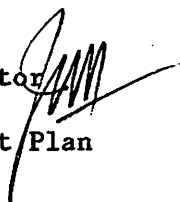


Agenda Item VII-4  
August, 1979

MEMORANDUM

DATE: August 20, 1979

TO: Council Members, Scientific & Statistical Committee and  
Advisory Panel

FROM: Jim H. Branson, Executive Director 

SUBJECT: Draft Herring Fishery Management Plan

COUNCIL ACTION

*No action required. Following scheduled reviews and rewrites, the plan will to be resubmitted in October for approval to initiate the public comment period and begin public hearings.*

BACKGROUND INFORMATION

The plan has been reviewed twice by a Scientific & Statistical Subcommittee and once by an Advisory Panel Subcommittee. Each review has resulted in some rewrite by the Plan Drafting Team. As a result of these reviews, there are still several issues which have not been completely explored and refined. These are: a new mechanism for determining TALFF by applying a formula based on inseason stock assessment, various proposals for offshore trawling by U.S. fishermen and the possibility of joint ventures.

These points will be more fully explored and addressed in the draft to be presented for approval on October 4 and 5 in Sitka. At that time the decisions to be made will require an understanding of the plan's inferred joint federal/state management plan for herring.

We have received a memo from Greg Cook, Executive Director Alaska Board of Fisheries, suggesting a meeting of the North Pacific Council and the Board of Fisheries to discuss differences which may occur between the herring management plan for the Council and the Board. We intend to use the management plan as the basis for a set of comments and a briefing paper to be submitted to the Board prior to their December Board Meeting. Following that, we have proposed a meeting of both bodies sometime in February or March to avoid in Greg Cook's terms, "post-hoc acrimony" and give us all a chance of compromise.

Attachment

Greg Cook Memo to Don Collinsworth

MIH

STATE  
of ALASKA

## MEMORANDUM

AGENDA VII - 4  
August 1979TO:  Don Collinsworth  
Deputy Commissioner  
Department of Fish and Game

DATE: August 8, 1979

FILE NO:

TELEPHONE NO:

FROM: Greg Cook  
Executive Director  
Boards of Fisheries and Game

SUBJECT:

NPFMC and Board Meeting

John Gissberg and I met briefly with Jim Branson and Mark Hutton on July 25, to discuss a possible summit meeting of the NPFMC and the Board of Fisheries. Our discussion was based on the premise that several major fishery management plans will be coming before the NPFMC and synchronization by the Council with the Board is desirable.

The first such plan is Bering Sea herring. A briefing paper will be sent out by the NPFMC on Bering Sea herring prior to December, 1979. This paper will detail various options available for management. It could be useful if the full Board met with the full Council prior to the adoption of an FMP for Bering Sea herring (scheduled for June, 1980). A similar routine could be arranged for king crab. The FMP is tentatively scheduled for 1981 for king crab.

At any rate, we agreed that a reunion of both agencies sometime in February or March could avoid post hoc acrimony and give us all a chance at compromise.

I would appreciate receiving your thoughts, musings, and suggestions prior to broaching the subject with the members of the Board of Fisheries.

Thanks.

cc: Guy Thornburgh  
Steve Pennoyer  
Ron Regnart  
Jim Branson  
John Gissberg



*Herring*

UPDATE ON TOGIAC HERRING FISHERY

The purpose of this memo is to provide Board members with information on the 1979 Bristol Bay herring fishery and suggest possible responses to the questions outlined below.

The Bristol Bay commercial herring fishery was limited and sporadic until 1977 when 2535 metric tons (mt) were harvested. In 1978, the harvest increased to 7033 mt. In December, 1978, the Board of Fisheries raised the guideline harvest level to 12,000 mt. All indications are that the 1979 Bristol Bay harvest will not reach the guideline level of 12,000 mt. (Mike Nelson, ADF&G Dillingham, made a preliminary estimate of the biomass at 150,000-250,000 mt.)

Several major management issues arise as a result of the projected 1979 herring harvest being lower than anticipated:

1. Will this harvest level encourage additional industry pressure on the North Pacific Fisheries Management Council to allow a high seas trawl fishery in the area the Board recommended for closure?
2. Will this harvest level encourage foreign fishing interests to request an increase in the TALFF/Total Allowable Level of Foreign Fishing?
3. Should a guideline harvest level, management plan, or quota be set for the roe on kelp fishery in Metervik Bay?

The share of the total gillnet take increased from 10 percent in 1978 to approximately 40 percent in 1979. Residents of Bristol Bay who participate in the herring fishery are primarily gillnetters. The quality of the gill net caught herring was very high this year due to the high percentage of roe recovery and efficiency of the fleet. The predominant technique this year was to use sunken set gill nets fairly close to the beach.

Seiners again were able to purse their catch, conduct sampling to determine the percentage of roe recovery, then release fish that were not satisfactory. The prices paid varied from \$550/ton for low roe recovery to \$850/ton for high recovery.

The kelp fishery this year was much improved over last year. Spawning was described as very good, with 4-5 layers on each side of the kelp substrate. (Research in British Columbia indicates four layers is optimal.) Japanese quality controllers are very pleased with this year's high quality food. No sand was present in the roe. A price of 55¢-75¢/lb. was paid to the fishermen. In one low tide, for example, some kelpers were able to make as much as \$2,000. Average effort was approximately 30 boats and 60 people per day. On the whole, approximately 100 individuals participated in the kelp fishery. They used 43 skiffs and 25 boats of the 32-foot class.

The future roe on kelp fishery will benefit from research initiated in 1978 and continued this year. Sampling was conducted in the field.

Random areas were selected and scraped to give a biomass estimate for each beach's spawn. In addition to these surveys, some sub-tidal surveys were also conducted. Results of those data are not yet final, but seem to indicate very little spawn below the mean lower low tide line.

In the past, the roe on kelp fishery has been centered in Metervik Bay. Those engaging in the fishery have been almost exclusively local residents. This year, both the effort and the catch were high compared to 1978. The Board of Fisheries set no guideline harvest level for 1979. In 1979, one hundred twenty-three thousand pounds were harvested in Metervik Bay. As a result of this high harvest, the bay was closed by emergency order. This harvest level represents approximately 42 percent of the estimated biomass. After the closure, the kelpers shifted their effort to either side of the bay.

The rock kelp (*fucus*) substrate takes 2-3 years to regenerate after it has been picked or raked for this fishery. There is a strong likelihood of increased effort in the next several seasons in the kelp fishery. This increased effort may include participants from other areas of the State, attracted in a manner analogous to the sac roe fishery. It may be advisable for the Board to consider a management plan or set a guideline harvest level or quota for the roe on kelp fishery in Metervik Bay for the 1980 season.

Enforcement was not present on the fishing grounds as early as hoped for due to poor weather conditions. The Vigilant was the first vessel on the scene, arriving May 5. (The season opened May 1, 1979, but few fishing vessels were present on the grounds at that time as a result of the bad weather.) The Stellar arrived May 7, and the Resolution arrived May 13. Five whalers were also present by this time.

Management of the fishery on the scene depends in large part on the reports of processors. Some problems were experienced this year with processors failing to register as required by regulation (5 AAC 39.130). Some processors were not reporting their catches. In general, though, things appear to have worked smoothly. A regular radio schedule was kept and reports were made to Rich Randall, Alaska Department of Fish and Game area biologist who maintained a tent camp at Metervik Bay. Basically, reporting is on the honor system, in that discrepancies between radio reports by processors and the actual volume on board are not actively searched for.

Some of the herring caught were not used for roe recovery. Some spawnouts were taken for bait. Those used for bait herring were frozen and flown out. Some dumping occurred as a result of the refusal of processors to accept fish, but this deadloss was described as "not significant."

Perhaps the primary reason for the total catch in 1979 being below the

level anticipated is the late arrival on the grounds by the vast majority of the fleet. A heavy storm off the south side of the Alaska Peninsula kept many boats and fishermen, as well as enforcement vessels, weathered in at various points from Kodiak to Dutch Harbor. Large

numbers of herring were observed from the air when the season opened on May 1, yet fewer than 20 boats were present at that time. Consequently, a great amount of spawning activity occurred before the fleet was present to harvest those fish. Eight miles of spawn were observed on the beach on May 1, 1979. The early running herring are generally the largest fish and have the best roe recovery. This lack of early effort by the fleet can be attributed to; a) Act of God, and b) lack of familiarity with local weather conditions and c) failure to arrive early.

Prior to the opening, the capacity of the fleet was estimated at 8000 mt. daily and 40,000 mt. for the season. There was no doubt in the minds of the Alaska Department of Fish and Game managers that the fleet could easily harvest all the herring available for harvest IF THE FLEET WAS ON THE GROUNDS.

A primary consideration which the North Pacific Fisheries Management Council should take into account in determining the OY (optimum yield) for the Bering Sea herring fishery is the current lack of familiarity of the fleet with local conditions in Bristol Bay during April and May. (Bristol Bay is one important area which must be included in the overall Bering Sea Fisheries Management Plan to be developed by the North Pacific Fisheries Management Council in 1979.) In large part, it was this lack of knowledge that caused the harvest shortfall in this nascent fishery. The Fisheries Conservation and Management Act (16 USCA 1802 (18)) defines "optimum" yield as taking into account relevant economic, social or ecological factors. The total allowable level of foreign fishing/TALFF is then described as the portion of the OY that will not be harvested by United States vessels. (16 USCA 1821 (d))

CONCLUSION: Any figures set as the OY should take into account the fact that this is a developing fishery, and full development of United States potential is in the best interests of the Nation. To achieve that full development, no competition from foreign vessels should be allowed for the next several years while American fishermen orient themselves properly to successfully take part in the fishery. No egregious ecological effects will ensue from failure to harvest the OY (optimum yield) during this period. It is generally agreed that Bering Sea herring stocks are below previous population levels enjoyed less than 20 years ago.

At the December, 1978, meeting of the Board of Fisheries, the Board recommended to the North Pacific Fisheries Management Council that no trawling be allowed in certain areas of the high seas north of the Pribiloff Islands where herring stocks are known to spend the winter. The North Pacific Fisheries Management Council will consider this request in the FMP (Fisheries Management Plan) for all Bering Sea herring, including the Bristol Bay stocks. The Board of Fisheries' recommendation was based primarily on the following factors:

----Important subsistence fisheries exist along the eastern shore of Alaska and protection of the herring stocks upon which these Alaskans depends is of paramount importance to the State of Alaska.

----Some development of the bait/food fishery for herring was provided for in the Board's recommendation to the North Pacific Fisheries Management

Council to allow a high seas take south of 56° North Latitude with minimal impact on stocks that contribute to inshore subsistence or sac roe fisheries.

----Incidental take of herring by high seas trawlers who target on pollock and yellowfin sole account for 8600 metric tons of herring reported as caught. (The foreign trawl harvest of herring is primarily incidental to harvesting bottomfish, but some vessels are targeting on herring.) There is some evidence that 8600 metric tons may NOT be an accurate reflection of the total foreign high seas take of herring. There is strong evidence of nonreporting and underlogging by foreign vessels. One reason for understating the incidental catch is to allow greater time to fish for the target species. The observers placed on foreign vessels by NMFS (National Marine Fisheries Service) are not numerous enough to insure full and accurate reports by all foreign vessels. (For example, on May 18, 1979, there were 134 Japanese vessels trawling for pollock - six had observers; ten Korean vessels had four observers, three Polish vessels had two observers and no Soviet effort was present in the pollock trawl fishery.)

----Data on stock separation, predation, etc., are currently sparse for herring in the high seas wintering areas of the Bering Sea. Additional trophic data are needed. The NMFS hydroacoustic research program will not begin until 1980 or 1981.

----The value of herring is much greater when roe can be recovered. This occurs inshore where stocks are not mixed, but are discrete.

----Mixed stocks prevail on the high seas wintering grounds. The Board of Fisheries favors policies which result in fishing discrete stocks, not mixed stocks. This Board policy is complemented by the Fisheries Conservation and Management Act which states that "To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination." (16 USCA 1851 (3)) Allowing a high seas fishery to harvest mixed stocks on the high seas is not desirable for a variety of reasons. For example, in a fishery conducted far offshore, various problems arise.

- a. Accurate catch reporting is made more difficult.
- b. On-ship observers are not yet present on all foreign ships.
- c. Incidental catch of immature salmon is a collateral risk.
- d. There is currently no way to conduct an accurate assessment of herring abundance on the high seas. Even the aerial survey techniques used inshore are not effective or practical as applied to a high seas fishery. A high seas trawl fishery would not provide statistically valuable information on stock abundance.
- e. Numerous small stocks of herring spawn in the northern part of the Bering Sea along the Alaska coast. To prevent over harvest of

these small stocks in a high seas fishery, a more conservative OY (optimum yield) would have to be set than if these stocks were fished inshore where they are discernible from stronger, more abundant stocks.

More information on the Bristol Bay herring fishery will be available by the time of the December, 1979, meeting of the Board of Fisheries in Anchorage. This memo is simply to keep you informed as the fishery progresses and highlight several issues that will probably concern the Board at the time of the next regulatory meeting. --

1979 Bering Sea Herring Fishery to Date

Major harvest areas for 1979 were Nunavarchuk--80 percent, Togiak--15 percent, Ungalikthluk--5 percent.

King crab boats and trampers (100'-300') from the Bering Sea fleet acted as tenders. There were three floating processors. Several of the large boats had helicopters on deck.

377 gillnetters registered for the fishery, 172 seiners, 62 both.

<u>Date</u>	<u>Sac Roe and Bait</u> (all figures are in short tons)	<u>Roe on Kelp</u> (all figures are in short tons)
May 1	6	-----
May 2	132	-----
May 3	125	-----
May 4	526	2,624
May 5	492	11,512
May 6	708	Ø
May 7	427	20,042
May 8	526	45,931
May 9	419	48,603
May 10	617	127,751
May 11	1122	30,000
May 12	362	3,800
May 13	1000	60,851
May 14	446	36,000
May 15	215	-----
May 16	182	-----
May 17	450	-----
May 18	666	-----
May 19	334	-----

(29 processors)

(14 processors)

A high percentage of five and six year old fish was reported in the sac roe/bait fishery. Roe recovery generally averaged 8 percent to 11 percent, but this figure varied greatly by day and by area.



VII - 4

DRAFT: August 20, 1979

DRAFT ENVIRONMENTAL IMPACT STATEMENT ON THE  
FISHERY MANAGEMENT PLAN FOR HERRING IN THE  
BERING-CHUKCHI SEA

August, 1979

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL  
Anchorage, Alaska

1. Responsible Agency: National Marine Fisheries Service  
Department of Commerce
2. Title of Proposed Action: Fishery Management Plan for Herring in  
the Bering-Chukchi Sea
3. For Further Information Contact: Harry L. Rietze, Director  
Alaska Region  
National Marine Fisheries Service  
P. O. Box 1668  
Juneau, AK 99801  
Telephone (907) 586-7221
4. Type of Statement: Draft Environmental Impact Statement
5. Abstract: The Fishery Management Plan addresses the conservation  
and management of the herring resource and its fisheries  
throughout its range in the Bering-Chukchi Sea. The  
developing roe fishery has traditionally been managed by  
the State of Alaska. Foreign fleets harvest herring on  
the high seas incidentally to the pollock fishery. There  
are development possibilities in the bait fishery and a  
joint venture food fishery. The plan proposes conservative  
management strategies and measures with options. The  
environmental impact statement reviews the potential  
impact of the fisheries on the environment. Alternatives  
to the proposed action are discussed.
6. Close of Comment Period: , 1979

**SUMMARY**

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## 1.0 PURPOSE AND NEED

The Fishery Conservation and Management Act of 1976 as amended, requires each Regional Council to prepare Fishery Management Plans for all fisheries within its area of jurisdiction in the Fishery Conservation Zone (FCZ) from 3 to 200 miles. The purpose of the plan is to provide for an optimum yield of the resource to the fishermen and to the nation, and to promote fair and equitable allocation of the resource. Its purpose is to avoid irreversible or long term adverse actions or effects on the resource and the marine environment. The plan reviews all available data on the resource and the fisheries, and proposes management measures from which regulations implementing the intent of the plan are promulgated. The plan is considered to be an integral part of the environmental impact statement. The environmental impact statement was prepared according to the requirements of the final regulations, November 29, 1978 of the National Environmental Policy Act of 1969.

## 2.0 DESCRIPTION OF THE EFFECTED ENVIRONMENT

The Fishery Management Plan addresses the herring (Clupea harengis pallasi) stocks in the Bering-Chukchi Sea.

### 2.1 Abiotic Environment

The environment affected by the herring fishery management plan includes all the waters in the FCZ from the southern part of the Chukchi Sea to the Aleutian Islands and includes the waters south of the Aleutian Islands west of 170° West longitude. The area is made up of a shallow arctic and semi-arctic shelf area surrounded by a steep continental slope. Ice covers a large part of the Bering Sea until April of May of each year. Considerable change of water takes place through the Aleutian Island Chain.

## 2.2 Biotic Environment

This area is very productive and supports about 300 species of fish and some of the largest populations of marine mammals in the world. The herring resource is a component of the diet of many of these species which is reflected in the high natural mortality rate for herring. The best available information indicates that the herring stocks are recovering from an apparent decrease in abundance which was evident during the late 1960's to the early 1970's.

## 2.3 Socioeconomic Environment

The stock is presently being fished by three distinct fisheries:

- (a) A subsistence fishery conducted within territorial waters along the coast of the Alaskan Peninsula to the southern part of the Chukchi Sea with varying degrees of local dependency on the resource. This is a small gillnet or roe-on-kelp fishery (average annual catch from 1975 to 1978 was 100 metric tons).
- (b) A domestic commercial herring fishery includes a commercial roe-on-kelp fishery (1978 catch was 153.0 metric tons worth \$124,000) and a developing herring sac roe fishery (1978 catch was 7,305 metric tons worth \$2.4 million). Both fisheries are conducted in a short season in the early summer generally by off season salmon seiners and gillnetters within territorial waters. There is also a small bait fishery.
- (c) A foreign high seas fishery has been in operation since the early 1960's. Japan and U.S.S.R. have been the major participants in the directed distant water herring fishery conducted primarily northeast of the Pribilof Islands. Since the peak of a total catch of 128,230 metric tons in 1968/69, the foreign catch has declined and now approximates an incidental catch to the winter pollock fishery only.

### 3.0 IMPACT OF PROPOSED ACTION ON THE ENVIRONMENT

#### 3.1 Impact on the Abiotic/Biotic Environment

The Fishery Conservation and Management Act requires the Fishery Management Plans to conform to seven national standards. These national standards insure that the impact of the fishery management plan on the environment will be, over the long term, beneficial to that environment. In addition, an objective of the fishery management plan is to implement a conservative management regime until more adequate biological data and analyses are available. This conservative approach is reflected in the estimations of exploitable biomass. The resource assessment techniques are still relatively experimental and the spawning biomass estimate was taken as the best available estimate of exploitable biomass. A large error factor is included in this estimate and a conservative exploitation rate has also been proposed. Resource assessment survey data and indicators of stocks condition will be reviewed by the Council during its annual review of the fishery management plan.

#### 3.2 The Impact on the Socioeconomic Environment

The impact of the plan on socioeconomic environment will be reflected in several ways. Other objectives of the fishery management plan are to promote full utilization of the herring resource by the domestic fisheries, to maximize the economic value of the harvest taken by the domestic commercial fisheries, to insure that the needs of subsistence users are met and to promote coordination between State and Federal management of the resource. As the herring resource is being managed in consideration of the extent of its range the priorities of allocation are as follows: 1) the subsistence fishery, 2) the domestic inshore roe fishery, 3) the domestic offshore trawl fishery and 4) the foreign offshore trawl fishery. Although the jurisdiction of the North Pacific Fishery Management Council does not extend to the management of the subsistence fishery, the fishery

management plan does acknowledge the importance of the resource to the subsistence users. The plan supports the development of the domestic fishery of both the sac roe and the offshore food of bait fishery. Total allowable catch for the offshore commercial fishery is that amount which is left after the inshore roe harvest has been taken. The total allowable catch for the foreign fishery is equal to an incidental catch figure plus an amount remaining to the total allowable catch after allocations to domestic fisheries have been removed minus a factor which accounts for the condition of the stock, or

$$TALFF = TALFF' + TAC \left( \sum_{i=1}^n RA_i / r_i \cdot M_1 \right)$$

Three management options are proposed: 1) the current State of Alaska management system; 2) an unrestricted domestic herring fishery in the FCZ; and 3) a partially restricted herring fishery in the FCZ. Analysis of the impact of these proposed management strategies cannot be done until an option has been chosen by the Council.

#### 4.0 UNAVOIDABLE ADVERSE IMPACTS ON THE ENVIRONMENT

As discussed above, because of the requirements of the Fishery Conservation and Management Act, no unavoidable adverse impacts on the environment are anticipated as a result of implementing this fishery management plan.

#### 5.0 ALTERNATIVES TO THE PROPOSED ACTION

The North Pacific Fishery Management Council is mandated by the Fishery Conservation and Management Act to prepare fishery management plans. Thus the only alternative for this action would have been to delay the preparation of the FMP. This is an unsatisfactory alternative because the herring resource is utilized by foreign and domestic user groups. The preliminary fishery management plan which currently regulates the high seas herring fishery does not address the herring resource over the extent of its range nor does it have the benefit of the scientific and fishing industry input of the closed plan. Thus the Council decided



to carry out its responsibilities under the FCMA and request the preparation of this fishery management plan.

Several options were included in the plan as alternatives for management strategy and for management measures.

6.0 LIST OF PREPARERS [see Preface in the Fishery Management Plan]

Bering Sea Herring FMP

The SSC has carefully reviewed the Bering/Chukchi Sea Herring Plan. It is a very readable document and obviously reflects thoughtful and comprehensive work by the Plan Development Team. The SSC commends the Team for its fine effort.

During the plan development process the SSC Herring Review Subcommittee met twice with the Team. Concerns and recommendations expressed at those meetings were fully and satisfactorily addressed by the Team. The plan in its present form incorporates the advice of the Subcommittee.

During the Tuesday (August 21) plan review by the SSC as a whole, some revisions were suggested to clarify the concepts and formulation of Optimum Yield (OY), Total Allowable Catch (TAC), Domestic Annual Harvest (DAH) and the Total Allowable Level of Foreign Fishing (TALFF). We also recommended the Team prepare hypothetical management scenarios to provide examples of how the management regime will operate under differing stock levels, harvest rates and environmental conditions. These improvements have been made and were approved by the SSC but, obviously, could not be included in the Draft Plan.

The SSC recommends that the Council approve the Plan for public review and instruct the Team to insert the revisions in the Plan in final preparation for printing and distribution. The SSC feels no need to review the Plan again until the public review is complete.

1. Establish yields by spawning groups
    - a. Port Clarence - Kotzebue
    - b. Norton Sound
    - c. Yukon - Kuskokwim
    - d. Bristol Bay - Goodnews
    - e. Aleutian - Peninsula
  
  2. Determinants of ABC
    - a. Aerial survey biomass estimates
      1. Relative abundance for in-season adjustments
      2. Establish final TAC
    - b. Age composition
    - c. Recruitment
      1. Abundance at age 3 or 4 relative to previous years.
      2. Prerecruit survey or abundance in winter fishery
    - d. Hydroacoustic estimates and biological data from winter grounds
    - e. Choose appropriate exploitation rate based on biomass, stock structure
      1. Biomass high, normal age distribution and above average \*  
recruitment  $E = \text{maximum}$
      2. Low biomass, weak year classes, poor recruitment then  $E = .10$ .
      3. Intermediate levels.
- \* Can possibly be expressed as a formula
3. Adjustments from ABC to TAC
    - a. Subsistence fisheries
    - b. Allow deviation from ABC for local socioeconomic conditions by applying a lower or higher level of exploitation.
    - c. Provide for the expansion of domestic fisheries through modification of TALFF.

- d. Until stock relationships and/or migration relationships are better defined domestic <sup>limit</sup> offshore harvests to a percentage of the roe fishery to minimize the potential for adverse impacts on subsistence and small stocks north of Cape Newenham.

4. Proposed Allocation Procedures

- a. Preliminary TAC developed for following fishing year (April 1 - March 31) in September to allow for NPFMC and Alaska Board of Fisheries review and comment.
- b. Following approval of TAC a preliminary allocation is made to the individual fisheries.
1. An allowable incidental catch to foreign fisheries necessary to conduct other fisheries (i.e., pollock) during the period April 1 through September 30 equal to the portion of incidental catch for those months.
  2. Establish a domestic food and bait allocation for the period April 1 through September 30 to be harvested following the roe season.
  3. Determine final TAC based on stock assessment made during roe season.
  4. If TAC the same as preliminary TAC or increased and surplus remains from roe fishery an allocation will be made to the domestic food and bait fishery. \*Determination of DAH? *have no methods to determine as yet.*

(a) If allocation made fishery unrestricted as to time and area but must terminate on March 31.

(b) If no allocation made, fishery can take remainder of initial allocation but restricted by time/area closure.

5. If there is no surplus following domestic allocation a second allowable incidental catch will be made for the remainder of the fishing year adjusted by the amount remaining from the first half.

a. If only AIC allocated then a time/area closure will be implemented to minimize incidental catch.

b. If TALFF allocation made, then no closure will be invoked and the fishery will proceed unimpeded until the close of the fishing year or until the TALFF is harvested.

6. TALFF

a. If TALFF exists the full amount will be allocated if:

1. Domestic fisheries are stable and not increasing.
2. Stocks are above OY and stock trends indicate that level will be sustained.

b. A reduced portion of the surplus TAC will be allocated to TALFF if:

1. Domestic fishery increasing
2. Stocks below OY but no increasing trend.
3. Domestic fishery and in-season assessment hampered by adverse weather, i.e., ice, storms.

1.

OY = 50,000 mt

May 1979

Biomass - 200,000 mt

Ages 5 & 6 dominant

Age 3 strong recruitment

September 1979 - Preliminary estimates for fishing year 1980-81

ABC = 200,000 x .20 = 40,000 mt

TAC' = 38,000 mt

DAH<sub>f</sub>' = 2,000 mt

AIC = (Area I catch<sub>y-1</sub> x IR<sub>1-6</sub>) + (Area II catch x IR<sub>1-6</sub>) = 1,000 mt

DAH<sub>r</sub>' = TAC' - (DAH<sub>f</sub>' + AIC) = 35,000 mt

April-June 1980

Fishery harvests 20,000 mt

Stock Assessment

Biomass - 200,000 mt

Ages 4 & 6 dominant

Age 3 average

September 1980

TAC = 38,000 mt (No change)

*Available* DAH<sub>f</sub> = DAH<sub>f</sub>' + (TAC\* - (DAH<sub>r</sub>' + AIC + DAH<sub>f</sub>')) = 17,000 mt

License Applications = 5,000 mt = DAH<sub>f</sub>

Surplus = 12,000

Increase domestic capacity anticipated for following year, therefore

TALFF = Stock Index • surplus

i.e. .3 x 12,000 = 4,000 mt

ABC for 1981-82 = 40,000 mt

TAC' = 38,000 (if no OY changes) + 8,000 mt. (from TALFF adjustment) + 4,000 mt

OY = 50,000

May 1979

Biomass 200,000 mt

Ages 5 & 6 strong

Age 3 strong recruitment

September 1979

ABC = 200,000 x .2 = 40,000 mt

TAC' = 38,000 mt

DAH<sub>f</sub>' = 2,000 mt

AIC = 1,000 mt

DAH<sub>r</sub>' = 35,000

April - June 1980

Fishery harvests 5,000 mt

Severe ice conditions

Limited fishery and stock assessment

September 1980

TAC = 38,000 mt

DAH<sub>f</sub> = 32,000 mt

License applications = 10,000 mt

Surplus = 22,000

TALFF = .3 x 22,000 = 6,600 mt

TAC' 1981-82 = 38,000 mt

DAH<sub>f</sub>' = 2,000 mt

AIC = 35,000 mt

~~DAH<sub>r</sub>' = 35,000 mt.~~

April - June 1981

DAH<sub>r</sub> = 40,000

Stock Assessment

Biomass = 250,000 mt

Ages 4 & 5 strong

Age 3 average recruitment

Spetember 1981

$$\text{TAC} = 250,000 \times .3 = 75,000 \text{ mt}$$

$$\text{DAH}_f = 2,000 + (75,000 - (40,000 + 2,000 + 1,000)) = 35,000$$

$$\text{Actual DAH}_f = 10,000$$

No increase in domestic fishery

$$\text{TALFF} = 25,000 \text{ mt}$$



STATEMENT OF REPRESENTATIVE JACK FULLER  
ON THE BERING SEA HERRING FISHERY  
TO THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

August 24, 1979

MR. CHAIRMAN AND MEMBERS OF THE COUNCIL, AS CHAIRMAN OF THE INTERIM COMMITTEE ON SUBSISTENCE OF THE ALASKA HOUSE OF REPRESENTATIVES AND AS THE ELECTED REPRESENTATIVE OF TWENTY NORTHWEST ALASKAN CUMMUNITIES FROM KOTLIK TO DEERING, I HAVE TAKEN A GREAT INTEREST IN THE DEVELOPMENT OF THE BERING SEA HERRING FISHERY. ONE OF THE PRIMARY GOALS OF THE INTERIM SUBSISTENCE COMMITTEE IS TO INVESTIGATE AND PARTICIPATE IN THE DEVELOPMENT OF THIS FISHERY.

DURING MAY I TOURED THE HERRING FLEET IN THE TOGIAK AREA AND OBSERVED THE FISHERY AT UNALAKLEET. I AM CONDUCTING MEETINGS ON THE HERRING FISHERY IN ALL VILLAGES NORTH OF THE YUKON RIVER WHICH MAY EVENTUALLY BECOME INVOLVED IN OR IMPACTED BY THE COMMERCIAL HERRING FISHERY AND IN SEPTEMBER WE WILL BE CONDUCTING A SERIES OF WORKSHOPS IN NORTHWEST ALASKA ON THE HERRING FISERHY. I WILL PROVIDE A DETAILED RESPONSE TO YOUR MANAGEMENT PLAN WHEN THE COUNCIL HOLDS HEARINGS IN NORTHWEST ALASKA. SINCE THE COUNCIL WOULD NOT PROVIDE MYSELF OR MY STAFF WITH A COPY OF THE DRAFT MANAGEMENT PLAN WHICH YOU ARE CURRENTLY CONSIDERING, MY COMMENTS TODAY MUST, OF COURSE, BE OF A GENERAL NATURE.

THE SUBSISTENCE COMMITTEE IS INTERESTED IN PRESERVING AND PROTECTING SUBSISTENCE USE OF HERRING. IT IS ALSO INTERESTED IN PROVIDING THE OPPORTUNITY FOR LOCAL BERING SEA FISHERMEN WHO WISH TO PARTICIPATE IN THE COMMERCIAL FISHERY TO DO SO WITH A REASONABLE OPPORTUNITY FOR SUCCESS. SEVEN BASIC

GOALS DIRECT THE COMMITTEE IN ITS INVOLVEMENT WITH THIS FISHERY. THEY ARE:

1. PROVIDE STRONG PROTECTION FOR THE SUBSISTENCE HERRING FISHERY AND EXCLUDE FROM COMMERCIAL FISHING THOSE AREAS MOST DEPENDENT ON THE SUBSISTENCE USE OF HERRING.
2. ASSURE A REASONABLE OPPORTUNITY FOR INTERESTED LOCAL FISHERMEN TO BECOME INVOLVED IN THE COMMERCIAL HERRING FISHERY THROUGH THE DEVELOPMENT OF APPROPRIATE REGULATIONS AND/OR LEGISLATION
3. ASSURE THAT FISH ARE TAKEN AND MANAGED IN WAYS CONSISTENT WITH SOUND PRINCIPLES OF FISHERIES CONSERVATION AND THAT WASTE AND OVERHARVEST ARE AVOIDED.
4. ASSURE THAT THE HERRING ARE TAKEN IN THE MANNER WHICH BENEFITS THE MAXIMUM NUMBER OF ALASKAN RESIDENTS.
5. ASSURE THAT A MAXIMUM AMOUNT OF THE HARVESTABLE HERRING RESOURCE IS TAKEN BY AMERICAN BOATS AND THAT A MINIMUM AMOUNT IS TAKEN BY FOREIGN BOATS.
6. ASSURE THAT NO LIMITED ENTRY PROGRAM IS INSTITUTED BEFORE LOCAL FISHERMEN ARE GIVEN A REASONABLE CHANCE TO BECOME INVOLVED IN THE FISHERY.
7. SEE THAT ADEQUATE MONEY IS ALLOCATED TO PROVIDE THE QUALITY OF RESEARCH DATA NEEDED TO PROPERLY MANAGE THIS FISHERY AND ASSURE THAT HIGH QUALITY DATA IS AVAILABLE FOR HARVEST LEVELS ARE DRAMATICALLY INCREASED

THE SUBSISTENCE FISHERY

ANY MANAGEMENT PLAN ADOPTED BY THIS COUNCIL MUST RECOGNIZE SUBSISTENCE USE OF HERRING AS THE PRIORITY USE AND MUST PROTECT IT. STATE LAW CLEARLY ESTABLISHES SUBSISTENCE AS THE PRIORITY USE OF FISHERY RESOURCES. THE COUNCIL'S RECOGNITION OF THE IMPORTANCE OF SUBSISTENCE HAS BEEN DEMONSTRATED BY THE FACT THAT YOU COMMISSIONED A STUDY ON THE SUBSISTENCE USE OF HERRING LAST YEAR. I DO NOT BELIEVE, HOWEVER, THAT THIS STUDY PROVIDES COMPLETE OR NECESSARILY TOTALLY ACCURATE DATA ON THE SUBSISTENCE FISHERY. THE ALASKA DEPARTMENT OF FISH AND GAME RECENTLY HIRED SUBSISTENCE SPECIALISTS IN DILLINGHAM, BETHEL, NOME AND KOTZEBUE WHO CAN CONTRIBUTE SIGNIFICANTLY TO AN UNDERSTANDING OF THE SUBSISTENCE FISHERY. UNTIL THIS RESIDENT RESEARCH STAFF HAS AN OPPORTUNITY TO CONTRIBUTE THEIR EXPERTISE, THE COUNCIL SHOULD ADOPT AN EXTREMELY PROTECTIVE ATTITUDE TOWARDS SUBSISTENCE. THE COUNCIL SHOULD IN FACT MAKE THE CONSCIOUS DECISION TO INITIALLY BE OVERLY PROTECTIVE OF SUBSISTENCE UNTIL MORE SOCIO-ECONOMIC AND BIOLOGICAL DATA IS AVAILABLE. I HAVE HEARD THAT THE DRAFT MANAGEMENT PLAN WOULD PROPOSE AN ALLOCATION OF 100 METRIC TONS FOR SUBSISTENCE. I WOULD FIND THIS TO BE A DISTURBINGLY SMALL ALLOCATION. IN ADDITION TO SUPPORTING A SUBSISTENCE ALLOCATION MUCH HIGHER THAN 100 METRIC TONS, I ALSO BELIEVE THAT THE AREA BETWEEN JACKSMITH BAY AND HOOPER BAY SHOULD REMAIN CLOSED TO COMMERCIAL HERRING FISHING AS IT CURRENTLY IS.

## A LOCAL COMMERCIAL FISHERY

SUBSISTENCE HARVEST OF HERRING, THOUGH IT IS THE MOST IMPORTANT HARVEST, OF COURSE, ACCOUNTS FOR ONLY A VERY SMALL AMOUNT OF THE HERRING HARVESTED IN THE BERING SEA. THE COMMERCIAL FLEET HAS HARVESTED AND WILL CONTINUE TO HARVEST MOST OF THE FISH. THIS COMMERCIAL FISHERY COULD PROVE TO BE OF TREMENDOUS BENEFIT TO RESIDENTS OF THE BERING SEA IF THEY ARE ALLOWED AN ADEQUATE OPPORTUNITY TO PARTICIPATE IN IT. ONE OF MY MAJOR GOALS AS A LEGISLATOR IS TO WORK TO ALLOW THIS PARTICIPATION.

THE MOST IMMEDIATE TASK IN THE DEVELOPMENT OF A LOCAL FISHERY, AT LEAST IN THE AREA NORTH OF TOGIAK, IS TO PREVENT LOCAL FISHERMEN WHO ARE VIRTUALLY ALL GILL NETTERS FROM BEING SQUEEZED OUT OF THE FISHERY BY PURSE SEINERS. DURING THE PAST SESSION OF THE LEGISLATURE, I INTRODUCED A RESOLUTION DIRECTED TO THE STATE BOARD OF FISHERIES CALLING FOR THE CLOSURE OF ALL AREAS NORTH OF DALL POINT (ON KUSKOKWIM BAY) TO PURSE SEINING. THIS RESOLUTION IS CURRENTLY IN THE HOUSE RESOURCES COMMITTEE. DURING THE NEXT SESSION OF THE LEGISLATURE, I INTEND TO MAKE AMENDMENTS TO THIS RESOLUTION AS A RESULT OF MY FIRSTHAND INVESTIGATIONS INTO THE FISHERY. MY AMENDMENTS MAY CALL FOR LESS SEVERE RESTRICTIONS OF PURSE SEINERS, BUT I WILL CERTAINLY SEEK TO PROTECT GILL NETTERS. I BELIEVE THAT NEXT SEASON IN THE AREA NORTH OF TOGIAK, THE GILL NET FLEET WILL BE OF SUFFICIENT SIZE TO HAVE THE CAPABILITY TO TAKE THE ENTIRE GUIDELINE HARVEST.

IN ADDITION TO FAVORING GILL NETS BECAUSE THAT IS THE TYPE OF GEAR WHICH VILLAGERS USE, I ALSO FAVOR GILL NETS BECAUSE I BELIEVE THEY PROVIDE FOR A LESS WASTEFUL HARVEST. THIS PAST SEASON AT CAPE DENBIGH, PURSE SEINERS OPERATED IN WATER AS SHALLOW AS FIVE FEET. NEARLY ALL OF THE LOW ROE CONTENT FISH WHICH THEY PURSED UP IN SHALLOW WATER AND THEN RELEASED DIED. LOCAL VILLAGE FISHERMEN REPORTED THAT THEY COULD SEE TREMENDOUS AMOUNTS OF DEAD FISH ON THE BOTTOM OF THE BAY WHERE THE SEINERS OPERATED. THIS TYPE OF WASTE IS NOT PERMISSABLE IN TERMS OF THE MANDATE OF THE FISHERIES CONSERVATION AND MANAGEMENT ACT OR IN TERMS OF BASIC COMMON SENSE.

MOST OF THE DECISIONS REGARDING DIFFERENT GEAR TYPES TO BE USED IN THE SAC ROE FISHERY WILL PROBABLY BE MADE BY THE STATE BOARD OF FISHERIES.

HOWEVER, ACCORDING TO SECTION 303 OF THE FISHERY CONSERVATION AND MANAGEMENT ACT, COUNCIL MANAGEMENT PLANS MAY ESTABLISH A SYSTEM FOR LIMITING ACCESS TO A FISHERY ON THE BASIS OF "HISTORICAL FISHING PRACTICES IN, AND DEPENDENCE ON, THE FISHERY" AND "THE CULTURAL AND SOCIAL FRAMEWORK RELEVANT TO THE FISHERY". IF THE COUNCIL DID CHOOSE TO EXERCISE THIS POWER, I WOULD THINK THAT IT WOULD BE OBLIGED TO GIVE A PREFERENCE TO GILL NETTERS.

THE ACTION WHICH THE COUNCIL TAKES IN ESTABLISHING THE FOREIGN ALLOCATION AND THE DOMESTIC TRAWL ALLOCATION WILL DEFINITELY HAVE AN EFFECT ON GILL NETTERS. EACH FISH TAKEN IN A TRAWL WILL BE ONE LESS FISH AVAILABLE TO A GILL NETTER OR TO THE SEINER WHO IS IN DIRECT COMPETITION WITH HIM. I

BELIEVE THAT THE GREAT MAJORITY OF THE HARVESTABLE RESOURCE SHOULD BE TAKEN IN THE NEAR-SHORE SAC ROE FISHERY, RATHER THAN IN THE TRAWL FISHERY.

PROTECTION OF THE FISHERY

PROTECTION OF THE TWO USER GROUPS WHICH I HAVE DISCUSSED-- THE SUBSISTENCE USER AND THE COMMERCIAL GILL NETTER-- IS OF GREAT IMPORTANCE. OF EVEN GREATER IMPORTANCE, HOWEVER, IS THE PROTECTION OF THE HERRING STOCK ITSELF. I AM SURE THAT THE COUNCIL MEMBERS ARE WELL AWARE OF THE DISASTROUS HISTORY OF HERRING STOCK MANAGEMENT IN OTHER PARTS OF THE WORLD. THIS LAST NEW COMMERCIALY HARVESTABLE HERRING STOCK IN THE WORLD MUST NOT BE DEPLETED THE WAY OTHER STOCKS HAVE BEEN. THE STOCK MUST BE MANAGED IN AN EXTREMELY CAUTIOUS MANNER, AT LEAST UNTIL MORE IS KNOWN ABOUT IT.

I AM AWARE THAT THE COUNCIL IS SERIOUSLY CONSIDERING RAISING THE OPTIMUM YIELD FIGURE TO APPROXIMATELY 50,000 METRIC TONS. I OPPOSE SUCH A DRAMATIC INCREASE AT THIS EARLY STAGE IN THE DEVELOPMENT OF THIS FISHERY. LITTLE IS REALLY KNOWN ABOUT THE BERING SEA HERRING, ESPECIALLY WHEN THEY ARE IN THEIR NEAR-SHORE PHASE. THE LAST THREE YEARS IN WHICH THE SAC ROE FISHERY HAS DEVELOPED SO RAPIDLY HAVE BEEN UNUSUALLY FAVORABLE ONES FOR BOTH THE FISH AND THE FISHERMEN IN TERMS OF WEATHER. MANY OF MY CONSTITUENTS HAVE TALKED OF YEARS WHEN NO FISH WERE AVAILABLE TO FISHERMEN AND MASSIVE AMOUNTS OF SPAWN WERE DESTROYED BY ICE OR SEVERE STORMS. THE FISHERY CONSERVATION AND MANAGEMENT ACT STATES THAT "CONSERVATION AND MANAGEMENT MEASURES SHALL PREVENT

OVERFISHING WHILE ACHIEVING ON A CONTINUING BASIS, THE OPTIMUM YIELD FROM EACH FISHERY." I PARTICULARLY STRESS THE WORDS "ON A CONTINUING BASIS". THE OY SHOULD BE KEPT RELATIVE LOW BECAUSE AT THIS POINT, NO ONE KNOWS WHAT SORT OF UNEXPECTED BIOLOGICAL DISASTERS MAY OCCUR.

I AM COMMITTED TO HELPING TO GENERATE MORE DATA ON THIS FISHERY AND DURING THE NEXT LEGISLATIVE SESSION WILL WORK TO HAVE MORE STATE MONEY ALLOCATED FOR BERING SEA HERRING RESEARCH. HOWEVER, UNTIL MORE INFORMATION IS AVAILABLE, I STRONGLY BELIEVE THAT A "GO SLOW" STRATEGY IS THE APPROPRIATE ONE IN PLANNING THE DEVELOPMENT OF THIS FISHERY.

I WOULD LIKE TO THANK THE COUNCIL FOR HEARING MY COMMENTS TODAY AND LOOK FORWARD TO PROVIDING MORE DETAILED COMMENTS WHEN THE COUNCIL HOLDS HEARINGS IN MY DISTRICT. I TRUST THAT THE PUBLIC HEARING PROCESS WHICH WILL OCCUR DURING THE NEXT FEW MONTHS WILL BE ONE IN WHICH THE COUNCIL SERIOUSLY CONSIDERS NEW INFORMATION AND POINTS OF VIEW.

August, 1979

Bering Sea Herring FMP

The SSC has carefully reviewed the Bering/Chukchi Sea Herring Plan. It is a very readable document and obviously reflects thoughtful and comprehensive work by the Plan Development Team. The SSC commends the Team for its fine effort.

During the plan development process the SSC Herring Review Subcommittee met twice with the Team. Concerns and recommendations expressed at those meetings were fully and satisfactorily addressed by the Team. The plan in its present form incorporates the advice of the Subcommittee.

During the Tuesday (August 21) plan review by the SSC as a whole, some revisions were suggested to clarify the concepts and formulation of Optimum Yield (OY), Total Allowable Catch (TAC), Domestic Annual Harvest (DAH) and the Total Allowable Level of Foreign Fishing (TALFF). We also recommended the Team prepare hypothetical management scenarios to provide examples of how the management regime will operate under differing stock levels, harvest rates and environmental conditions. These improvements have been made and were approved by the SSC but, obviously, could not be included in the Draft Plan.

The SSC recommends that the Council approve the Plan for public review and instruct the Team to insert the revisions in the Plan in final preparation for printing and distribution. The SSC feels no need to review the Plan again until the public review is complete.



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~~DRAFT: August 20, 1979~~

DRAFT ENVIRONMENTAL IMPACT STATEMENT ON THE  
FISHERY MANAGEMENT PLAN FOR HERRING IN THE  
BERING-CHUKCHI SEA

~~August, 1979~~

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL  
Anchorage, Alaska

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1. Responsible Agency: National Marine Fisheries Service  
Department of Commerce
2. Title of Proposed Action: Fishery Management Plan for Herring in  
the Bering-Chukchi Sea
3. For Further Information Contact: Harry L. Rietze, Director  
Alaska Region  
National Marine Fisheries Service  
P. O. Box 1668  
Juneau, AK 99801  
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4. Type of Statement: Draft Environmental Impact Statement
5. Abstract: The Fishery Management Plan addresses the conservation  
and management of the herring resource and its fisheries  
throughout its range in the Bering-Chukchi Sea. The  
developing roe fishery has traditionally been managed by  
the State of Alaska. Foreign fleets harvest herring on  
the high seas incidentally to the pollock fishery. There  
are development possibilities in the bait fishery and a  
joint venture food fishery. The plan proposes conservative  
management strategies and measures with options. The  
environmental impact statement reviews the potential  
impact of the fisheries on the environment. Alternatives  
to the proposed action are discussed.
6. Close of Comment Period: , 1979



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## 1.0 PURPOSE AND NEED

The Fishery Conservation and Management Act of 1976 as amended, requires each Regional Council to prepare Fishery Management Plans for all fisheries within its area of jurisdiction in the Fishery Conservation Zone (FCZ) from 3 to 200 miles. The purpose of the plan is to provide for an optimum yield of the resource to the fishermen and to the nation, and to promote fair and equitable allocation of the resource. Its purpose is to avoid irreversible or long term adverse actions or effects on the resource and the marine environment. The plan reviews all available data on the resource and the fisheries, and proposes management measures from which regulations implementing the intent of the plan are promulgated. The plan is considered to be an integral part of the environmental impact statement. The environmental impact statement was prepared according to the requirements of the final regulations, November 29, 1978 of the National Environmental Policy Act of 1969.

## 2.0 DESCRIPTION OF THE EFFECTED ENVIRONMENT

The Fishery Management Plan addresses the herring (Clupea harengis pallasi) stocks in the Bering-Chukchi Sea.

### 2.1 Abiotic Environment

The environment affected by the herring fishery management plan includes all the waters in the FCZ from the southern part of the Chukchi Sea to the Aleutian Islands and includes the waters south of the Aleutian Islands west of 170° West longitude. The area is made up of a shallow arctic and semi-arctic shelf area surrounded by a steep continental slope. Ice covers a large part of the Bering Sea until April of May of each year. Considerable change of water takes place through the Aleutian Island Chain.

## 2.2 Biotic Environment

This area is very productive and supports about 300 species of fish and some of the largest populations of marine mammals in the world. The herring resource is a component of the diet of many of these species which is reflected in the high natural mortality rate for herring. The best available information indicates that the herring stocks are recovering from an apparent decrease in abundance which was evident during the late 1960's to the early 1970's.

## 2.3 Socioeconomic Environment

The stock is presently being fished by three distinct fisheries:

- (a) A subsistence fishery conducted within territorial waters along the coast of the Alaskan Peninsula to the southern part of the Chukchi Sea with varying degrees of local dependency on the resource. This is a small gillnet or roe-on-kelp fishery (average annual catch from 1975 to 1978 was 100 metric tons).
- (b) A domestic commercial herring fishery includes a commercial roe-on-kelp fishery (1978 catch was 153.0 metric tons worth \$124,000) and a developing herring sac roe fishery (1978 catch was 7,305 metric tons worth \$2.4 million). Both fisheries are conducted in a short season in the early summer generally by off season salmon seiners and gillnetters within territorial waters. There is also a small bait fishery.
- (c) A foreign high seas fishery has been in operation since the early 1960's. Japan and U.S.S.R. have been the major participants in the directed distant water herring fishery conducted primarily northeast of the Pribilof Islands. Since the peak of a total catch of 128,230 metric tons in 1968/69, the foreign catch has declined and now approximates an incidental catch to the winter pollock fishery only.

### 3.0 IMPACT OF PROPOSED ACTION ON THE ENVIRONMENT

#### 3.1 Impact on the Abiotic/Biotic Environment

The Fishery Conservation and Management Act requires the Fishery Management Plans to conform to seven national standards. These national standards insure that the impact of the fishery management plan on the environment will be, over the long term, beneficial to that environment. In addition, an objective of the fishery management plan is to implement a conservative management regime until more adequate biological data and analyses are available. This conservative approach is reflected in the estimations of exploitable biomass. The resource assessment techniques are still relatively experimental and the spawning biomass estimate was taken as the best available estimate of exploitable biomass. A large error factor is included in this estimate and a conservative exploitation rate has also been proposed. Resource assessment survey data and indicators of stocks condition will be reviewed by the Council during its annual review of the fishery management plan.

#### 3.2 The Impact on the Socioeconomic Environment

The impact of the plan on <sup>the</sup> socioeconomic environment will be reflected in several ways. Other objectives of the fishery management plan are to promote full utilization of the herring resource by the domestic fisheries, to maximize the economic value of the harvest taken by the domestic commercial fisheries, to insure that the needs of subsistence users are met and to promote coordination between State and Federal management of the resource. As the herring resource is being managed in consideration of the extent of its range, the priorities of allocation are as follows: 1) the subsistence fishery, 2) the domestic inshore roe fishery, 3) the domestic offshore trawl fishery and 4) the foreign offshore trawl fishery. Although the jurisdiction of the North Pacific Fishery Management Council does not extend to the management of the subsistence fishery, the fishery

management plan does acknowledge the importance of the resource to the subsistence users. The plan supports the development of the domestic fishery of both the sac roe and the offshore food of bait fishery. Total allowable catch for the offshore commercial fishery is that amount which is left after the inshore roe harvest has been taken. The total allowable catch for the foreign fishery is equal to an incidental catch figure plus an amount remaining to the total allowable catch after allocations to domestic fisheries have been removed minus a factor which accounts for the condition of the stock, or

$$TALFF = TALFF' + TAC \left( \sum_{i=1}^n RA_i / r_i \cdot M_i \right)$$

Three management options are proposed: 1) the current State of Alaska management system; 2) an unrestricted domestic herring fishery in the FCZ; and 3) a partially restricted herring fishery in the FCZ. Analysis of the impact of these proposed management strategies cannot be done until an option has been chosen by the Council.

#### 4.0 UNAVOIDABLE ADVERSE IMPACTS ON THE ENVIRONMENT

As discussed above, because of the requirements of the Fishery Conservation and Management Act, no unavoidable adverse impacts on the environment are anticipated as a result of implementing this fishery management plan.

#### 5.0 ALTERNATIVES TO THE PROPOSED ACTION

The North Pacific Fishery Management Council is mandated by the Fishery Conservation and Management Act to prepare fishery management plans. Thus the only alternative for this action would have been to delay the preparation of the FMP. This is an unsatisfactory alternative because the herring resource is utilized by foreign and domestic user groups. The preliminary fishery management plan which currently regulates the high seas herring fishery does not address the herring resource over the extent of its range nor does it have the benefit of the scientific and fishing industry input of the closed plan. Thus the Council decided



to carry out its responsibilities under the FCMA and request the preparation of this fishery management plan.

Several options were included in the plan as alternatives for management strategy and for management measures.

6.0 LIST OF PREPARERS [see Preface in the Fishery Management Plan]



New  
business

Rollplan

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2. Jitzell letter on  
payments sent at  
same time application  
Permit is sent.

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