994 represents 50 percent of the 1991, 1992, and 1993 average of "other" salmon caught in the CVOA (which historically has accounted for 80% of the "other" salmon bycatch in any given year). Under this alternative the Council has the option of choosing another number for the cap.

The adoption of Alternative 3 in concert with a cap requires additional observer coverage on motherships that receive groundfish caught in the CVOA during the pollock 'B' season so that the bycatch numbers can be accurately determined and transmitted daily. It would also require the affected motherships and shoreside processors subject to 100 percent observer coverage and receiving groundfish harvested in the CVOA during the pollock 'B' season, to have the necessary hardware and software available for the observers to transmit salmon bycatch data electronically on a daily basis. Both of these requirements were implemented for the 1994 pollock "B" season under emergency rulemaking.

Alternative 4: Change the 'B' season starting date. An alternative to avoid other salmon bycatch would be to move the start of the 'B' season back to June 1. The EA/RIR/FRFA that was originally prepared for the change in the 'B' season start date analyzes the impact and no further discussion is presented in this document (EA/RIR/FRFA for the Delay of the Pollock 'B' season in the Bering Sea and Aleutian Islands, April 27, 1993).

The seven options, and two sub-options, for area closures identified under both Alternative 2 and Alternative 3 are identified below:

Option 1: "The Contour". A 15 mile buffer extending to either side of the 200 meter (m) depth contour which extends to the north and west from the "horseshoe" and Unimak Island (Figure 1). This contour buffer was found to correspond to high chinook salmon bycatch, as presented in Amendment 21b to the BSAI Groundfish FMP.

Sub-option 1b: "The Contour within the CVOA". That portion of the contour, identified in Option 1, which lies within the CVOA, as described in Option 3.

Option 2: "The Contour plus Unimak". The area defined under Option 1 above, plus two 1/2 degree by 1 degree blocks to the north of Unimak Island and the "horseshoe" (Figure 1). The combination of these blocks with the contour buffer accounted for a high percentage of chinook bycatch in Amendment 21b.

Sub-option 2b: "The Contour within CVOA plus Unimak". The portion of Option 2 lying within the CVOA as described in Option 3.

Option 3: "The CVOA". The Catcher Vessel Operational Area (CVOA), as currently described for management of inshore and offshore fisheries during the pollock 'B' season (Figure 2).

Option 4: "Area 517". NMFS management area 517 (Figure 3).

Option 5: "9 blocks". The nine blocks which form the top portion of the CVOA extending to the west from Unimak Island, and including a block above the northwest corner of the CVOA (Figure 4).

Option 6: "7 blocks". The seven blocks identical to those described in Option 5 with the two above Unimak Island deleted (Figure 5).

Option 7: "5 blocks". The five blocks approximating the north-central portion of the CVOA (Figure 6). This area closure was implemented under the 1994 emergency rule.

The management "alternative/option" combination that is least exclusive (i.e., impacts the smallest possible area), while assuring equitable and balanced treatment for all segments of the groundfish trawl fishery, and yet offers some protection to "other" salmon is Alternative 3, Option 7.

Table 1.

Bering Sea trawl "other" salmon bycatch statistics for 1992-1994. Note that 1994 estimates are actual counts after August 13, 1994.

<b>Bering Sea Trawl "Other Salmon" Bycatch Statistics for 1992 - 1994</b>						
Trawl "Other Salmon" Bycatch		Trawl "Other Salmon" Bycatch Rate (salmon/mt of groundfish)				
Annual Total	"B" Season Total	"B" Season Rate	Rate Jun 1 - Aug 15	Rate After Aug 15		
<b>1992</b>	41,345	38,320	0.05	0.02	0.08	
"B" Season = Jun 1						
<b>1993</b>	243,261	229,899	0.30			
"B" Season = Aug 15						
<b>1994</b>	75,908*	51,565*	0.08			
"B" Season = Aug 15						
<b>1994 "Other Salmon" Statistics</b>						
CVOA	61,686*		0.35			
SALMON SAVINGS AREA	n.a.		1.12			
NON-CVOA	14,222*		0.03			
* 1994 Bycatch Statistics (except Salmon Savings Area) are projections based on data through August 27, 1994.						

Figure 1. Bering Sea with 200 m depth contour portrayed as a dashed line. A buffer extends 15 mi on each side of the contour. The two  $1/2^\circ$  latitude by  $1^\circ$  longitude "Unimak blocks" are blackened.

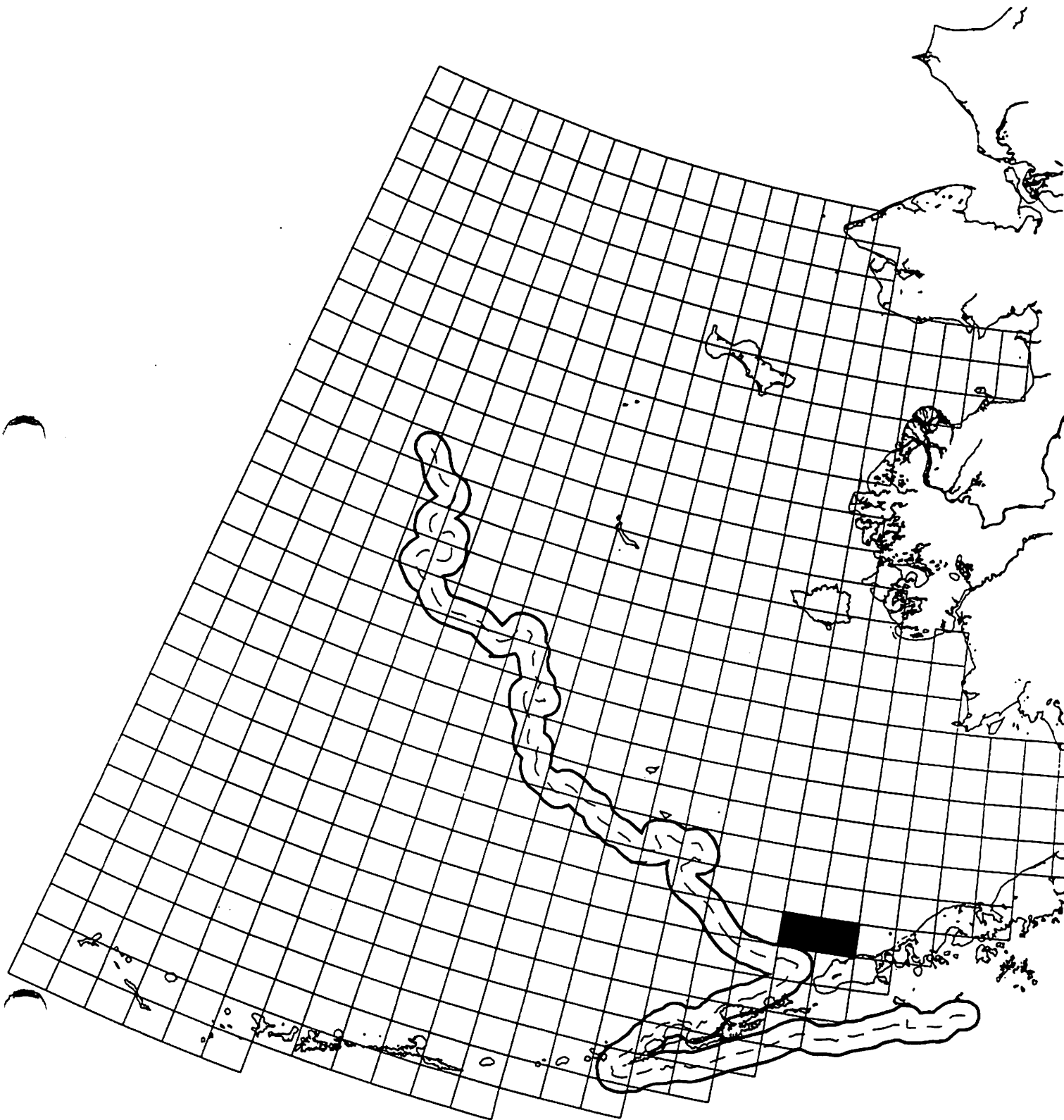


Figure 2. The location of the catcher-boat operational area (CVOA) in the Bering Sea. Northern boundary is 56° N latitude, western boundary is 168° W longitude, and eastern boundary is 163° W longitude.

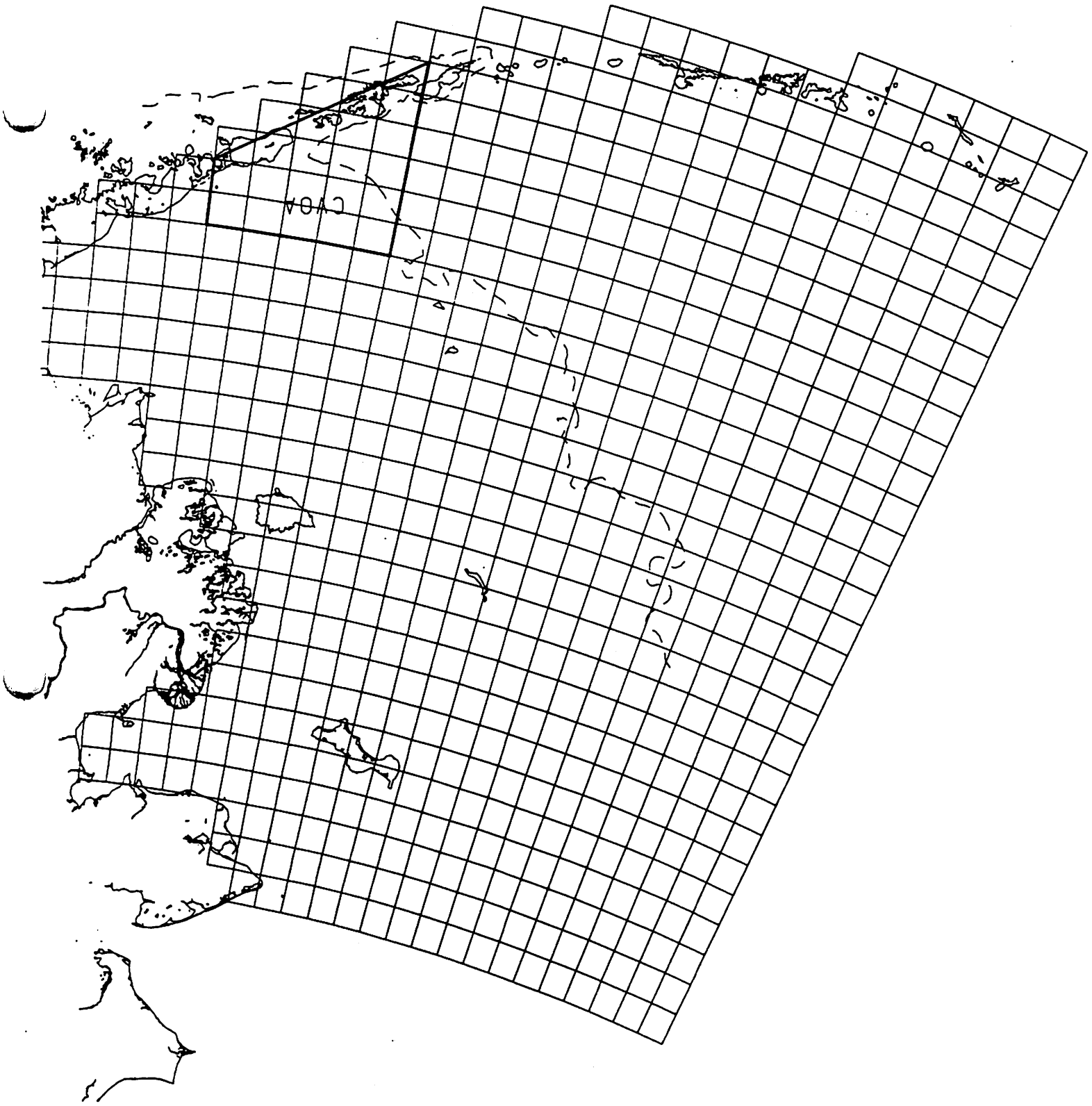
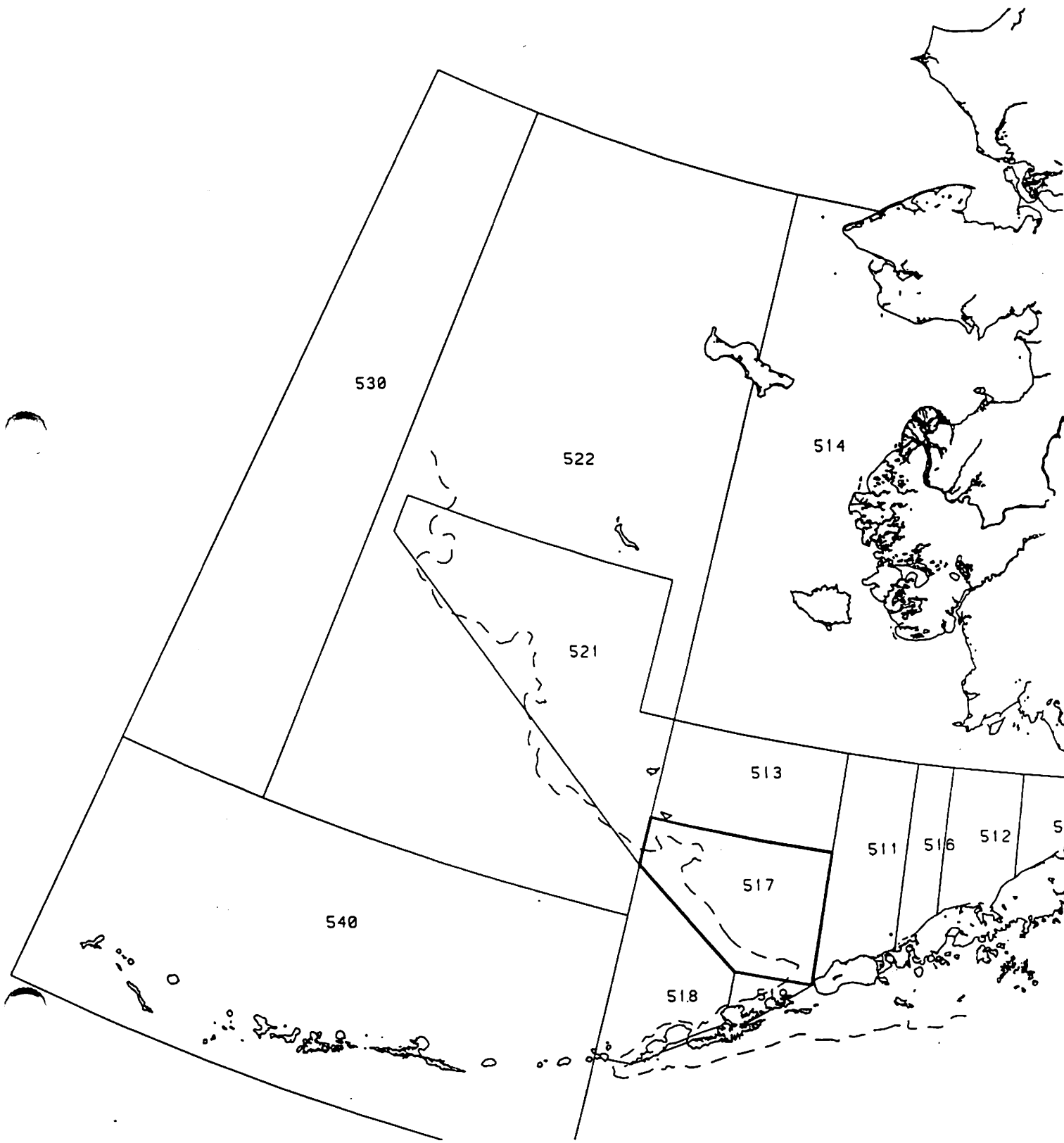


Figure 3. NMFS management areas with Area 517 highlighted.





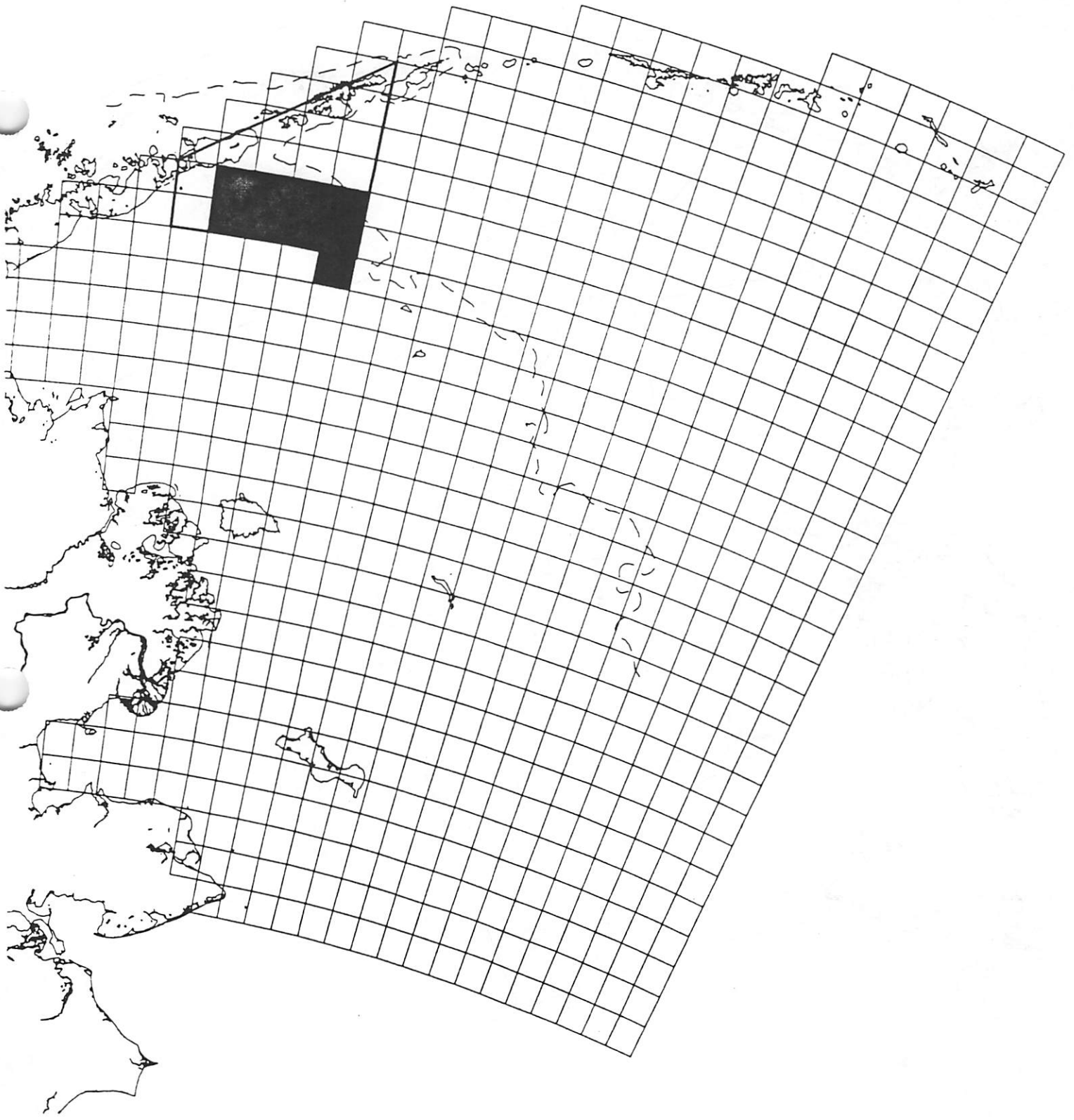


Figure 4. 9-Block option shaded, CVOA highlighted.

Figure 5. 7-Block option shaded, CVOA highlighted.

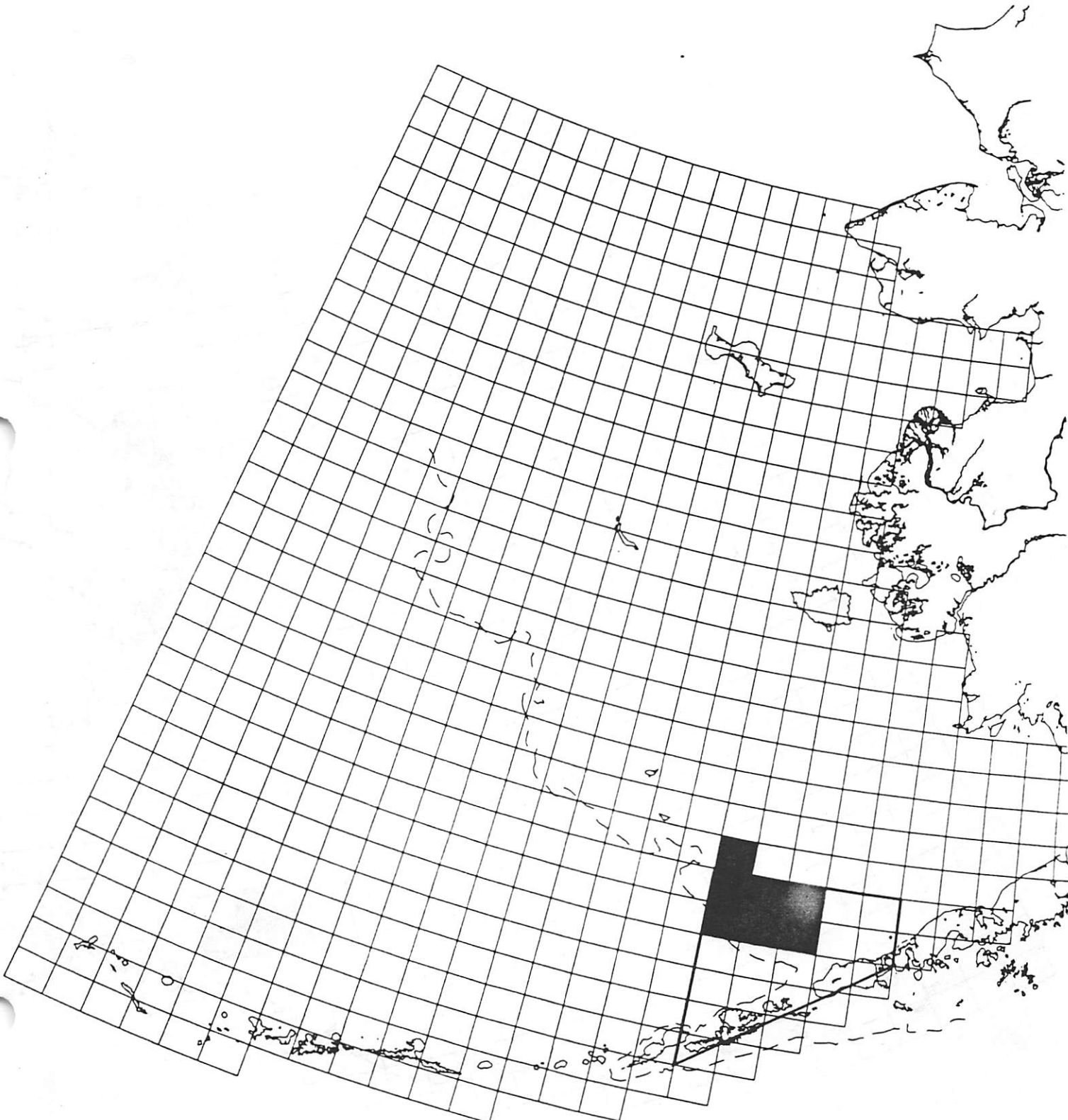


Figure 6. 5-Block option shaded, CVOA highlighted.

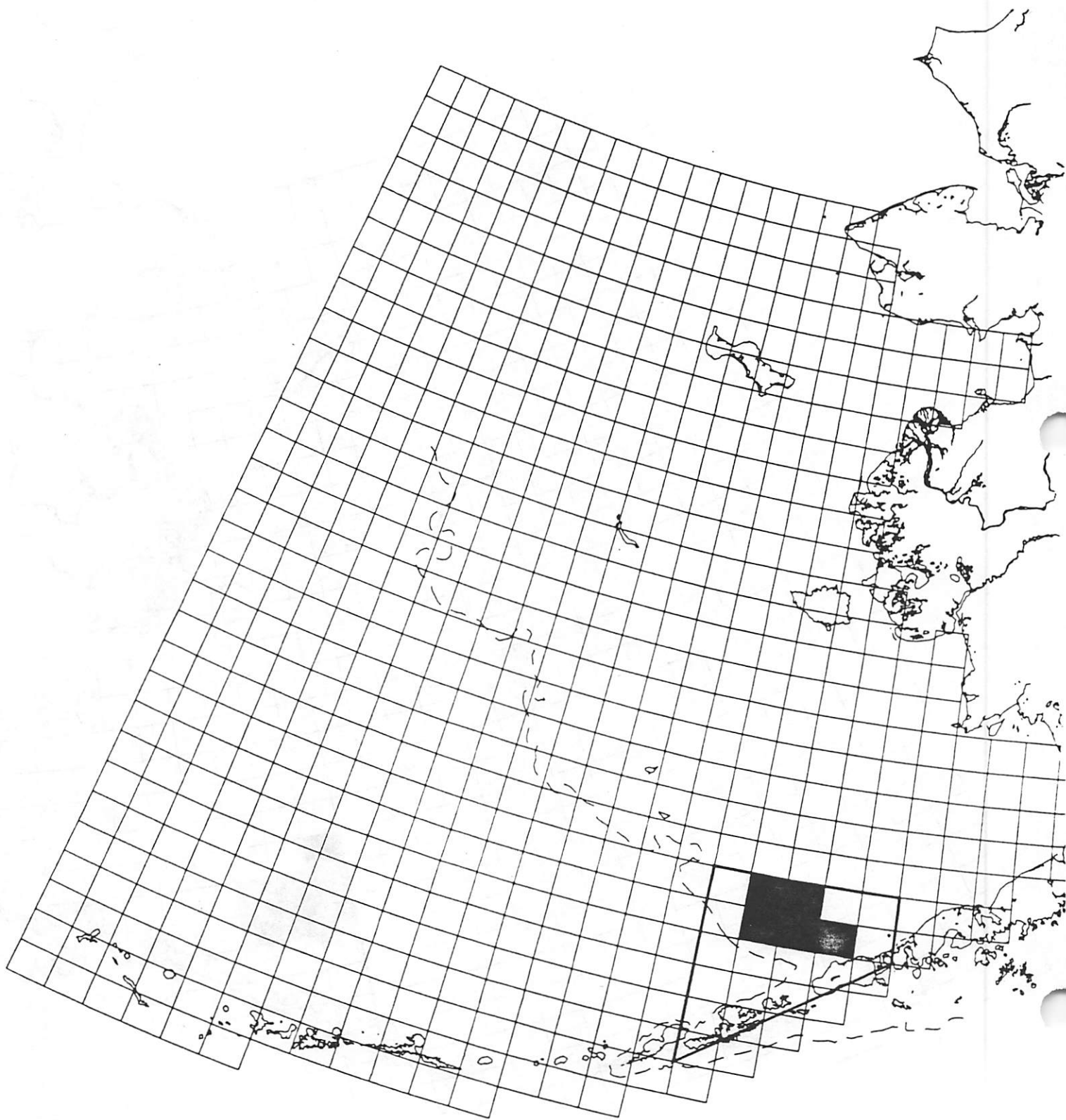


Figure 15. Total estimated bycatch of chum/other salmon from NMFS observer reports. Foreign and JV fisheries predominate in 1980-1989, and domestic fisheries are represented in 1990-1994 (as of 9/15/94).

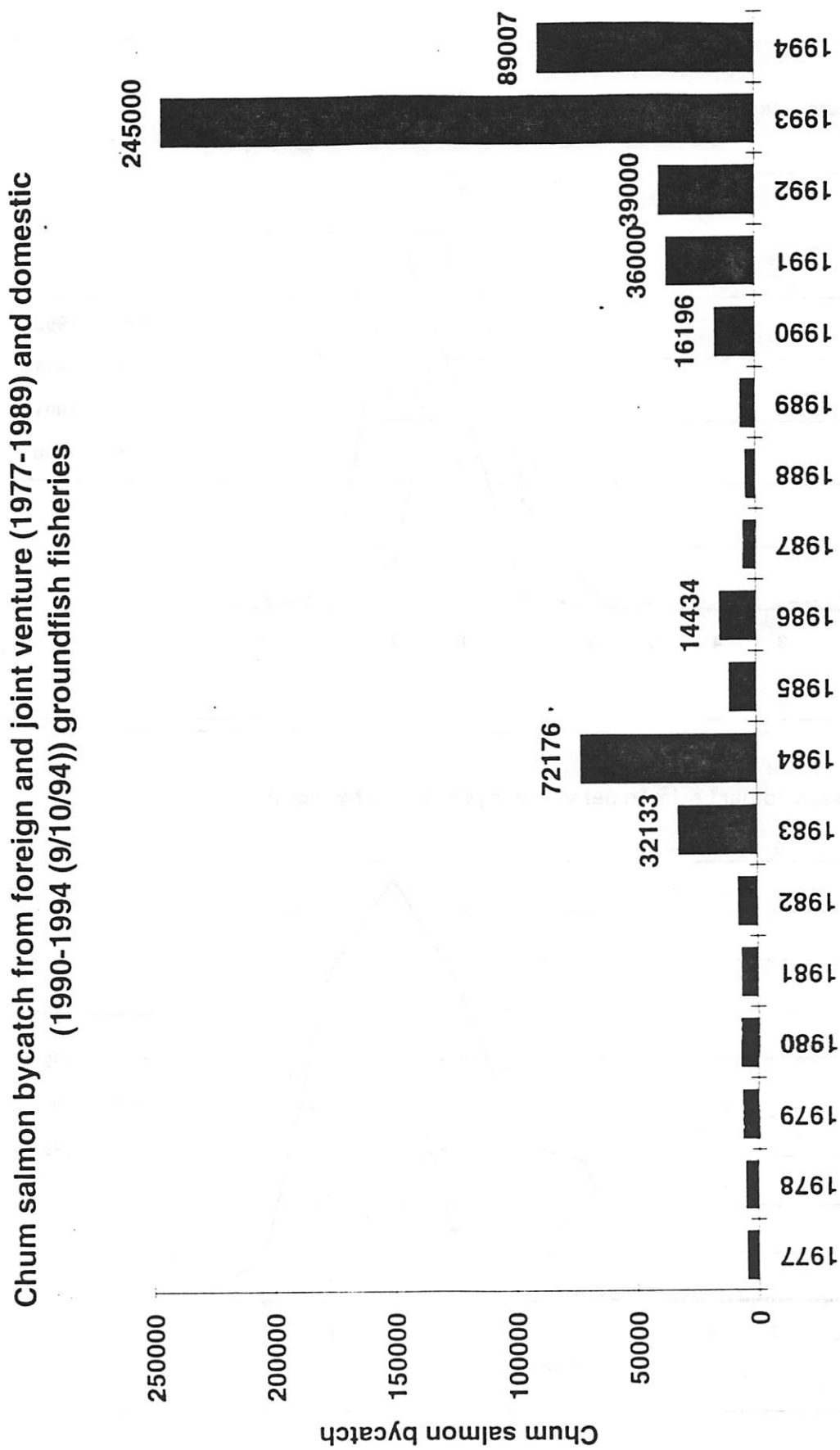


Figure 16. Top: Percentage of annual other salmon bycatch by month from observed hauls only 1990-1993. Bottom: Mean other salmon bycatch rate as per vessel bycatch per metric ton of groundfish catch.

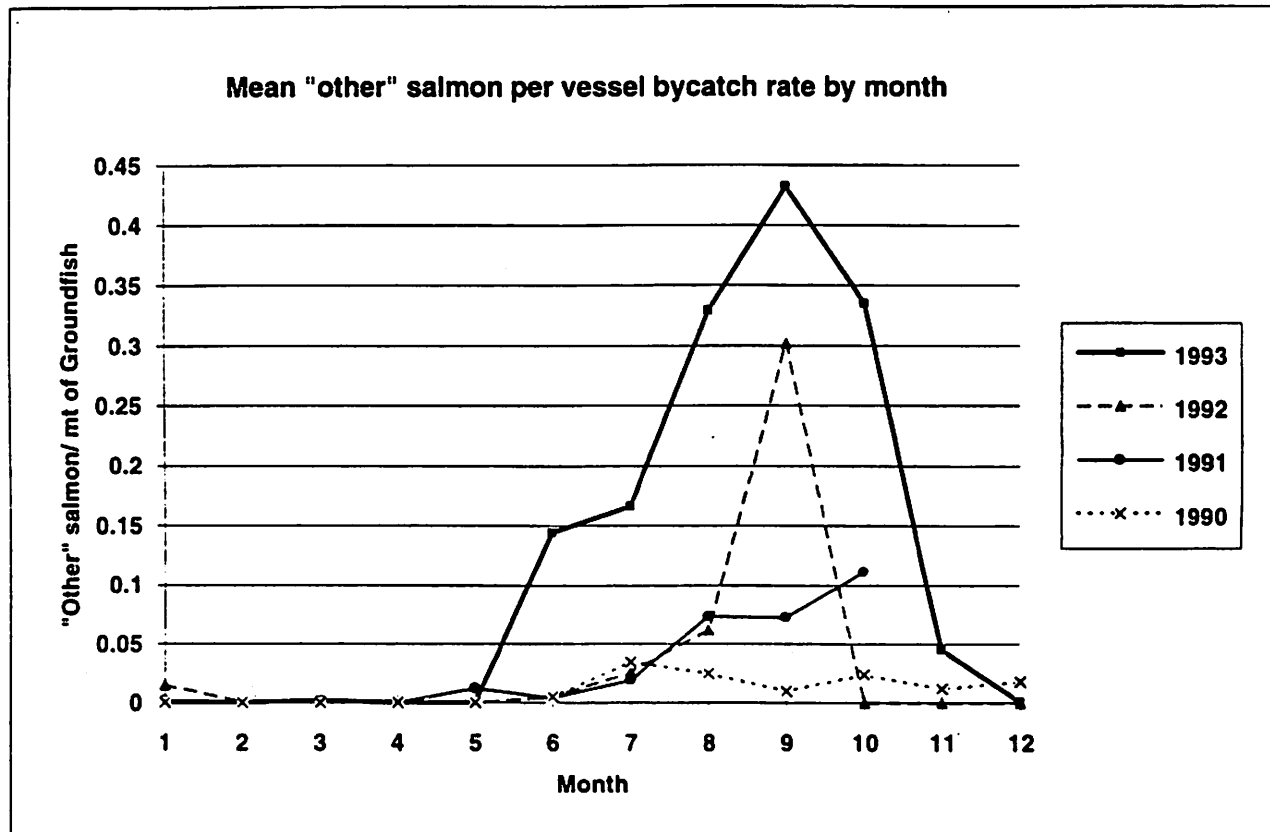
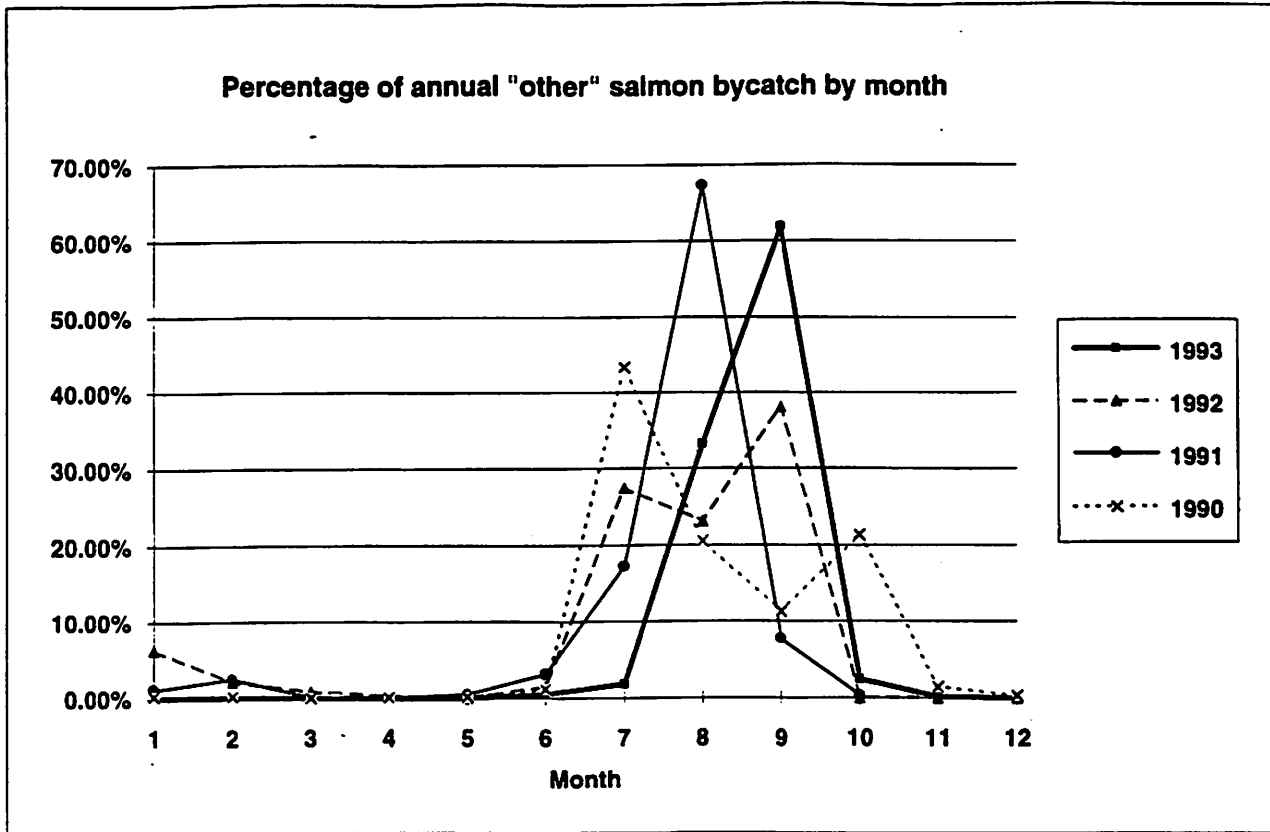




Figure 33. Outline of main concentration of observed trawls operating in the Bering Sea in 1993 during the months of July through October. Some individual hauls can occur outside of the highlighted areas. 200 m contour a dashed line.

General distribution of effort 1993

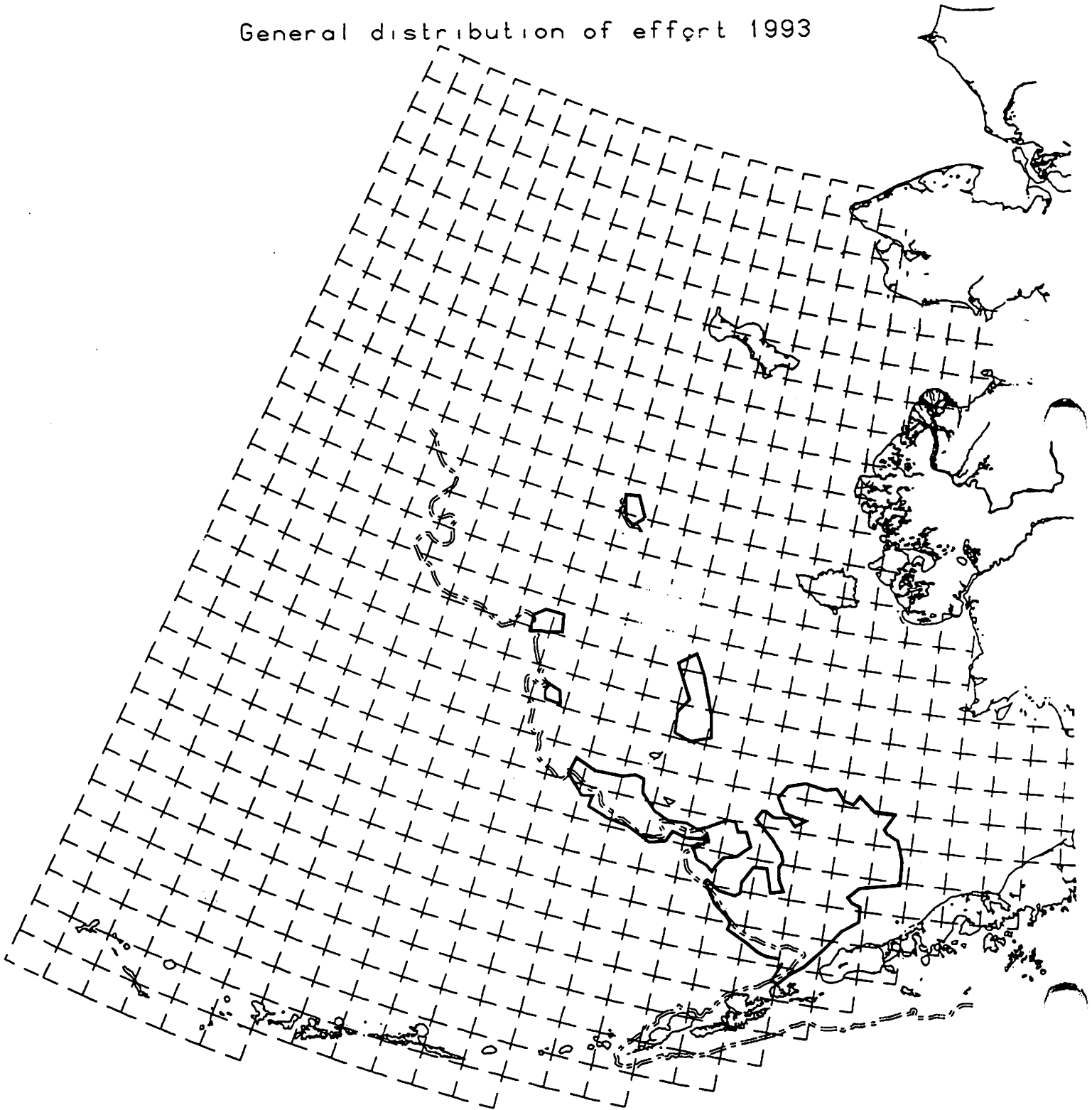


Figure 34. Location of observed trawls in the Bering Sea during the months of July through October in 1993 with an other salmon bycatch of more than 50 fish. The CVOA is highlighted and the 200 m contour is a dashed line.

July - October 1993 - hauls with >50 other salmon

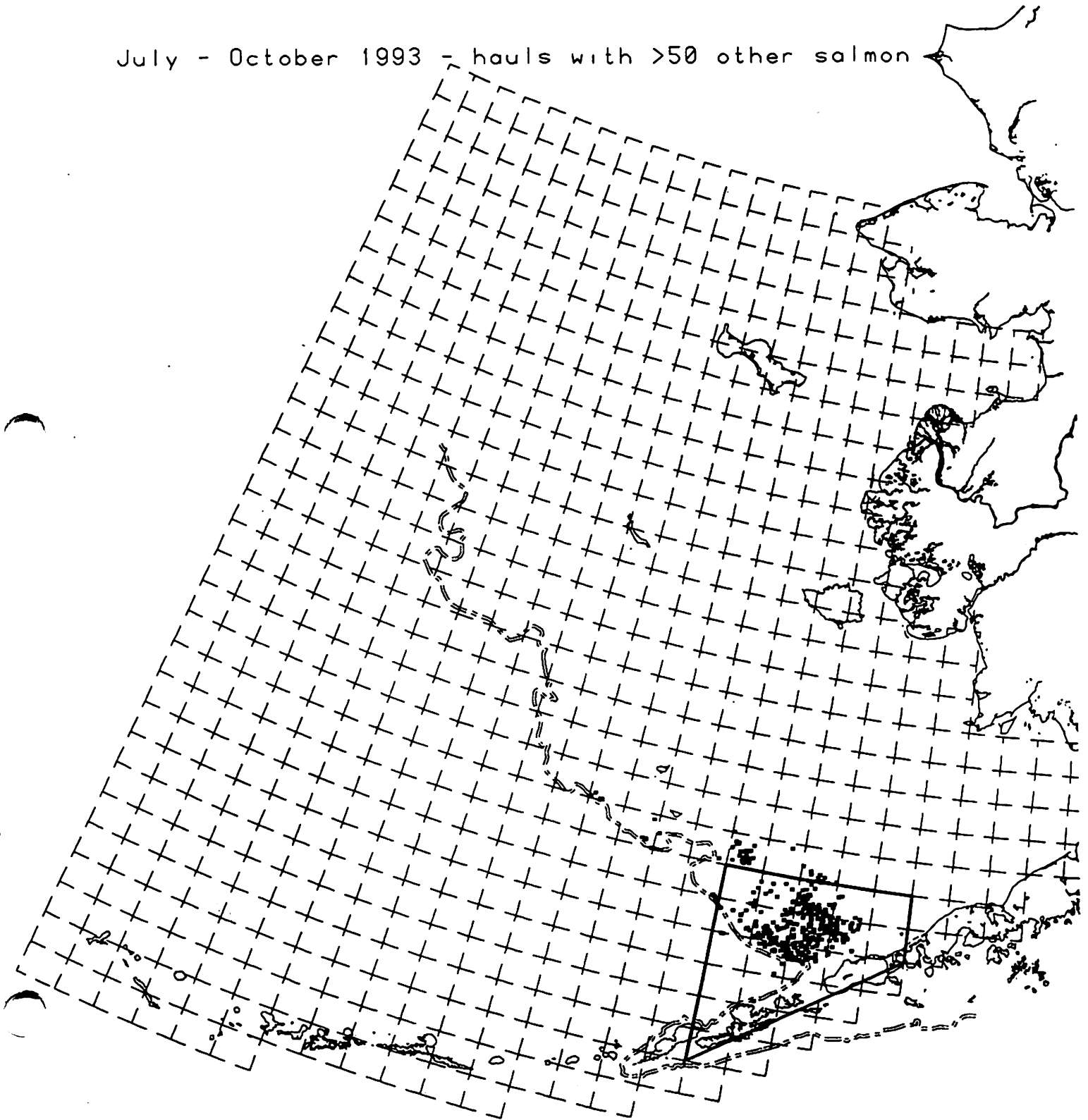
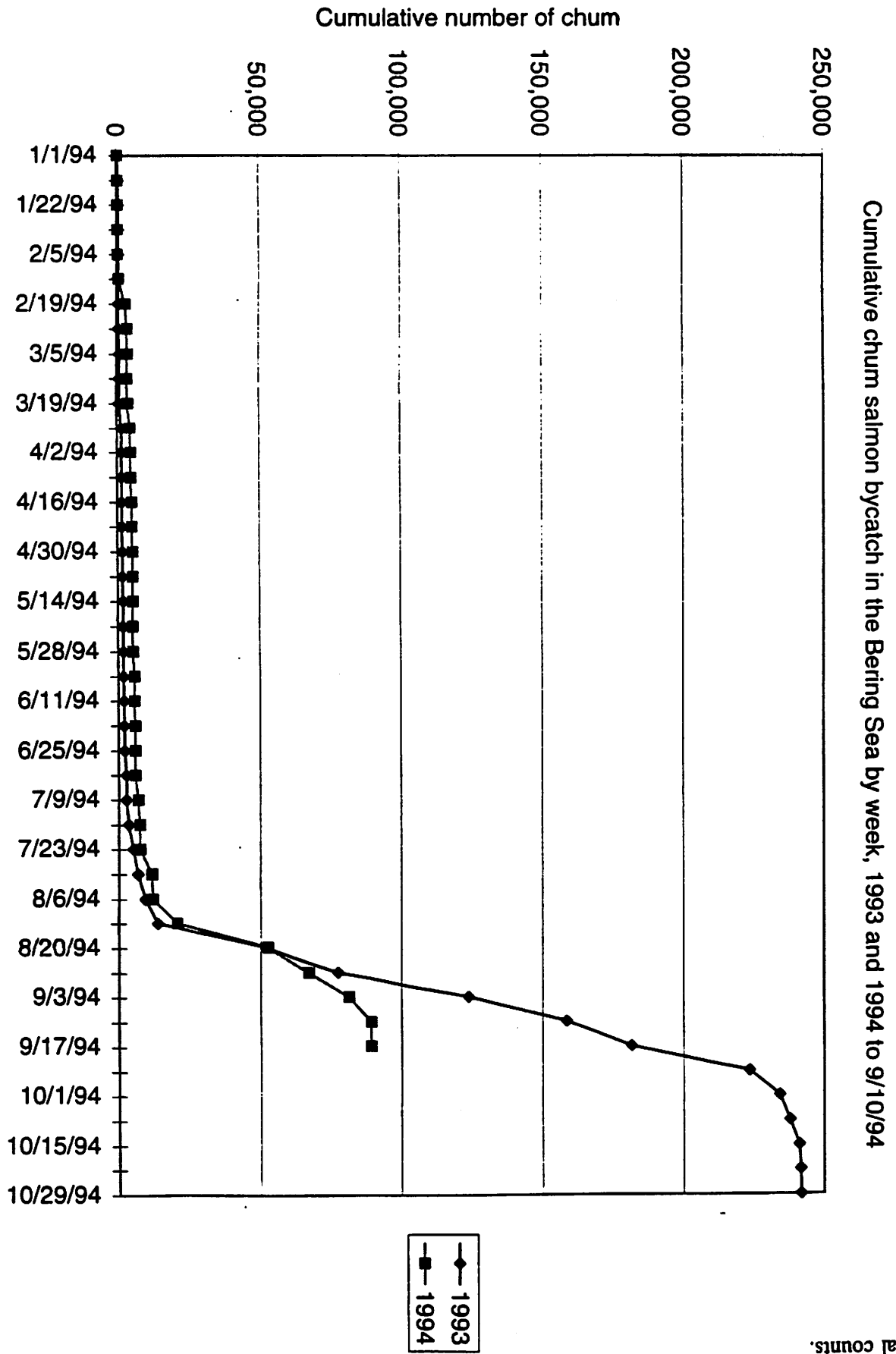




Figure 35. Cumulative weekly bycatch of other salmon from the Bering Sea trawl fisheries in 1993 and 1994 as reported on the NMFS Bulletin Board for identified target species. Estimates are expanded as in 1993, and not actual counts.



DRAFT FOR COUNCIL REVIEW

ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW/

INITIAL REGULATORY FLEXIBILITY ANALYSIS

FOR

AMENDMENT 21b

**Chinook Salmon Bycatch Management**

TO THE FISHERY MANAGEMENT PLAN FOR

THE GROUND FISH FISHERY OF THE

BERING SEA AND ALEUTIAN ISLANDS

Prepared by the staffs of the

Alaska Department of Fish and Game  
Alaska Commercial Fisheries Entry Commission  
North Pacific Fishery Management Council

September 21, 1994

## EXECUTIVE SUMMARY

This document provides a report on the recent status of chinook salmon stocks in western Alaska, the origins of chinook salmon bycaught in various fisheries of the Bering Sea, the potential impacts of trawl bycatch on specific chinook stocks, socioeconomic considerations, and statistics on chinook salmon bycatch in the Bering Sea in recent years. The Council had also requested that information be provided on time and area patterns in chinook salmon bycatch, with recommendations on specific times and areas which could be closed to help prevent the interception of chinook salmon in the trawl fisheries of the Bering Sea. In addition to this information the effects of prohibited species caps of various magnitudes is also provided.

The domestic fleet operating in the Bering Sea has caught an increasing number of chinook salmon in every year since 1990, and has exceeded 30,000 chinook in each year since 1991. The 1992 bycatch of chinook salmon by domestic trawl fisheries of 37,372 fish was surpassed in 1993 with an estimated bycatch of 46,483 fish as reported by the NMFS Bulletin Board. The preliminary 1994 chinook salmon bycatch is estimated to be 40,732 chinook salmon through the week ending 9/10/94. With bycatch of chinook salmon highest from January - April and September - December, more chinook can potentially be taken in the remainder of 1994.

Managers have been concerned about the health of chinook salmon stocks on the Yukon River, Kuskokwim River and portions of Bristol Bay with minimum escapement goals not met in several systems in the mid and late 1980's. Although improved over the last few years, escapements in several systems are only being met through careful management of directed fisheries by time and area, and gear restrictions and through increased abundance of chinook salmon.

The current analysis primarily examines historical bycatch patterns to determine possible effective time and area closures to reduce chinook salmon bycatch in the trawl fisheries. Haul by haul observer data from trawl fisheries in the Bering Sea were collected from foreign vessels during the years 1981-1989, from Joint Venture (JV) operations during the same years, and from domestic fisheries from 1989 to 1993. The specific haul locations from these data were analyzed using a geographical information system.

Chinook salmon bycatch is largely associated with groundfish catches in the "Horseshoe", in the area north of Unimak Island, and along the 200 m contour that demarks the shelf break. It is notable that chinook salmon bycatch does not extend, for the most part, far from the contour, from the horseshoe, or from the north of Unimak Island. This is especially true for chinook salmon encounters during the months of January-April and September-December, and there is little apparent bycatch during the summer season. Although very apparent across years, the spatial bycatch pattern within a given year appears to be more patchy within these defined areas. Therefore, it would be very difficult to predict "hot spots" of high salmon bycatch in terms of specific 1/2° latitude by 1° longitude blocks.

Given these patterns in chinook salmon bycatch, the catch and bycatch within specific defined areas was analyzed. The catch and bycatch from the entire Bering Sea in a fishery and year was compared to catch and bycatch within the following areas: a buffer which extended for 15 miles on either side of the 200 m contour; three blocks which made up the major portion of the horseshoe; the corner or core block of the horseshoe; and two blocks which were located to the north of Unimak Island.

In the foreign fishery, the majority of the chinook salmon bycatch was taken within the buffer around the contour, and virtually all of the chinook salmon were encountered during the months of January-April and September-December. The majority of the chinook salmon intercepted by the domestic fishery were taken in the horseshoe blocks, and the highest bycatch rate and mean number of chinook occurred in the corner block of the horseshoe. In the JV fishery, the highest proportion of chinook salmon bycatch was taken in the Unimak Island blocks and the corner block of the horseshoe in the early years of the JV fishery, and in the Unimak Island blocks and the contour buffer in later years. In the early 1980's the JV fisheries encountered a larger proportion of chinook salmon during the summer months than was seen in the foreign or domestic fisheries.

The proportion of chinook salmon intercepted in the contour buffer, the horseshoe, or the Unimak Island blocks was much higher than the proportion of groundfish catch which came from the same areas in almost all cases. Chinook salmon were also predominantly taken during the bycatch season (January-April and September-December). Chinook salmon intercepted during the summer months tended to be found in the horseshoe or the Unimak Island blocks.

The analysis has indicated higher chinook salmon bycatch occurs along the 200 m contour, at the horseshoe, and to the north of Unimak Island. The closure of one, or a portion of these areas is not likely to effectively reduce chinook salmon bycatch if fishing effort moves into the remaining open portions of these areas.

The Bering Sea Bycatch Model was used to assess the economic impacts of closures designed to reduce chinook salmon bycatch. Costs to the groundfish fishery were estimated to be large when large area closures were implemented. The model has suggested that the cost to the fisheries might be reduced from the high costs of a NMFS three digit statistical area-wide closure by the closure of a smaller more well defined area as discussed above. It would also be expected that the costs in moving to areas adjacent to the "Horseshoe" and a contour buffer would be greatly reduced when compared to movement to an entirely different statistical area.

The potential effects of closing the areas in the alternatives considered does not include an analysis of changes in bycatch of other species. Although the model indicates a slight increase in the anticipated bycatch of halibut and crab by closing the area approximating the 200 m contour for the entire bycatch season, the extent of the changes in bycatch have not been addressed. It is possible that the movement of vessels away from the 200 m contour could put them into areas of higher or lower bycatch of other species.

In addition to time and area patterns in chinook bycatch, other factors, such as depth of tow, size of tow, and tow duration, which might affect chinook salmon bycatch were analyzed as well. Very little of the variance in chinook salmon bycatch was explained by these variables, and no explicit relationship was discovered. Although some of the correlations between depth or size of tow and bycatch were statistically significant, the weak relationship between the variables and bycatch indicated that they were of no practical significance.

Figure 1-16. Bering Sea chinook salmon bycatch in foreign, JV and domestic fisheries, 1980 - 1994.

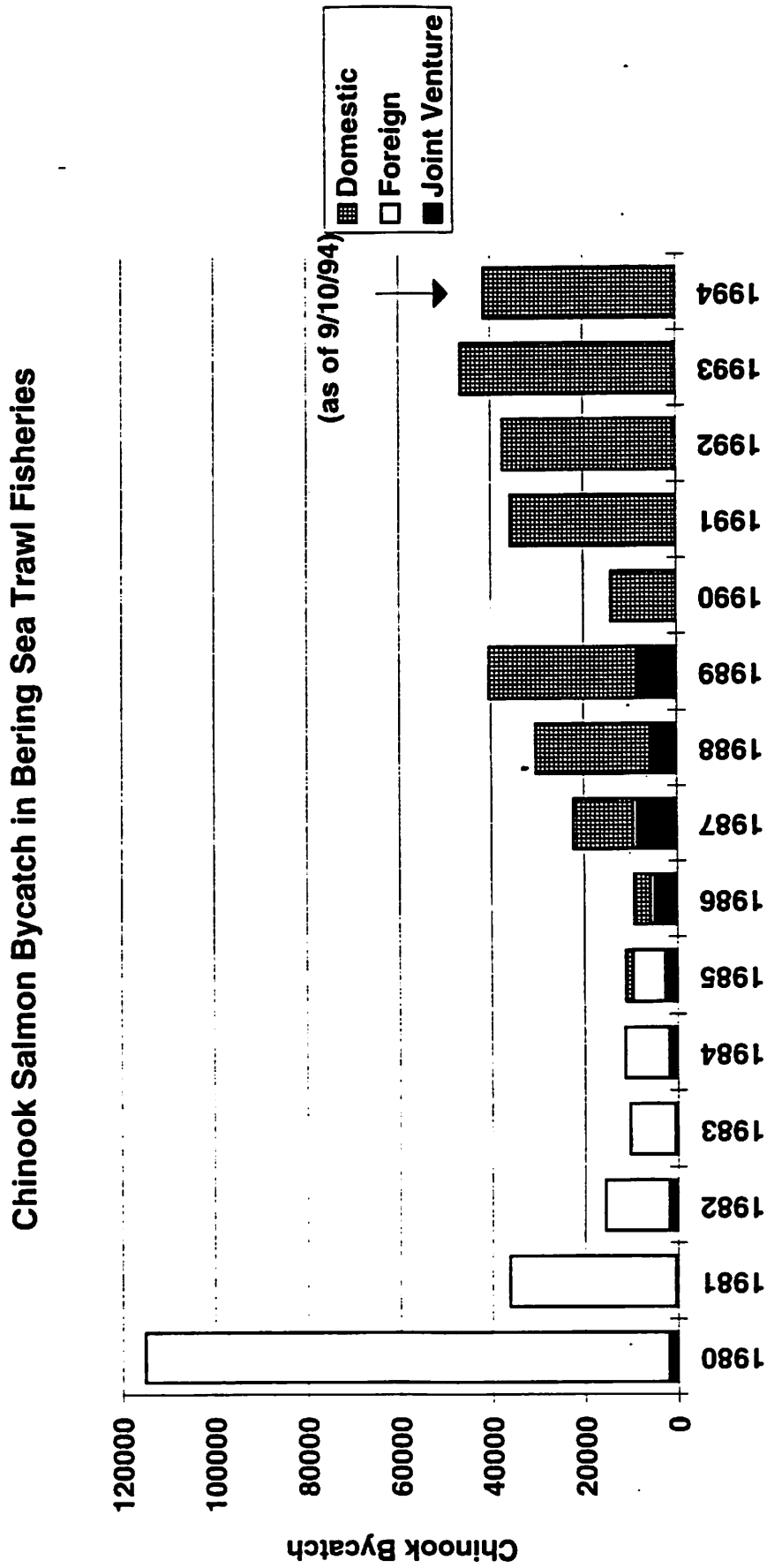


Figure 1-19. Cumulative chinook bycatch in the Bering Sea in the domestic fisheries, 1990-1994.

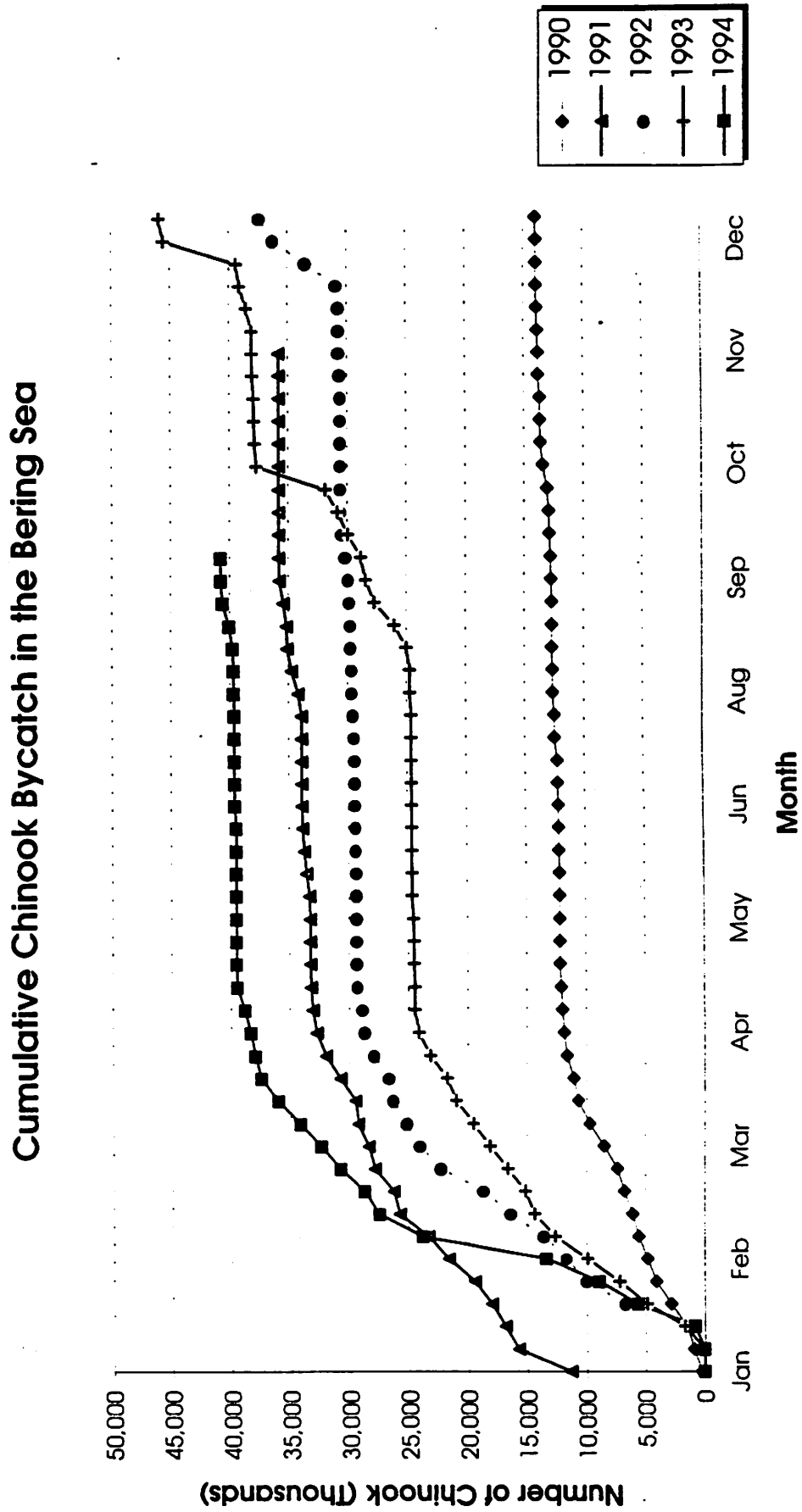


Figure 1-36. Domestic pollock and cod trawl fisheries bycatch by month, 1990-1993. From haul by haul observer data (unexpanded).

Observed Domestic Fisheries Bycatch by Month

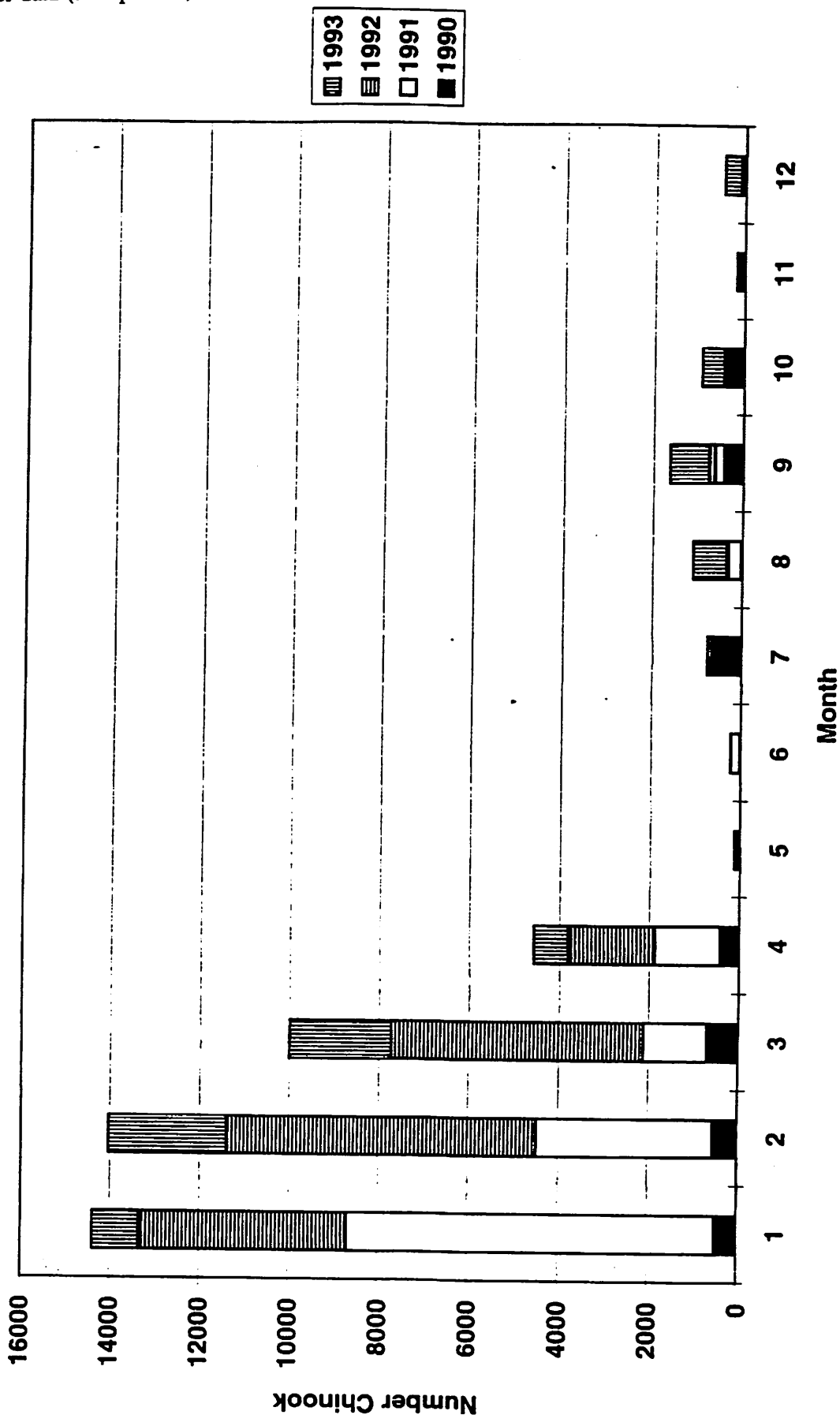


Figure 1-37. Domestic pollock and cod trawl fisheries groundfish catch by month, 1990-1993. From haul by haul observer data (unexpanded).

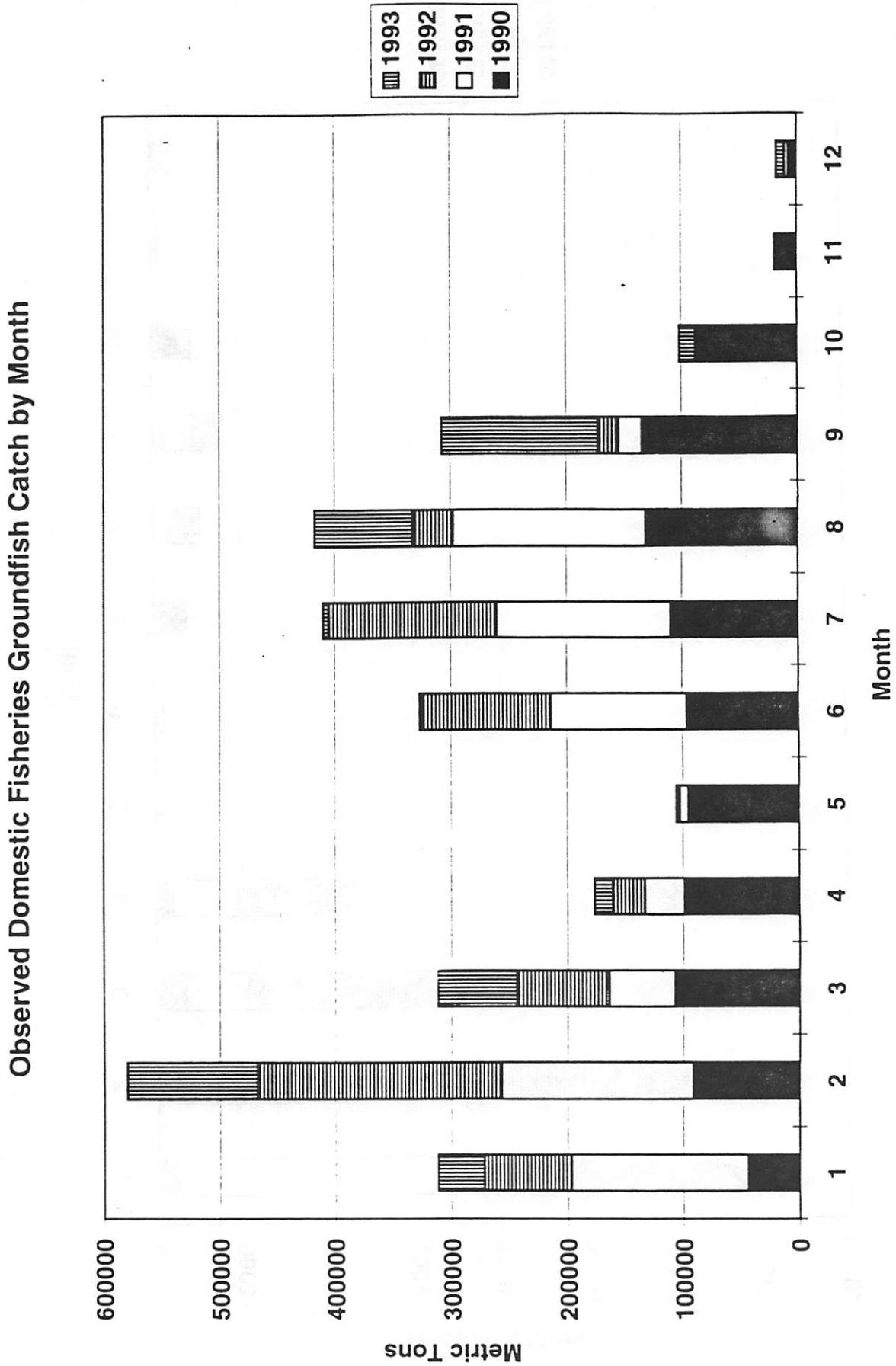




Figure 1-58. The distribution of tows in the domestic fisheries (1990-1993) with a chinook salmon bycatch of more than 5 fish during the months January-April.

Domestic Fisheries with > 5 chinook  
January - April

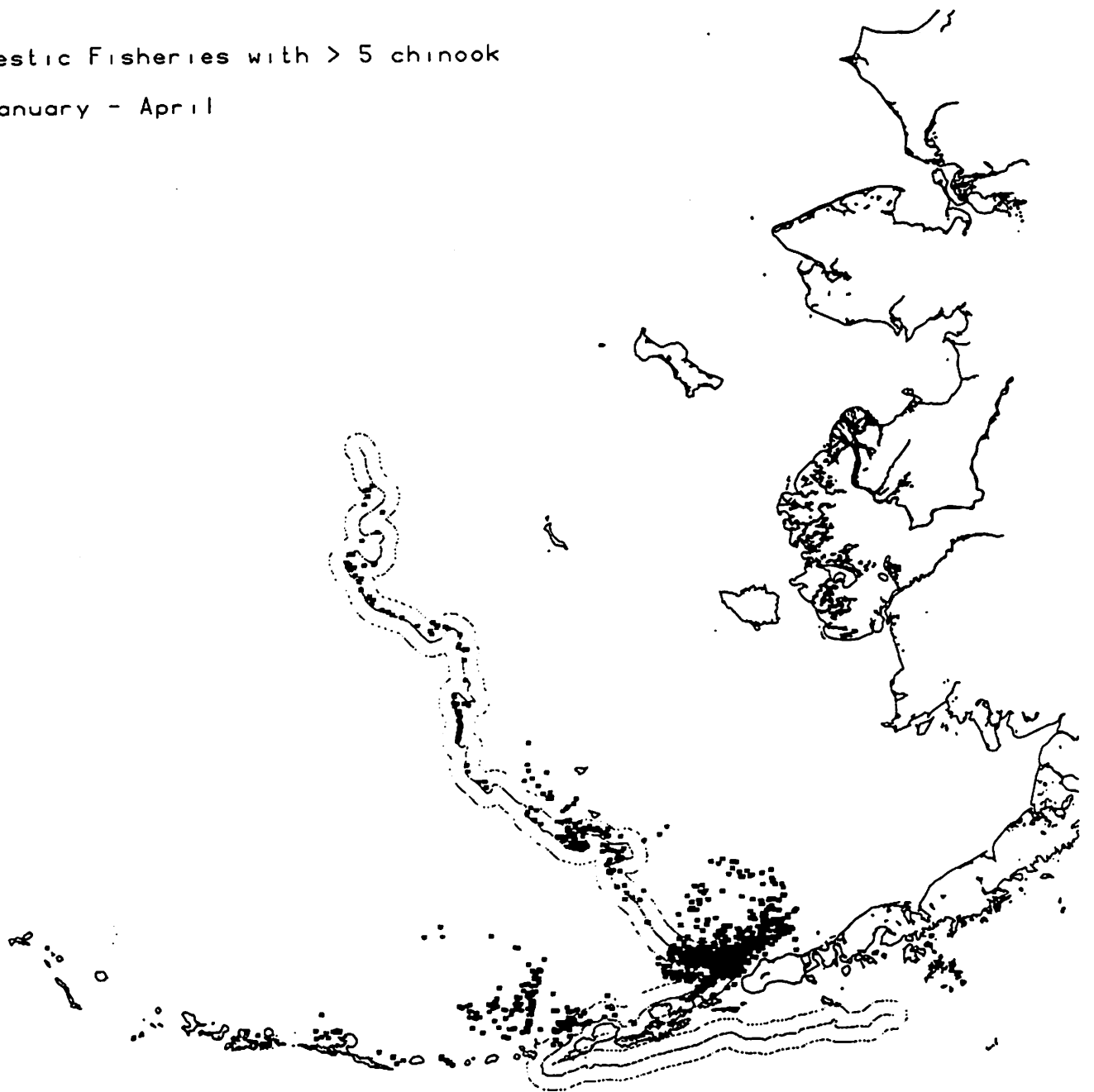


Figure 1-60. The distribution of tows in the domestic fisheries (1990-1993) with a chinook salmon bycatch of more than 5 fish during the months May-August.

Domestic Fisheries with > 5 chinook  
May - August

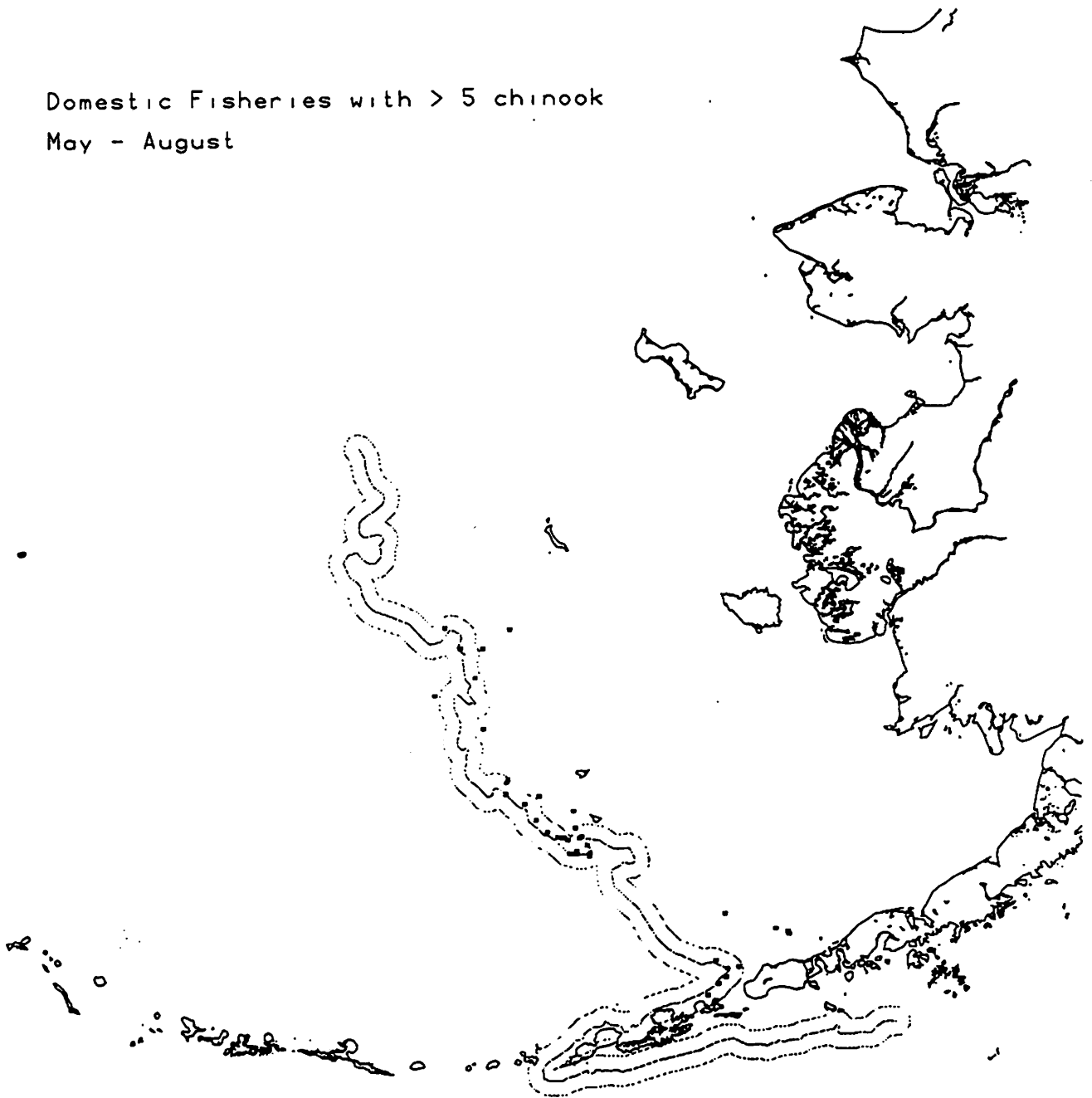
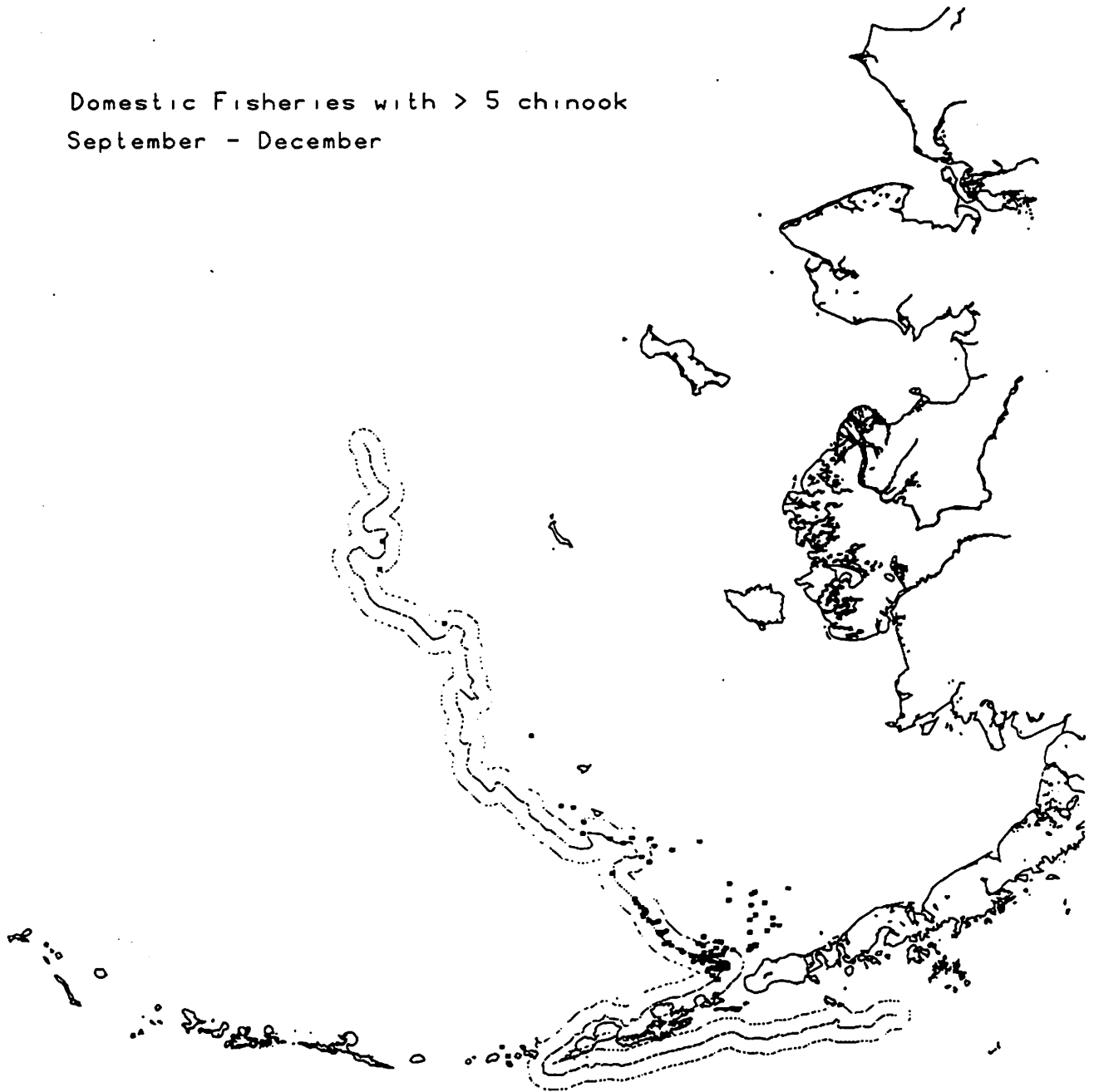


Figure 1-62. The distribution of tows in the domestic fisheries (1990-1993) with a chinook salmon bycatch of more than 5 fish during the months September-December.

Domestic Fisheries with > 5 chinook  
September - December



SALMON RESEARCH FOUNDATION  
C/O MUNDT, MacGREGOR  
4200 FIRST INTERSTATE CENTER  
SEATTLE, WASHINGTON 98104

SEP 12 1994

September 6, 1994

SENT VIA FAX

Mr. Steven Pennoyer  
Regional Director, Alaska Region  
National Marine Fisheries Service  
Post Office Box 21668  
Juneau, Alaska 99802

Re: Salmon Enumeration

Dear Steve:

The Salmon Research Foundation hereby requests that the salmon bycatch rate and numbers attributed to the Bering Sea/Aleutian Islands trawl fleet under the new "retention until counted" policy (59 Federal Register 18757) be compared with the rates attributed to the same fleet under the previous estimation methodologies. We further request that a report on your progress in connection with that comparison be available in time for distribution to the Council and to the Foundation prior to the September Council meeting. We recognize that this time constraint may mean that the report will not to cover the entire "B" season.

We would anticipate that the report would compare bycatch estimates at a number of levels of the estimation process. These would include:

1. Numbers of salmon retained and counted vs. numbers of salmon estimated through sampling and extrapolation in observed tows by tow;
2. Numbers of salmon retained and counted vs. numbers of salmon estimated through sampling and extrapolation from observed tows by observed vessel (including unobserved tows); and
3. Numbers of salmon retained and counted vs. numbers of salmon estimated through sampling and extrapolation from observed tows by fleet (including unobserved and 30% vessels).


We are hoping that at each of these levels, using the enumeration of retained salmon as a reference point, a range of variability could be generated comparing the numbers resulting

Mr. Steven Pennoyer  
September 6, 1994  
Page 2

from extrapolation. We are also hoping that the comparison will assist the public in determining the appropriateness (if any) of comparing previous bycatch rates and numbers of previous years with those of post-May 20, 1994.

Thank you for your assistance in this matter.

Sincerely,

  
david fraser JS

DF:vm

cc: Richard Lauber, Chair NPFMC ✓  
William Karp, AFSC Observer Program

RDSALREQ.TXT

MUNDT, MACGREGOR, HAPPEL, FALCONER, ZULAUF & HALL

ATTORNEYS AT LAW

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COLLEEN M. MARTIN  
J. SCOTT HARLAN  
ALISON K. CHINN

July 27, 1994

Dr. Clarence Pautzke  
Executive Director  
North Pacific Fishery  
Management Council  
605 West 4th Avenue  
Anchorage, Alaska 99510

Re: Salmon Research Foundation -  
Peer Review Committee

*Garnie*  
Dear Dr. Pautzke:

By this letter I am introducing to you the newly appointed members of the Peer Review Committee selected to assist the Foundation Board in its scientific advisory panel in developing and implementing its research plan (please see attached list). Individual members may be contacting your office with requests for information necessary to their work on behalf of the Foundation.

I am requesting that you send a copy of the Environmental Assessment for Amendment 21b (Salmon Bycatch Management) to the Fishery Management Plan for the Groundfish Fishery of the Bering Sea and Aleutian Islands directly to each of the newly appointed members of the Peer Review Committee, with the exception of Dr. Mundy who already has a copy.

The Peer Review committee members other than Dr. Mundy also need to be added to the mailing list for notices of Council meetings and activities concerning groundfish. A calendar of meeting dates would be particularly helpful.

Thank you for your assistance in this matter.

Very truly yours,

*Joe*  
Joseph M. Sullivan

Enclosure  
cc: Board of Directors  
Peer Review Committee

**SALMON RESEARCH FOUNDATION  
PEER REVIEW COMMITTEE  
July 20, 1994**

Mr. Brian Bigler  
Columbia Wards  
Box C-5030  
Seattle, Washington 98105

Mr. Lawrence S. Buklis  
Alaska Department of Fish and Game  
333 Raspberry Road  
Anchorage, Alaska 99518-1599

Dr. John French, Director  
Fishery Industrial Technology Center  
University of Alaska  
900 Trident Way  
Kodiak, Alaska 99615-7401

Dr. A. J. Gharrett  
P.O. Box 210082  
Auke Bay, Alaska 99821

Dr. Phillip R. Mundy, Chair  
Peer Review Committee  
Salmon Research Foundation  
1015 Sher Lane  
Lake Oswego, Oregon 97034-1744

Ms. Katherine W. Myers  
Fisheries Research Institute WH-10  
University of Washington  
Seattle, Washington 98195

Dr. William W. Smoker  
Juneau Center  
School of Fisheries and Ocean Sciences  
11120 Glacier Highway  
Juneau, Alaska 99801

Mr. William J. Wilson  
LGL Research Associate  
4175 Tudor Center Drive, Ste 101  
Anchorage, Alaska 99508

## Salmon Research Foundation

### Report to North Pacific Fishery Management Council September 28, 1994

This report supplements the written report submitted to the Council September 22, 1994. It summarizes the Foundation's financial activity for 1994, its proposed funding formula for 1995, and reiterates the organization's understanding concerning its role relative to other salmon bycatch management actions the Council may consider.

A. 1994 Financial Activity. An income and expense report and balance sheet for the Foundation are attached for your reference. As the financial reports show, the organization's 1994 assessment income was approximately \$123,000. Of this amount, roughly \$66,300 (54%) has been dedicated to bycatch avoidance services, about \$35,000 (28%) to administrative services and expenses, \$7400 (6%) to legal services, and \$4700 (4%) to board meeting expenses. The remainder, approximately \$9,000, is currently unallocated.

If the Foundation is to continue to implement its activity plan through the last quarter of 1994 and the first quarter of 1995, it will require an advance against its expected chinook income. The Foundation has asked that the American Factory Trawler Association, Pacific Seafood Processors Association and United Catcher Boats provide loans to the organization for that purpose.

B. 1995 Financial Strategy. As previously reported to the Council, the Foundation's 1994 income was significantly lower than originally projected. A major reason for the shortfall was the apparent discrepancy between the NMFS 1994 "A" season chinook bycatch estimates and the vessel bycatch records that were used as the basis for assessment payments. The Foundation believes that adoption of the "retention and counting" regulations in May of this year and the related publication of vessel-specific bycatch amounts are significant steps toward eliminating this discrepancy, and intends to use the vessel-specific bycatch reports as the basis for its 1995 assessment billings.

However, the Foundation notes that the apparent difference between the "other salmon" bycatch numbers contained in the most recent NMFS "Prohibited Species Bycatch Mortality," "'Other Salmon' Catch in the CVOA by Reliability Code" and vessel-specific bycatch reports remains significant, and the Reliability Code report suggests that the salmon bycatch associated with a fairly large amount of the pollock catch is not being counted in accordance with regulatory requirements. Foundation representatives have met with NMFS staff concerning this issue. We understand that in the process of debriefing



observers following the "B" season, NMFS will be addressing this problem, and that the salmon count reliability is expected to improve significantly over the course of the next several seasons. As the count reliability improves, the Foundation's ability to collect assessments should improve commensurately.

The Foundation board strongly encourages the Council and NMFS to make improvements to the accuracy and completeness of the salmon bycatch counts and reports a high priority, as that information is a critical element in determining the impact of trawl bycatch on western Alaska stocks, in addition to its importance to the Foundation for assessment collection purposes.

Notwithstanding its belief that salmon counts and vessel specific postings will ultimately reduce the discrepancy between estimated and actual assessment income, the Foundation board believes that chinook assessments alone will not provide the basic level of funding required to meet the organization's research, bycatch avoidance and operational needs, as the same are established under its bylaws and current research plan. Therefore, the board has adopted a 1995 assessment structure of \$20.00 per chinook and \$5.00 per chum taken as bycatch in the Bering Sea/Aleutian Island trawl fisheries.

Based on a rough average of bycatch during the last five years, the Foundation has assumed 35,000 chinooks and 75,000 chums would be taken as bycatch in the BS/AI trawl fisheries in 1995, and a 70% fleet participation rate. Under this scenario, the proposed assessment structure would generate approximately \$750,000 of Foundation income. This amount would cover the current estimated cost of the organization's projected 1995 activities as reflected in the research plan previously submitted to the Council (approximately \$600,000.00), and establish a \$150,000 reserve.

However, because the transition from extrapolated estimates to observer counting of all salmon is not likely to be completed for some time, the Foundation board believes it is reasonable to expect that it will receive some fraction of the projected income. While receiving less than the full projected amount could require that some projects be deferred or funded through alternative sources, the Foundation nonetheless believes that the recommended assessment structure would support the organization's core activities for 1995 (i.e., administration, further bycatch avoidance activities, and an inventory of stock identification research and publication).

In tandem with its request that the industry pay a chinook and chum assessment, the Foundation is committed to pursuing, to the extent possible under its administrative budget, alternative funding sources. Foundation directors have made preliminary contacts with private foundations, and will be

determining whether proposed research projects will qualify for Saltonstall-Kennedy grants and/or NMFS research permits. The Foundation board is committed to reducing the industry's assessment burden to the extent such alternative funding makes it possible to do so.

C. Salmon Bycatch Management. The Foundation understands that the Council may be considering certain time and area closures related to salmon bycatch at this meeting. The Foundation board respectfully reiterates its understanding that the salmon bycatch initiative (of which the Foundation is a component) was adopted to provide the Council with certain information concerning Bering Sea salmon bycatch determined to be essential to deciding the appropriate character and scope of permanent bycatch management measures. The Foundation requests that the Council adopt no permanent Bering Sea salmon bycatch management measures until the Council has such information before it.

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SALMON RESEARCH FOUNDATION

Income and Expense Report

September 28, 1994

**INCOME**

Assessment Payments . . . . .	\$123,140.00
Loans (AFTA, PSPA, UCB) . . . . .	<u>15,000.00</u>
Total Income . . . . .	\$138,140.00

**EXPENSES**

Bycatch Avoidance . . . . .	28,320.59
Board of Directors Meeting Expenses . . . . .	4,675.30
Advisory Committee Meeting Expenses . . . . .	0.00
Administrative Services . . . . .	17,172.90
Legal Services (February - April) . . . . .	7,359.60
Bookkeeping Services . . . . .	0.00
Interest . . . . .	0.00
Occupancy . . . . .	0.00
Depreciation and Depletion . . . . .	0.00
Loan Repayment Expense . . . . .	15,000.00
Miscellaneous Expenses (mail, phone, fax) . . . . .	<u>1,745.77</u>
Total Expenses . . . . .	\$ 74,274.16
Excess of Income Over Expenses . . . . .	\$ 63,865.84

SALMON RESEARCH FOUNDATION

Balance Sheet

September 28, 1994

ASSETS

Cash . . . . .	\$ 63,865.84
Accounts receivable . . . . .	0.00
Other assets (Sea State Equipment and Software) . . . . .	<u>(?)</u>
Total assets . . . . .	\$ 63,865.84

LIABILITIES

Accounts payable:

Bycatch Avoidance . . . . .	37,978.13
Administrative Services and Expenses . . . . .	16,144.20
Contributions, gifts, grants, etc., payable . . . . .	0.00
Loans payable . . . . .	<u>0.00</u>
Total liabilities . . . . .	54,122.33
Excess of assets over liabilities . . . . .	\$ 9,743.51



D-2

September 23, 1994

Mr. Richard B. Lauber  
Chairman, NPFMC  
P. O. Box 103136  
Anchorage, AK 99510

RE: September NPFMC meeting, Item D-2(b)

Dear Mr. Lauber:


At the September 1994 meeting, the North Pacific Council is scheduled to take final action on a planned amendment proposal to retain salmon prohibited species bycatch for delivery to food banks. I am writing to urge the Council to continue its support of the successful efforts to utilize these fish -- which we understand to be dead and of no potential value to the future of the fishery -- to benefit hungry Americans.

Second Harvest recognizes that any fisheries management decision can have lasting and profound effects both on the condition of the resource and on the economic stability of the seafood producers. It is important that the Council knows that we do not see ourselves and those we serve as a new user group in an already over-utilized fishery. We do not pretend to know what is best for the fishery. What we do know is that over 30 million people in this Nation depend on food banks to sustain themselves and, in many instances, to keep their children from going to bed hungry. We know that we can deliver these otherwise wasted fish directly to those most in need in our country.

Second Harvest is entering its 16th year as America's leading hunger-relief organization. During that time we have established a nationwide network of 185 food banks and developed distribution standards that fully satisfy the requirements to track and monitor commercially restricted products. We know the importance of preventing market entry for prohibited fish. Since January 1993 we have worked within our network to strengthen our tracking policies to comply with the terms of the Terra Marine Experimental Fishing Permit. We take full responsibility for the disposition of any products that are delivered to Second Harvest for distribution to our network members.

The Council, by supporting the current experimental program to retain prohibited salmon to feed hungry people, has chosen the right course. It is a successful program that provides a wise and important alternative to mandatory discard of food fish. I sincerely hope that the Council will support a plan amendment that continues to allow prohibited salmon bycatch to be retained for use by hunger-relief organizations.

Sincerely yours,

  
Christine Vladimiroff, OSB  
President and Chief Executive Officer