

North Pacific Fishery Management Council

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MINUTES
SCIENTIFIC & STATISTICAL COMMITTEE MEETING
MARCH 20-21, 1979

The SSC met in Seattle March 20th and 21st at the Northwest and Alaska Fisheries Center. All members were present except Dr. Crutchfield.

KING CRAB

The SSC assigned a subcommittee to review the draft king crab FMP and suggest a course of action. This group met on Monday prior to the meeting of the whole Committee on Tuesday. As a result of this review and further SSC discussion, certain actions are recommended.

We recognized that the king crab fishery is entirely a domestic fishery currently under a management and research program of the State of Alaska with supportive research by NMFS and that there is no compelling urgency to implement an FMP. The current management regime covers a large area and a diversity of stocks with a great amount of variation of biological and fishery data. Any plan describing this fishery and the rationale for management actions will be lengthy and complex. The SSC has only had the draft plan in its possession for two weeks - an inadequate review period. Due to all these factors we feel no attempt should be made to rush a plan forward. Rather, a careful and, if necessary, lengthy review should be undertaken.

With this in mind the SSC made some initial observations and recommendations on the draft plan. The Committee noted that the plan essentially recommends acceptance of the current State management regime for king crab. While this may, in fact, be a logical initial basis for plan development, the present draft lacks supportive data for some strategies and presents no evaluation of alternatives. As a starting point the SSC has recommended that the team present an analysis of available data regarding one of the more important management concepts - the use of harvest limits to promote a multiple age class harvestable stock both to safeguard reproduction and promote stabilization of annual yield. It was suggested that one or two example populations be chosen and data on age, size, natural and fishing mortality be given. It was recommended that the team utilize the expertise of Reeves and Morasco in this analysis. The team will report to the Committee by early April on the time required to accomplish this task.

Further, SSC members were requested to submit to Dr. Fukuhara, chairman of the review subcommittee their detailed substantive and editorial

comments on the draft FMP by the first week in April with a copy to the SSC chairman. The subcommittee (Fukuhara, Bevan, Lechner, and Rogers) will meet to consolidate and prioritize these comments for presentation to the full Committee at their next meeting. As a result of this next meeting the SSC will present the team with a written series of recommendations for reviewing or clarifying the draft.

The SSC reviewed a memo from Dr. Otto on definitions and recommended some changes in the wording for ABC and DAH.

BERING SEA/ALEUTIAN ISLANDS GROUND FISH PLAN

The Committee studied the final draft of the Bering Sea and Aleutian Islands FMP and in particular the sections dealing with marine mammals (10.2 and Annex V); Expected Domestic Annual Harvest and Processing Capacity (12.2); Domestic Regulations and Statistical Report (14.3.1); Limited Entry; Reserves; and the specific Aleutian Islands foreign closures.

Essentially the SSC recommends the Council adopt the plan using the options for foreign closures along the Aleutians proposed by the management plan drafting team (chartlet 2, Attachment B).

In addition the following comments are intended to provide you with some background as to our perception of the total plan and those subparts needing further consideration.

Marine Mammals

In response to a criticism of the plan by the Marine Mammal Commission we considered a new part of the plan, drafted by Dr. Low dealing with the relationship of the plan to marine mammals and the MMA to the FCMA. We felt that the new section -- 10.2 and Annex V -- dealt adequately with the Marine Mammal Commission comments and should be considered our formal response. We did feel, however, that new material raised the issues of what is an optimum sustainable population and what criteria are used in this evaluation. The Committee suggests that these sections be sent to the Marine Mammal Commission for their evaluation as they appear central to the Marine Mammal arguments for appropriate marine mammal consideration in the plan and FCMA, Marine Mammal Commission coordination.

Expected Domestic Annual Harvest and Processing Capacity

The Committee learned that the plan had been reviewed by NOAA General Counsel and that a preliminary determination had been made indicating the plan adequately complied with the new processor preference amendment, essentially stating that the DAH equalled the DAP.

Some members of the Committee felt that in the future past performance of the processors should be considered into the equation somehow - tempering optimism with experience. The plan we feel should also contain a comparison of the requested DAH and actual harvest for 1978. We noted that the DAH figures for 1979 are the same as those for 1978 and that apparently the resurvey of processors recommended by the SSC had not yet been carried out by the NMFS Regional Office.

Additional the Committee felt some mechanism should be provided in the plan to transfer unused DAH in a timely manner to reserve. The following language was acceptable: "If the Council determines that some amount of any DAH will not be taken by the domestic fishery that amount will be transferred to reserve unless such transfer is likely to have an adverse biological, economic, or social consequence."

Domestic Catch/Statistical Reporting

Our concern for domestic catch reporting stems from a desire to make the domestic and foreign collection systems uniform and reasonable. We, as a group, however, are willing to take the following approach: allow the plan to be approved and adopted using the current state fish ticket system for domestic harvest plus a combination of logbooks, port samples, and/or observers. Ask the PDT to decide what the characteristics of a groundfish data collection system should be and then what system could be designed to meet these needs in the long run. The PDT should explore the use of recording by coordinates on logbooks, the need for more precise catch reporting for nearshore bay fisheries than $\frac{1}{2}^{\circ} \times 1^{\circ}$ and possible amendments for offshore catch reporting. A problem currently exists with the reporting requirements of joint ventures which surfaces the need to coordinate and cooperate with the state to unify domestic and foreign catch reporting requirements.

Our recommendation recognizes this plan will initially allow two systems for data collection to exist, but we believe a consistent system for catch reporting can be designed and this intent is reflected in the plan. We also note the plan anticipated this problem and allows some time for a coordinated NMFS, ADF&G, AP, and SSC agreement to develop.

Limited Entry

We have no further comments except to say the issue should be explored, now, while the U.S. industry is developing and not afterward.

Aleutian Island Closures

We considered the options open to review regarding foreign closure along the Aleutians and support the latest recommendation of the PDT. We note however this option emphasizes a longline sanctuary between 172° W and 179° E and that the matter is being considered between several Japanese fishing groups. It is our contention that proposals differing from the

recommendations of the PDT should be considered as future amendments if waiting would delay plan implementation. The Committee learned, however, that any new proposal offering less restrictive trawl provisions than those recommended by the PDT were unacceptable to the team. The PDT leader informed the Committee that they were continuing to work on the rationalization of restrictions in the Bering Sea groundfish fishery; - the combination of savings areas was specifically mentioned.

TETRA TECH

The Committee reviewed the final report by Tetra Tech on "The Effects of Hydraulic Clam Harvesting in the Eastern Bering Sea" and has the following comments.

1. The contractor did respond to our only two criticisms of the draft final report and has presented more information on marine mammals and on future research.
2. The PDT still has problems with the basic assumptions of the marine mammals section as does the SSC but we feel it was enlightening in terms of possibly identifying an area of future research.
3. We did not accept the recommendation for future studies insofar as the 1979 field season is concerned. The Committee felt that a 1979 follow up sampling program was designed originally into the contract on the premise of probable major impacts associated with the results of the 1978 research. Because no major environmental impacts were documented and because of the high natural variability between and among samples we feel no follow up is necessary or desirable for this summer.
4. Our highest recommendation for future research appears to lie in the management plan and the opportunity it permits for research activity coordinated with the fishery operation. We believe the PDT has this in mind and will utilize a progressive research design in the plan for the fishery. We do not feel the funding for this research is necessarily a Council project.
5. The Committee felt another high research priority was an analysis of walrus stomachs to gather seasonal food preference data. Realizing this issue is sensitive it is nonetheless imperative to understand the actual contribution of the surf clam to the walrus diet in the area of potential commercial clam harvest. It may also be desirable to verify or document population levels of walrus in the harvest area seasonally.
6. Last we discussed the analysis of data by the contractor and expressed some concern over the analysis as presented in the report. Some members felt the analysis lacked proper scientific procedure and did not support key conclusions with current literature or with current progressive benthic theories.

7. Our strongest statement about the report is that the study did provide an insight into the effects of clam harvesting and does provide the basis for the EIS for the clam plan. In essence no significant detrimental effects on the substrate or benthic communities could be demonstrated from the research dredging operation.

8. We further believe comments by the assistant director should be addressed to the final report and pending satisfactory completion of those comments that the report fulfills the requests of the contract.

9. We also recommend that an independent analysis of the data be considered by the Council in the event the EIS is challenged.

SABLEFISH

We wish to call to your attention the fact that the NMFS, NWAFC will be presenting a paper by next month's meeting on bio-economic considerations of trawl versus longline directed harvest for sablefish. The paper will consider the value and size of sablefish harvested by the two gears and factors relating to the incidental harvest of other species.

BERING SEA HERRING

The Committee reviewed two progress reports on Bering Sea herring from ADF&G, one detailing the results of last year's work and the other giving the operational plans for 1979. A number of comments and suggestions were made which the research personnel will consider in finalizing this year's plans. In general, the Committee thought that the plan document was well written and addressed the major contract objectives and primary management plan needs for this fishery.

TROLL OBSERVER PROPOSAL

Apparently no proposal for a troll observer program in 1979 will be forthcoming.

TANNER CRAB

You will be receiving a paper on Bering Sea Tanner crab management options from the plan drafting team. The paper presents possible options you may wish to consider based on the change in C. opilio distribution in 1979 and the possibility that the Japanese may have difficulty filling their quota north of 58° N. We examined the document and concluded that while we cannot demonstrate that a stock conservation problem will exist it makes good sense to spread the effort over as much of the population as feasible. Therefore, if the U.S. Fleet will not be economically or operationally disadvantaged the Council may wish to consider option II or III allowing the Japanese to fish south of 58° N. It seems from the data that this can be accomplished with minimal harvest of C. bairdi. Japanese fishery performance has not led to a formal request for regulation change, but the Council may wish to get the AP reaction to this paper at this time anyhow.

Committee Meetings

Last month the Committee felt there was a need to meet with the AP at the March meeting; however, since we met in Seattle, this meeting was not held. The Committee expressed interest in scheduling a joint meeting with the AP sometime in the future.

DOCUMENTS REVIEWED

(Attached)

FUTURE MEETINGS

The SSC will meet in Anchorage April 25-26, 1979. The agenda will include:

1. King Crab FMP
2. Herring FMP
3. ADF&G Computer Contract Review
4. Alternates
5. SE Coho Chinook Plan Progress
6. ADF&G Tag Recovery Contract Progress Report
7. SSC Staff Support
8. DAH Subcommittee Progress

It is understood that the King Crab Subcommittee (Fukuhara - Chairman, Lechner, Bevan and Rogers) will meet prior to this date to consolidate SSC comments on the plan.

The SSC also plans a May meeting in Anchorage on May 24-25.

DOCUMENTS REVIEWED

March 20-21, 1979

1. "FMP and DEIS for the Groundfish Fishery in the Bering Sea/Aleutian Island Area" dated March 23, 1979 - Draft.
2. Marine Mammal Section for Bering Sea/Aleutian FMP attached to memo dated March 7, 1979 to Bert Larkins from Loh-Lee Low.
3. Two inserts to be placed in BSA/Aleutian Groundfish FMP on Section 13.1 (Reserves) and Section 14.3.1.6 (Limited Entry).
4. FMP for Alaska King Crab (no date).
5. Memo to Steve Pennoyer from Bob Otto dated February 20, 1979, regarding definitions.
6. Third Progress Report entitled "Assessment of Spawning Herring and Capelin Stocks at Selected Coastal Areas in the Eastern Bering Sea", by Louis H. Barton.
7. Fourth Progress Report, 1979 Operational Review "Assessment of Spawning Herring and Capelin Stocks at Selected Coastal Areas in the Eastern Bering Sea, March, 1979."
8. Final Report "Effects of Hydraulic Clam Harvesting in the Bering Sea" February, 1979.
9. Possible options for management of the Japanese Tanner crab fishery in the eastern Bering Sea by the Tanner Crab Plan Development Team.

3/21/79

Possible Options for Management of the Japanese
Tanner Crab Fishery in the Eastern Bering Sea
in 1979

Tanner Crab Plan Development Team

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Possible Options for Management of the Japanese Tanner Crab Fishery in the eastern Bering Sea in 1979

The 1978 National Marine Fisheries Service trawl survey in the eastern Bering Sea indicates that stocks of C. opilio have decreased in abundance (table 1) and changed their distribution (figure 1) since the last comprehensive survey in 1975. Calculations of ABC based on the 1978 data indicate that the 15,000 mt FAC for Japan may not be achieved north of 58° N latitude (table 2). Initial data from the 1979 Japanese fishery (table 3) tend to corroborate the survey findings. Thus, it is possible that the Japanese Tanner crab industry may request an additional^{1/} expansion of fishing grounds south of 58° to increase their catches.

The purpose of this report is to present options for dealing with this situation if it arises. Any options, however, must be considered against the background of current and future development of the U.S. Tanner crab fishery. Figure 2 shows the extent and concentrations of the U.S. C. bairdi fishery for the last three years. Areas of heavy catch and effort (shaded areas) have remained relatively stable. However, the extent of the fishery has expanded, primarily to the north. The 1978 fishery occurred close to the 58° line in several areas.

The first reported U.S. directed catch of C. opilio occurred in 1978. The extent and concentration of this fishery is shown on figure 3. Intentions to further increase the harvest of C. opilio have been expressed by the U.S. industry^{2/}. This, in conjunction with the 1978 information of the distribution of large male C. opilio, which shows heavy concentrations between

^{1/} An amendment to the Tanner Fishery Management Plan allowing a Japanese fishery south of 58° and west of 173°E longitude was approved in early March 1979.

^{2/} Testimony of industry representatives at the December 1978 meeting of the Alaska Board of Fisheries, Juneau, AK

57° and 58° (figure 4), points to a possible northern expansion of the C. opilio fishery in 1979. Thus, many areas in the region directly south of 58° appear to be of high interest to the U.S. fleet.

Owing to the apparent changes in abundance and distribution of C. opilio, maintaining the status quo in terms of fishing grounds and FAC available to the Japanese fleet has possible adverse implications for management policy currently in the FMP. For example, if the total FAC is taken from areas currently available (north of 58° and south of 58°, west of 173° longitude) and distribution data from the 1978 survey is verified by the fisheries, then the optimum exploitation rate of .58 specified in the FMP would be exceeded. The magnitude of this problem is tempered by the fact that there is a divergent view that feels the .58 figure is too low. Additionally, overexploitation of a small part of the stock may not be significant in terms of the viability of the entire stock.

With the foregoing alternatives in mind, the following options are proposed:

Option I - Maintain the ^[line at 58° N.] status quo.]

This would result in no direct conflicts with the U.S. fleet. However, overexploitation of that portion of the stock north of 58°N is a possibility. To avoid this, the FAC could be reduced to around 5,500 mt and/or the Japanese fleet encouraged to explore in areas not surveyed, i.e., between 164° and 170°E longitude.

Option II - Allow the Japanese fleet south of 58° and east of 173°E after the U.S. fleet leaves the area

This would result in no direct conflict with the U.S. fleet, should not result in overexploitation of the stock, and would provide data on CPUE

comparisons north and south of 58° which would be useful in stock evaluation. The timing of this extension of fishing grounds, however, would be dependent on the timing of the U.S. fleet operations on C. bairdi and C. opilio.

Option III - Allow the Japanese fleet south to $57^{\circ}30'$ and east to 164° .

This would result in utilization of fishing grounds not fished by the U.S. fleet during the 1978 season, but could lead to gear conflicts if the U.S. fleet operated here in 1979. However, it should not result in overexploitation of the stock and would presumably provide more timely CPUE comparisons north and south of 58° .

Table 1. Comparisons of trawl area-swept estimates of abundance for C. opilio, eastern Bering Sea.

Year - Size Group	Millions of crabs	Average weight (lbs.)	Millions of pounds
1975 > 115	431	1.79	772
1978 > 99	187	1.26	235

Table 2. ABC estimates for C. opilio, eastern Bering Sea, by degree of latitude

Degree of North Latitude	ABC (Millions of lbs.)	ABC (Metric tons)	Percent of Total ABC
59°01' - 60°00'	4.7	2127	3
58°01' - 59°00'	7.4	3357	6
57°01' - 58°00'	83.5	37867	61
56°01' - 57°00'	32.5	14729	24
54°30' - 56°00'	8.2	3732	6
Total	136.3	61812	100

Table 3.--Comparisons of catch rates for the Japanese crab mothership fishery, between 1978 and 1979.

1978				1979				
<u>Week</u>	<u>Dates</u>	<u>Average daily catch (mt)</u>	<u>Cumulative average (mt)</u>	<u>Week</u>	<u>Dates</u>	<u>Average daily catch (mt)</u>	<u>Cumulative average (mt)</u>	<u>% Change</u>
1	3/12-3/18	41.25	41.25	1	2/24-3/2	26.91	26.91	-35%
2	3/19-3/25	87.47	64.37	2	3/3-3/9	51.27	40.94	-36%
3	3/26-4/1	94.23	74.32	3	3/10-3/16	67.82	50.68	-32%

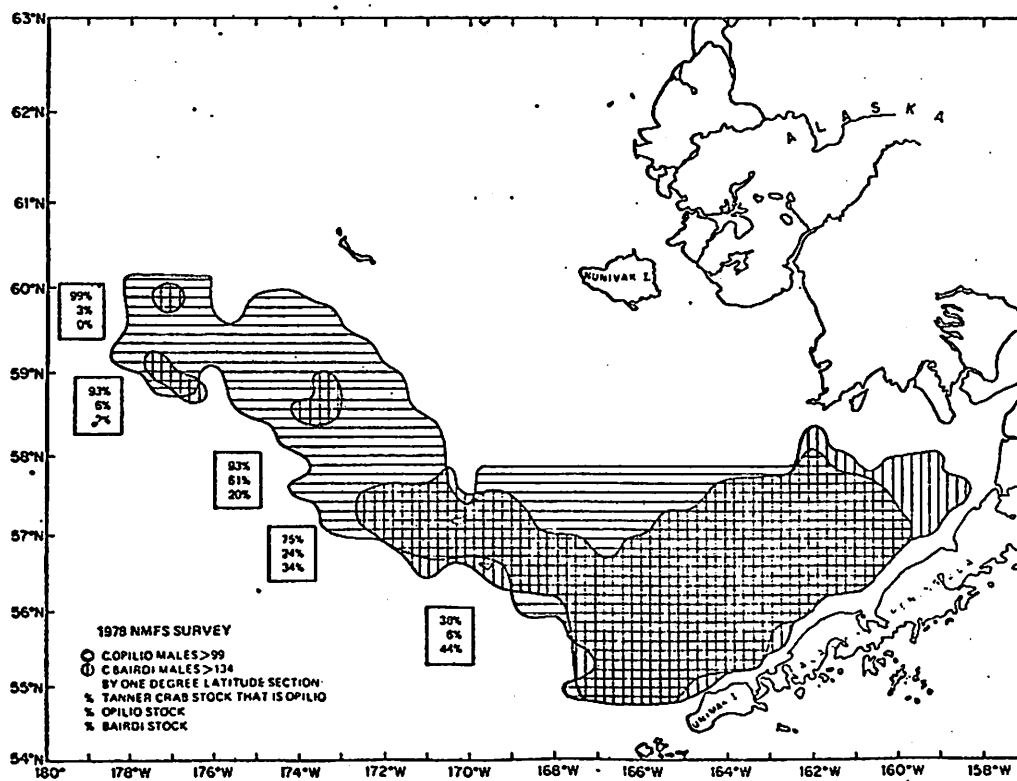
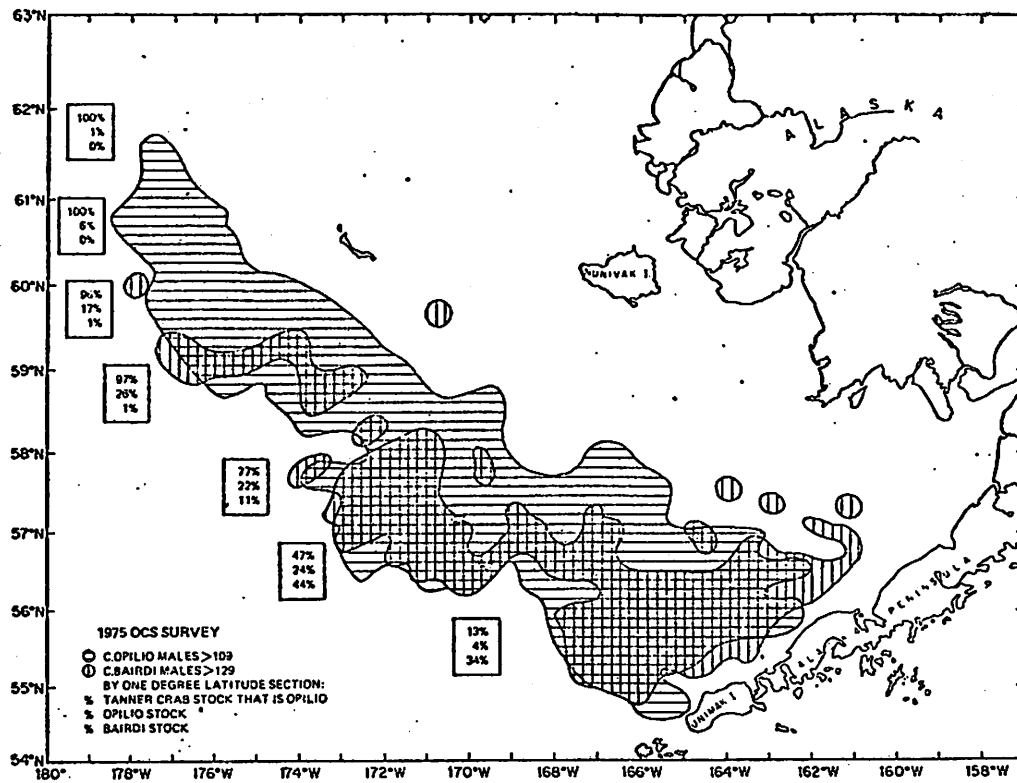


Figure 1. Comparisons of distribution of *C. bairdi* and *C. opilio* in the eastern Bering Sea, 1975 (top) and 1978 (bottom).

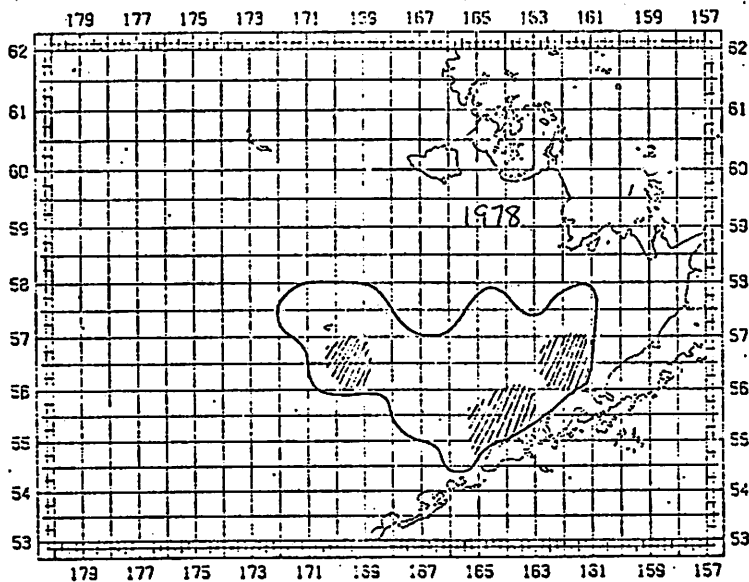
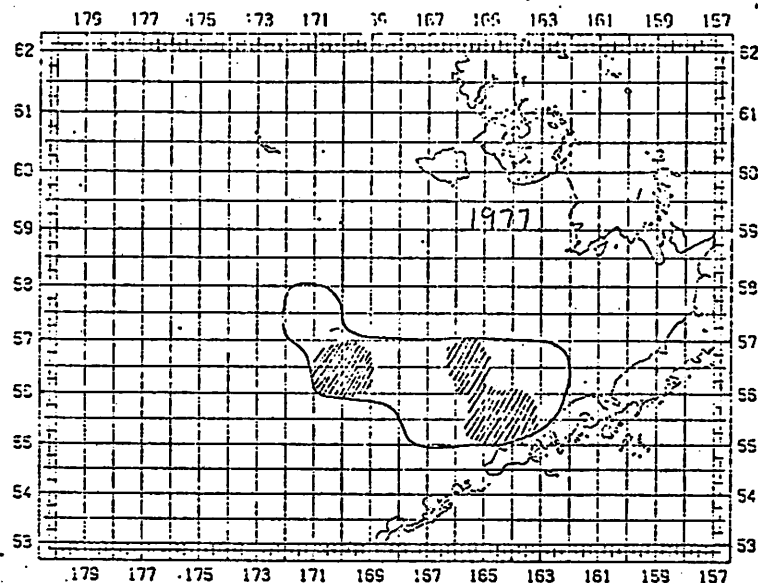
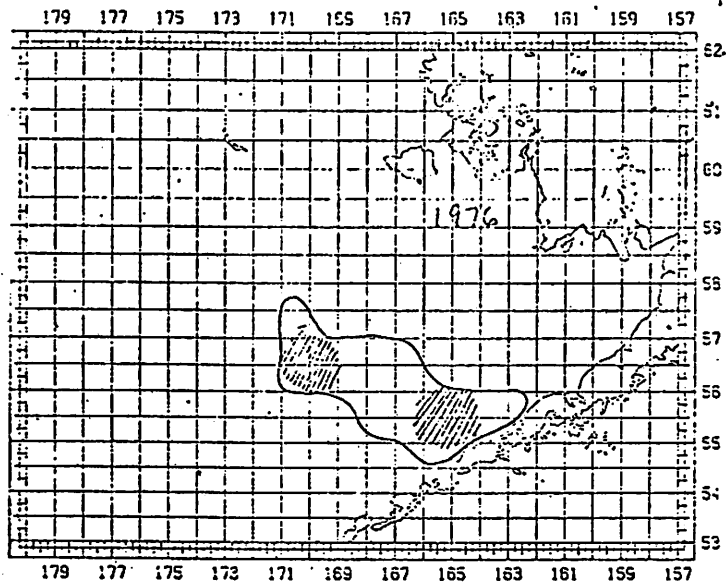


Figure 2.--Extent and concentration of catch and effort (shaded areas) of the U.S. C. bairdi fishery, 1976-78.

