

MEMORANDUM

TO: Council, SSC and AP Members
FROM: Clarence G. Pautzke
Executive Director
DATE: January 6, 1994
SUBJECT: Salmon Bycatch

ESTIMATED TIME
3 HOURS

ACTION REQUIRED

- (a) Review Terra Marine activities.
- (b) Status report on Salmon Bycatch Initiative.
- (c) Report on chum salmon interceptions.

BACKGROUND

- (a) Review Terra Marine activities and permit.

Last January, the Council reviewed a request for an experimental fishing permit from Terra Marine Research and Education. The applicant requested a permit which would allow vessels to retain up to 30 mt of halibut and 30 mt of salmon caught as normally non-retainable bycatch in directed groundfish fisheries in the Bering Sea and Aleutian Islands. The catch would be processed on vessels, then delivered by Terra Marine to Second Harvest for distribution to food banks free of charge. Because processing these fish would be costly to participating vessels, it would provide an incentive to avoid areas of high bycatch. The Council supported the concept of utilizing bycatch and therefore recommended that NMFS issue a short-term experimental permit to Terra Marine Research and Education. The Council also requested the International Pacific Halibut Commission (IPHC) to change their regulations to allow trawl vessels operating in this experimental fishery to retain halibut. This request was denied by the IPHC, however, so Terra Marine received a permit from NMFS for salmon only.

The terms of Terra Marine's permit require them to submit an annual report to the Council on all information resulting from the experiment conducted under that permit. A copy of this report is included in the notebooks as Item D-2(a)(1). It is essentially the same report presented to the Council in December. A representative from Terra Marine Research and Education will be on hand to answer questions on last year's results and on future proposals. Their current permit runs through the end of the 1994 cod season or April 28, whichever comes first. They are in the process of submitting an application to NMFS to extend their experimental program. The Council will have an opportunity to comment on that application at the April meeting. Due to the timing of the IPHC meeting, Terra Marine may request the Council to comment on expanding this program to include halibut. Second Harvest, the food bank network utilized by Terra Marine, will also be responsible for distributing swordfish taken as bycatch in east coast fisheries (Item D-2(a)(2)).

(b) Status Report on Salmon Bycatch Initiative.

In December, the Council heard status reports on the development of its "Salmon Bycatch Control Policy," now commonly known as the "Salmon Bycatch Initiative." Chief among the provisions in the policy is the establishment of the Salmon Foundation and changes in federal groundfish regulations that will require retention of salmon taken in the BSAI trawl fisheries until all salmon have been counted by an observer, and also authorize the disclosure of vessel-specific observer data on prohibited species bycatch. The Council was informed that these changes in regulations will not occur until sometime after the pollock 'A' season. Regarding regulations requiring processing of the salmon PSC and food bank distribution, NMFS has informed the Council of its concerns on distribution of a PSC species, such as food quality standards and product liability, and will be working on solutions. Hopefully, regulations allowing distribution of the salmon taken in the BSAI trawl fisheries will be in place sometime in 1994.

Industry representatives presented a status of developments for the Salmon Foundation, including a review of projected income from the \$20.00 assessment on chinook salmon, status of its research plan for stock identification research, in-season feedback of salmon bycatch information, and lastly a proposal for analysis of historical bycatch data. The representatives also presented the Council with a list of 120 vessels that have agreed to participate in the Salmon Foundation program. These vessels comprise significant production of BSAI groundfish. The Council was informed that though the regulations are not in place which will provide for exact counting of salmon bycatch, participants in the Salmon Foundation program will begin assessing themselves the \$20 fee/chinook for fisheries that begin on January 20, 1994 (primarily pollock and cod).

Members of the Salmon Bycatch Initiative Working Group will be available to present to you a report summarizing their efforts to date.

(c) Report on Chum Salmon Interceptions

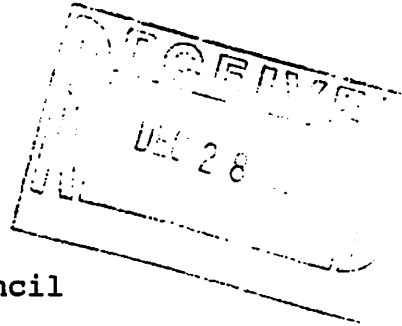
A report on Arctic-Yukon-Kuskokwim (AYK) chum salmon will be presented by ADF&G. The Rural Alaska Village Economies and Need (RAVEN) Commission was recently formed by Governor Walter Hickel in response of the failure of chum salmon to return in large numbers to Western and Interior Alaska in 1993. A copy of ADF&G report on AYK chum salmon to the Governor's RAVEN Commission, dated October 1993, is attached (Item D-2(a)(3)). In December, the RAVEN Commission passed a resolution requesting the Council to assist by minimizing the bycatch of chum salmon by trawl fisheries in the Gulf of Alaska and Bering Sea. A copy of this resolution is attached as Item D-2(a)(4). ADF&G is planning to develop a fishery management plan to maintain sustainable yield of western Alaska chum salmon stocks and provide subsistence fishing opportunities in 1994. Regulatory options to be considered by the State are detailed in an attached report (Item D-2(a)(5)).

TERRA MARINE RESEARCH & EDUCATION

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December 23, 1993



Dr. Clarence Pautzke
North Pacific Fishery Management Council
P.O.Box 103136
Anchorage, Alaska 99510

Dear Clarence,

The terms of Terra Marine's EFP require that we submit an annual report to the Council. The bulk of the enclosed report is identical to the interim report which I gave the Council at the December meeting. The additions I have made are with regard to the distribution information which was not yet available at the time of the December meeting.

Happy New Year and best wishes for 1994.

Sincerely,

Tuck Donnelly
TERRA MARINE RESEARCH AND EDUCATION

TERRA MARINE RESEARCH & EDUCATION

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Northwest Chapter

ANNUAL REPORT

BERING SEA AND ALEUTIAN ISLANDS GROUND FISH FISHERY EXPERIMENTAL FISHING PERMIT

FEASIBILITY OF RETAINING SALMON CAUGHT AS BYCATCH FOR THE PURPOSES OF DISTRIBUTION TO ECONOMICALLY DISADVANTAGED INDIVIDUALS PERMIT # 93-2

DECEMBER 31, 1993

TERRA MARINE RESEARCH & EDUCATION

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Northwest Chapter

Annual Report Bering Sea and Aleutian Islands Groundfish Fishery Experimental Fishing Permit

Feasibility of Retaining Salmon Caught as Bycatch For the Purposes of
Distribution to Economically Disadvantaged Individuals
Permit # 93 - 2

December 31, 1993

INTRODUCTION

Following approval by the North Pacific Fishery Management Council in January 1993, the National Marine Fishery Service (NMFS) issued an experimental fishing permit to Terra Marine Research and Education. The purpose of the experiment is to develop and test a plan which will enable prohibited species bycatch to be diverted into the nonprofit food distribution network of the United States in a manner which will effectively reduce such bycatch. The permit application proposed that we measure the costs and effort associated with retention and processing and that we develop and test distribution procedures which will assure compliance with regulations prohibiting commercial use of these products.

The terms of the permit require that we submit a written report to the Council by December 31, 1993 on all information resulting from the experiment conducted under this experimental fishing permit (EFP).

From the standpoint of food bank resources this pilot program has been an exciting and promising development. An estimated 100,000 meals are being provided this winter to the poor and homeless in western Washington as a result of this EFP. Shelters, meal programs, and foodbanks have responded with tremendous enthusiasm to this rare opportunity to provide such a high-protein, low salt, low fat alternative to the diets of people who so often survive on meager and inadequate fare. Second Harvest and their local affiliate, Food Lifeline are cognizant of the responsibility they bear to assure compliance with regulations prohibiting the sale or trade of these products. They have gone to great lengths to verify product disposition at every stage of handling, repackaging, and delivery. In consideration of the fact that, but for the efforts of the agencies and industry participants involved, this fish would be rotting on the ocean floor, Second Harvest and their network members have expressed their deepest gratitude.

CHRONOLOGY 1993

- 1-19 Permit application approved by the Council
- 8-6 EFP was issued (via FAX) by NMFS
- 8-15 Opening of "B" Season, start of fishing under EFP.
Starting participants included:
UniSea, Dutch Harbor onshore processor
Supreme Alaska Seafoods, mothership processor Excellence
Golden Age Fisheries, catcher/processor Browns Point
14 catcher vessels for UniSea
5 catcher vessels for mothership processor
- 9-10 Mothership processor discards all product as unfit to eat
- 9-15 Participation begins for Oceantrawl's 3 catcher/processors,
Northern Hawk, Northern Eagle, and Northern Jaeger.
- 9-17 Mothership processor removed from permit, ending participation
- 9-22 Offshore pollock "B" season ends.
- 9-30 Onshore pollock "B" season ends.
- 10-7 Onshore Aleutian Islands "B" season ends
- 10-23 Western Pioneer ships 3,277 pounds
- 10-29 SeaLand ships 45,474 pounds
- 11-3 Western Pioneer shipment arrives Seattle
- 11-4 SeaLand shipment arrives Seattle. Food Lifeline begins weighing
and repackaging for distribution.
- 12-1 Food Lifeline begins distribution of "B" season salmon.

"B" SEASON OVERVIEW

Much of the effort and expense of this operation cannot be reduced to hours or dollars per ton of PSC. The inconvenience factor, equipment limitations, and the general willingness of the processors to fulfill their obligations under the permit were a major component of effort and of expense. Due to the unexpectedly high levels of salmon bycatch the shoreside processor installed additional processing machinery at significant expense. The mothership processor when faced with the dilemma of unexpectedly high levels of salmon, and being constrained by equipment limitations, knowingly produced a product which was unfit for human consumption. They were overwhelmed by the task and felt they had no alternative but to attempt to move fishing operations away from areas known to have high concentrations of salmon. In a letter to NMFS enforcement they wrote, "Most of the product has now been remarked 'not for human consumption'. It [salmon processing] is needlessly inefficient and time consuming because of lack of planning. The crew is embarrassed by the product and does not see why they should keep doing it. The vessel has moved to get away from salmon, but in doing so has to fish on smaller pollock with lower recovery rates and poor catch rates. They see the lost time, low surimi production, and poor recovery rates as the waste of a valuable resource as well."

The start of the salmon operation was difficult for all of the participants because of the short notice between the date the permit was (somewhat unexpectedly) issued and the start of fishing. However it is fair to say that the NMFS staff and Regional Director were extremely

helpful and accomodating during that rough start. NMFS clearly bent over backwards to see that those early problems didn't stop the operation in its tracks as they might have.

The catcher/processors experienced far lower salmon bycatch rates and had proportionally fewer problems than the other processors. However, the experience of the Oceantrawl fleet underlines the problems encountered by the mothership and problems which should be anticipated in any similar operation; on a surimi processor the plate freezers appear to be the most significant bottleneck in the salmon operation. Lack of freezer space, different freezing times, and inappropriate unit configuration lead to processing conflicts and slowdowns. Inevitably it is the bycatch processing which suffers the most. The Browns Point - which processes salmon in other seasons - was more well equipped to handle them and didn't appear to experience the same degree of difficulty coordinating the freezing of the salmon and their pollock products. In addition, the Browns Point had low salmon bycatch rates. The salmon operation had little impact on their pollock processing.

No products have been received from the mothership processor. Due to the difficulties they experienced they were released by the Regional Director from the terms of the EFP and allowed to dump all of their salmon product at sea, none of which they considered fit to eat.

We believe that the limitations encountered by the participants in this experiment accurately reflect the limitations of other Bering Sea pollock producers. The difficulties they faced, the effects of mandatory retention and processing for charitable purposes on their regular operations can be extrapolated to predict the effects of a fleet-wide program in the start-up phase. The learning curve was steep in some cases and the lessons learned will be applied during the second phase of the experiment in January 1994.

QUALITY ASSURANCE

All of the processors worried about quality. If the manpower is not immediately available the salmon don't get processed quickly. Or if salmon bycatch rates are low, there is a tendency to wait until a whole case can be processed and frozen at once. In both instances the salmon loses its freshness and after time becomes inedible. Their concern for quality showed however in that each of the processors was judging their products against high grade commercial salmon product standards. The products that have been examined so far were in good condition, showing no signs of deterioration. The exception to this are products from fish that were delivered by catcher vessels to the processors having been severely damaged by either the trawl net or during RSW storage. They were saved, processed, packaged, and labeled "not fit for human consumption".

Quality assurance of salmon processed in a surimi facility presents some very real problems unless the processor is, or can, set up to do other products. Some surimi vessels - for example, the mothership processor participating in this EFP - hold their groundfish without the

use of refrigerated sea water (RSW). This is deliberate and produces a raw pollock material more suitable for their surimi product. However, salmon held in that same manner will deteriorate more rapidly and if there is any delay in further processing they will become inedible. There is no apparent way for the processor to first separate the fish when they are delivered over the stern. Variations of that type of problem, some more serious than others, make it difficult to define broad processing guidelines. Instead they must be established largely on a processor by processor basis, with minimum standards dictated by FDA minimums.

The shoreside processor identified handling of the fish aboard the vessels as a primary cause of deterioration. This processor proposes better coordination of ice and totes with the vessels that have the capacity to sort, and feel that greater care aboard the vessels would produce a higher grade product.

ENFORCEMENT EFFORT

During the permit application process Terra Marine consulted with both the NMFS Observer Program Task Leader and with NMFS enforcement division. It was generally agreed that the presence of the observers, knowledgeable with regards to the EFP, would provide sufficient oversight protection to the program. A coding system allowing enforcement officials to verify the disposition of retained salmon supplied the means to effectively monitor the program in the field or from the Juneau headquarters. The observers were to have recorded any effort in addition to their routine tasks on observer form 3US. At the conclusion of the 1993 "B" season the observers had recorded no additional effort.

All of the catch and processing records are in NMFS' possession. It is not known to us how much effort they have expended to cross reference the catch and delivery data pertaining to the PSC salmon (product code 97). The records are confidential and as such are not available to Terra Marine for inspection.

Because of the difficulties experienced by the mothership processor during the course of their participation, NMFS enforcement spent a considerable amount of time assessing their activities and ultimately overseeing the massive salmon discard operation which was undertaken. Though those enforcement activities fall outside the guidelines of the permit and do not reflect the routine enforcement effort required to assure compliance with the terms of the permit, they do shine some light on enforcement issues that must be defined prior to the implementation of a wider program. Specifically, the disposition of unfit product must be defined. The chain of custody and responsibility must be established so that neither NMFS enforcement or the NMFS Observer Program suffer the burden of product disposition.

-- Disposition of unfit product

Terra Marine has made the following proposal, addressed to the Regional Director, Alaska Region:

After consideration of the difficulties and expense involved in land based dumping of those fish [salmon processed aboard the mothership during "B" season], and having witnessed the results of your decision to allow the product from [that processor] to be either dumped at sea or rendered into fishmeal following inspection by NMFS Enforcement, I feel that we have limited but realistic options. Our proposal is that we develop and implement guidelines for enforced dumping at sea or fishmeal rendering. I believe that they are solutions which are consistent with the intent of our Experimental Fishing Permit. I think that without undermining the purposes of mandatory prohibited species bycatch retention this solution provides an enforceable means by which this inevitable problem can be addressed in the future. It will allow NMFS and the industry to expand this program in a way that the fleet can be reasonably expected to comply.

- Dumping at sea following processing and packaging and inspection by either NMFS or ADEC does not relieve the processor of the obligation to produce a food grade product. Dumping at sea under these conditions is enough of a hardship that it provides no incentive for the processor to seek that solution as an alternative to proper and timely processing. If anything, it is likely to encourage the processors to make a higher grade product.
- The burden for the disposition of inedible product remains with the processor so that there is no question of fiscal responsibility or accountability. It remains simple and verifiable.
- It is feasible; whereas shoreside discard would likely involve very expensive shipping and handling as well as complicated chain of custody issues, at-sea dumping or fishmeal rendering would not.
- A simple, workable solution to the unfit product question allows this program to be developed in the best interests of the industry, the public, and the National Marine Fisheries Service.

END OF PROPOSAL

In a permanent program of this type we would recommend that food inspections be undertaken by Alaska Department of Environmental Conservation (ADEC) at the request and expense of the processor, and that the processor be entitled to recover those costs from the fishing vessels where applicable. ADEC has assured NMFS that they are in position to perform that service if required. This would effectively put the responsibility for the disposition of unfit products on the

producer and relieve NMFS of that duty. Current laws regarding inspection and processing require that any processed fish meet certain standards. We feel that the processors can and will effectively monitor the quality of their products and that this will give them the ability to corroborate a decision to discard those which shouldn't be eaten. The good samaritan laws in all 50 states and Washington D.C. protect donors of tainted food products as long as the donated food is not known to be bad and as long as there is not gross negligence in the processing and handling of the products.

It has also been proposed to Terra Marine by one processor (currently a non-participant) that fish they receive in a severely damaged condition be frozen in totes, without further processing, in a way that would allow inspections and discard as described above.

The unfit product question is one which hangs over this program. We feel that the answer lies in realistic solutions that address the issue but don't at the same time become the major focus of effort and expense.

PRODUCTION EFFORT

How much time does it take to dress, weigh, freeze, pack and document a salmon pulled out of the pollock line? The catcher/processors reported that it took between 1.5 and 2 minutes per fish. The shoreside processor reported the effort in hours and pounds. Using an estimated average dressed weight of 3.95 pounds (based on individual dressed weights taken aboard Oceantrawl's processors and the mothership processor) we calculate that they spent approximately 5 minutes per fish. The reported time was 1.32 minutes per pound (48.69 hours per metric ton).

The difference in reported time between the shoreside and offshore processors is significant. The difference appears to be attributable partly to operations procedures and partly to reporting procedures. The report from the Browns Point describes their process, "Salmon were caught one or two at a time; therefore, we often had less than a full case to freeze at a time. Every 6-8 hours a processor would take whatever salmon had accumulated, H&G them by hand, then pack them in a freezer pan. After going through the freezer it would be boxed, labeled, and stowed. Time to handle per case is approx. 2 minutes per fish (handling, processing, freezing, labeling, everything). If we had more practice or training in hand cutting salmon that time would probably go down." The report from Oceantrawl reads, "With the existing "non-salmon lines" it takes about 1.5 minutes per salmon to get it from the bin, to heading and gutting, to packing, to the plate freezers. This however is using only a single individual or perhaps two. Obviously with any kind of real quantity we would have to dedicate at least 4 individuals to the task, which would cut down the time per salmon. However it would take those persons away from other processing."

The small and sporadic salmon production on all of the catcher/processors didn't allow for accurate production times to be recorded. Though the approximations are undoubtedly accurate they don't allow us to extrapolate with any confidence to a larger production scenario.

The production volume of bycatch salmon at the shoreside facility did allow for extended production times to be documented. They present a meaningful record of the effort required to process large amounts of salmon bycatch in the start-up phase of such a program. The report from the shoreside processor points out however that certain parts of the operation were done by hand which in the future might be mechanized to reduce production time.

The high production volume initially forced the plant to reduce their normal surimi operations staff and concentrate on salmon production. Ultimately they acquired salmon processing machinery, enabling them to restore normal surimi operations. However, they report, the additional machinery increased their cleanup time after production. They also found that due to poor fish condition, and varying sizes, the processing machinery did not work consistently well.

The shoreside freezing operation was very labor intensive. Quoting from their report, "The salmon were individually frozen on freezer carts (racks) in our main cold storage. With the fans and our temperatures between -20 F and -25 F in the cold storage we are able to create conditions very similar to a blast freezer. After freezing, the racks were removed from the freezer and the salmon glazed in fresh water and loaded into 50lb. boxes. In order to ensure accurate weights in each case we weighed the fish first then glazed and cased them up. The process was done completely by hand and without mechanical assistance."

Average production times recorded
by the shoreside processor and the catcher/processors

	Shorside	Catcher/Processor
Production time per fish	5 minutes	1.5 minutes
Production time per mt	48.67 hours	14 hours

Because the mothership processor did not produce a food grade product the measure of effort was not taken into consideration. However, this is not to say they didn't spend a considerable amount of time in salmon production. In their letter to NMFS enforcement they describe their frustration with the process, "The salmon must go through the fish bins and onto the surimi line where it is then sorted and sent to the processing area. There it is H&G'd and frozen on cardboard liners because it does not fit in the freezer pans. After freezing it must be hand carried down to the fishmeal plant for bagging, then back up to the factory, labeled, and hand carried to the hold." The permit provided the option of splitting the salmon to fit surimi boxes but "the crew did not think they could handle the large amount of fish

properly during the start-up of the surimi production ..." They chose to store the dressed (H&G) salmon in fishmeal bags.

These remarks are not intended to be critical of the mothership operation. They were simply caught off-guard by the unexpectedly high salmon bycatch rates. They were left with only one option: to move away from areas with high concentrations of salmon. Their experience points out that the difficulties and the ability to comply with retention and processing requirements are proportional to the amount of salmon bycatch. It points out also that the factory manager can possibly persuade the captain and fishing master to get away from salmon if the problems become great enough.

DIRECT PRODUCTION COSTS

Direct production costs for this report have been limited to the costs of labor and packaging materials. Consistent with its greater production time, the shoreside processor also reported greater direct costs. Total labor costs were reported at \$.18/lb (\$.72/fish @ average fish size 3.95lb). Packaging costs were reported at \$.027/lb (\$.11/fish). They showed the costs of additional processing machinery as direct production costs. For the sake of this report we have considered that to be an extraordinary capital expense. It was a significant expense, adding over \$.05/lb (\$.20/fish) to the cost of their participation during "B" season.

The catcher/processor for which we have a detailed report showed labor costs of \$.08/lb (\$.32/fish). Packaging and incidental costs totalled \$.044/lb (\$.17/fish).

Indirect production costs - fuel, electricity, administrative expenses etc. - have not been determined for the salmon production.

Average total direct production costs reported
by the shoreside processor and the catcher/processers

	Shoreside	Catcher/processers
Production costs per fish	\$.83	\$.49
Production costs per mt	\$458	\$271

The number of variables, both in the reporting procedures and in the method of production, preclude averages that can be used to define the real costs of bycatch salmon production in the future. They do however reflect the effort and expense of this program for those who participated in the first phase of Terra Marine project during the 1993 "B" pollock season.

SUPPORT AND DELIVERY COSTS

Shipping, interim cold storage, local transportation, and local administrative support was all donated to the "B" season project by various companies. Their contributions nevertheless depict inherent expenses incurred in the completion of the project. The value of the shipping was \$.08/lb (\$.30/fish). The value of the cold storage has been estimated. There are no large commercial cold storage facilities in Dutch Harbor. As a result, interim cold storage has been provided by the processors at an undetermined cost, or it has been provided at a rate which would equal \$10 per ton per day in freezer equipped shipping containers. Commercial cold storage in Seattle for mixed salmon species is \$.86/100wt per month (Ranier Cold Storage). Though meaningful price comparisons cannot be drawn between Seattle and Dutch Harbor, we think it is a useful reference point for the cost of processor self storage. Using those rates and assuming a proportional increase in volume over a period of eight weeks, 75% stored by processors and 25% in containers, we estimate the costs to be on average \$.05/lb (\$.20/fish). The impact of cold storage demands is proportional to the amount of storage available to the processor in his facility and to the amount of salmon that must be stored. No other general conclusion can be made. Alternate storage is more expensive requiring a small processor with high bycatch rates to be burdened more than a large processor (possibly with a disproportionately large freezer) which has similarly high rates.

The cost of local drayage, handling, and administrative support in Dutch Harbor was \$.03/lb (\$.12/fish).

Support and delivery costs

Costs per fish	\$.63
Cost per mt	\$353

Total direct production, support, and delivery costs

	Shoreside	Catcher/processors
Total costs per fish	\$1.46	\$1.12
Total costs per mt	\$814	\$625

All of the above costs are averages and have been calculated using a fish weight of 3.95 pounds (dressed weight), an aggregate amount of 48,539 pounds of fish delivered to Terra Marine during the 1993 pollock "B" season, and the expense reports provided by the processors, support personnel, and carriers.

DISTRIBUTION

Upon receipt of the product in Dutch Harbor Terra Marine assigns it a tracking code identifying the processor, species of salmon (where possible), and product type. We integrate the standard NMFS product and species codes with a processor identifier and an alphabetical sequencer to create a simple and informative code. It allows us to verify the status of particular deliveries at any stage. For example, the first delivery (A) of unspecified salmon (000), headed and gutted (7), received from the Northern Eagle (NE) would be coded "NE 000 7A". Dated receipts specify the time and place of origin for each delivery. At its final destination those same codes reflect the amount and the origin of each delivery allowing us to ascertain its final disposition. This is shown on the distribution "work ticket" (See attached sample). The work ticket is cross-referenced with a tracking report which summarizes all deliveries based on a local receipt number (log number). The work ticket shows the number of cases, the total weight, and a full description of the product. The tracking report identifies the distribution date, agency (customer #), and work ticket number. At the agency level, except for meal programs where meals are prepared for walk-ins, individual recipients are required to sign for each receipt of salmon. Some agencies were reluctant to require individuals to sign for each fish and those agencies will not receive salmon produced under the authority of this EFP.

The "Price" reflected on the Tracking report is a standard seven cent per pound maintenance fee charged by Second Harvest network members on certain deliveries to mitigate the expense of handling, repackaging, drayage, etc. It is not a charge for the product itself.

Confidentiality restrictions prohibit us from publicizing the original receipts and shipping reports because they identify the amounts of salmon by processor. These receipts are available to NMFS upon request.

A Memorandum from Food Lifeline summarizing of the distribution effort through December 21, 1993 is attached to this report as well as a sample Work Ticket and Tracking Report. Also attached is a list of recipient agencies.

Approximately four percent of the product was received at Food Lifeline marked "Not fit for human consumption". In order to eliminate any questions regarding the disposition of damaged product, and to better evaluate the proportional loss, we proposed that all unfit products be delivered and marked in this manner. Food Lifeline is reviewing means of disposing damaged product including rendering into fishmeal for delivery to community garden projects for use as fertilizer.

SALMONID BIOLOGICAL SAMPLING PROJECT

At the time of the permit application, NMFS Observer Program representatives felt that they would have the capacity to take scale

samples from each of the salmon retained as part of the Terra Marine project. Largely because of a reevaluation of their capacity, the final EFP was issued with very limited sampling requirements; observers were only required to take snout and scale samples from salmon with missing adipose fins. This is not substantially different from the routine observer requirements. Due to this change, the availability of materials for study was not increased. Fisheries Research Institute has postponed their participation until a proportionally greater amount of material becomes available through this or other salmon retention programs. The number of salmon sampled under this program is presently being evaluated. Any and all information regarding this sampling effort will be included in the final report.

CONCLUSION

In the final report we will provide an analysis of the remainder of the data which was proposed in the EFP permit application, and which is required by NMFS in the terms and conditions of the EFP. Specifically, cost effectiveness compared to commercially available product and the overall ratio of food-grade salmon received by the agencies to the amount of fish processed. This will include an accounting of all fish processed and shipped under this EFP and a detailed report of their final disposition.

At the time of this report a more comprehensive, fleet-wide, salmon bycatch retention program is under consideration by NMFS and the Council: The Salmon Bycatch Management Initiative. We have learned a lot from the experiences of the 1993 "B" season which can be applied to the development of those proposed regulatory changes. The issues of quality assurance and the disposition of unfit products must be addressed in a more definitive way than they are in the EFP. Expectations must be realistic with regards to processors' - particularly some floating processors' - ability to comply with proposed changes without making substantial modifications to their operation, or being willing to move away from areas of high concentrations of salmon, ceasing operations if that becomes impossible. The upcoming 1994 "A" pollock season will give us, both the processors and the support network, an opportunity to examine some solutions to the many small, and some large, problems which were encountered in 1993. We hope that the information gained through this effort will be used to craft a meaningful and realistic prohibited species bycatch management program.

As a potential resource for those struggling in the fight against hunger, these fish are a beacon of hope. Over 30 million people in the United States today depend on charitable contributions of food to survive. Throwing away this valuable protein, providing there are other options for effectively managing our fisheries, appears to be a practice which has outlived its possible usefulness.

MEMORANDUM

To: Tuck Donnelly
From: Susan O'Hara
Subject: Status Report on 1st salmon bycatch shipment
Date: 12/21/93

As you know, we received the shipment of salmon from the "B" pollack season of the bycatch pilot project on Friday, November 5. The following information is meant to update you regarding the status of the product we received in that shipment.

Poundage received: 49,923 pounds

Poundage reprocessed: 44,054 pounds of headed and gutted salmon were transported to SeaFreeze for reprocessing over a two week period. SeaFreeze cut this product into smaller and more manageable, roast-sized pieces that could be distributed according to household sizes. This allows us to stretch the donation further, with single pieces going to individuals and several pieces going to larger families. 5,868.76 pounds of the donation were left in the original form (whole, headed and gutted, and frozen) for distribution to meal programs where chefs are preparing meals for large numbers of people.

Approximately 1,938 pounds of the total shipment was marked "not fit for human consumption." This product was segregated from the rest, and we are investigating possible uses by community garden groups.

Poundage distributed to date: The decision to reprocess most of the donation into smaller pieces caused a delay in the distribution of the fish. We experienced another delay when we chose to temporarily halt distribution to clarify an apparent small discrepancy between the poundage we transported to the reprocessor and the poundage reported on the reprocessor's returning paper work (see Problems below).

Distribution is now in full swing. As of noon, December 21, we have distributed 18,145.40 pounds. Enclosed you will find computerized reports documenting quantities distributed by code, reflecting which product went to which agencies in what quantities. Also enclosed is a copy of the "warehouse issue" we use as a receipt for poundage received. Note the agency driver signs for receipt of product at the bottom of this form. Also note the quantity and code for the Terra Marine product received is documented on this form.

Problems:

- o The size of the fish donated made it advisable to reprocess most of the donation prior to distribution. While this involved a delay in distribution, additional handling and an expense of approximately \$7,000 (\$.15 per pound), we concluded this intermediary step was required to maximize the use of the donation.
- o In working with the reprocessor, we discovered the completion of their paperwork was based on the 50# average box weight marked on the case. In contrast, Food Lifeline had physically weighed all our loaded pallets before transporting them, recording an actual total weight -- including fish, pallets and cardboard cases. The reprocessor was able to reuse the original cartons to return the reprocessed fish, but since more fish could fit into the cartons after being reprocessed into smaller pieces, fewer cartons were required. These factors resulted in discrepancies between what our paperwork showed we sent in total weight and number of cases and what the reprocessor reported in weight and number of cases returned to us. These discrepancies caused us to halt distribution until we could resolve the differences. Ultimately, we did determine no real weight differences, although the number of cartons were fewer and heavier. We now know what to expect and will be prepared to handle more efficiently the salmon reprocessing during the next phase of this project.

We are certainly pleased with the quality of the salmon received through this pilot project. We're also pleased that the pilot project is allowing us to work out problems not previously anticipated. We are confident the distribution of second donation following the "A" season will benefit from what we have learned during this first experience. As the bycatch project grows, we will be able to share the procedures we have developed with other food banks so that they can avoid some of the minor problems we have experienced.

Food Lifeline

***** WORK TICKET *****

AGENCY # :00306

WORK TICKET DATE : 12/13/1993

WORK TICKET # : 01652

Highline Head Start
9700 8th Ave SW
Seattle WA 98106

ORDERED BY :
TAKEN BY :

P/U DATE 12/15/1993 Time : 9.15 DOOR 0 P/U SITE : Seattle

LCTN	SEQ	ITEM #	DESCRIPTION	ORD	TOTAL	LBS	WEIGH	SHARE
	001	03685	SALMON-WR0007A(1 BAG)	1	36.85	36.85	2.58	
	002	00157	YES-4/1 GAL-P00157	2	78.00	39.00	5.46	
	003	5878	Can Food	1	35.00	35.00	2.45	
	004	5879	Dry Food	1	15.00	15.00	1.05	
	005	6272	Personal - W G, Mis	1	25.00	25.00	1.75	
	006	5880	Cleaning Supplies	1	30.00	30.00	2.10	
	007	00104	WHEAT THINS-\$104	9	41.40	4.60	2.90	
	008	00028	PHPSI PROD-24/16 PLST	9	252.00	28.00	17.64	
	009	00315	CAKE MIX, YELLOW-6/5LB	2	63.00	31.50	4.41	
	010	00052	POTATONS,FRXN DICED	1	52.00	52.00	3.64	
	011	00025	BISQUIT MIX-BAG	2	50.00	25.00	3.50	
	012	47240	ROLLS,STEAK-6/6 CT	4	28.00	7.00	1.96	
	013	65027	DIAPERS,BOY PAMPERS	3	51.00	17.00	3.57	
	014	65028	DIAPERS,GIRL PAMPERS	3	51.00	17.00	3.57	

TOTALS	40	808.25	56.58
FREIGHT			0.00
TOTAL			56.58

ORDER FILLED BY

RECEIVED BY

Mona [Signature]

12/19/1993 04:20 pm
000 Page: 1

Tracking Report

				Date	Cases	Trans		
Log #	Item #	Tkt #	Cust #	Dist	Dist	Dnr #	Type	Price
00167	03685	01652	00306	12/15/1993	1.00	2124	T	0.070
00130	04107	01668	00204	12/16/1993	2.00	2124	T	0.070
00130	04107	01716	00212	12/21/1993	1.00	2124	T	0.070
00130	04107	01670	00218	12/16/1993	1.00	2124	T	0.070
00130	04107	01445	00320	11/12/1993	1.00	2124	T	0.070
00130	04107	01512	00464	11/05/1993	2.00	2124	T	0.070
00130	04507	01404	00101	12/01/1993	7.00	2124	T	0.070
00130	04507	01624	00103	12/14/1993	8.00	2124	T	0.070
00130	04507	01405	00104	12/01/1993	14.00	2124	T	0.070
00130	04507	01600	00106	12/13/1993	0.00	2124	T	0.070
00130	04507	01684	00106	12/20/1993	8.00	2124	T	0.070
00130	04507	01406	00107	12/01/1993	3.00	2124	T	0.070
00130	04507	01625	00108	12/14/1993	12.00	2124	T	0.070
00130	04507	01423	00110	12/02/1993	16.00	2124	T	0.070
00130	04507	01601	00111	12/13/1993	17.00	2124	T	0.070
00130	04507	01626	00113	12/14/1993	9.00	2124	T	0.070
00130	04507	01626	00113	12/14/1993	4.00	2124	T	0.070
00130	04507	01602	00114	12/13/1993	0.00	2124	T	0.070
00130	04507	01687	00114	12/20/1993	7.00	2124	T	0.070
00130	04507	01627	00115	12/14/1993	21.00	2124	T	0.070
00130	04507	01603	00118	12/13/1993	9.00	2124	T	0.070
00130	04507	01688	00118	12/20/1993	9.00	2124	T	0.070
00130	04507	01424	00119	12/02/1993	10.00	2124	T	0.070
00130	04507	01628	00123	12/14/1993	9.00	2124	T	0.070
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00130	04507	01426	00127	12/02/1993	6.00	2124	T	0.070
00130	04507	01605	00128	12/13/1993	0.00	2124	T	0.070
00130	04507	01690	00128	12/20/1993	7.00	2124	T	0.070
00130	04507	01606	00130	12/13/1993	5.00	2124	T	0.070
00130	04507	01408	00132	12/01/1993	12.00	2124	T	0.070
00130	04507	01608	00133	12/13/1993	0.00	2124	T	0.070
00130	04507	01693	00133	12/20/1993	3.00	2124	T	0.070
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00130	04507	01629	00137	12/14/1993	5.00	2124	T	0.070
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00130	04507	01630	00141	12/14/1993	11.00	2124	T	0.070
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00130	04507	01444	00143	11/05/1993	26.00	2124	T	0.070
00130	04507	01611	00144	12/13/1993	0.00	2124	T	0.070
00130	04507	01430	00145	12/02/1993	2.00	2124	T	0.070
00130	04507	01411	00146	12/01/1993	0.00	2124	T	0.070
00130	04507	01631	00147	12/14/1993	10.00	2124	T	0.070
00130	04507	01612	00151	12/10/1993	0.00	2124	T	0.070
00130	04507	01520	00152	12/03/1993	0.00	2124	T	0.070
00130	04507	01613	00152	12/13/1993	0.00	2124	T	0.070
00130	04507	01431	00153	12/02/1993	13.00	2124	T	0.070
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00130	04507	01633	00157	12/14/1993	5.00	2124	T	0.070

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Tracking Report

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Log #	Item #	Tkt #	Cust #	Date Dist	Cases Dist	Dnr #	Trans Type	Price
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00130	04507	01681	00162	12/17/1993	12.00	2124	T	0.070
00130	04507	01480	00206	11/23/1993	2.00	2124	T	0.070

CODED AGENCY LIST

<u>Agency #</u>	<u>Agency</u>	<u>Phone #</u>
101	Auburn	833-8937
103	Ballard	783-6713
104	Bellevue	747-4826
106	Bothell	485-6521
107	Burien	878-7433
108	CAMP	329-4111
109	Cascade	623-3779
110	Des Moines	878-3338
111	Downtown	626-6462
113	El Centro	323-1855
114	Enumclaw	825-6188
118	Fremont	633-6410
119	Georgetown	767-7888
121	ACRS	720-5350
123	Issaquah	392-4123
124	Junction	932-9023
125	Kent	859-3438
126	Kirkland	821-7150
127	Labor	448-9277
128	Maple Valley	432-5702
130	Mt. Si	888-0096
131	N. Seattle	542-5693
132	OEC	725-2100
133	Phinney Ridge	784-6196

134	Queen Anne	285-5960
135	Redmond	882-0241
136	St. Mary's	324-0050
137	SA Renton	235-6445
138	Seattle Emergency	461-3238
139	Seattle Indian Cntr.	329-8700
141	Carnation	333-4163
142	Southpark	767-3650
143	University	523-7060
144	Vashon Island	527-2020
145	Wallingford	632-9297
146	W. Seattle	938-5675
147	White Center	762-2848
149	Meadowbrook	
151	Capitol Hill	323-3107
152	Chicken Soup Brigade	328-0337
153	Beacon	722-5105
154	Jewish Family Srv.	461-3240
155	Blessed Sacrament	633-4706
157	Springwood	630-4513
159	Polynesian	723-9644
160	Pacific Algonia	931-8289
161	SA Pike Street	325-6528
162	NW Comm. Service	
201	Blessed Sac. MP	
202	Bread of Life	682-3579
204	DESC	443-1233

205	El Centro MP	
206	Fremont M.P.	
207	Immanuel Lutheran	
210	Lutheran Compass	461-7835
212	Penial	441-7700
213	Harbor Light	621-0145
214	Seattle Indian MP	329-8700
215	Union Gospel	723-0767
216	Sacred Heart SVDP	283-2104
217	ACRS MP	
218	St. Lukes	784-3119
304	Community House	322-2387
306	Highline	762-6070
309	Sacred Heart	285-7489
318	SA Adult Rehab	587-0503
322	New Beginnings	522-9472
324	PAEP	324-0236
330	Emerald House	324-2400
335	CCWS	443-1233
337	Aloha	283-6070
339	Senior Services	
340	Sojourner Place	545-4200
341	Eastside Domestic Violence Program	562-8840, ext. 305
421	Snohomish VOA	259-3191
422	Bellingham FB	676-0392
425	S. Whidbey	321-6454
426	Port Angeles	452-7679

427	Anacortes, SA	293-6682
428	N. Whidbey	675-3888
430	SA Bellingham	733-1410
461	Tacoma	383-1761
469	HELP Warehouse	425-3430

from, and comments on the proposed rule should be sent to, Richard H. Schaefer, Director, Office of Fisheries Conservation and Management, NMFS, 1335 East-West Highway, Silver Spring, MD 20910. Comments on the information collection requirements should be sent to Richard H. Schaefer and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503 (Attention: Desk Officer for NOAA).

FOR FURTHER INFORMATION CONTACT:
Richard B. Stone, 301-713-2347.

SUPPLEMENTARY INFORMATION: The Atlantic swordfish fishery is managed under the Fishery Management Plan (FMP) for Atlantic Swordfish (FMP) and its implementing regulations at 50 CFR part 630 under the authority of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*) (Magnuson Act) and the Atlantic Tunas Convention Act (ATCA) (16 U.S.C. 971 *et seq.*). Regulations issued under the authority of the ATCA carry out the recommendations of the International Commission for the Conservation of Atlantic Tunas (ICCAT).

Background

At the 1990 meeting of ICCAT, member nations recommended international measures to reduce fishing mortality of swordfish. In June 1991, NMFS implemented regulations, consistent with the ICCAT

recommendations, which included a minimum size limit of 41 pounds (18.6 kg) dressed weight or 31 inches (78.7 cm) carcass length, with a trip allowance for undersized swordfish in an amount not exceeding 15 percent of the total number of swordfish landed.

Although large swordfish are the preferred target of U.S. swordfish vessels, harvest of some undersized swordfish is unavoidable in most cases. Under current regulations, undersized swordfish in excess of the trip allowance must be discarded, despite the fact that many of these fish are dead prior to being brought aboard the vessel. This results in waste of the resource. If discards are not accurately reported, loss of information critical to proper stock assessment, in general, and to evaluation of the minimum size limit, in particular, also occurs.

NMFS, in cooperation with Blue Water Fishermen's Association, other members of the swordfish industry, National Fisheries Institute, and Second Harvest National Food Bank Network (Second Harvest), proposes a pilot program that would provide information regarding the harvest, discard, mortality,

50 CFR Part 630

[Docket No. 931078-3278; I.D. 100593C]

RIN 0648-AF42

Atlantic Swordfish Fishery

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule.

SUMMARY: NMFS issues this proposed rule to implement, on an experimental basis, a voluntary, pilot program that would allow retention of undersized swordfish in excess of the trip allowance for donation, through charitable organizations, to needy individuals. The intended effect is to investigate the potential for avoiding waste of swordfish that would otherwise be brought aboard already dead and subsequently would be discarded to obtain additional information regarding the harvest, mortality, and biological characteristics of swordfish less than the minimum size limit.

DATES: Written comments must be received on or before January 24, 1994.

ADDRESSES: Copies of documents supporting this action may be obtained

catch per unit of effort, and biological characteristics of undersized swordfish and would allow donation of undersized swordfish in excess of the trip allowance through Second Harvest to needy individuals. Under the pilot program, voluntary participants selected by NMFS would be allowed to land undersized swordfish that were dead prior to being brought aboard the vessel in excess of the trip allowance for undersized swordfish. These swordfish could be received only by specified dealers; could not be purchased, sold, bartered, or traded; and would be distributed by Second Harvest food banks, through charitable organizations, to needy individuals. Reporting and marking requirements would ensure integrity of the program and would obtain additional scientific information regarding catch and mortality of swordfish less than the minimum size limit.

Second Harvest is an organization, exempt from Federal income tax under section 501(c)(3) of the Internal Revenue Code, that solicits surplus products and distributes such products to organizations engaged in feeding the needy, the ill, or infants. Through a network of 185 food banks, more than 45,000 qualified recipient organizations that are exempt from Federal income tax under section 501(c)(3) serve food and meals to millions of needy Americans. Last year, the Second Harvest network distributed more than 500 million pounds of food. Donated products are transferred only to organizations that have exemption letters issued by the Internal Revenue Service that verify their tax exempt status.

NMFS and the majority of the swordfish industry recognize the importance of minimizing the catch and mortality of undersized swordfish and remain committed to that objective. However, under current conditions, some unavoidable harvest of undersized swordfish occurs. NMFS is interested in pursuing this pilot program in order to maximize the scientific and charitable benefits resulting from the unavoidable harvest of undersized swordfish, without undermining the objective of minimizing the mortality of undersized swordfish.

At the November 1992 ICCAT meeting, the U.S. delegation discussed the proposed pilot program. It was agreed that the program was consistent with current ICCAT recommendations for swordfish and that it would be useful for evaluating effectiveness of the minimum-size regulation. The United States will provide ICCAT with all data collected from the program.

Program Objectives

1. Improve scientific information regarding catch, mortality, discard rate, and biological characteristics of undersized swordfish. The program would provide an alternative source of data for estimating discards in excess of the trip allowance for undersized swordfish; discourage unreported discarding of dead undersized swordfish; and provide an opportunity to obtain additional information (e.g., age, size, sex) about undersized swordfish. This would be important in maintaining catch per unit of effort indices for small swordfish, which are critical to ICCAT stock assessments.
2. Avoid waste of a valuable resource. Dead fish that would have been discarded would be donated, through an organized, controlled program, to needy individuals.
3. Encourage the continued tagging and release of all live undersized swordfish, as well as small bluefin tuna, bigeye tuna, yellowfin tuna, and sharks.
4. Implement the program in a manner that will not jeopardize or undermine the broader management objective of minimizing the mortality of undersized swordfish.

Description of the Program

Non-profit

Although participants would incur costs associated with donated fish (harvesters—handling and processing; dealers—storage; Second Harvest—distribution), they would receive no direct economic benefit from landing and donating the undersized swordfish. Any purchase, sale, trade, or barter of fish landed under the donation program would be prohibited.

Selection Process

NMFS would select participants (dealers and vessels) from among volunteers. Factors that would be considered in the selection process include:

- (1) History of voluntary participation in NOAA/NMFS cooperative scientific programs, e.g., tag and release, sea sampling, collection of biological samples;
- (2) Whether both vessel and dealer volunteers can be matched in an area throughout the year (including track routes) to ensure distribution of donated fish;
- (3) Representative coverage of the fishery, to the extent possible; and
- (4) Compliance record of volunteers.

Scope of the Program

The pilot program would be divided into seven geographical regions: Gulf of

Mexico, Florida east coast, South Atlantic Bight, Mid-Atlantic Bight, northeast coastal, northeast distant waters, and Caribbean. Three to four vessels and cooperating dealers would be selected to participate in each region. Assuming the program is implemented early in 1994, initial efforts would be directed at establishing the program in the Gulf of Mexico region, because of seasonality of the fishery. After the logistics and any unforeseen problems were resolved, additional regions would be added at the rate of one every 2 to 3 months until the program is established in all seven regions.

Responsibilities of Participating Fishermen

A selection letter from NMFS, identifying the vessel as a participant in the program, would be required to be maintained aboard the vessel and made available for inspection.

Undersized swordfish that are dead when brought on board the vessel and are to be donated would be required to be properly prepared and stored. Live undersized swordfish would be required to be tagged, released, and reported to NMFS on logbook and tagging records.

Participants would be required to properly handle, record, and transfer to selected dealers all swordfish in excess of the trip allowance for undersized swordfish, i.e., such swordfish could not be retained for the crew, purchased, sold, bartered, traded, or given to anyone other than a selected dealer for transfer to an authorized recipient (Second Harvest).

Donated swordfish would be required to be landed and tagged for the donation program, using donation tags provided by NMFS, by fishermen at the facilities of dealers selected by NMFS to participate in the donation program. Existing regulations require that fish remain in whole or dressed form through off-loading. A list of selected dealers would be provided by NMFS.

The vessel owner or operator would be required to notify NMFS and the dealer 24 hours in advance, or as otherwise specified by NMFS, of landing information, including date, approximate time, location, and estimated number of fish to be donated. Specific instructions would be provided by NMFS to address logistics and to facilitate shorter notification in areas where the fishing grounds, such as the Florida Straits, are close to the landing locations.

The individual carcass weights of all donated fish would be required to be clearly indicated, using a NMFS-specified code, on the tally (weigh-out)

sheets that must be submitted to NMFS, as specified in the current regulations.

As is currently specified in the regulations, transfer of swordfish between vessels is prohibited.

Responsibilities of Participating Dealers

A selection letter from NMFS, identifying the dealer as a participant in the program, would be required to be maintained at the dealer's place of business and be made available for inspection.

Donated swordfish could be received only from vessels selected by NMFS. A list of selected vessels would be provided by NMFS to participating dealers.

Dealers would be responsible for weighing all undersized swordfish to be donated and recording the individual carcass weights, using a NMFS-specified code, on the dealer reports currently required. (Information regarding vessel and dealer identification, and date fish were received would be included on those reports.) Reports would be submitted to NMFS twice monthly, as currently required by the regulations.

Swordfish for donation would be required to be separated from swordfish eligible for sale, to the extent practicable, and maintained with the donation tag installed.

The dealer would be required to obtain a receipt from Second Harvest for all swordfish donated. A copy of the receipt would be required to be submitted to the vessel that landed the swordfish (along with normal dealer weigh-out/trip settlement sheets).

Responsibilities of Second Harvest

Donated swordfish would be precluded from purchase, sale, barter, or trade.

Donated swordfish would be required to be made available for use as soon as possible to ensure the greatest freshness and palatability.

Second Harvest food banks would assume responsibility for donated swordfish upon receipt from the dealer, including transportation, quality control of product, processing, and distribution to the needy.

Transportation would be provided by Second Harvest food banks to ensure timely collection and distribution of donated swordfish.

Upon pickup of swordfish, Second Harvest food banks would provide dealers with receipts that include the permit numbers of fishing vessels and dealers involved in donating the swordfish, date of pickup, and number and individual carcass weights of all swordfish received. Second Harvest food banks would provide copies of

receipts to Second Harvest headquarters, which will provide duplicate copies to NMFS.

Second Harvest's individual food banks would be responsible for distributing to local charities, which will process and prepare the swordfish for consumption by needy individuals.

Implementation

The pilot program would continue for 2 years, subject to review and evaluation. NMFS would monitor the program and prepare an annual report evaluating the results. Results from this study will be presented to ICCAT. If the program is achieving its purposes and there is concurrence from ICCAT, the program could be continued beyond 2 years; conversely, the program could be terminated earlier if the program is not achieving its purposes. In addition, the donation program would be terminated upon a finding that it is no longer in conformance with the recommendations of ICCAT.

Classification

This proposed rule is published under the authority of the ATCA. The Assistant Administrator for Fisheries, NOAA (AA), has preliminarily determined that this proposed rule is consistent with the recommendations of ICCAT and is necessary for management of the Atlantic swordfish fishery.

The economic effects of this action, as contained in the Regulatory Impact Review (RIR), are summarized as follows: Participating swordfish vessel owners (approximately 25) and swordfish dealers (approximately 10) would voluntarily incur moderate costs to participate in the donation program; unquantifiable benefits would accrue as a result of increased scientific information regarding the harvest, mortality, and biological characteristics of swordfish less than the minimum size limit; unquantifiable but significant social benefits would accrue as a result of providing food to the needy; and benefits in terms of personal satisfaction would accrue from participating in the donation program.

The General Counsel of the Department of Commerce has certified to the Small Business Administration that this proposed rule, if adopted, will not have a significant economic impact on a substantial number of small entities because few of the vessels and dealers in the swordfish fishery will be affected. Accordingly, a regulatory flexibility analysis was not prepared.

This proposed rule contains four new collection-of-information requirements subject to the Paperwork Reduction Act, specifically, application to participate in

the donation program, 24-hour notice of landing donated swordfish, making tagging of undersized fish mandatory for voluntary participants, and submission of receipts by Second Harvest headquarters to NMFS. The public reporting burdens for these collections of information are estimated to average 10, 3, 2 and 15 minutes, respectively, per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collections of information. Requests to collect this information have been submitted to the Office of Management and Budget (OMB) for approval. This proposed rule also involves two collections of information subject to the Paperwork Reduction Act that have previously been approved by OMB, specifically, fishing vessel reports (OMB Control Number 0648-0016) and dealer reports (OMB Control Number 0648-0013). The public reporting burdens for these collections of information are estimated to average 6 and 30 minutes, respectively, per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collections of information. Send comments regarding burden estimates or any other aspect of these collections of information, including suggestions for reducing the burdens, to NMFS and to OMB (see ADDRESSES).

List of Subjects in 50 CFR Part 630

Fisheries, Fishing, Reporting and recordkeeping requirements, Treaties.

Dated: December 16, 1993.

Rolland A. Schmitt,
Assistant Administrator for Fisheries,
National Marine Fisheries Service.

For the reasons set forth in the preamble, 50 CFR part 630 is proposed to be amended as follows:

PART 630—ATLANTIC SWORDFISH FISHERY

1. The authority citation for part 630 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.* and 16 U.S.C. 971 *et seq.*

2. In § 630.7, paragraph (q) is revised to read as follows:

§ 630.7 Prohibitions.

(q) Land a swordfish that is smaller than the minimum size specified in § 630.23(a), except for the trip allowance for undersized swordfish, as specified in

§ 630.23(b), and except as authorized in § 630.51.

3. A new subpart D is added to read as follows:

Subpart D—Donation Program

630.50 Purpose.
630.51 Participation.
630.52 Termination.

Subpart D—Donation Program

§ 630.50 Purpose.

This subpart implements a program under which swordfish from the North Atlantic swordfish stock that are in excess of the trip allowance for undersized swordfish specified in § 630.23(b) may be retained for donation through a charitable organization to the needy. This program is intended to avoid waste of swordfish that would otherwise be discarded dead and to obtain additional information regarding the harvest, mortality, and biological characteristics of swordfish less than the minimum size limit.

§ 630.51 Participation.

(a) *General.* Owners of vessels and dealers permitted under § 630.4 may volunteer to participate in the swordfish donation program by contacting the Chief, Highly Migratory Species Division, Office of Fisheries Conservation and Management, NMFS, 1335 East-West Highway, Silver Spring, MD 20910, phone (301) 713-2347, Fax (301) 588-4967. The Chief, Highly Migratory Species Division, will select owners of vessels and dealers who may participate in the donation program and will keep selected vessel owners advised of the selected dealers.

(1) Factors that will be considered in the selection process include:

- (i) History of voluntary participation in NOAA/NMFS cooperative scientific programs;
 - (ii) Whether both vessel and dealer volunteers can be matched in an area throughout the year (including truck routes) to ensure distribution of donated fish;
 - (iii) Representative coverage of the fishery, to the extent possible; and
 - (iv) Compliance record of volunteers.
- (2) Selected dealers will also be kept advised of the selected vessel owners and of authorized recipients of donated swordfish.

(b) *Vessels.* The owner of a vessel that has been selected and so notified in writing by the Chief, Highly Migratory Species Division, to participate in the donation program may retain swordfish from the North Atlantic swordfish stock that are in excess of the trip allowance for undersized swordfish specified in

§ 630.23(b) under the following terms and conditions. Landing a swordfish in excess of the trip allowance for undersized swordfish other than in accordance with these terms and conditions constitutes a violation of the prohibition specified in § 630.7(q).

(1) The selection letter from the Chief, Highly Migratory Species Division, must be carried on board the fishing vessel and the operator must present it for inspection upon the request of an authorized officer.

(2) A swordfish that is less than the minimum allowable size specified in § 630.23(a) and that is alive when brought aboard the vessel must be released in a manner that will ensure maximum probability of survival. If caught by hook, it must be released by cutting the line near the hook without removing the swordfish from the water. A reasonable effort must be made to tag each swordfish released under this paragraph (b)(2). Tags for released swordfish will be provided by the Science and Research Director. A record of each tag and release must be maintained and submitted to the Science and Research Director on forms provided with the tags.

(3) A swordfish that is dead when brought aboard the vessel must be retained.

(4) A swordfish that is retained under the donation program of this subpart must be tagged upon landing at the facility of a selected dealer using a donation tag provided by the Chief, Highly Migratory Species Division.

(5) A swordfish that is retained under the donation program of this subpart may be off-loaded only to a dealer who has been selected by the Chief, Highly Migratory Species Division, to participate in the donation program. An owner or operator must notify the Chief, Highly Migratory Species Division, by phone at 301-713-2347 or Fax at 301-713-1035 and a selected dealer at least 24 hours prior to off-loading swordfish under the donation program, unless stated otherwise in the vessel owner's selection letter.

(6) A swordfish that is retained under the donation program of this subpart may not be sold, traded, or bartered or attempted to be sold, traded, or bartered.

(c) *Dealers.* A dealer who has been selected and so notified in writing by the Chief, Highly Migratory Species Division, to participate in the donation program may receive and retain swordfish from the North Atlantic swordfish stock that are in excess of a vessel's trip allowance for undersized swordfish specified in § 630.23(b) under the following terms and conditions. Possession of a swordfish other than in

accordance with these terms and conditions constitutes a violation of the prohibition specified in 50 CFR 620.7(a).

(1) The selection letter from the Chief, Highly Migratory Species Division, must be available on the dealer's premises and the dealer must present it for inspection upon the request of an authorized officer.

(2) Such swordfish may be received only from a vessel that has been selected by the Chief, Highly Migratory Species Division, to participate in the donation program.

(3) To the extent practicable, a swordfish that is received under the donation program must be kept separate from other swordfish possessed by the dealer. The donation tag on such swordfish may not be removed.

(4) A swordfish that is subject to the donation program of this subpart may not be purchased, sold, traded, or bartered or attempted to be purchased, sold, traded, or bartered.

(5) A swordfish that is received under the donation program may be transferred only to Second Harvest. The receipt specified in paragraph (d)(3) of this section must be obtained from Second Harvest. A copy of the receipt must be furnished by the dealer to the harvesting vessel.

(6) Individual carcass weights of swordfish received under the donation program must be included in the twice monthly reports required by § 630.5(b).

(d) *Second Harvest.* Second Harvest may receive and distribute swordfish from the North Atlantic swordfish stock that are in excess of the trip allowance for undersized swordfish specified in § 630.23(b) under the following terms and conditions. Possession of a swordfish other than in accordance with these terms and conditions constitutes a violation of the prohibition specified in 50 CFR 620.7(a).

(1) Such swordfish may be received only from a dealer who has been selected by the Chief, Highly Migratory Species Division, to participate in the donation program.

(2) Only swordfish with donation tags attached may be received.

(3) Upon receiving swordfish under the donation program, Second Harvest must provide a receipt that shows individual carcass weights of swordfish received, the permit number(s) of the vessel(s) that harvested the swordfish, the permit number of the dealer, and the date of receipt. Such receipt must be distributed as follows: Original and a copy to the dealer, and one copy to the Chief, Highly Migratory Species Division.

(4) A swordfish that is subject to the donation program of this subpart may not be purchased, sold, traded, or bartered or attempted to be purchased, sold, traded, or bartered.

(e) *Duration of selection.* A selection letter remains valid for the period specified therein, provided the permit issued under § 630.4 to the participating vessel or dealer remains valid, except that it will be revoked by the Chief, Highly Migratory Species Division—

(1) Upon the request of the participating vessel owner or dealer; or
(2) Upon final assessment of a penalty against the participating vessel owner or dealer for a violation of this part.

(f) *Transfer.* A selection letter issued under this subpart is not transferable or assignable. Such letter is valid only for the vessel or dealer for which it was issued.

§ 630.52 Termination.

Upon a finding by the Assistant Administrator that the intended

purposes of the program are not being achieved, or that the program is no longer in conformance with the recommendations of the International Commission for the Conservation of Atlantic Tunas, the Assistant Administrator may terminate the program by publication of a final rule in the *Federal Register*.

[FR Doc. 93-31278 Filed 12-22-93; 8:45 am]
BILLING CODE 3510-22-P



Alaska Department of Fish and Game

Report to the Governor's RAVEN Commission, October 1993

Arctic-Yukon-Kuskokwim Chum Salmon Fisheries Issues

Alaska experienced a widespread failure of chum salmon returns during 1993. This failure was severe in the Arctic-Yukon-Kuskokwim (AYK) Region where a shortage of most chum salmon caused social, economic, and cultural disruption. Chum salmon are one of the most important species for subsistence, commercial, and personal use throughout the AYK Region.

The chum run to AYK was a disaster, and in a number of cases we didn't know it until portions of the harvest had occurred. This year's chum salmon return was from parent spawners whose eggs were exposed to two of the coldest winters in the AYK region in recent history. At the end of the season it was estimated that there were 2.5 million chums missing in the AYK return this year.

The Department of Fish and Game responded to this crisis in several ways:

Conservation Efforts

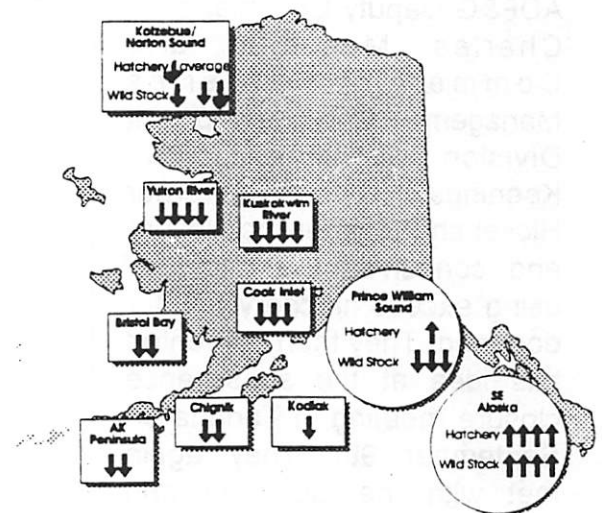
When the chum run failures became apparent, the chum management focus firmly shifted to conservation. Adjustments to fisheries occurred in a step-wise fashion with commercial fisheries closed first, followed by sport closures, and as a last resort, closure of subsistence fishing. This helped get the few fish that were in the river onto the spawning grounds to help assure a future for this resource and its continued use.

Public Communication and Assistance

Local and regional fisheries groups and other organizations were consulted in the course of understanding and responding to the chum failure. The department, with assistance from the Governor's office, obtained and facilitated emergency transports of surplus fish from other areas of Alaska to the Yukon for subsistence use.

Expanded Research and Management

The department initiated additional research activities and identified new projects to better assess and manage in the future. Our focus is on cooperative management, better inseason run assessment, more accurate escapement numbers, and rebuilding and restoration efforts.



Chum Salmon Run Strength--1993

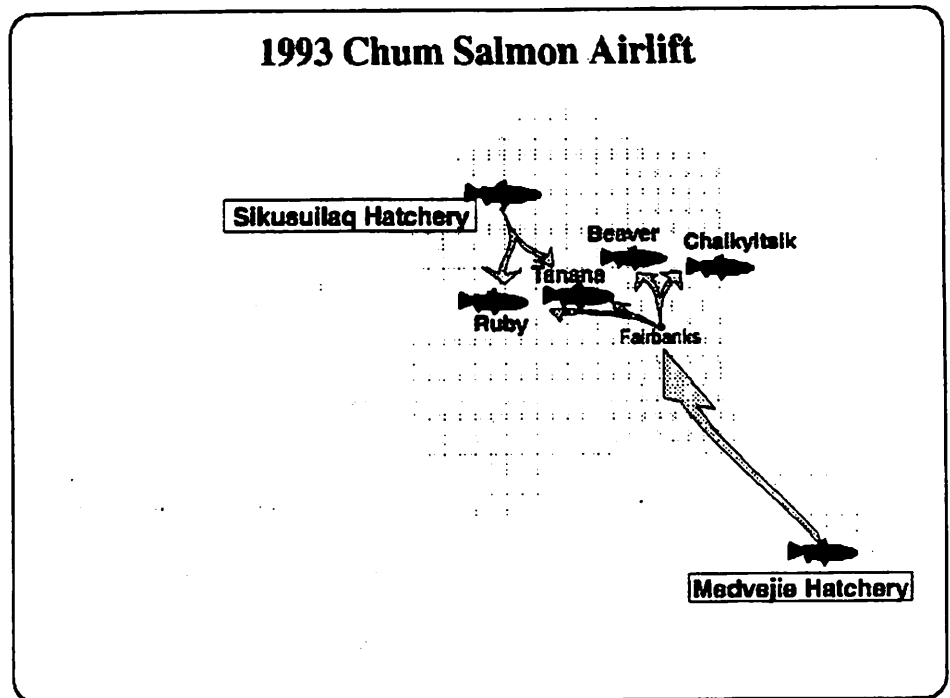
Alaskans helping Alaskans: the Fishlift

When the subsistence chum salmon harvest was closed due to a catastrophic decline in returns, the traditional food source for working dog teams was no longer available. Late run Yukon River chum salmon are traditionally caught, dried, and used throughout the winter for dog food. For three weeks in September, Alaska Department of Fish and Game (ADF&G) staff throughout Alaska helped coordinate volunteers and arranged to move excess hatchery salmon to villages along the Yukon River for use as dog food.

ADF&G Deputy Commissioner Charles Meacham and Commercial Fisheries Management and Development Division Director Jeffery Koenings met with Governor Hickel shortly after the closure and conceived the idea of using excess hatchery fish for dog food. They then presented this idea at the subsistence closure meeting in Tanana on September 9th. They again met with the Governor and worked with his staff to implement the project. Two hatcheries were found to have excess fish available for the villages. The Governor's Office allocated money from the

Governor's Contingency Fund that could be used to help freight the fish and then contacted Yukon village leaders to see if they had any interest in the donated salmon. Four villages, Ruby, Beaver, Tanana, and Chalkyitsik, responded by the original deadline and requested a total of 68,000 pounds of fish.

Thus began a real Alaskans helping Alaskans effort. People throughout the state mobilized to help the Yukon villagers. State and private nonprofit hatchery crews caught the fish, high school students helped move the fish; seafood processors helped ice and pack the fish, and freighting and cargo companies transported the fish. By September 24, more than 68,000 pounds of fish were flown out to the four villages.



Ongoing Initiatives

The department has committed to increased communications between fish managers and users prior to implementation of management decisions

The department has extended in-season management and monitoring activities such as test fisheries near Kotzebue, and on the Yukon, and increased sonar project operations on the Kuskokwim and Yukon Rivers.

A new fishery was created by emergency order regulation at the Sikusuilaq Hatchery near Kotzebue to give fishermen some fishing time and some additional income.

The department signed cooperative agreements with the Norton Sound Economic Development Corporation and the Yukon River Drainage Fisheries Association this year to begin comprehensive salmon rebuilding and restoration planning efforts in those areas. This is a public participation process to identify how local people would like to rebuild, restore and enhance the salmon resource.

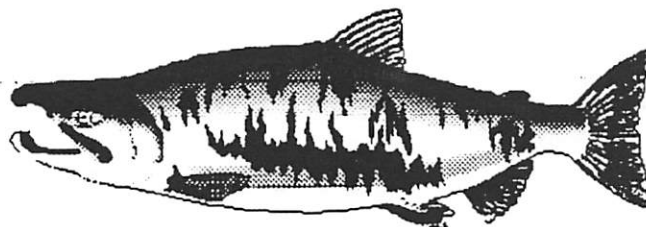
ADF&G continues a chum salmon enhancement program at the Sikusuilaq Hatchery near Kotzebue; returns to this facility were strong this year.

Active chum salmon rebuilding and restoration programs are underway through a project on the Toklat River near Fairbanks and stream side incubation boxes near Nome.

The department has requested funds for the Kuskokwim, Norton Sound, Kotzebue Sound and the Yukon to be able to improve management of the resource in the future.

ADF&G has been promoting the idea of a world salmon summit to explore ocean carrying capacity, market and other issues.

Ongoing GSI research programs in Area M and the offshore fisheries will better assess where AYK fish are and who is harvesting how many of them. Issues become particularly critical when there is not a harvestable surplus in the return and resource conservation concerns drive the decision process as they did this year.

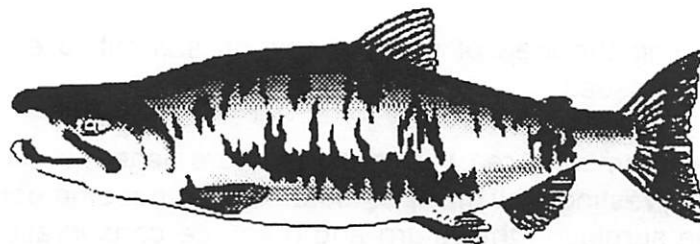


Future Initiatives

It has long been recognized that the salmon fisheries management program in AYK lacks sufficient projects to adequately estimate salmon spawning escapement, even for key indicator stocks. This type of information is critical for responding to poor runs, such as occurred in 1993, with appropriate and timely management action, to manage future runs to rebuild chum stocks, and to better harvest healthy runs when and where those are known to occur.

The department is working with the Governor on a funding initiative to address these problems. Projects could include development of adult salmon escapement enumerating systems for the Kanektok and Toklat Rivers; an adult salmon escapement sonar for the Tanana River, and extensions of the Kuskokwim, Aniak, and Yukon Rivers sonar projects, the Goodnews River weir, and the Niukluk, Kwiniuk, and Nome Rivers towers to enumerate coho salmon escapements. The Yukon River sonar would be extended from its current 12 hours per day to a 24 hour operation. Valuable information on the magnitude of the subsistence salmon harvest the Kotzebue and Norton Sound Areas would be gathered. Projects to assess inseason run timing and strength could be initiated on the lower Kuskokwim River and the Kobuk River. A project to monitor the upper Yukon fisheries may also be started, as well as continuation of the rebuilding of the Toklat River chum salmon stocks and Norton Sound salmon stocks. There is also a recognized need to support the public participation process for the development and implementation of fishery management systems for the Kuskokwim and Yukon Rivers.

The total cost of such a program would be about \$1.25 million. The funding initiative will include equipment for the projects, as well as a support funding for the public participation projects and Norton Sound salmon restoration.

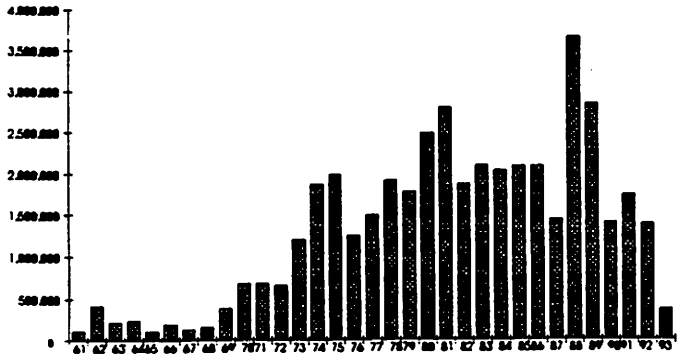


Chum Salmon Conservation and Management

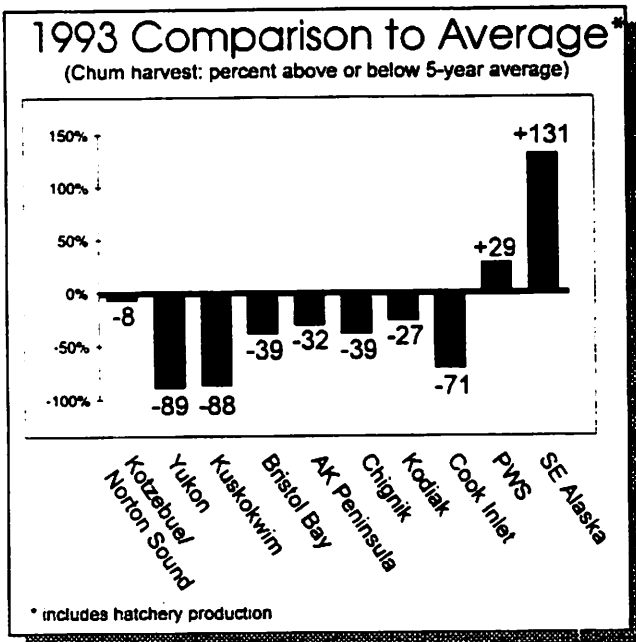
Arctic-Yukon-Kuskokwim 1993 Chum Salmon Fishery Report

As a result of the weak 1993 chum salmon returns, the commercial catch was eliminated or greatly reduced in all parts of AYK. Where there was a harvestable surplus, subsistence was given priority. In the cases where there was not a harvestable surplus, the focus changed to getting the few remaining fish on the spawning grounds to help assure a future for this renewable resource. There were subsistence closures on the Kuskokwim, in Norton Sound and on the Yukon; chum salmon returns in some instances were so poor that escapement goals were not being met even with these closures.

For 1993, the commercial catch in the AYK region totalled 361,000 chum salmon. That is the lowest since 1968, which was prior to the development of the commercial chum salmon fisheries, and only 10% of the peak catch of chum salmon in 1988.



AYK Commercial Chum Catch 1961-1993



The number and duration of commercial fishing periods were greatly reduced for most areas in 1993. Subsistence needs were not met in many areas.

Biologists believe there were 2.5 million chums missing from the AYK return this year. Spawning escapement goals were not achieved in many areas, even with the closures in the fisheries. The low spawning escapements in many areas of the region this year do not bode well for the future.

We can see that the chum salmon failure was not just limited to the AYK region but also affected Bristol Bay, the Alaska Peninsula, Chignik, Kodiak, and Cook Inlet. This fact points to some ocean environment conditions as a major contributor to the problem.

Chum Salmon Conservation and Management

Yukon River Fall Season Subsistence Fishing Summary: October 1993

In response to concerns over the fall chum run the commercial fishery was never allowed to open during 1993. State officials issued an emergency regulation on August 17 that adjusted subsistence gear restrictions to allow continued subsistence fishing for non-salmon species such as white fish, pike and sheefish by restricting gill net mesh size to 5 inch or less. Subsistence fishermen could retain fall chum salmon harvested incidentally to other species during these openings.

State managers had hoped that the Yukon River coho salmon run would be strong enough to allow subsistence fishermen to target the later running coho stocks which continue to enter the river well after the fall chum run is over. However, the peak of the coho salmon run also appeared to be very weak during the 1993 season. Estimated numbers of coho entering the river through the end of August were less than 40,000, which is only about one third the number state fisheries managers had hoped to see. Biologists are concerned that possibly the oceanic and other environmental conditions that resulted in poor chum salmon survival negatively effected coho salmon as well.

State fishery managers reopened subsistence coho salmon fishing opportunities on a limited schedule. The limited schedule was warranted for only those areas which had a harvestable surplus of local coho salmon stocks.

Openings occurred after the majority of fall chum salmon had migrated past fishing areas. Districts Y-1, 2 3, and 4-a in the lower Yukon were opened on September 17 followed by Y-4b and c on September 19. Two twenty-four hour per week fishing periods were allowed through the end of September. The five inch mesh or less restriction for gill nets was relaxed during these openings which allowed fishermen to target sheefish and large pike normally harvested with larger mesh gill nets. Unrestricted subsistence fishing was opened after October 1 in these Districts.

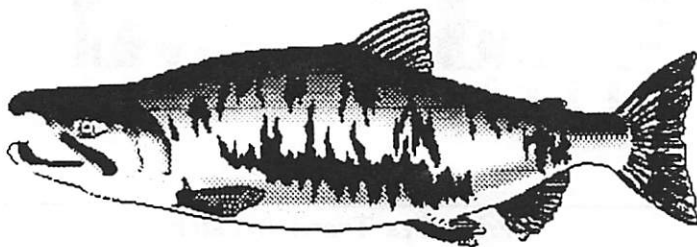
Normal subsistence fishing was reopened in the upper mainstem Yukon Districts Y-5b,c and d on September 27 after the majority of fall chum salmon had migrated through this area. Coho salmon are not abundant in this section of the Yukon River. During the subsistence closure, fishermen had been allowed to fish for non-salmon species like whitefish, sheefish, pike, and other non-salmon species using gillnets with 5 inch or less stretch mesh seven days a week prior to the 27th.

A 24 hour subsistence test opening was scheduled on September 22 for Subdistricts Y-5a, Y-6a and b to assess local coho salmon run strength in the Tanana River. Results from the test demonstrated that fall chum salmon were still more abundant than coho and that both fall chum and coho salmon runs were weak. The Department will continue to monitor coho and chum salmon escapements into the Tanana River through the end of November.

The Canadian Yukon River Fall Chum Salmon Fishery in 1993

Yukon River salmon treaty negotiations have been underway between the United States and Canada since 1985. Although several major issues have yet to be resolved and a final overall agreement has not yet been reached, tentative agreement has been reached on a fall chum salmon rebuilding plan for the mainstem Yukon River in Canada. For 1993, the plan was for the U.S. to try to deliver between 74,600 and 112,600 fall chums to the Canadian border, and Canada was to restrict its total harvest to 23,600 to 32,600 fall chum salmon.

Fishery managers in Alaska and Canada exchange information on a regular basis during the season. As the weakness in the overall Yukon River fall chum salmon run became evident in the Alaska portion of the drainage, communication was expanded to full staff teleconferences to share run assessment information.



Canada reduced its commercial fishery for fall chum salmon from the typical 3 to 4 days per week level to only 1 day per week for conservation purposes, based on the ADF&G overall Yukon River run assessment. The Canadian commercial fishery provides fish for subsistence purposes for those who do not qualify to participate in the Indian food fishery.

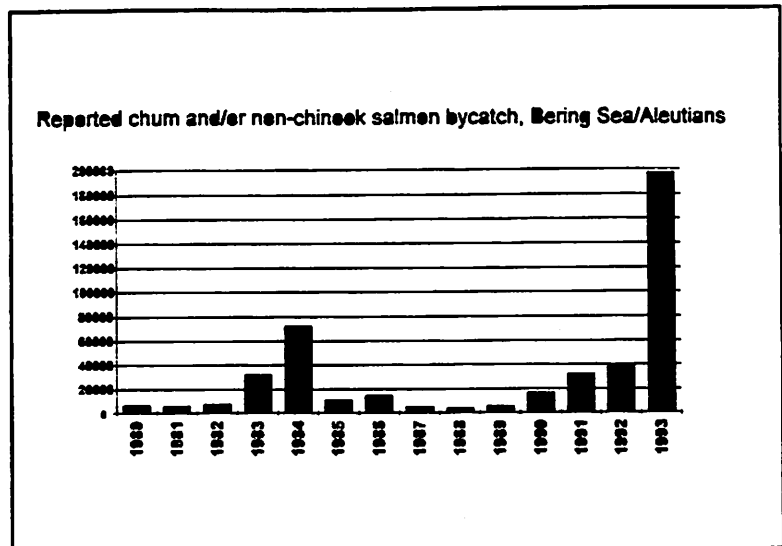
As the season progressed Canada was urged on multiple fronts to close its commercial fishery for conservation purposes. This message was communicated between fishermen's associations, the management agencies, government leaders, and through international diplomatic channels. In mid-September Canada obtained its first preliminary inseason estimate of population size, which indicated that the run into Canada was about half the expected level, consistent with ADF&G assessments of the overall Yukon River run in Alaska. On September 23rd ADF&G and State Department officials met with Canadians in Ottawa requesting closure of the Canadian fishery. On September 24 Canada announced that it was closing its Yukon River commercial fall chum salmon fishery effective immediately. Total commercial catch for the season stands at 7,800 fall chums. The domestic fishery was also closed, although catch in that fishery is expected to be very small. The Indian food fishery harvest has typically been on the order of 2,000 to 3,000 fall chum salmon per year in the mainstem Yukon River drainage in Canada, but Canadian officials expect that it will likely be less than half of that level for 1993.

Chum Salmon Conservation and Management

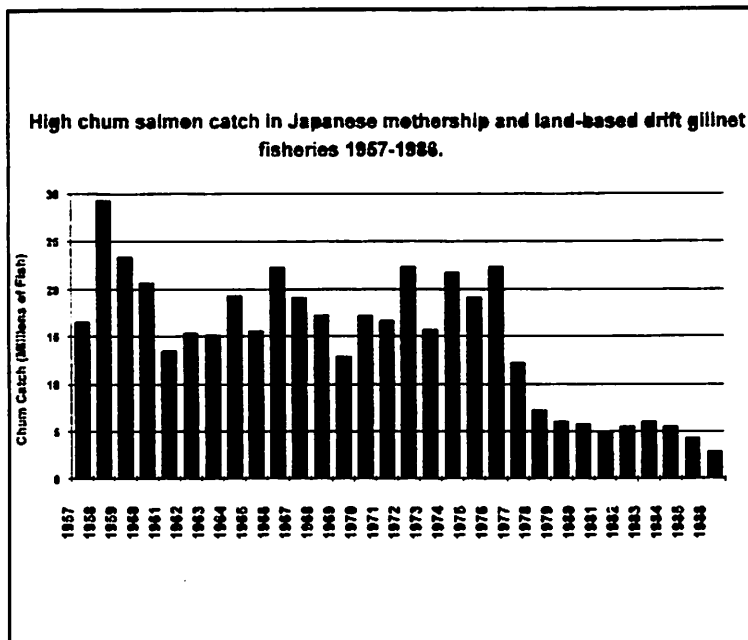
AYK Chum Salmon in the Gulf of Alaska and Bering Sea

The Bering Sea and Gulf of Alaska provide a huge mixing zone for salmon from both Asia and North America. In recent years the North Pacific has supported annual production of more than 60 million chum salmon destined for rivers across the North Pacific rim.

Chum salmon are harvested incidentally in the trawl fisheries in the Gulf of Alaska and the Bering Sea. While most of these fisheries are under the jurisdiction of the federal government, ADF&G has closely monitored issues such as the chum by-catch. The by-catch of immature chum salmon in this fishery increased this year and the department has responded by working through the North Pacific Fisheries Management Council for a reduced take in the future. During the September meeting, the Council agreed to a series of steps to reduce overall salmon by-catch.



Bering Sea Trawl Bycatch



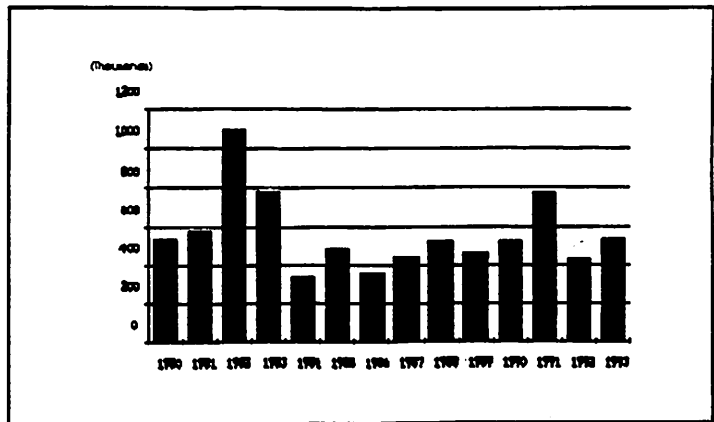
Japanese High Seas Salmon Catch

The Japanese conducted both a high-seas mothership and a high-seas land based fishery for many years. This fishery ended following negotiations in which ADF&G played a major role. The graph illustrates a high harvest of nearly 30 million salmon in 1958.

We know that AYK chum salmon are also harvested incidentally in coastal salmon fisheries that are managed by the State of Alaska, such as the "False Pass" fishery. While that fishery targets sockeye salmon, significant numbers of chum salmon are also taken. In 1993, the fishery was limited to portions of the 12 day period between June 13 and 29. There are no estimates for the harvest of AYK chum salmon in this fishery in 1993. Based on what we've learned from

prior tagging studies, we would expect that Kuskokwim and Norton Sound chum salmon are more susceptible to this fishery than other AYK stocks. We would expect that the harvest rate of specific stocks of AYK chums in this fishery probably varied from a maximum of 12% of the total run for most susceptible stocks to a minimum of less than 1% for the least susceptible stocks.

Genetic Stock Identification (GSI) work is ongoing in Western Alaska. These assessments will improve our understanding of the biology of AYK stocks.



"False Pass" Chum Bycatch: S. Unimak and Shumigans

Bering Sea Salmon Genetic Stock Identification

Genetic stock identification (GSI) uses the technique of protein electrophoresis to detect genetic differences among stocks of Pacific salmon. These differences are inherited and passed from generation to generation and are a direct reflection of differences at the gene or DNA level. The objective of the ADF&G project is to characterize major stocks of Alaskan chum salmon using a number of different genetic markers. These genetic differences can then be used to identify major racial groups of chum salmon, study migration routes, and to estimate the relative contribution of spawning stocks to mixed stock fisheries.

Genetic studies of chum salmon populations have been conducted in the Pacific Rim since the late 1970's. In Alaska, genetic data for chum salmon have been collected by ADF&G, US Fish and Wildlife Service, and National Marine Fisheries Service (NMFS). These data are currently being used to identify the North American component of chum salmon captured in high-seas fisheries.

ADF&G began sampling baseline spawning populations in 1991. Collections have been made on the Alaska Peninsula and from Northwest Alaska in Bristol Bay, Kuskokwim Bay, Yukon River, Norton Sound, and Kotzebue Sound. Also, Kodiak Island and southcentral Alaskan populations were sampled. Tissue samples from spawning adults were shipped frozen to a laboratory in Anchorage for analysis. Laboratory analysis of these samples is currently being conducted and will continue through 1994.

As part of a feasibility and pilot study, ADF&G collected fishery samples from chum salmon delivered to Peter Pan Seafoods in King Cove during June 1993. Analysis of these samples should provide information on the timing and relative contribution of Pacific Rim chum salmon stocks to the Area M Fishery. Current plans call for continued sampling of the "False Pass" fishery in 1994 and 1995.

Chum Salmon Conservation and Management

Overview of Commercial and Subsistence Fisheries in the Yukon and Kuskokwim Drainages

Along the Yukon and Kuskokwim rivers and their tributaries, commercial and subsistence salmon fishing has been and continues to be central to the economies of rural families and communities, making an important contribution to the lives of people throughout the area.

YUKON DRAINAGE

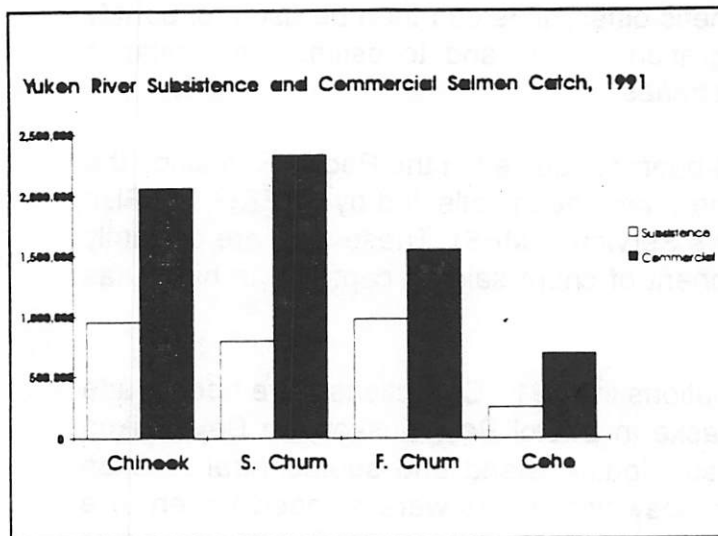
Demographics: 37 communities
9,248 people
2,610 households

Income: \$18,245 (median household)
\$12,700 (lower river, per permit)
\$6,130 (upper river, per permit)

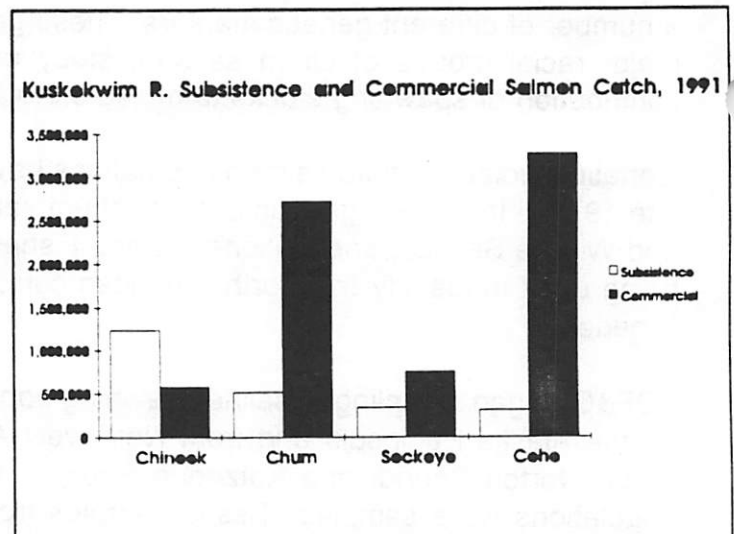
KUSKOKWIM DRAINAGE

Demographics: 29 communities
11,862 people
2,749 households

Income: \$19,000 (median household)
\$4,831 (per permit)



Yukon R. Salmon Harvest in Pounds, 1991



Kuskokwim R. Salmon Harvest in Pounds, 1991

The rural population of the drainages consists of about 20,000 people in nearly 5,500 households. Roughly half of all households participate in subsistence salmon fishing and virtually all households share in the proceeds of their catches. The subsistence salmon catch of the Yukon and Kuskokwim drainages is the largest of its type in the world. Commercial fishing earnings account for 25% to 50% of many household incomes.

The Role of ADF&G in Rural Economies

Fish and wildlife are extremely important to the local economies and cultures of rural Alaska. Statewide in 1990, there were about 80,169 people living in rural areas where both subsistence and cash were important elements of the economy (about 264 small communities). There also were 37,716 people living in mid-sized communities, whose economies also are dependent upon fishing and hunting.

Economic Importance of Fishing and Hunting

Fishing and hunting provide major sources of food for families, about 35-45 million lbs per year in rural areas. In some areas, fishing and hunting provides food for working dog teams. Commercial fishing and trapping provide important monetary income in many rural areas, where income sources are typically small and insecure. In some rural areas, recreational industries provide income as well.

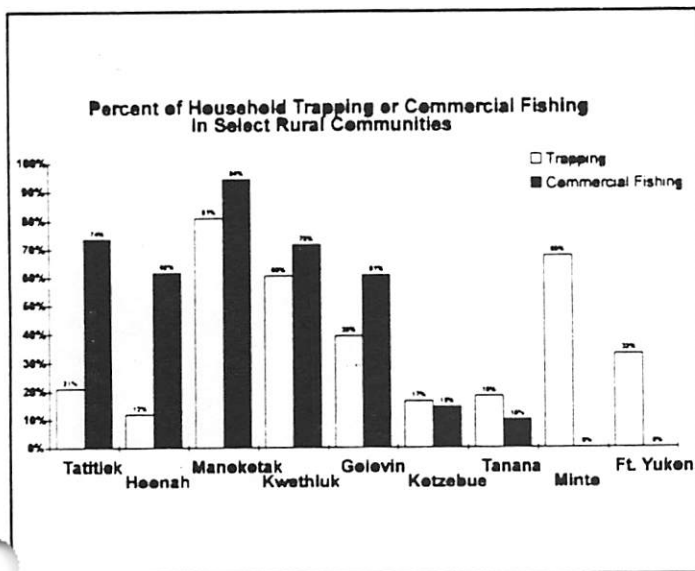
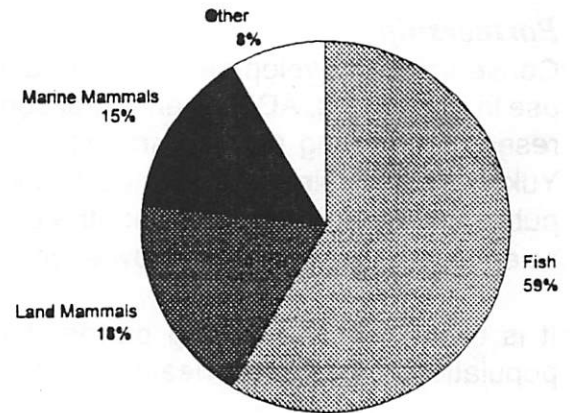
Cultural Importance of Fishing and Hunting

Fishing and hunting are part of traditional cultures for most rural areas, giving meaning and purpose to the lives of rural people.

Role of ADF&G

The Alaska Department of Fish and Game plays an essential role in Alaska's rural economy through conservation, development, and enhancement activities.

Composition of the Subsistence Harvest in Rural Alaska



Conservation

ADF&G plays a role in maintaining healthy, sustainable populations of fish and game in rural areas. The economies and cultures of rural areas require sustainable harvests from wild resources.

The total demand from commercial, recreational, and subsistence users is greater than the supply of animals for particular fisheries and game populations. This is especially true for salmon, herring, halibut, moose, caribou, deer, sheep, goats, brown bear, and furbearers. ADF&G helps the Board of Fisheries and Game to regulate the amount of fishing and hunting from all user groups, to achieve sustainable yields over time.

Development

ADF&G plays a role in developing resources for subsistence, commercial, and recreational uses.

For subsistence uses, ADF&G helps to develop regulations which provide a reasonable opportunity for subsistence fishing and hunting to occur, which supplies food and other important products to rural areas.

For commercial uses, ADF&G helps to develop and manage fisheries resources, to provide income to rural areas.

Enhancement and Habitat Protection

ADF&G plays a role in enhancing fishing and hunting opportunities in some rural areas, through hatcheries and restoration programs.

ADF&G plays a role in protecting habitat for fish and game, through state permits of mining, logging, and other land use activities.

Partnership

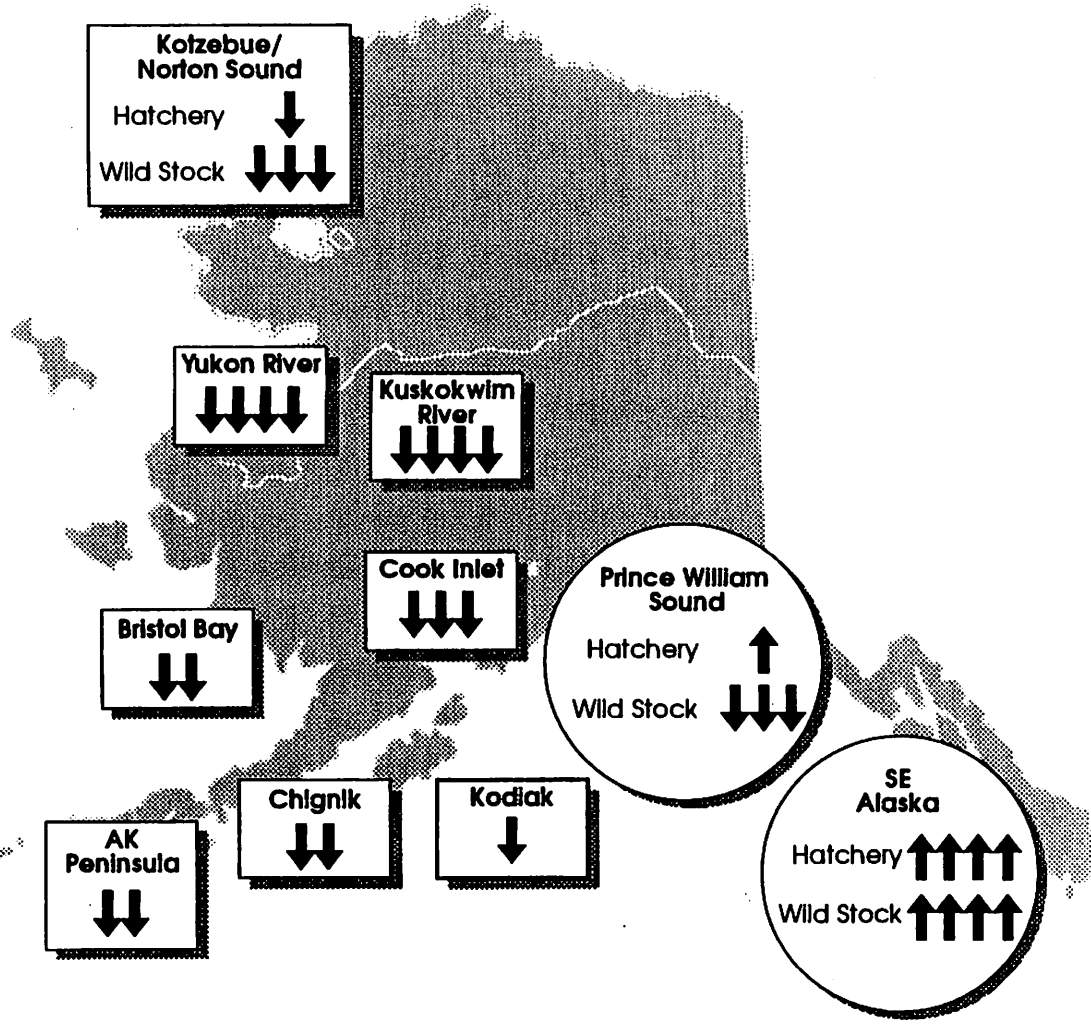
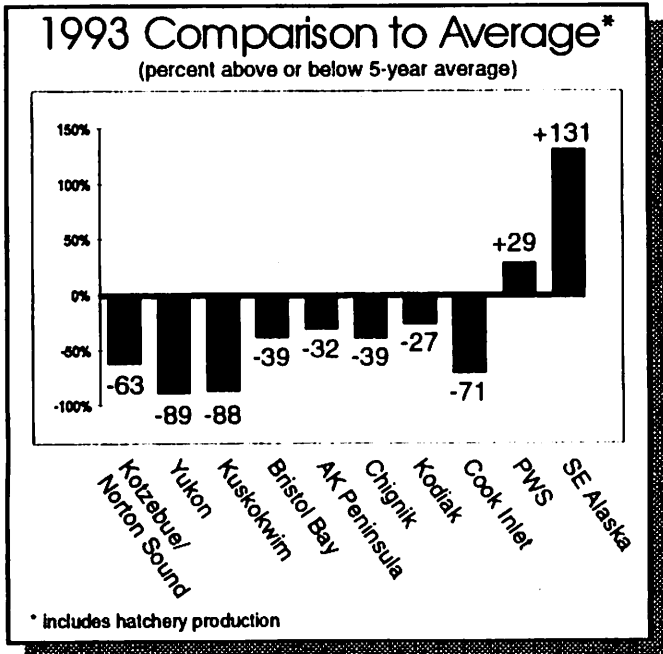
Conservation, development, and enhancement of fish and wildlife are essential for the sustained use in rural areas. ADF&G and rural communities are partners in achieving these goals, through research involving rural communities, through cooperative management groups, such as the Yukon River Drainage Fisheries Association, or the Kilbuck Caribou Committee, and through public management forums, like the Board of Fisheries and Board of Game, which draws upon scientific and local expert knowledge.

It is through good working partnerships between users and the state that fish and wildlife populations can remain healthy, and provide food and income to rural areas.

ALASKA COMMERCIAL FISHERIES

1993 Preliminary Chum Salmon Harvests

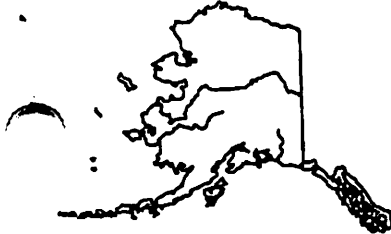
(as compared to recent 5-year averages)



GOVERNOR'S RAVEN COMMISSION

Rural Alaska Village Economies & Needs

WALTER J. HICKEL, GOVERNOR



COMMISSION CO-CHAIRS

Myron Naneng, President
Association of Village Council
Presidents

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Department of Community &
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Adelheid Herrman, Naknek
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George Yaska, Tanana
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Loretta Bullard, Kawerak Inc.

John Jemewouk, Western Alaska
Fisheries Development Assoc.

Harry Wilde Sr., Yukon River
Drainage Fisherman's Assoc.

Frank Charles, Kuskokwim
Cooperative Management Group

Moxie Alexie, Sleetmute

NickTucker, Sr., Emmonak

Rosita Worl, Juneau
At-Large Representative

Dave Osterback, Sand Point
At-Large Representative

Emil Notti, President
Alaska Native Foundation

Jerome Komisar, President
University of Alaska

Thomas Trotter, President
Alaska Pacific University

Debbie Lee, Aniak
At-Large Representative

Commissioner Margaret Lowe,
Department Health & Social
Services

Commissioner Paul Fuhs,
Department of Commerce &
Economic Development

Commissioner Carl L. Rosier,
Department of Fish & Game

COMMISSION STAFF

Herv Hensley, Coordinator
Jim Sিনnett, SNAP Project Mgr.
Bert Tarrant, Assessment Tech.
Helen Vik, Commission Secr.

December 17, 1993

Mr. Richard Lauber, Chair
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99501

Dear Mr. Lauber:

On September 1, 1993, Governor Walter Hickel announced the formation of the Rural Alaska Village Economies and Needs (RAVEN) Commission. The Commission was formed in response to the Governor's disaster declaration due to the failure of the chum salmon return in Western and Interior Alaska.

Governor Hickel gave the Commission a two-fold mission: 1) to identify efforts for immediate action the State of Alaska can take to help those directly affected by the fisheries decline, and 2) to identify measures that can be taken to support and improve long-term opportunities for rural economic development, including education, social needs and other quality of life issues.

On December 11, 1993, during a meeting to formalize immediate action recommendations for the Governor, the Commission unanimously passed a resolution requesting the North Pacific Fishery Management Council to assist by minimizing the bycatch of chum salmon by trawl fisheries in the Gulf of Alaska and Bering Sea.

On behalf of the Commission, I am enclosing a copy of the resolution. It is the hope of the Commission that the North Pacific Fishery Management Council will be able to take a positive response to the resolution at its earliest opportunity. If you need further information, please don't hesitate to contact me at your convenience.

Sincerely,

Herv Hensley
Commission Coordinator

Enclosure as stated

Rural Alaska Village Economics and Needs Commission

RESOLUTION

December 11, 1993

WHEREAS, the Rural Alaska Village Economics and Needs (RAVEN) Commission was established by the Governor of Alaska in response to the critically low chum salmon returns to Northwest Alaska in 1993 and the resultant affect on rural village economics and needs; and

WHEREAS, the RAVEN Commission's 21 members include representatives from a number of rural Alaska communities, fishermen's groups, Native organizations, universities and Alaska state agencies; and

WHEREAS, the RAVEN Commission has been charged by the Governor of Alaska to "Provide immediate response action planning for currently declared natural resource and economic disasters in rural Alaska"; and

WHEREAS, the RAVEN Commission held a special meeting on December 9-11, 1993, in Anchorage, Alaska to solidify immediate disaster response plans and to critically evaluate related fishery policy issues; and

WHEREAS, the chum salmon return was poor throughout western Alaska in 1993; and

WHEREAS, the chum salmon returns were critically low in the Arctic-Yukon-Kuskokwim region, where major commercial, sport, personal use and subsistence fisheries were closed to promote sustained yield of those important chum salmon returns; and

WHEREAS, those closures were felt particularly hard by the region's rural residents as it was not possible to conduct normal traditional or even limited subsistence harvesting of chum salmon in many areas; and

WHEREAS, despite extensive fishery closures, escapement needs in many areas were not attained; and

WHEREAS, below average returns of chum salmon to western Alaska systems may occur again in 1994 and beyond which are expected to require some subsistence fishery restrictions or closures; and

WHEREAS, the bycatch of chum salmon in the Gulf of Alaska and the Bering Sea groundfish trawl fishery, managed by the North Pacific Fishery Management Council (NPFMC), reached a record high level in 1993, totaling in excess of 300,000 chum salmon; and

WHEREAS, a continuation of a high chum salmon bycatch rate in federally managed trawl fisheries will hamper the state's conservation effort to ensure sustained yields for future years and will detrimentally affect the economics and needs of rural Alaska villages.

NOW THEREFORE BE IT RESOLVED, that the RAVEN Commission respectfully requests the NPFMC to do everything in its power to take necessary emergency actions to minimize the bycatch of chum salmon during the prosecution of future trawl fisheries in the Gulf of Alaska and Bering Sea; and

BE IT FURTHER RESOLVED, that copies of this resolution shall be sent to Richard Lauber, Chair, NPFMC, Clarence Pautzke, Executive Director, NPFMC, and the Honorable Ronald Brown, Secretary of Commerce, and the Alaska Congressional Delegation.

1994 WESTERN ALASKA
CHUM SALMON REBUILDING REGULATORY OPTIONS
Approved by the Alaska Board of Fisheries
(12/4/93)

A major failure of western Alaska chum salmon returns occurred in 1993. The run failure was particularly apparent in the Arctic-Yukon-Kuskokwim region, where closures of commercial, sport, personal use, and subsistence salmon fisheries were necessary in some rivers. Additionally, the Department of Fish and Game has identified conservation concerns for several Arctic-Yukon-Kuskokwim area chum salmon stocks that have been so chronically depressed in recent years that special conservation actions will be needed to ensure sustained yields can be maintained.

The 1994 outlook for the Arctic-Yukon-Kuskokwim region chum salmon returns is for a below average return, assuming normal survival. However, the department is concerned that the recent year trend for below normal chum salmon survival may continue and may result in critically low returns again in 1994. A conservative management approach is necessary for the 1994 season to foster adequate spawning escapement levels so as to ensure sustained yields for future years. It may be necessary again to close important commercial, sport, personal use and subsistence fisheries.

After consideration of the public comments presented to the Board of Fisheries, the department believes that successful sustained yield management mandates evaluation of conservation actions be applied in all fisheries that catch chum salmon stocks that will be returning to the Arctic-Yukon-Kuskokwim region in 1994. This includes Arctic-Yukon-Kuskokwim inriver and near river fisheries, intercept fisheries conducted during June in the vicinity of South Unimak and Shumagin Islands, which have been identified to catch chum salmon destined for the Arctic-Yukon-Kuskokwim region, and ocean trawl fisheries.

Because some of the possible conservation actions involve changing fishing methods and means, and others may result in the reallocation of fishery resources, the department requests the assistance of the Board of Fisheries. Therefore, the department recommends that the board add this important issue to its 1993/94 agenda so that appropriate regulations can be developed. The regulatory options for consideration to be placed on the agenda for this meeting are presented below.

Goal

Develop a fishery management plan and enabling regulations to maintain sustained yield of western Alaska chum salmon stocks and provide subsistence fishing opportunities in 1994.

Guiding Principles

The following guiding principles are established for regulatory options:

1. Any savings of chum salmon, resulting from regulatory actions in a fishery to reduce chum salmon interceptions, should be allowed to pass through subsequent commercial, sport, and personal use fisheries to the spawning areas to maintain maximum sustained yield for future years and, if spawning escapement levels permit, provide for subsistence fishing opportunities.
2. Any regulatory actions designed to conserve chum salmon should consider companion provisions to promote opportunity for full utilizations of other species.
3. The Board of Fisheries and the Department of Fish and Game should work toward reducing the bycatch of western Alaskan origin chum salmon in ocean trawl fisheries. The department recommends that a resolution be approved to the North Pacific Management Council (NPFMC) requesting consideration of special actions to minimize the bycatch of salmon in the Gulf of Alaska and Bering Sea trawl fisheries.

Terminal and Inriver Regulatory Options

The following regulatory options for terminal and inriver fisheries are designed to promote maximum sustained yield and conservation of western Alaska chum salmon stocks:

1. Provide inseason emergency order regulatory authority to establish fishing periods that allow only the use of seven and one-half inch or larger mesh size gillnets for commercial and/or subsistence harvest of king salmon, while protecting chum salmon.
2. Provide inseason emergency order regulatory authority to establish fishing periods that allow only the use of five inch mesh or less set gillnets for subsistence harvest of whitefish and other freshwater fish species, while protecting chum salmon.
3. Enlarge the closed water area at the mouth of the Andrafsky River in the Yukon River.
4. Establish a fixed escapement goal management policy by establishing area specific chum salmon guideline harvest levels that are based on percentages of total allowable biological harvest instead of specifying fixed numerical guideline harvest levels.
5. Establish a management plan for inriver harvest of excess Sikusuilaq Springs Hatchery chum salmon.

6. Provide inseason emergency order regulatory authority to prohibit retention of chum salmon taken in subsistence beach seine gear in the Golovin and Moses Point Subdistricts of the Norton Sound Area.
7. Develop a management plan for the commercial fishery in the Anvik River to reduce the mixed stock nature of the Yukon River commercial salmon fishery and reduce the interception of chum salmon stocks migrating to spawning areas located upstream of the Anvik River.
8. Develop regulatory management plans, in terminal and inriver fisheries, to ensure that chum salmon saved in one fishery are successfully passed through subsequent fisheries to the spawning areas and/or, if spawning escapement levels are met, are made available to provide subsistence fishing opportunities.
9. Develop regulatory measures to facilitate enforcement of illegal sale of chum salmon roe (roe stripping) and consider closure of the fishery.
10. Consider subsistence harvest reporting requirements.

South Unimak and Shumagin Islands June Fishery Regulatory Options

The following regulatory options are designed to reduce the incidental harvest of chum salmon in the June South Unimak and Shumagin Islands commercial salmon fishery while still promoting opportunity for full utilization of the sockeye salmon allocated for harvest in that fishery:

1. Provide inseason emergency order regulatory authority to modify period sockeye harvest quotas so as to allow fishing at times when the ratio of sockeye to chum salmon is high.
2. Provide inseason emergency order regulatory authority to modify fishing seasons to correspond to time periods when the ratio of sockeye to chum salmon is high. This would allow early prosecution of the fishery provided that the ratio of sockeye to chum salmon is high.
3. Consider a department experimental test fishery in the North Peninsula to evaluate the possibility of a successful June fishery in the North Peninsula.
4. Establish reduced chum salmon caps for the Unimak and Shumagin areas to limit interception of western Alaska chum salmon.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

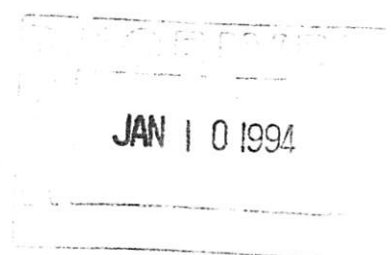
AGENDA D-2(a)

JANUARY 1994

Supplemental

January 7, 1994

Richard B. Lauber, Chairman
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99510



Dear Rick,

At its December 1993 meeting, the North Pacific Fishery Management Council (Council) requested the National Marine Fisheries Service (NMFS) and the Alaska Department of Fish and Game (ADF&G) to prepare a summary report on the chum salmon bycatch problem experienced in the 1993 pollock fishery and the impacts of chum salmon interceptions on the Western Alaska chum salmon fisheries. The ADF&G has prepared a separate report on the status of Western Alaska chum salmon stocks and on management action being considered by the State to address the chum salmon interception problem in other State managed fisheries.

The attached report presents preliminary information on chum salmon bycatch experienced in the 1993 Bering Sea and Aleutian Islands Area (BSAI) groundfish fisheries and a brief summary of historical bycatch amounts of chum salmon in the foreign, joint venture, and domestic groundfish fisheries. NMFS staff will be available to summarize this information before the Council during its January 1993 meeting.

Sincerely

Steven Pennoyer
Director, Alaska Region

Attachment



National Marine Fisheries Service
Alaska Region
January 7, 1994

Summary Report on Chum Salmon Bycatch in the
Bering Sea and Aleutian Islands Area Groundfish Fisheries

During 1993, the bycatch amounts of chum salmon experienced in the BSAI groundfish fisheries (245,000 chum salmon) reflected a 5-fold increase over the 1992 bycatch level (41,000 chum salmon). Most of the 1993 bycatch occurred in the 'B' season pollock fishery that opened August 15 (Tables 1 and 2). The offshore Bering Sea pollock fishery closed September 8, but later was reopened for two weeks in December (Dec.15-29). The inshore pollock closed October 3 in the Bering Sea and October 8 in the Aleutian Islands.

Table 3 presents a summary of chum salmon bycatch amounts in the foreign and joint venture fisheries (combined) from 1977 through 1990, and in the domestic fishery from 1990 through 1993. Table 3 also presents brief comments on when and where the bycatch problem occurred each year to the extent this information is readily available.

Both historical and recent data suggest that high chum salmon bycatch amounts are associated with pollock operations in or near the area currently known as Federal reporting area 517 (area 517). Figures 1 - 9 show 1993 pollock 'B' season haul positions by the number of "other" salmon taken, based on the following increments of salmon per haul: 0, 1-5, 6-10, 11-25, 26-50, 51-100, 101-250, 251-500, and 501-1,000 (additionally including 3 hauls with "other" salmon bycatch amounts that exceeded 1,000 fish). These figures were produced by NMFS observer Program staff using the 1993 inseason observer database. Numbers of salmon are based on extrapolations to whole haul catch amounts. Figures 1-9 also include the number of hauls included on each plot.

Figure 10 delineates primary areas of pelagic trawl effort for pollock during the 1993 'B' season and Figures 11 - 15 depict observer data on length/frequency for chum salmon taken in each area. None of the chum salmon taken during the pollock 'B' season likely were maturing fish migrating to Western Alaska spawning grounds because mature Western Alaska chum salmon typically enter river systems by the first week of August. Rather, most of the chum salmon taken in the 1993 pollock fishery likely were a mix of Asian and Western Alaska fish in their third year of ocean life. These fish, therefore, would have returned

to their respective spawning grounds in 1994 or 1995. Some fish intercepted in 1993 possibly were Japanese hatchery-raised chum salmon that would have returned as mature fish late in 1993 or early 1994. At this time, no information exists to determine what percentage of the 1993 chum salmon bycatch in the 'B' season pollock fishery was comprised of Western Alaska fish.

Preliminary examination of the 1993 observer data suggest that chum salmon bycatch occurred during both day and night hours. If each day of the pollock 'B' season is divided into eight 3-hour periods, the highest salmon bycatch and bycatch rates generally occurred between noon and 18:00 hours. This six-hour period also accounted for the highest groundfish catch relative to other times of the day. Further analyses on possible correlation of chum salmon bycatch with other geographic, physical, or operational factors are not available at this time.

Table 1. Weekly salmon bycatch amounts in the 1993 BSAI pollock fisheries.

Week	Chinook	Other
'A' Season		
01/02/93	77	385
01/09/93	4	19
01/23/93	1,582	21
01/30/93	3,128	5
02/06/93	2,192	4
02/13/93	2,685	13
02/20/93	2,978	8
02/27/93	1,527	47
03/06/93	430	113
03/13/93	676	62
03/20/93	622	79
03/27/93	977	600
04/03/93	811	0
04/10/93	264	7
'B' Season		
08/21/93	272	39,335
08/28/93	1,071	26,501
09/04/93	1,654	47,852
09/11/93	737	36,010
09/18/93	413	23,354
09/25/93	1,131	39,396
10/02/93	889	11,009
10/09/93	1,168	3,591
10/16/93	5,620	3,358
10/23/93	179	424
10/30/93	119	243
11/06/93	20	264
11/13/93	45	37
11/20/93	95	47
11/27/93	69	0
12/04/93	437	0
12/11/93	619	0
12/18/93	283	5
12/25/93	1,139	0

Table 2. 1993 bycatch of chum salmon experienced by the BSAI groundfish fisheries in each federal reporting area.

Zone	'other' salmon
517	220,142
509	15,281
521	7,177
513	1,062
519	589
542	202
540	198
514	145
524	91
541	82
523	58
516	37
508	32
518	8
512	0
543	0

Table 3. Chum salmon bycatch information in the foreign and joint venture groundfish fisheries (combined), 1977-1990, and in the 1990 - 1993 domestic groundfish fishery.

YEAR	# CHUM SALMON	CHARACTERISTICS OF BYCATCH PATTERN
<u>Foreign and Joint Venture Fisheries</u>		
1977	4,306	Unknown location
1978	4,811	The salmon caught in the 3rd quarter primarily were taken along the slope or north of area 517
1979	6,139	The few salmon caught in the 3rd quarter were on the slope.
1980	6,726	The few salmon caught in the 3rd quarter were inside area 517 or on the slope.
1981	6,184	The few salmon caught in the 3rd quarter were inside area 517 or on the slope.
1982	7,686	The few salmon caught in the 3rd quarter primarily were inside area 517.
1983	32,133	In the 3rd quarter, most salmon were caught inside area 517. Most of the rest were caught just west of area 517.
1984	72,196	In the 3rd quarter, most salmon were caught inside area 517. Most of the rest were caught just west of area 517.
1985	10,598	In the 3rd quarter, most salmon were caught inside area 517 or on the slope.
1986	14,434	In the 3rd quarter, all salmon were caught inside area 517.
1987	4,799	The few salmon caught in the 3rd quarter were inside area 517 or on the slope.
1988	3,709	The few salmon caught in the 3rd quarter primarily were inside area 517.
1989	5,545	All salmon caught in the 3rd and 4th quarters were inside area 517.
1990	2	No salmon were caught in the 3rd or 4th quarters.
<u>Domestic Fisheries</u>		
1990	16,196	In the 3rd and 4th quarter pollock fisheries, all salmon were caught inside area 517.
1991	36,000	Data are not complete, but it appears that most of the 3rd quarter salmon came from area 517.
1992	41,000	Data are not complete, but it appears that most of the 3rd quarter salmon came from area 517.
1993	245,000	Data are not complete, but most of the 3rd quarter salmon came from area 517. Remaining salmon bycatch occurred in areas adjacent to area 517.

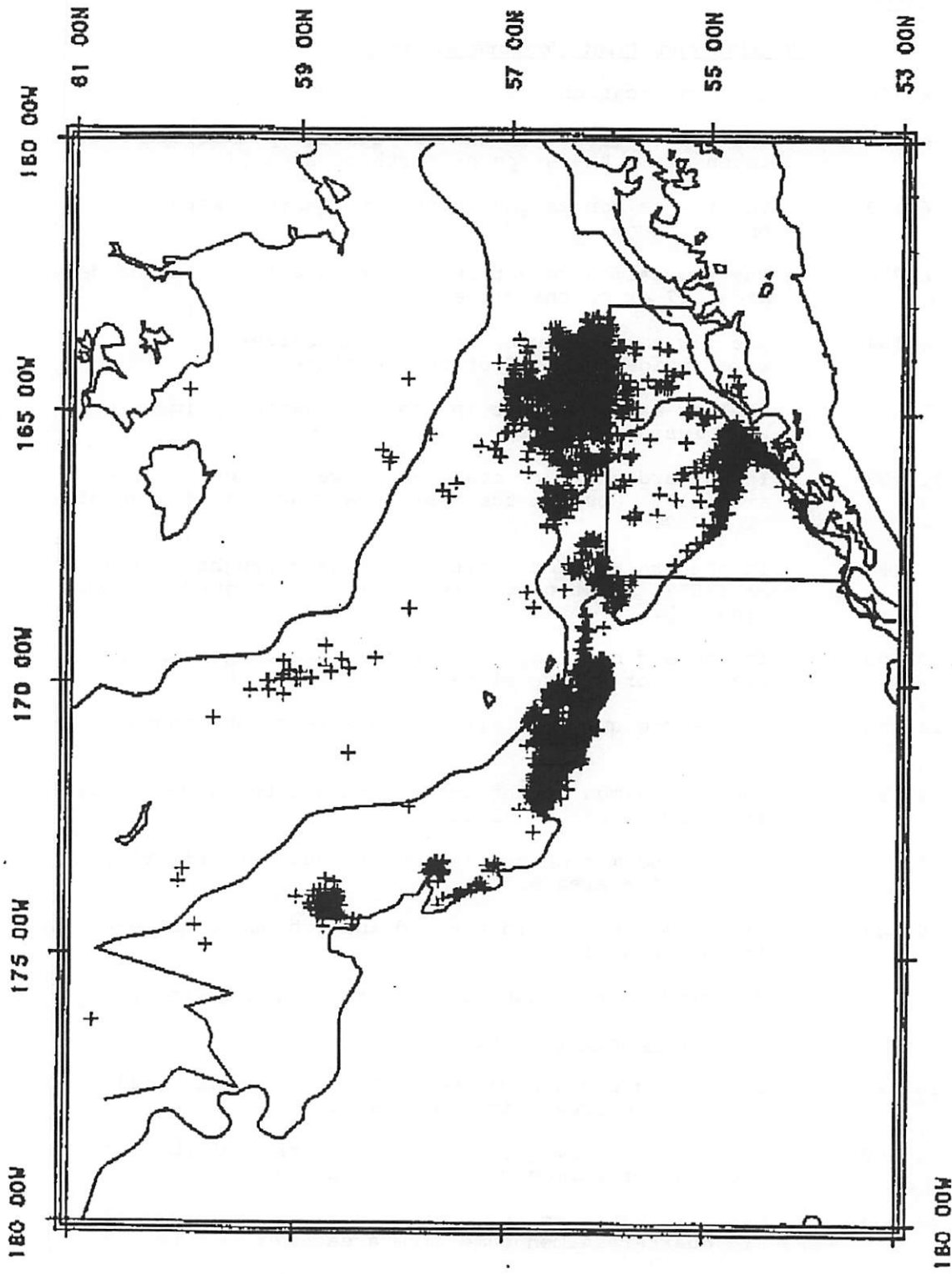


Figure 1.--Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 0 fish. (Based on 3,160 hauls.)

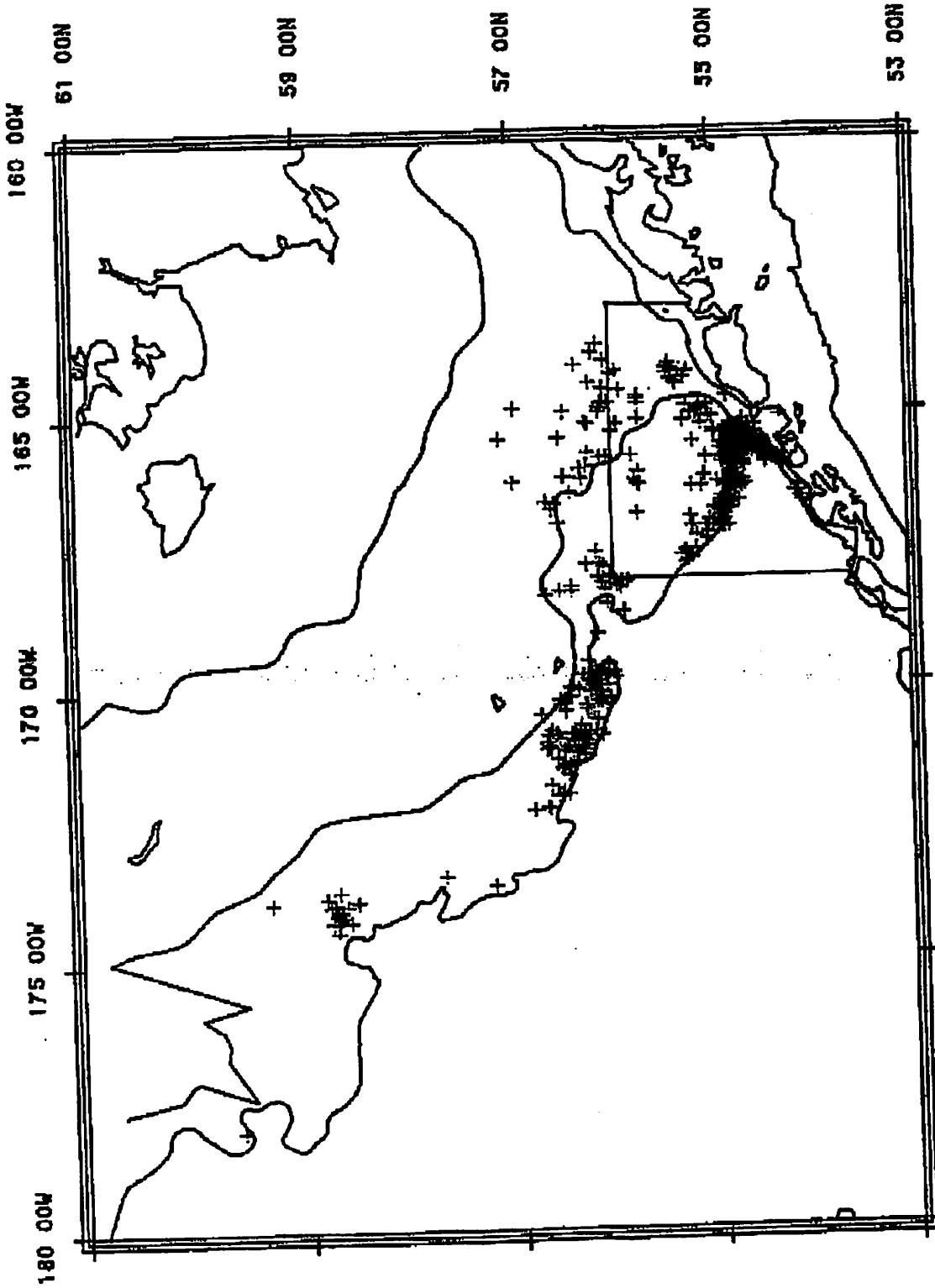


Figure 2. --Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 1-5 fish. (Based on 656 hauls.)

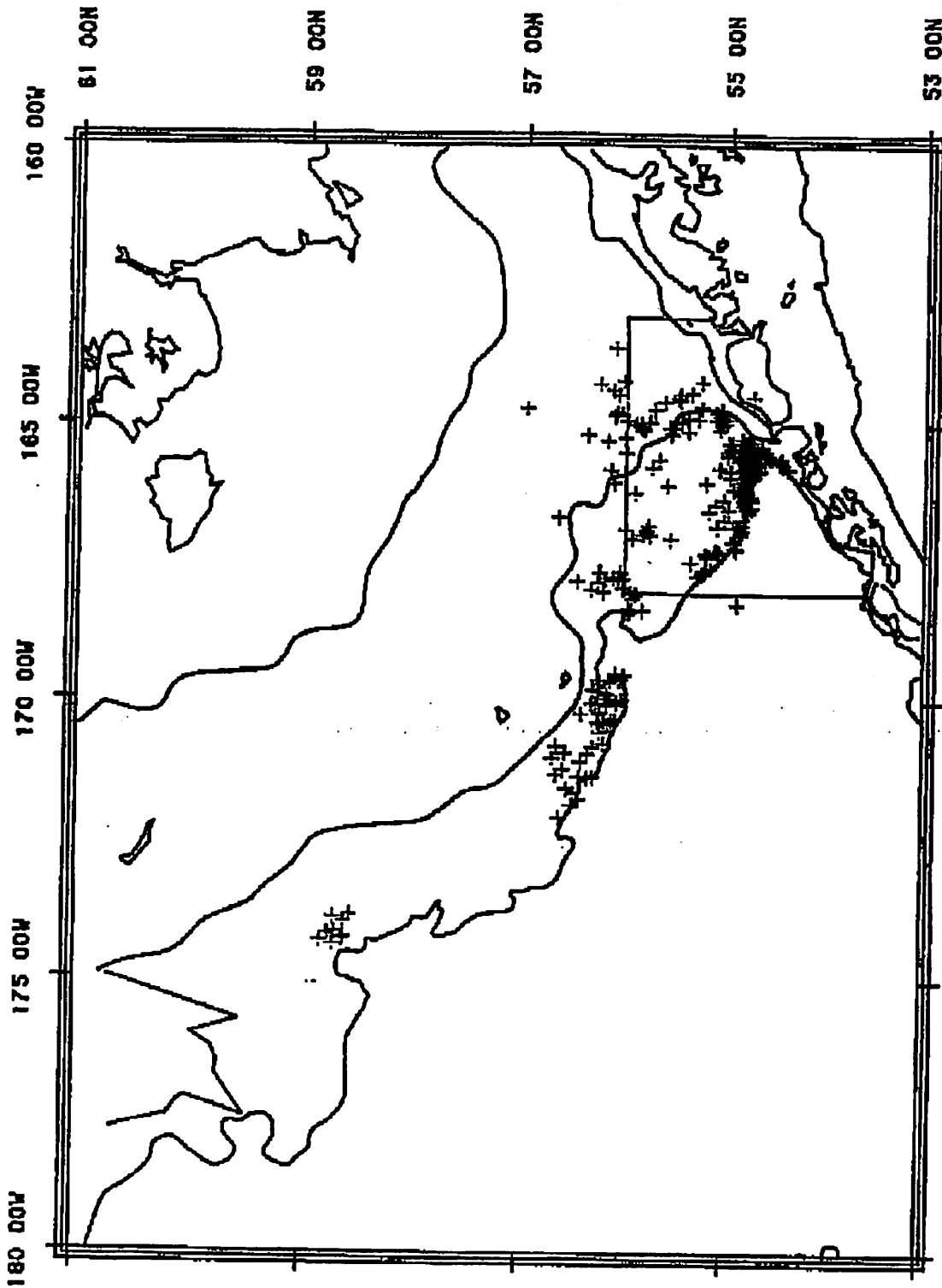


Figure 3.--Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 6-10 fish. (Based on 277 hauls.)

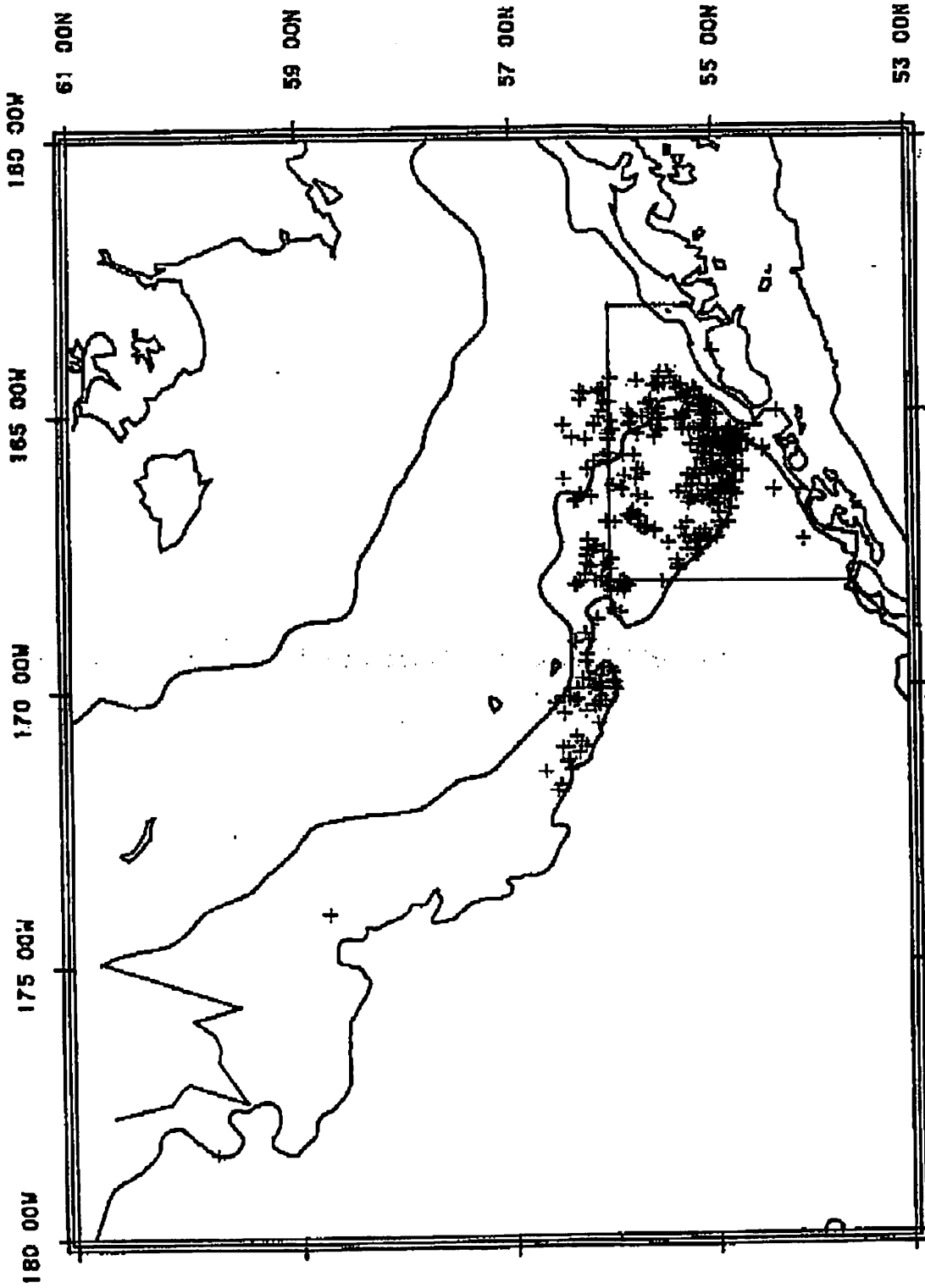


Figure 4.--Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 11-25 fish. (Based on 387 hauls.)

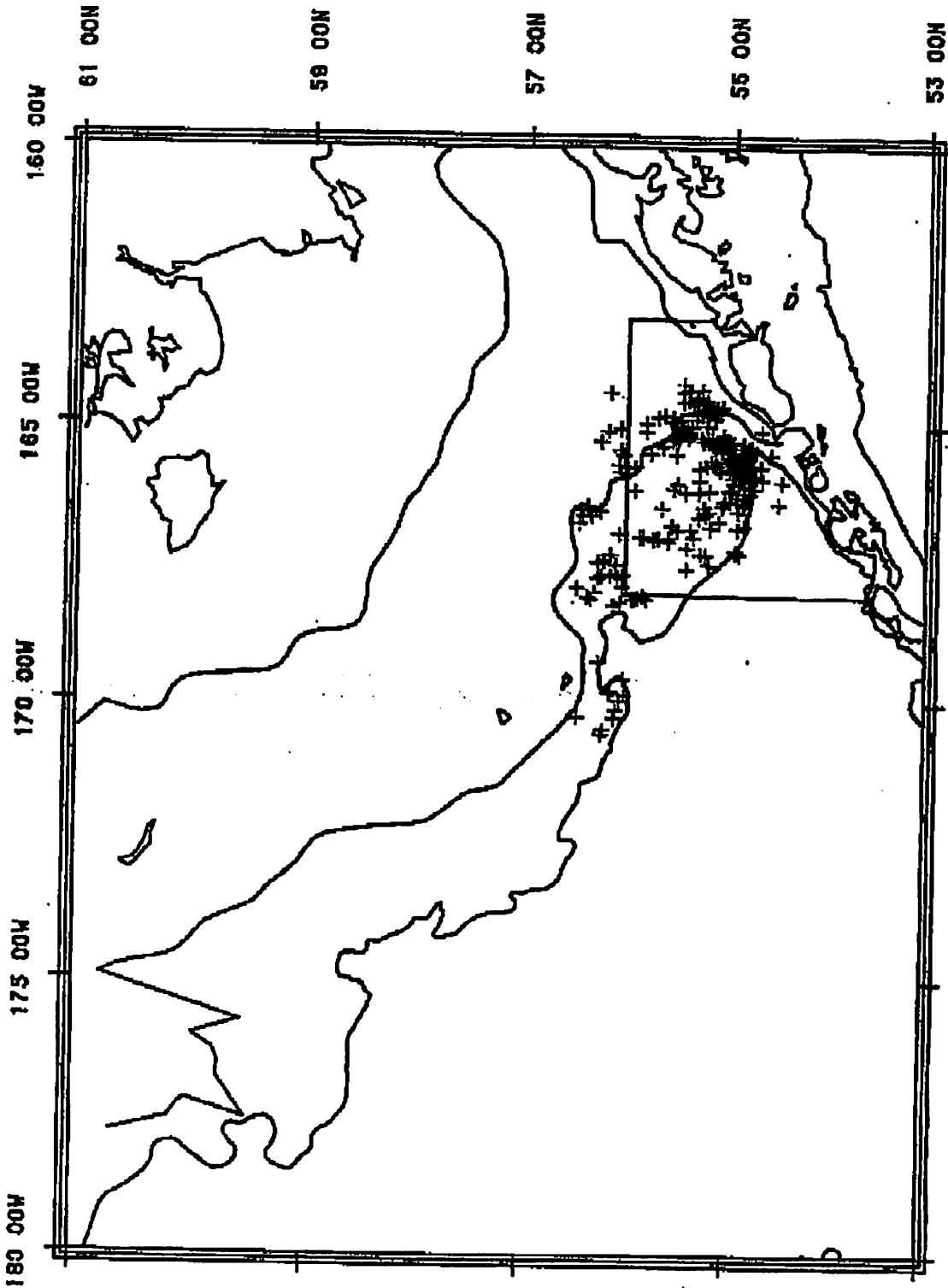


Figure 5.--Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 26-50 fish. (Based on 227 hauls.)

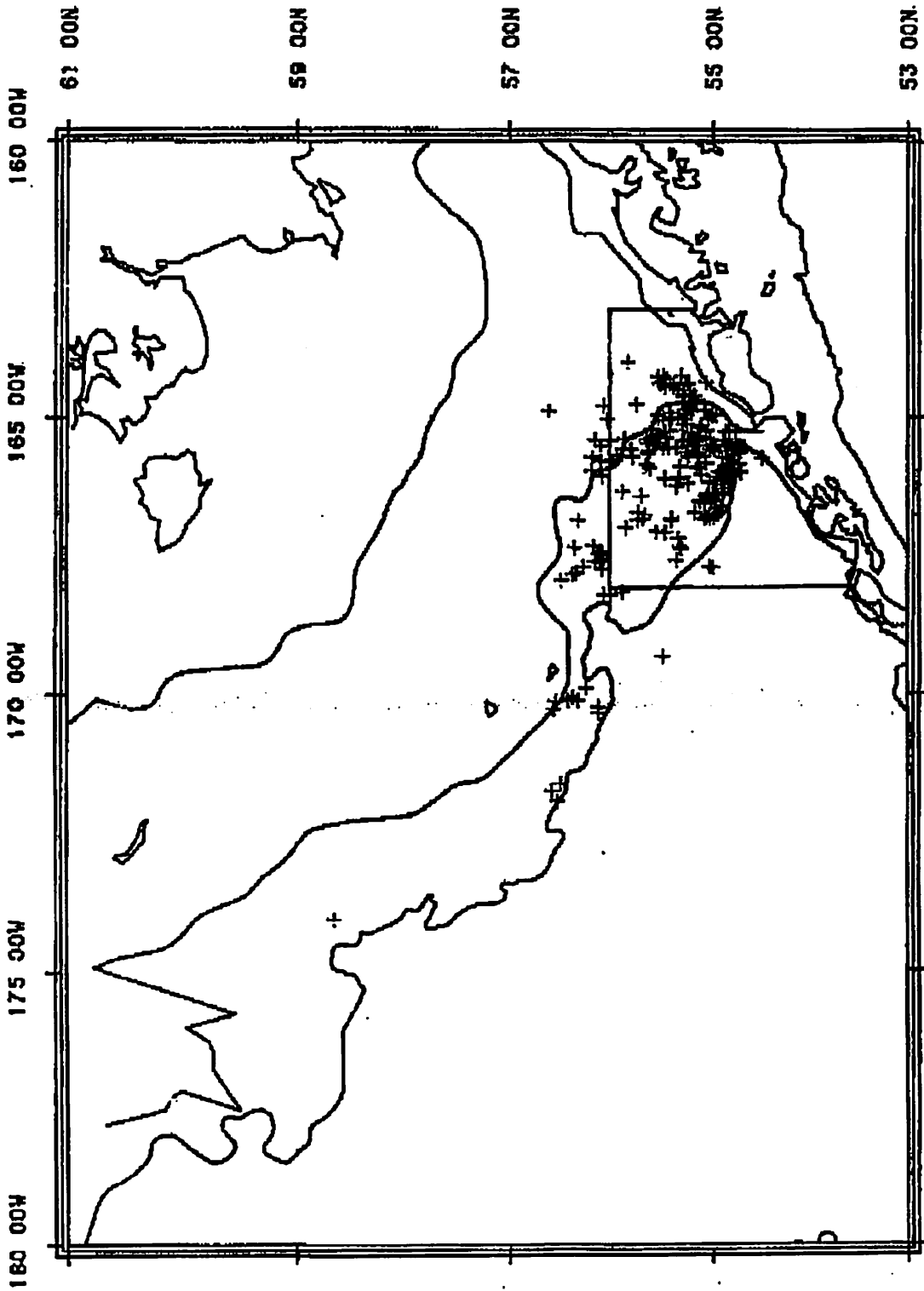


Figure 6.--Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 51-100 fish. (Based on 232 hauls.)

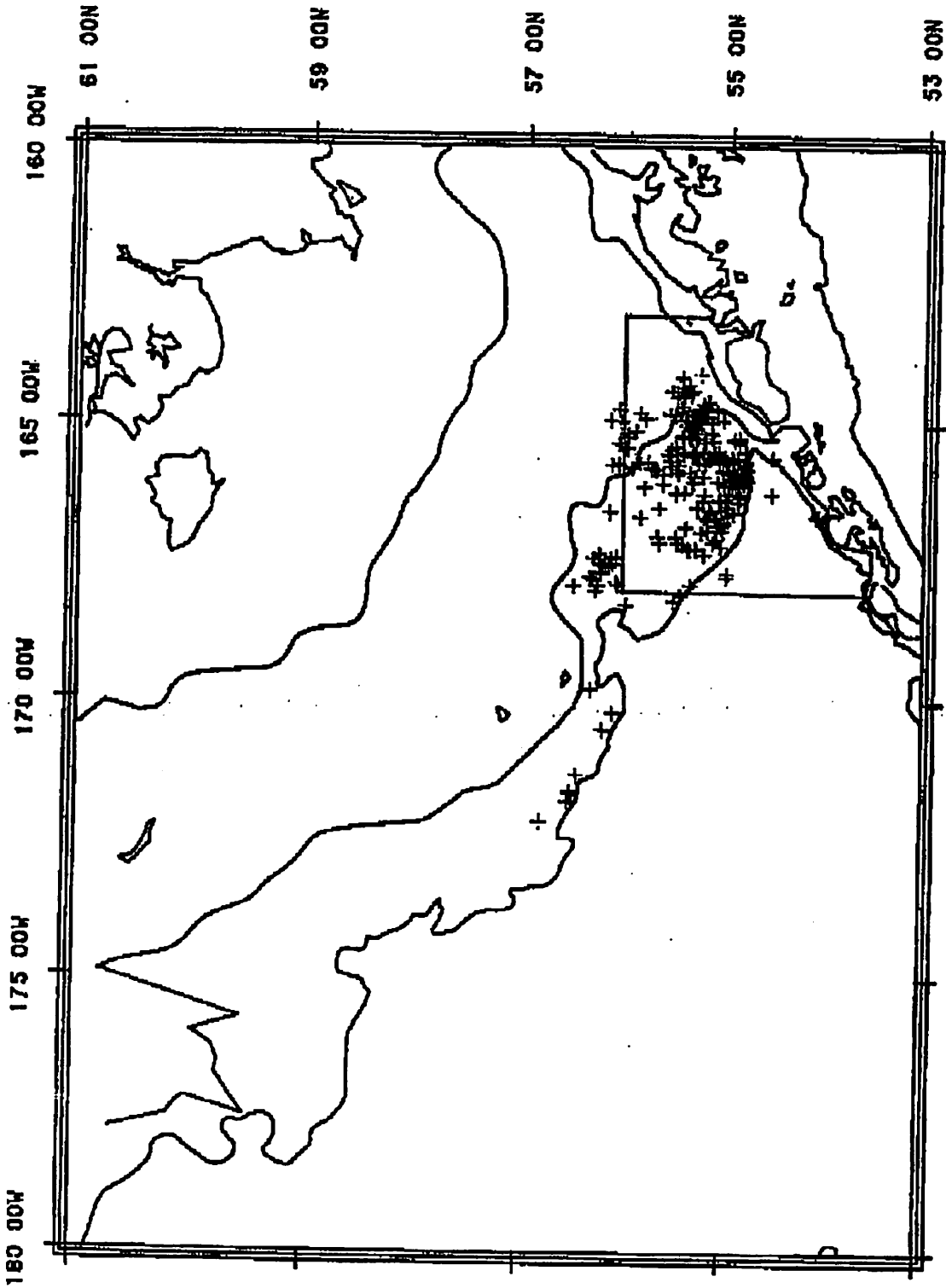


Figure 7.--Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 101-250 fish. (Based on 233 hauls.)

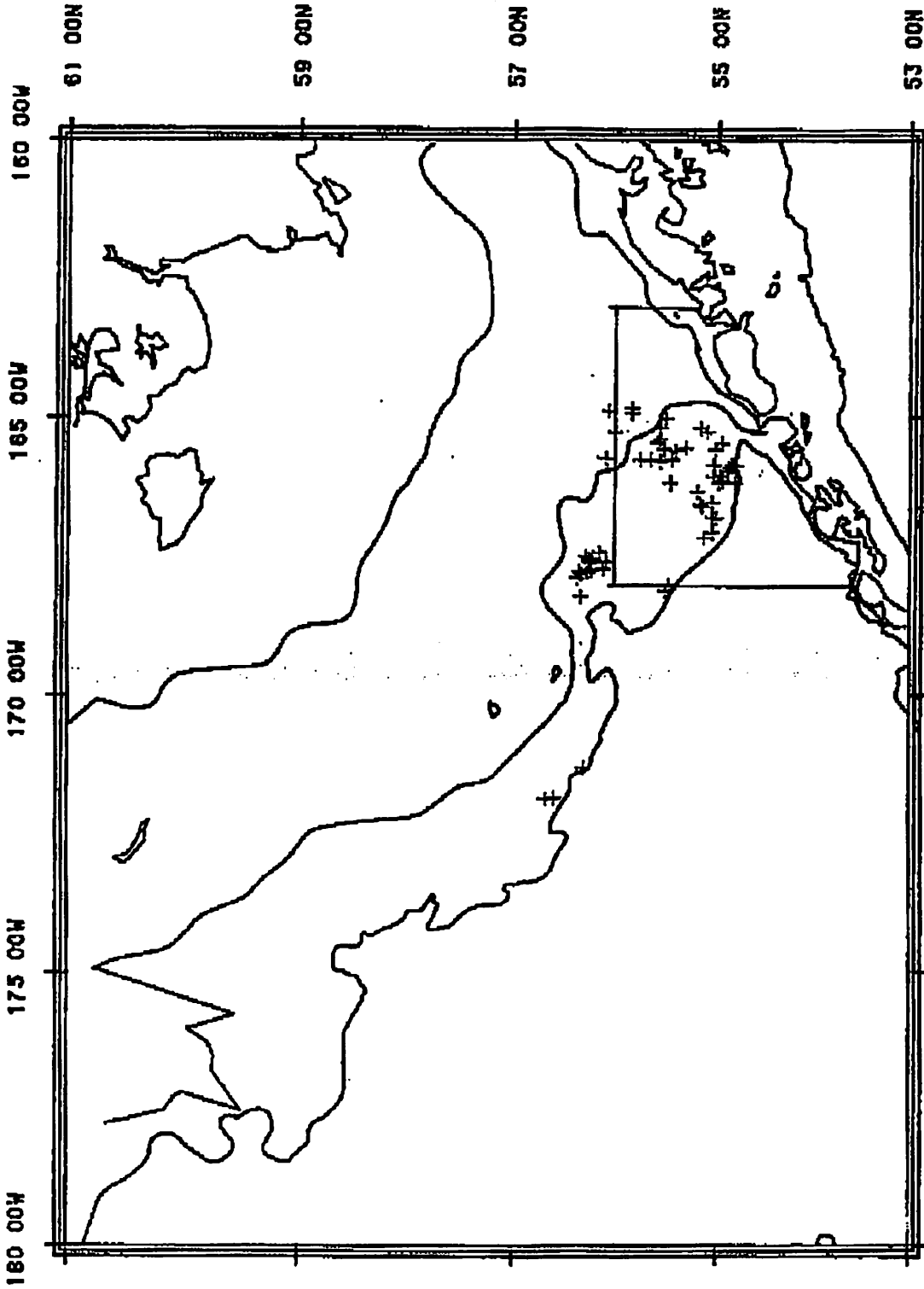


Figure 8. --Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 251-500 fish. (Based on 58 hauls.)

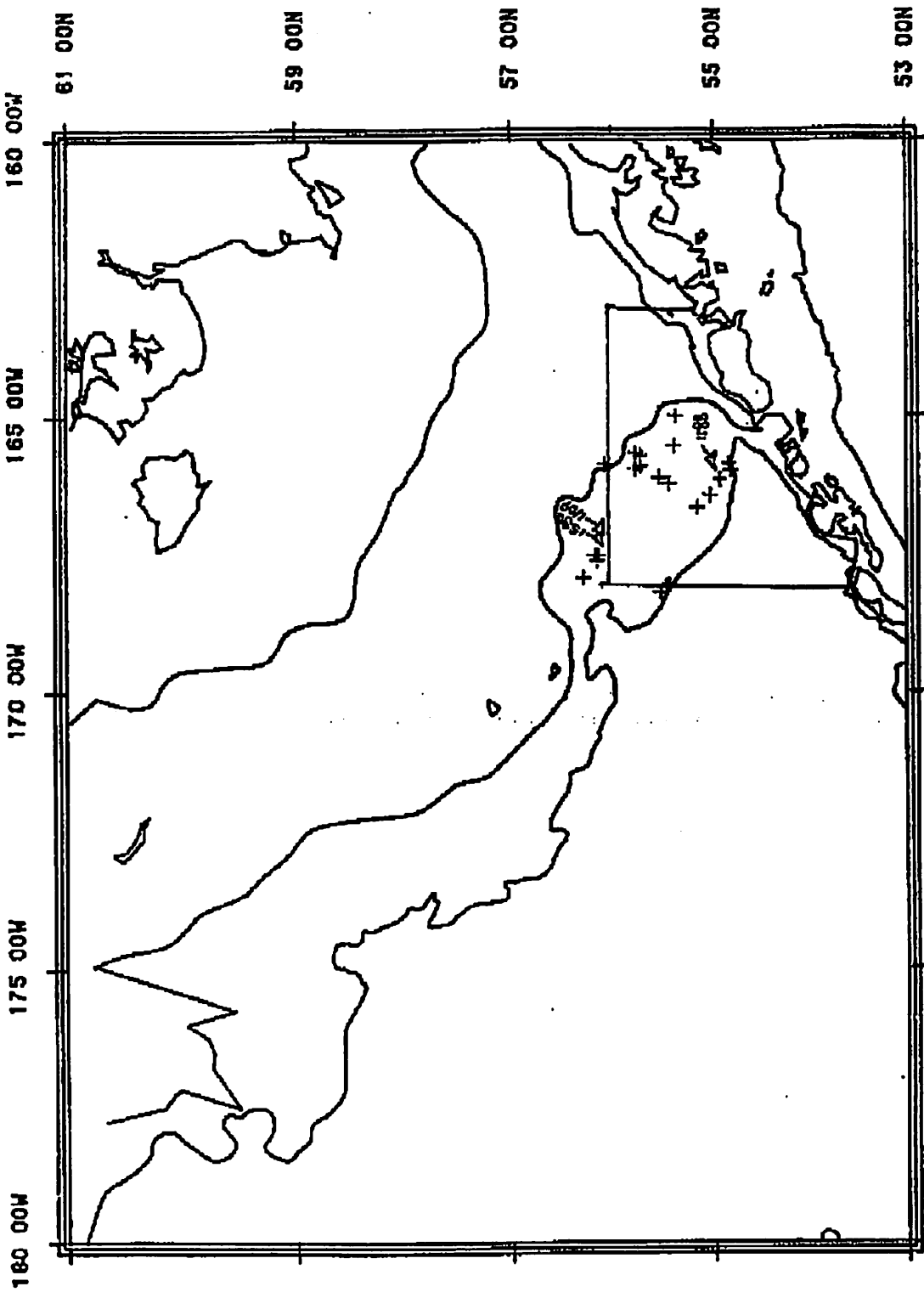


Figure 9.---Location of sampled trawl hauls during the 1993 Bering Sea pollock "B" season in which the bycatch of "other" salmon was 501-1,000 fish. (Based on 25 hauls.)

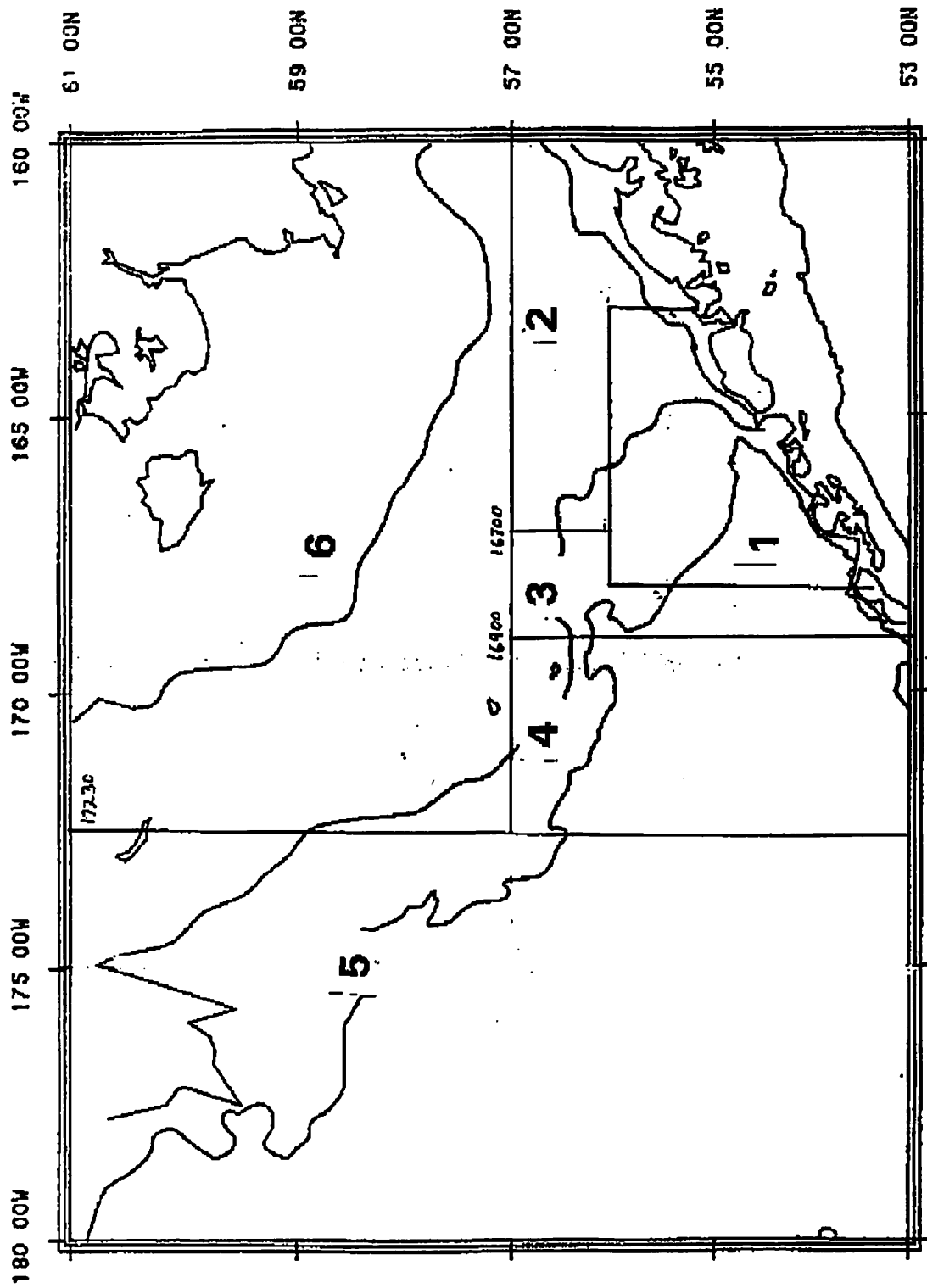


Figure 12--Areas delineating primary areas of pelagic trawl effort during the 1993 Pollock B season. These areas have been used in the data summarizing the salmon bycatch.

SAL221. Chart 1

CHUM SALMON - AREA 1

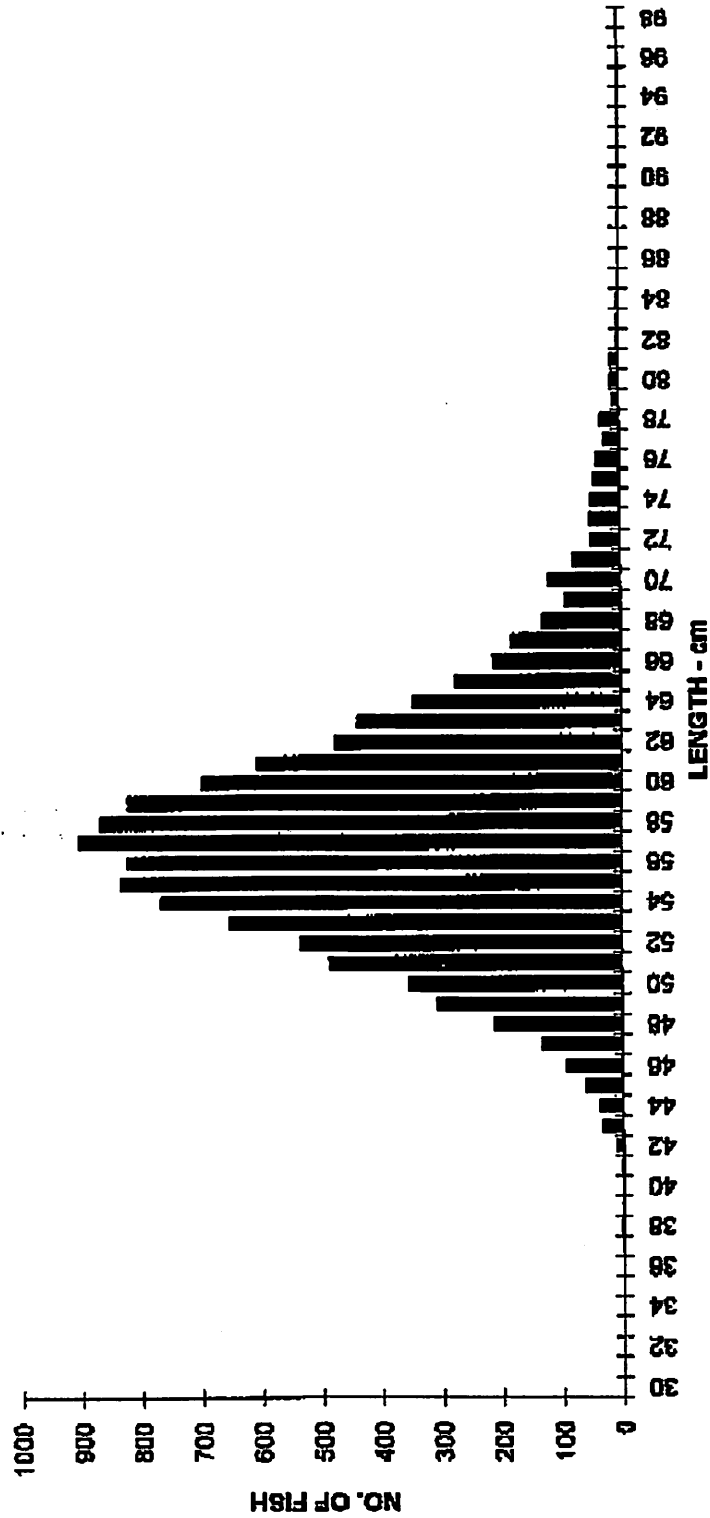


Figure 11

SAL221 . Chart 2

CHUM SALMON - AREA 2

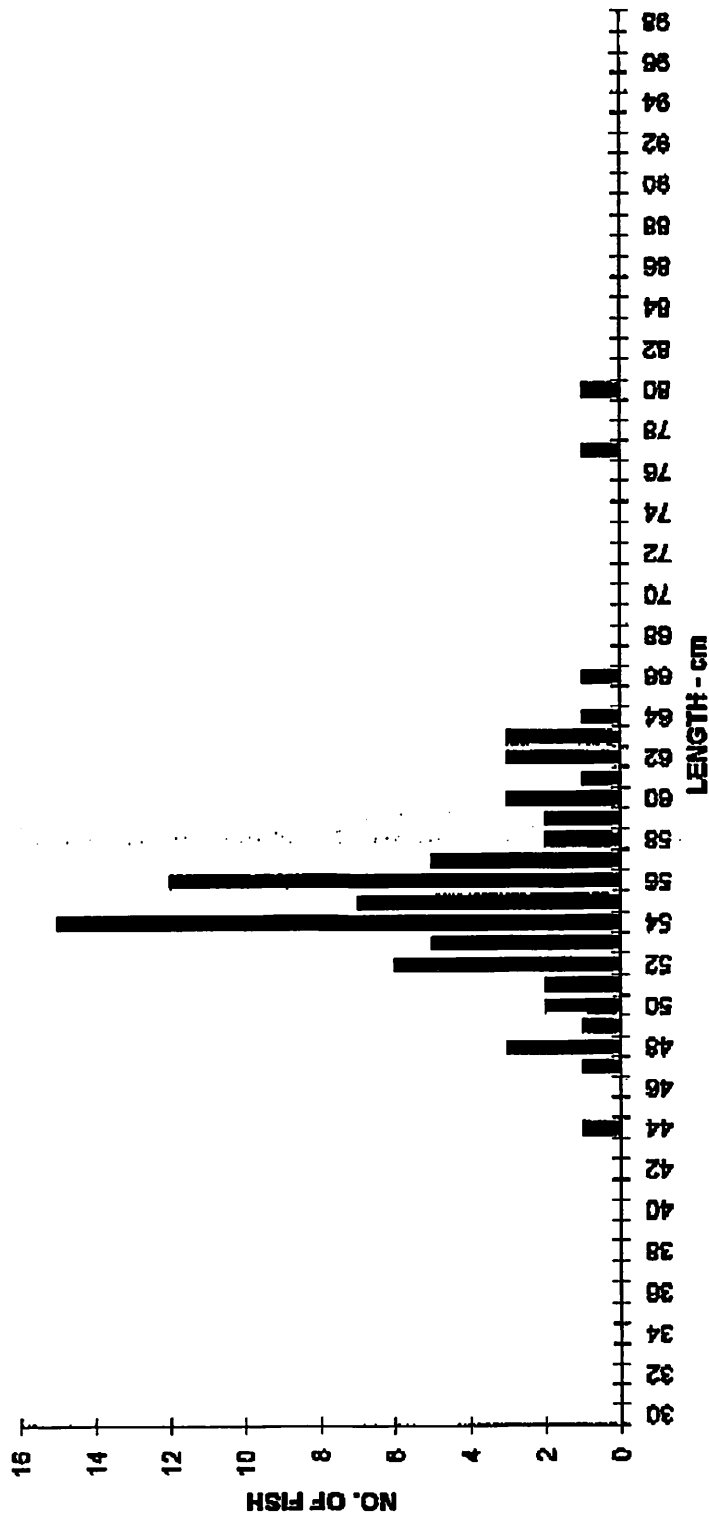


Figure 12.

SAL221. Chart 3

CHOK SALMON - AREA 3

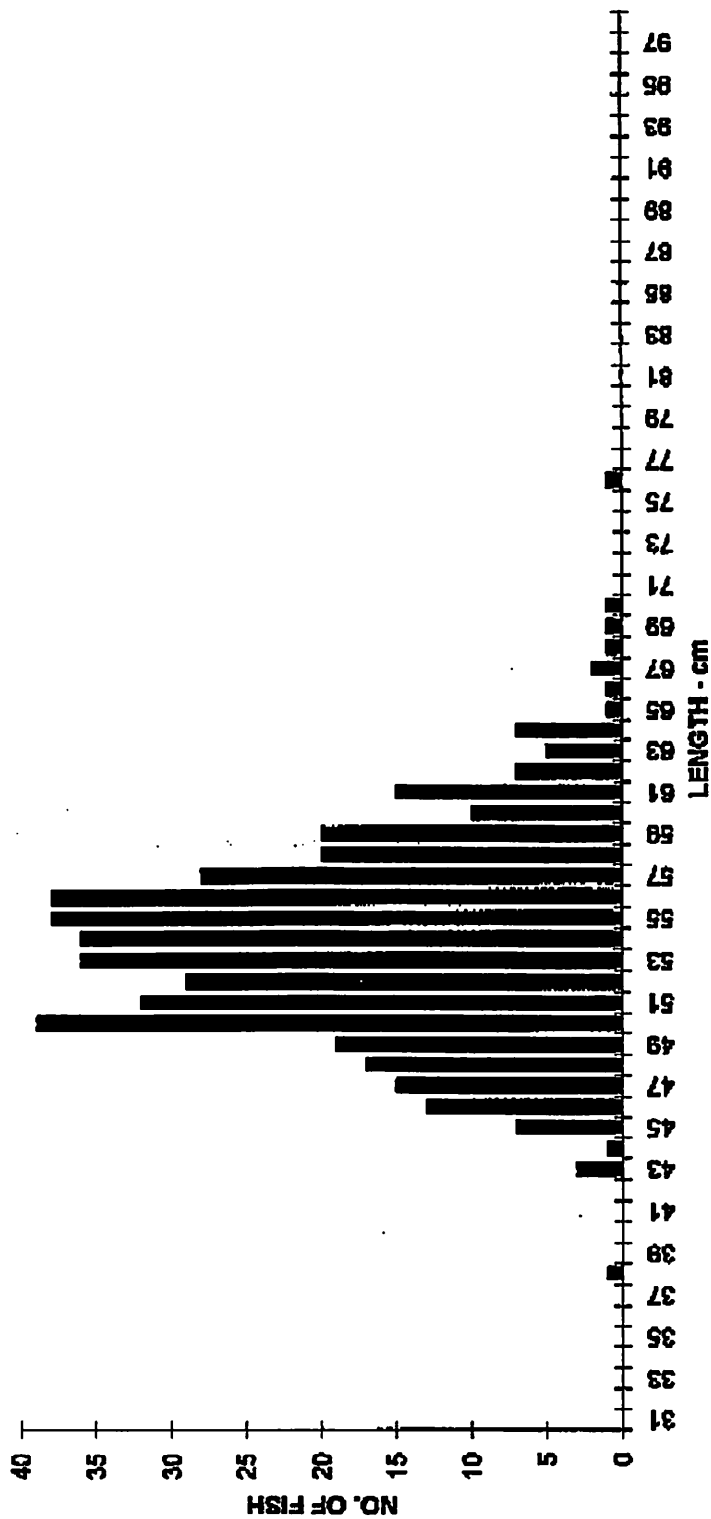


Figure 13

SAL221. CHART 4

CHUM SALMON - AREA 4

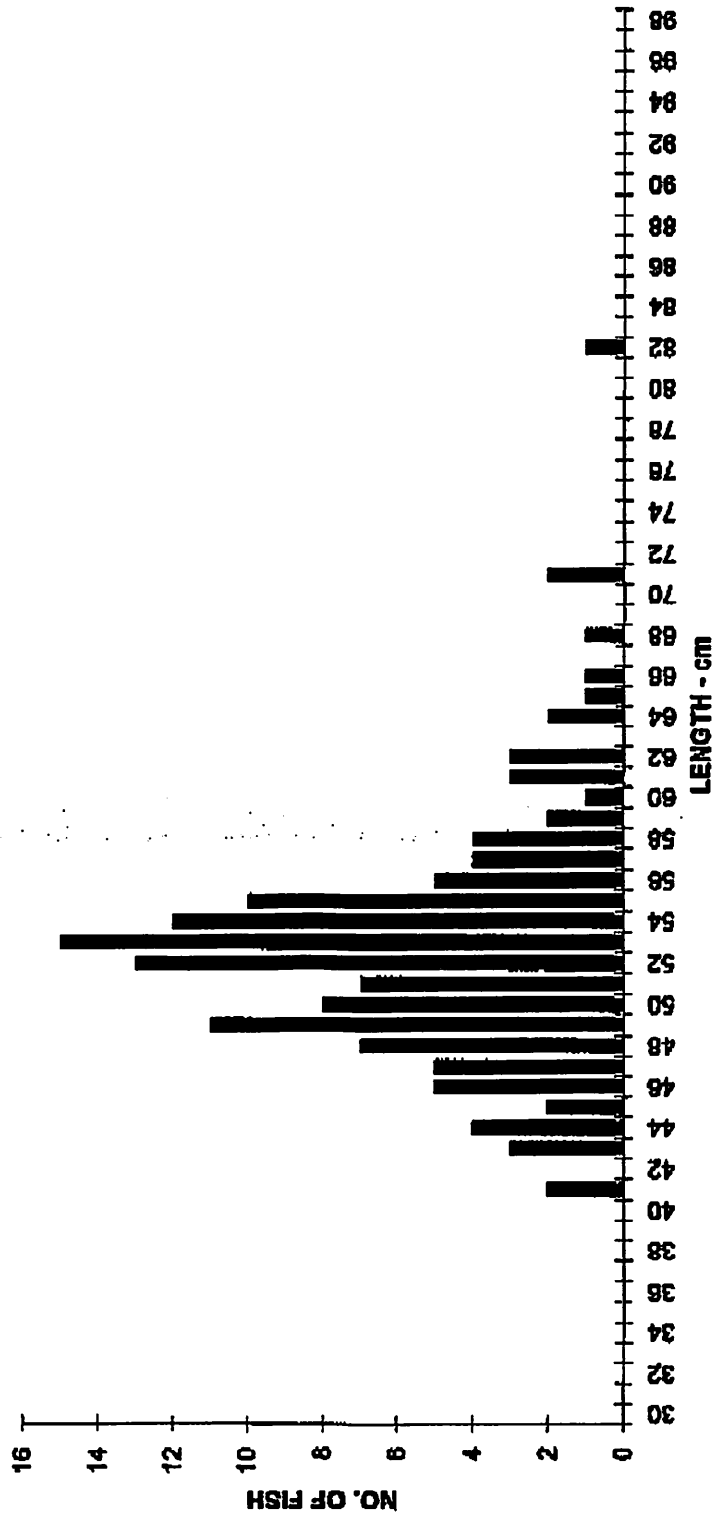


Figure 14

CHUM SALMON - AREA 5

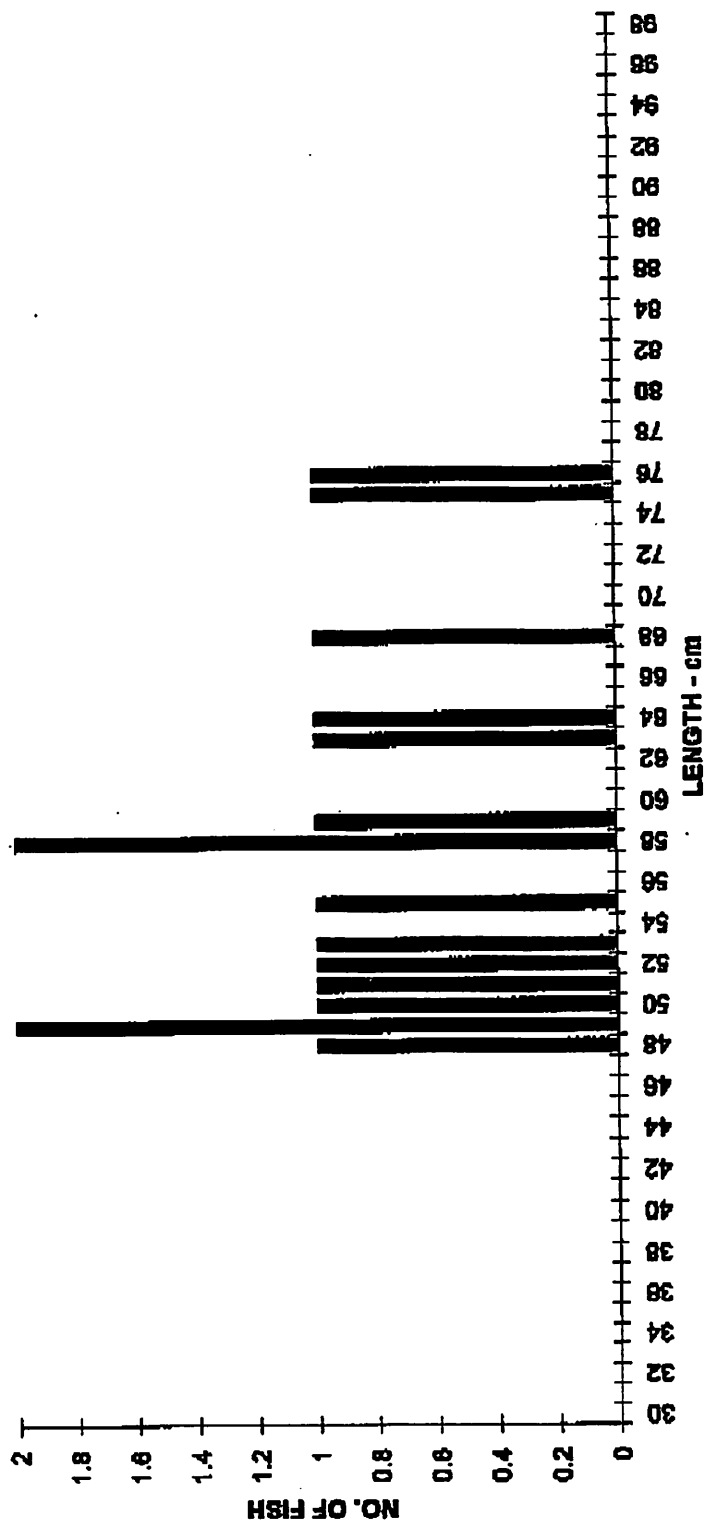


Figure 15

Stock Status of Western Alaska-Bering Sea Chum Salmon

Report to the NPFMC
January, 1994

Tom Kron
CFMD Division, ADF&G
Anchorage, Alaska

INTRODUCTION:

This report provides an overview of the status of the chum salmon resource in the Arctic-Yukon-Kuskokwim (AYK), Bristol Bay, Alaska Peninsula, and Chignik areas of Alaska (Figure 1). Chum salmon spawn in streams and rivers throughout this range. In Chignik, Alaska Peninsula and Norton Sound for example, chum spawn in relatively short-run, coastal streams and rivers. By contrast, a number of Yukon River chum salmon stocks spawn more than 2,000 miles upstream and migrate through Alaska's Interior to the Yukon Territory in Canada.

There has been a growing concern about chum salmon resources in parts of AYK. There have been numerous fishery closures when spawning escapement goals were not being met. In 1993, the chum salmon return was low in AYK, Bristol Bay, Alaska Peninsula, Chignik, Kodiak and Cook Inlet. The return was so poor in AYK that the Governor of Alaska declare a disaster.

ADF&G Commissioner, Carl Rosier called a special Alaska Board of Fisheries meeting December 1-4, 1993 to examine chum salmon conservation concerns in the Western Alaska-Bering Sea region. The Board voted to deliberate necessary regulatory actions in March, 1994.

STATUS OF INSHORE CHUM SALMON FISHERIES:

Subsistence

Chum salmon are utilized for subsistence across most of the Western Alaska-Bering Sea region. The total subsistence harvest of chum salmon is not well documented. The average chum harvests per household (Figure 2) for the Western Alaska-Bering Sea region were largest for the Yukon drainage (378 fish) and Kuskokwim drainage (75 fish). Chum salmon make up a high percentage of the total subsistence salmon harvest (Figure 3) for the Yukon, Nome and Kuskokwim areas where other species such as sockeye salmon are less available than in Alaska Peninsula, Chignik or Bristol Bay areas for example. The most broad based information concerning subsistence harvests is for AYK but even this is limited (Table 1). The subsistence chum salmon fisheries on the Yukon and Kuskokwim Rivers are the largest in the world.

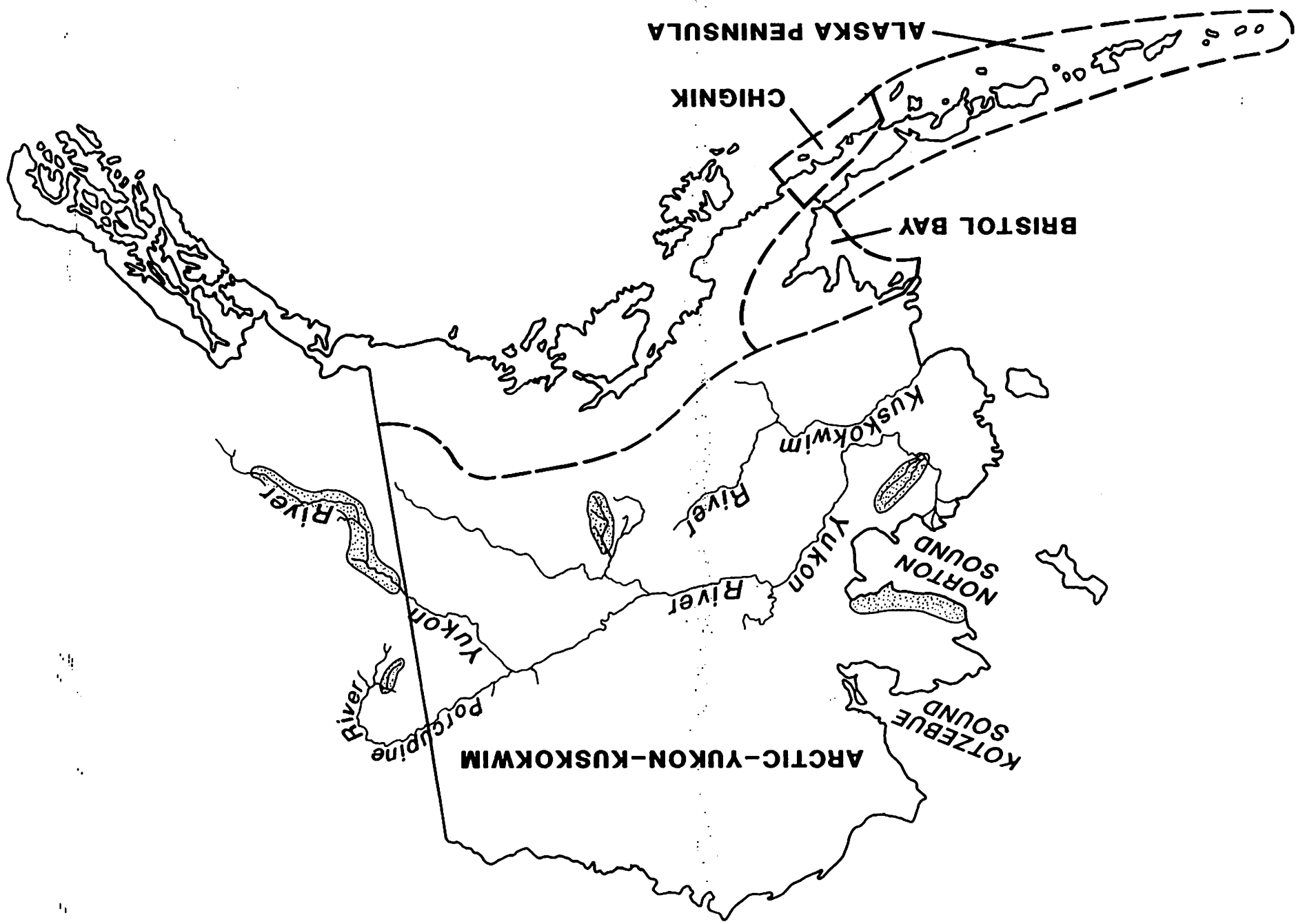
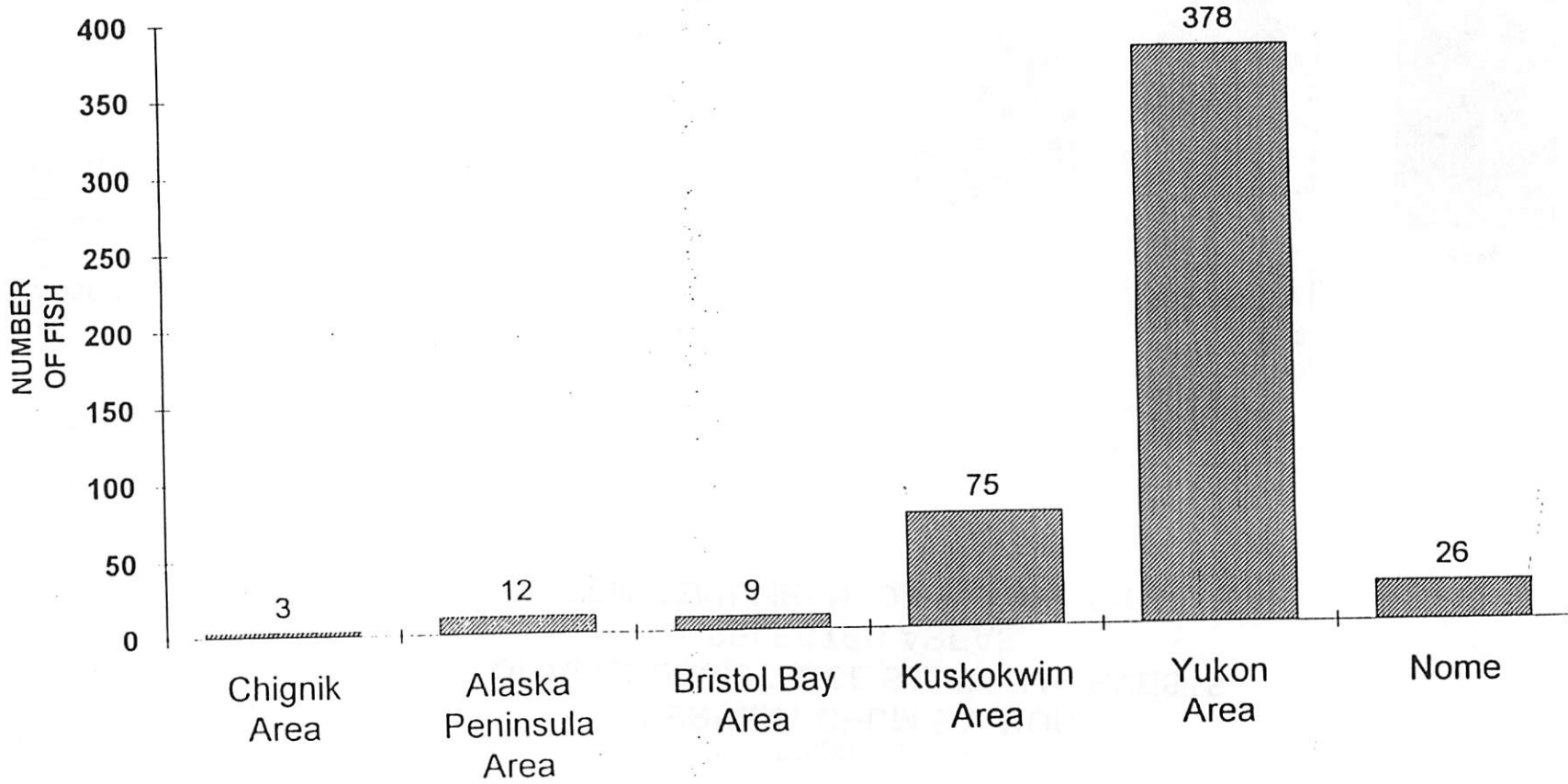


Figure 1. Western Alaska-Bering Sea Region noting chum salmon stock where there are conservation concerns.

FIGURE 2.
SUBSISTENCE CHUM SALMON HARVESTS,
CHUMS PER PERMIT OR HOUSEHOLD,
TEN YEAR AVERAGE (OR EQUIVALENT)



From: Division of Subsistence, ADF&G, November 1993 report entitled "Subsistence chum salmon harvests Chignik, Alaska Peninsula, Bristol Bay, and AYK Areas".

FIGURE 3.
PERCENT CHUM SALMON
OF ALL SUBSISTENCE SALMON HARVESTS,
SELECTED AREAS,
TEN YEAR MEAN (OR EQUIVALENT)

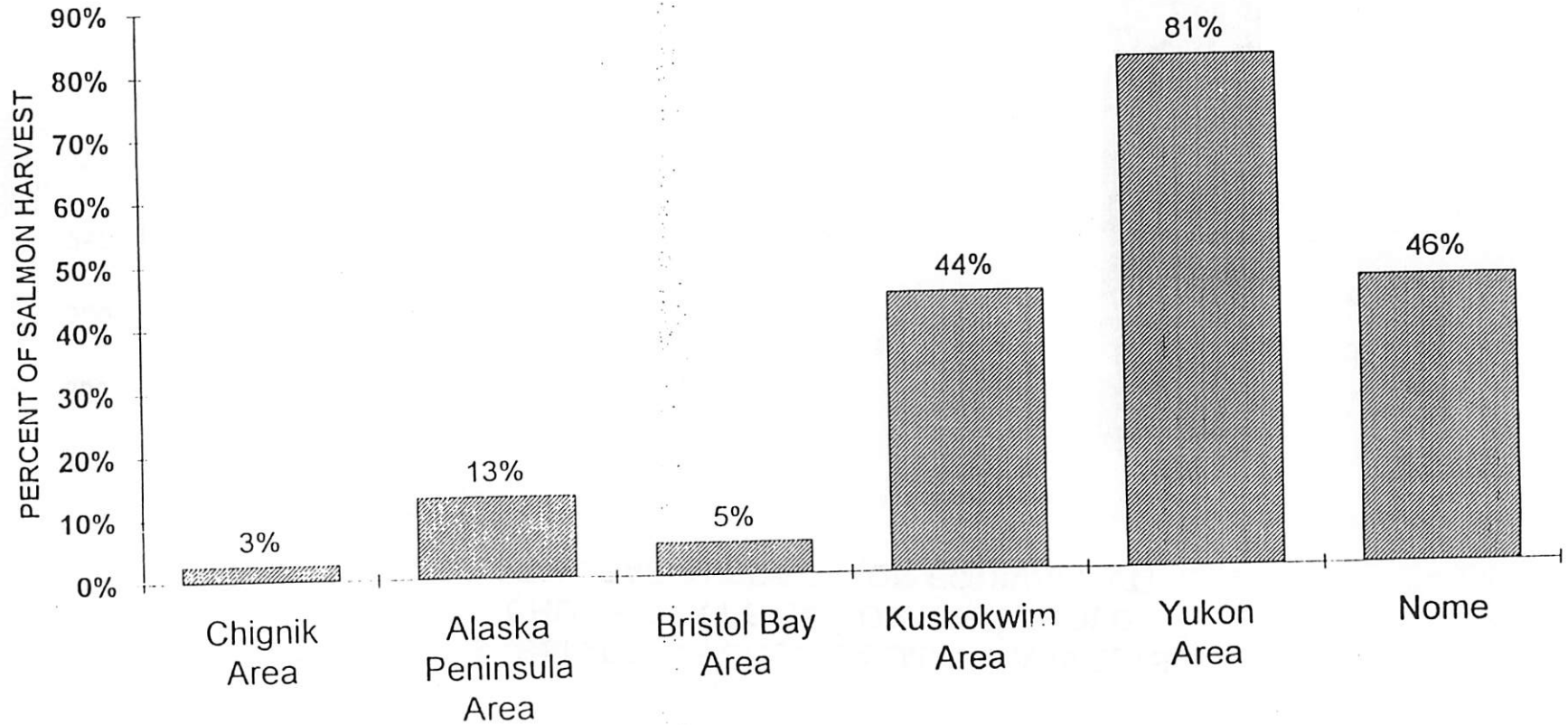


Table 1.

Estimated Arctic-Yukon Kuskokwim Chum Salmon Catch (in thousands)
 in Alaska Subsistence fisheries and the Canadian Yukon River Aboriginal fisheries

Year	Kuskokwim a/	Yukon River					Norton Sound b/	Kotzebue Sound c/
		Summer Run	Fall Run			Total		
			U.S.	Canadian Aboriginal Fishery				
1979	161.2	191.3	214.9	11.0	417.2	12.0	14.6	
80	165.2	167.7	167.6	9.2	344.5	19.6	10.6	
81	157.3	117.6	177.2	5.4	300.2	32.9	17.8	
82	190.0	117.4	132.1	4.1	253.6	18.6	30.2	
83	146.9	149.2	187.9	3.2	340.3	N/A	10.3	
84	142.5	166.6	172.5	5.8	344.9	N/A	15.5	
85	96.8	157.7	203.9	5.2	366.8	N/A	31.5	
86	142.9	182.3	163.5	2.8	348.6	N/A	50.5	
87	70.7	174.9	361.7	3.7	540.3	N/A	10.0	
88	118.2	202.9	156.5	3.0	362.4	N/A	13.7	
89	132.9	168.8	209.3	5.4	383.5	N/A	5.5	
90	108.6	117.8	177.7	6.1	301.6	N/A	8.3	
91	93.0	118.5	145.6	4.0	268.1	N/A	14.7	
92	88.0	142.2	107.9	2.1	252.2	N/A	14.3	
93	N/A	N/A	N/A	5.7	N/A	N/A	15.4	

a/ Subsistence harvest numbers from 1985-92 are for both Kuskokwim Bay and River. For the period from 1979 to 1984, numbers are for harvest reported as "small salmon" on the Kuskokwim River only and includes small numbers of small chinook, sockeye and coho salmon.

b/ Subsistence salmon harvest surveys have only been conducted on a sporadic and incomplete basis in Norton Sound since 1982.

c/ Numbers for Kotzebue Sound are minimum estimates. Subsistence salmon harvest surveys have typically been conducted for only a few selected villages in Kotzebue Sound each year, and data have not been expanded for fishers not contacted. The city of Kotzebue is the largest community in the area, and since 1979 was included in the harvest survey only in the year 1986. Harvest numbers are higher in 1982 and 1985 than for most other years primarily because more villages were surveyed in those two years than normal.

Subsistence fishing for chum salmon in many rural areas has been and continues to be of central importance to families and communities, making important contributions to the lives of thousands of rural Alaskans. The economy in many rural villages is referred to as a "mixed, subsistence-cash economy". Revenue from the commercial fishery goes toward basic needs and such things as gas for outboards and snow machines and equipment for subsistence food gathering.

Subsistence fisheries in northern Norton Sound and portions of the Yukon River have been impacted by poor chum salmon runs in recent years. In 1993 there was a subsistence closure on the entire Yukon River for the first time in history. There were also subsistence closures and restrictions on the Kuskokwim, also for the first time in history. These closures lead to tremendous hardship in the areas affected. Based on the preliminary outlook for chum salmon returns in 1994, it is expected that some subsistence restrictions or closures may be necessary in 1994 as well.

Commercial

The estimated total chum salmon commercial catch for Western Alaska-Bering Sea inshore fisheries has varied from 2.4 to 7.7 million fish (Figure 4, Table 2 and 3). The catch in 1993 was by far the lowest during that period.

The bulk of the chum salmon caught in the various fisheries in AYK (Figure 5, Table 2) are taken in directed fisheries managed for chum salmon (the exception is Kuskokwim Bay where chum salmon are managed as incidental to chinook and sockeye salmon). Since 1979, the estimated commercial catch has ranged from 1.4 to 3.7 million fish until the 1993 catch of only 0.4 million. There has been a trend toward a declining chum salmon catch for AYK as a whole. The decline has been most apparent for Norton Sound and the Yukon River. The catch in 1993 was the lowest since the initial development of the fishery in the late 1960's. Commercial salmon fishing has been all but eliminated in portions of Norton Sound for 7 years due to subsistence needs and stock conservation concerns.

In Bristol Bay, chum salmon are caught incidental to the sockeye salmon fishery. There are no formal management plans for chum salmon. During the past 15 years, the estimated commercial catch of chum salmon in Bristol Bay has varied from 0.7 to 2 million fish (Figure 4, Table 3). The catch in 1993 was the lowest of that period.

Chum salmon are caught incidental to sockeye during the June South Alaska Peninsula fishery. Chums are also taken in directed fisheries on the North Peninsula and in a post-June fishery on the South Peninsula. During the last 15 years, the estimated total commercial chum salmon catch for the Alaska Peninsula has ranged from 0.5 to 2.6 million fish (Figure 4, Table 3). There has been a trend toward lower overall chum salmon catches in recent years.

Figure 4. Estimated Commercial Harvest of Chum Salmon (millions) in the Chignik, Alaska Peninsula and Bristol Bay Regions.

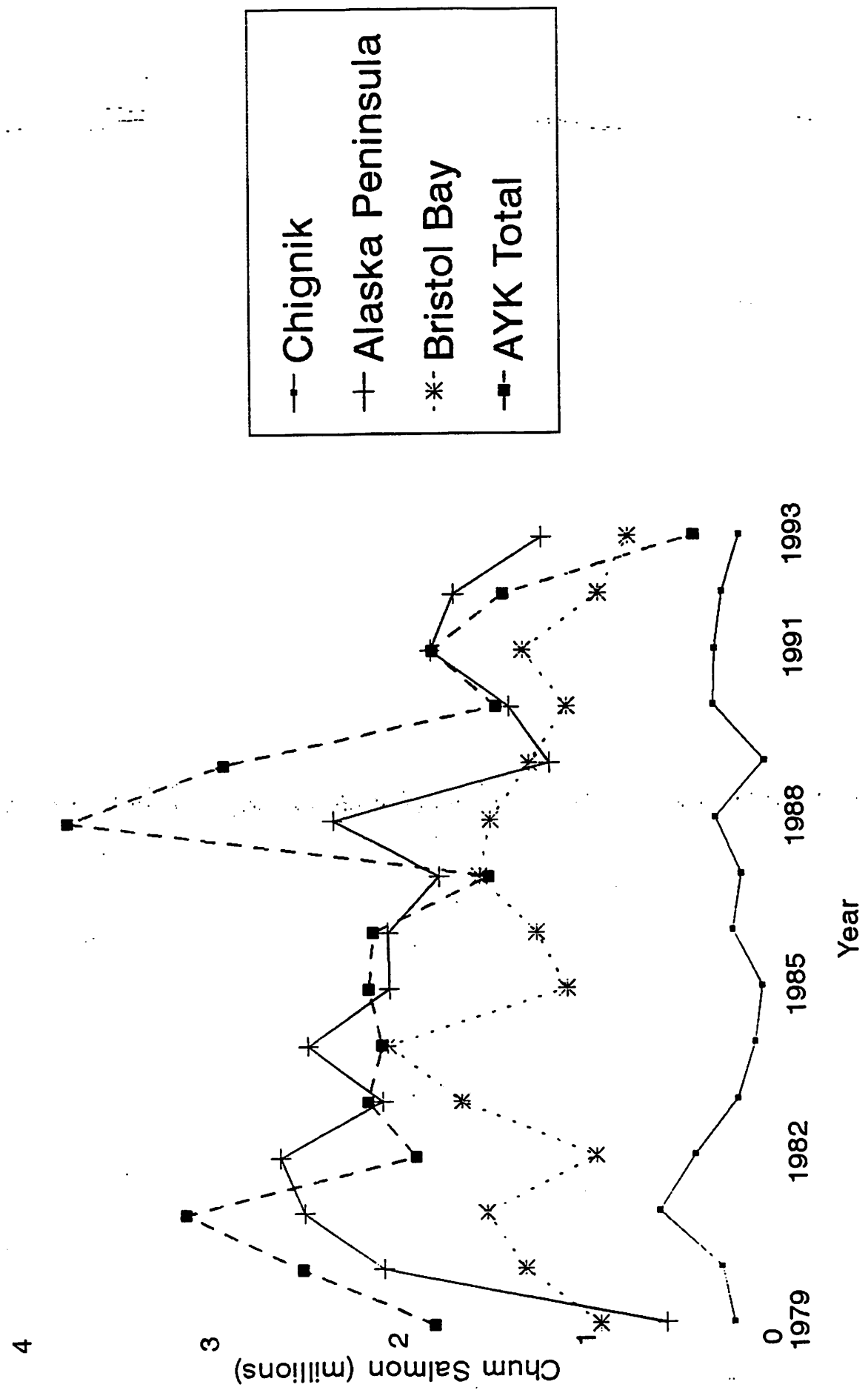


Table 2.

Estimated Commercial Harvest of Chum Salmon (In thousands)
in the Arctic Yukon - Kuskokwim Region.

Year	Yukon River							
	Kuskokwim Bay and River	Summer Run	Fall Chum			Norton Sound	Kotzebue Sound	AYK Total
			U.S.	Canadian	Total			
1979	297.2	819.5	378.4	9.1	1207.0	140.8	141.5	1786.5
80	561.5	1067.7	398.4	9.0	1375.1	180.8	367.3	2484.7
81	485.6	1279.7	477.7	15.3	1772.7	169.7	677.2	3105.2
82	325.5	717.0	225.0	11.3	953.3	183.3	417.8	1879.9
83	306.5	995.5	307.7	26.0	1329.2	319.4	175.8	2130.9
84	488.5	866.0	210.6	22.9	1099.5	146.4	320.2	2054.6
85	224.7	934.0	270.3	35.7	1240.0	134.9	521.4	2121.0
86	349.3	1188.8	140.0	11.5	1340.3	146.9	261.4	2097.9
87	603.3	622.5	.0	40.6	663.1	102.5	109.5	1478.4
88	1443.9	1620.3	164.2	30.3	1814.8	108.0	352.9	3719.6
89	802.2	1463.2	301.9	17.5	1782.6	42.6	254.6	2882.0
90	522.5	513.9	143.4	27.5	684.8	65.1	163.3	1435.7
91	501.7	651.2	258.1	31.4	940.7	86.9	239.9	1769.2
92	436.5	545.5	20.4	18.6	584.5	83.0	289.0	1393.0
93	95.0	142.0	.0	7.8	149.8	54.0	71.0	369.8

Figure 5. Estimated Commercial Harvest of Chum Salmon (m. tons) in the Arctic Yukon - Kuskokwim Region.

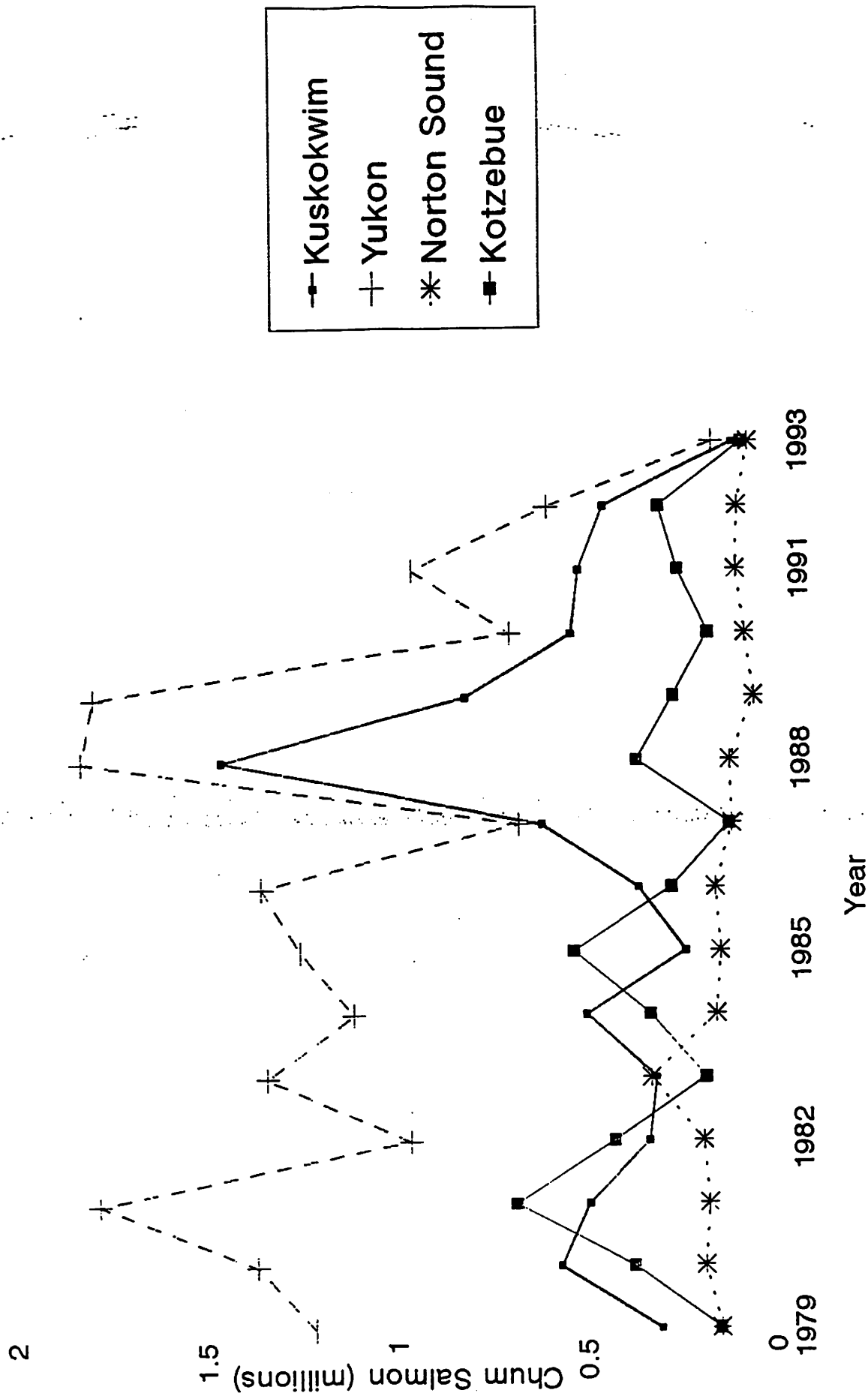


Table 3.

Estimated Commercial Harvest of Chum Salmon (In thousands)
 in the Chignik, Alaska Peninsula and Bristol Bay Regions.

Year	Alaska Peninsula					
	Chignik	South Peninsula		North Peninsula	Total	Bristol Bay
		June	Post-June			
1979	188.9	104.1	378.1	65.7	548.5	906.8
80	252.5	508.9	844.0	700.2	2053.1	1301.0
81	580.3	564.0	1201.5	706.8	2472.3	1504.8
82	390.1	1095	1171.5	331.1	2597.6	921.4
83	159.4	785.7	917.2	348.7	2051.6	1632.2
84	63.3	337.1	1312.3	796.7	2446.1	2022.7
85	22.8	433.8	912.6	666.6	2013.0	1068.5
86	176.6	351.8	1394.3	271.2	2017.3	1227.1
87	127.3	443.1	929.8	368.7	1741.6	1529.1
88	267.8	526.7	1381.8	393.1	2301.6	1469.3
89	1.6	455.2	538.9	157.2	1151.3	1258.8
90	270.0	518.8	719.1	126.1	1364.0	1058.5
91	261.1	776.1	809.5	191.3	1776.9	1289.7
92	222.1	428.1	884.5	341.6	1654.2	884.9
93	122.4	533.3	514.4	135.0	1182.7	723.8

In the Chignik area, chum salmon are taken incidental to sockeye salmon as well as in chum directed fisheries. During the last 15 years, the estimated commercial chum salmon catch for the Chignik area has ranged from 1,600 to 580,300 fish (Figure 4, Table 3).

Sport, Personal Use, and Domestic

Compared to subsistence and commercial harvest, the magnitude of the chum salmon catch in other types of fisheries is very small. In AYK (including the Yukon River in the Yukon Territory) for example, the annual chum salmon sport catch is on the order of a few thousand fish. From the summer of 1987 to the summer of 1990 there was a personal use fishery for part of the Western Alaska-Bering Sea region and small numbers of chum salmon were reported under this fishery instead of the subsistence fishery. In the Yukon Territory there is a small domestic fishery which takes a few hundred chum salmon in some years.

SPAWNING ESCAPEMENTS AND CONSERVATION CONCERNS:

This section provides an overview of the information available concerning chum salmon spawning escapements. Because of the number of individual chum salmon spawning stocks, the size of the region and a variety of other factors, we do not have total counts on chum salmon escapements to the Western Alaska-Bering Sea region. Escapement goals are in place for some systems across the region. Escapement assessment projects utilize sonar, weirs, towers, and ground and aerial surveys.

Chum salmon escapement goals for individual AYK systems range from more than 500,000 fish (for the Anvik River in the Yukon River drainage, a summer chum stock) to several thousand (for a number of streams in Norton Sound). The track record in achieving chum salmon escapement goals varies from system to system. The escapement goal on the Anvik River, for example, has been achieved 10 out of the past 15 years, while the goal on the Toklat River has been achieved only twice in that same period. In 1993, more than 60% of key AYK chum salmon spawning streams did not reach escapement goals in spite of the drastic management actions that were taken. The development of main river sonar projects is expected to provide a more comprehensive assessment of total stock size in some portions of AYK than have been historically available.

There are conservation concerns for a number of AYK stocks. A stock is defined a conservation concern when it exhibits a chronic inability to meet its escapement goal despite specific significant management actions being taken to rebuild it. We have conservation concerns for the following stocks/stock groups:

YUKON RIVER: Andreafsky River, Toklat River, Fishing Branch River, and Canadian Yukon River mainstem systems.

NORTON SOUND: Nome River, Snake River, Flambeau River, Eldorado River, Sinuk River, Solomon River, Fish River, Tubutulik River, and Kwiniuk River.

Other stocks in AYK may join this group of conservation concerns if trends are not reversed (for example, the Aniak River in the Kuskokwim River Drainage).

There are no formal chum salmon escapement goals for Bristol Bay systems. Index counts in major system complexes demonstrate that significant numbers of chum salmon spawn in Bristol Bay river systems. Index counts in the Nushagak and Togiak systems for example have averaged more than a quarter million fish annually over a period from 1973-92. The Egegik, Naknek-Kvichak, and Ugashik districts are smaller chum producers. Chum escapement counts in 1993 were below average.

Chum salmon index spawning escapement goals are in place for a number of Alaska Peninsula systems. The index goal for North Peninsula systems is 307,000-613,000 chums. This goal was achieved in 10 out of the past 15 years including 1993. The index goal for the South Peninsula is 250,000-690,000 chums. This goal has been achieved 13 of the past 15 years including 1993. Overall, Alaska Peninsula area chum salmon stocks appear to be healthy.

The chum salmon index spawning escapement goal for the Chignik area is 161,600 to 323,200 fish. This goal has been achieved in 10 out of the past 15 years including 1993. Overall, Chignik area chum salmon stocks appear to be healthy.