Coastal Zone
Information
Center

13218

COASTAL ZONE
INFORMATION CENTER

REPORT BY THE U.S.

161

General Accounting Office

The Pacific Fishery Management Council's Role In Salmon Fisheries

In response to a request from Senator Bob Packwood, GAO compiled information on the Pacific Fishery Management Council's policies as they relate to the goals outlined in the Fishery Conservation and Management Act of 1976.

Various fishing interests question the adequacy of the data the council uses to support decisions in its ocean salmon fishery management plans. Council members generally believe that current scientific data supports their plans. GAO found that decisionmaking data is limited and, although available evidence generally supports council decisions, improved data bases are needed.

Council officials recognize deficiencies in the data base and several research studies are underway to provide additional information for developing a comprehensive salmon plan for the 1980 fishing season.

U.S. General Accounting Office

SH
348
.U553
1978

CED-79-4

NOVEMBER 9,1978

13218

COASTAL ZONE
INFORMATION CENTER

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

B-177024

U.S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

The Honorable Bob Packwood
United States Senate

Dear Senator Packwood:

Pursuant to your April 27, 1978, request and subsequent discussions with your office, we have compiled information on the Pacific Fishery Management Council's management policies as they relate to the goals outlined in the Fishery Conservation and Management Act (Public Law 94-265).

As your office requested, we did not take additional time to obtain agency comments on matters discussed in this report. However, its contents were discussed informally with officials of the Department of Commerce, the National Oceanic and Atmospheric Administration, the National Marine Fisheries Service, and the Pacific Fishery Management Council; their comments are included where appropriate.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days from the date of the report. At that time we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,

Henry Eschwege

Henry Eschwege
Director

Property of CSC Library

U.S. General Accounting Office
SH348.U553 1978
461527
MAY 27 1987

REPORT BY THE GENERAL
ACCOUNTING OFFICE
TO THE HONORABLE BOB PACKWOOD
UNITED STATES SENATE

THE PACIFIC FISHERY MANAGEMENT COUNCIL'S ROLE IN SALMON FISHERIES

D I G E S T

Is the data the Pacific Fishery Management Council uses to support decisions in its ocean salmon fishery management plans adequate? Council members generally believe that current scientific data supports these plans. GAO found decisionmaking data limited and, although available evidence generally supports council decisions, improved data bases are needed.

When the council was formed in 1976, northwest salmon fisheries were in chaos, demanding immediate attention. Accordingly, initial council priorities included developing a comprehensive management plan.

The 1977 and 1978 plans are interim steps. Objectives include:

--Maintaining optimum spawning stock escapements.

--Helping fulfill Indian treaty obligations.

--Providing all ocean and inland water fisheries the continuing opportunity to harvest salmon. (See p. 27.)

Traditionally, fishery management plans have been based on biological considerations. The Fishery Conservation and Management Act of 1976, however, requires a significant increase in the knowledge and use of economic, social, and ecological factors in the plans. Concerns were expressed over the data supporting council decisions which advocated:

--Reducing ocean troll salmon fishery allocations and increasing allocations to other fisheries. (See p. 30.)

Tear Sheet. Upon removal, the report cover date should be noted hereon.

--Increasing the minimum size limit of chinook in certain fisheries from 26 inches to 28 inches. (See p. 33.)

--Establishing shorter fishing seasons and new management boundaries. (See p. 40.)

--Imposing new fishing gear restrictions. (See p. 46.)

--Proposing a limited entry system for the commercial troll and charterboat fisheries. (See p. 48.)

Some fisheries officials stated that the council failed to obtain and analyze sufficient social and economic data for the 1977 and 1978 ocean salmon plans. Information on fishing vessels, catch statistics, fishermen's income, employment levels, and values and goals of fishing communities is needed. There is no reliable coastwide data for effective economic analyses. Social data on fishermen and the communities in which they live also needs to be developed. (See p. 24.)

The council used a computer model to estimate the effects of its 1978 ocean salmon plan. It was estimated that Washington fishermen's net annual salmon catches would increase by 800,000 pounds. It expected the catch of commercial troll salmon fisheries off the coast of Washington, however, to decrease by a maximum of 1,700,000 pounds.

For two decades before implementation of the salmon plans, commercial troll fisheries were relatively unregulated. In contrast, regulatory controls during that period had been imposed on commercial net fishermen operating on inland waters. Although the council's actions decreased the ocean trollers' fishing opportunities, they also attempted to equalize regulatory controls. Because of the lack of reliable economic data on the variability in fishing effort and prices and the lack of current and uniform catch statistics, GAO was not able to determine the overall monetary impact on the commercial troll fishermen.

Council officials recognize the problems with salmon fisheries data. Several research studies are underway to provide additional data for developing a comprehensive salmon plan for the 1980 fishing season.

In addition, concern has been expressed over the adequacy of fishing industry representation on the council (see p. 17) and the council's consideration of treaty Indian fishing rights and related Federal court decisions (see p. 53).

To help prepare these plans, the council established a scientific and statistical committee; management plan development teams; advisory subpanels; and several other groups with a diverse representation of Federal and State fisheries officials, academic representatives, fishing industry representatives, commercial fishermen, and charterboat operators. GAO believes that this diversity should provide the council with information needed for developing selected aspects of fishery management plans. (See p. 17.)

Federal court rulings provide certain treaty Indians the opportunity to catch 50 percent of the total U.S. allowable harvest for fish stocks destined for treaty Indians' usual and accustomed fishing areas. The treaty Indians' catch partially depends on the council's fishery management plans, which specify a fulfillment of Indian treaty obligations as an objective. The council reduced the commercial troll fishermen's harvest, in part, to provide greater ocean escapement of salmon to inside waters, affording Indian fishermen increased harvest opportunities. The extent of council recognition of treaty Indian fishing rights is subject to much debate and is a matter of continuing study and evaluation. (See p. 53.)

Contents

		Page
DIGEST		i
CHAPTER		
1	INTRODUCTION	1
	Provisions of the Fishery Conservation and Management Act	1
	Pending litigation	3
	Scope of review	4
2	PACIFIC FISHERY MANAGEMENT COUNCIL'S PROGRESS	5
	Council organization	5
	Council interaction with other fishery management organizations	6
	Priorities and status of fishery management plans	7
3	PACIFIC FISHERY MANAGEMENT COUNCIL'S ORGANIZATIONAL STRUCTURE	9
	Council	9
	Council staff	11
	Scientific and Statistical Committee	11
	Management plan development teams	12
	Advisory panel	13
	Other council organizations	16
	Concern over the adequacy of council representation	17
	Conclusion	17
4	PUBLIC AWARENESS AND INVOLVEMENT--A VITAL PART OF COUNCIL ACTIVITIES	18
	Basis for public involvement	18
	Public participation at council meetings	18
	Public participation at hearings	19
	Council activities to inform the public	19
	Council concern over delays caused by the Federal Advisory Committee Act	20
	Public concern over location of council meetings	20
	Conclusion	21

CHAPTER		Page
5	INADEQUACIES OF DATA BASES FRUSTRATE THE DEVELOPMENT AND IMPLEMENTATION OF MANAGEMENT PLANS	22
	Expansion needed in traditional biological data	22
	The "best scientific information available" must be used for management decisions	22
	Need for a coastwide data management system	25
	Conclusion	26
6	EFFECTS OF THE COUNCIL'S SALMON PLAN ON VARIOUS SALMON FISHERIES	27
	Plan objectives and their effects on various salmon fisheries	27
	Basis for fishery allocations	29
	Controversy over the council's fishery allocation decisions	30
	Conclusion	31
7	THE 28-INCH MINIMUM SIZE LIMIT CONTROVERSY	32
	Basis for a 28-inch minimum size limit for chinook	32
	Alternative considered by the council	33
	Controversy over the 28-inch minimum size limit	33
	Canadian interception of U.S. origin salmon-- a serious concern	34
	Conclusion	35
8	BASIS FOR ESTABLISHING FISHING SEASONS AND MANAGEMENT BOUNDARIES	36
	Fishing seasons for ocean salmon	36
	Fishing season alternatives considered by the council	38
	Moving the management boundary to Cape Falcon, Oregon	39
	Conclusion	43
9	BASIS AND IMPACT OF FISHING GEAR RESTRICTIONS	44
	Prohibition of ocean net fishing	44

CHAPTER		Page
	Ocean salmon sport fishery gear restrictions	44
	Use of barbless hooks	45
	Alternatives to barbless hooks	46
	Controversy over the barbless hook requirement	46
	Conclusion	47
10	PROPOSED LIMITED ENTRY POLICY FOR THE COMMERCIAL TROLL AND CHARTERBOAT OCEAN SALMON FISHERIES	48
	Authority and basis for council's proposal	48
	Proposed procedures	49
	Probable effect	50
	License limitation in practice	51
	Conclusion	51
11	IMPACT OF TREATY INDIAN FISHING RIGHTS ON THE PACIFIC COUNCIL	53
	Limitations on council decisions	53
	Settlement plan proposed to resolve Washington State fisheries problems	56
	Pacific council consideration of Federal court decisions	58
	Conclusion	59

ABBREVIATIONS

GAO	General Accounting Office
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration

GLOSSARY

Anadromous species	Fish, such as salmon, which spawn in fresh waters, migrate to ocean waters, and return to fresh waters to spawn.
Domestic fisheries	Fisheries or portions thereof under U.S. jurisdiction for species taken entirely or predominately by U.S. fishermen.

Ecological	Pertaining to the branch of biology that deals with the relations between living organisms and their environment.
Fishery	The act of or place for commercial and recreational fishing, often with reference to a particular season, species, or group of species.
Fishing effort	The activity of catching or harvesting fish, usually measured as a combination of the amount of gear and time used while fishing.
Gear	Fishing equipment of various types, such as nets, lines, and traps.
Gill net	A method of catching fish with nets which trap the heads of fish. When a fish tries to back out, its gills catch on the net meshes and the fish is trapped.
Maximum sustainable yield	The scientific term describing the balance between catching a certain number of fish from a particular species and leaving the necessary number to allow propagation.
Ocean escapement	Allowing salmon to avoid ocean sport and commercial fisheries for further maturity; enhancement of fresh water spawning opportunities; fulfillment of inland treaty Indian fishing rights.
Optimum yield	The amount of fish which will provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities, and which is prescribed as such on the basis of the maximum sustainable yield, as modified by any relevant economic, social, or ecological factor.

Overfishing	Harvesting fish or shellfish in an amount greater than the maximum sustainable yield.
Purse seine	A flat net, fitted with floats on top and weights on the bottom, fitted with a purse line in the bottom so that the bottom can be closed after the net has encircled a school of fish.
Recreational fishing	Fishing for pleasure, amusement, relaxation, or home consumption. If part or all of the catch is sold, the monetary returns constitute an insignificant part of the person's income.
Stock	A type or species of fish capable of managing as a unit.
Territorial sea	A zone from the coastline to 3 miles offshore. This zone is regulated by individual States, with each having jurisdiction over fish resources within its coastal boundaries. In some States, cities and towns have jurisdiction over some fisheries within their coastal boundaries.
Trolling	A method of catching fish, particularly salmon, by dragging lines through the water behind the boat at a slow speed. Hooks baited with herring or artificial lures are attached to the lines.

CHAPTER 1

INTRODUCTION

On April 27, 1978, Senator Bob Packwood, member of the Senate Committee on Commerce, Science and Transportation, requested that we review the Pacific Fishery Management Council's management policies as they relate to the goals outlined in the Fishery Conservation and Management Act of 1976 (Public Law 94-265). Senator Packwood's interest centered on certain decisions the council made concerning the salmon fisheries, and the basis and effects of such decisions.

Senator Packwood asked that we obtain information on the council's consideration of the following items:

--Fishing area closure policy.

--Fishing gear restrictions.

--Proposed policy to limit the number of fishing vessels.

--The effect of Federal court decisions on salmon fishery allocations (specifically, decisions rendered by Judges George Boldt and Robert Belloni).

--The use of a 28-inch minimum size limit for commercially caught chinook, as compared to a 26-inch minimum size limit.

--Reducing ocean troll salmon fishery allocations and increasing allocations to other fisheries.

In addition, Senator Packwood requested that we review the adequacy of fishing industry representation on the council.

PROVISIONS OF THE FISHERY CONSERVATION AND MANAGEMENT ACT

Depletion and overfishing of certain fish stocks off the coasts of the United States prompted the Congress in 1976 to pass the Fishery Conservation and Management Act (Public Law 94-265). The law extended U.S. jurisdiction to 200 miles off its coasts and gave the power to limit or exclude foreign fishing in its own area. It imposes on both foreign and U.S. fishermen responsibilities for conserving and using the fishery resources within the 200-mile zone.

Development of optimum yield

An important management principle found in the act is that fishery management plans should use optimum yield. According to the act, a fishery's optimum yield

> "* * * means the amount of fish--
> (A) which will provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities; and
>
> (B) which is prescribed as such on the basis of the maximum sustainable yield from such fishery, as modified by any relevant economic, social, or ecological factor."

Optimum yield, therefore, requires that many concepts and data be considered and integrated. Implicit in the optimum yield concept is that the multitude of data described in the act must be combined to determine the allowable catch that will provide the greatest overall benefit to the Nation. The exact meaning of a fishery's optimum yield and its determination is left to the judgment of the regional councils.

Before developing the optimum yield concept, fisheries management determined the total allowable catch that each species could sustain without damage to the fish stock. This concept is known as the maximum sustainable yield. It is a biologically determined catch without considering economic and social factors.

Creation of regional fishery management councils

The Fishery Conservation and Management Act established eight regional fishery management councils to perform certain duties, including preparing management plans for each fishery within the councils' geographic areas of authority. The Pacific Fishery Management Council is headquartered in Portland, Oregon, and has authority over the fisheries in the Pacific Ocean seaward of the territorial seas of California, Oregon, Washington, and Idaho. The act provides general management authority to regional councils for fish stocks throughout their migratory range.

National standards for fishery conservation and management

Each fishery management plan, along with any implementing regulations, must be consistent with national standards established for fishery conservation and management. These national standards state that conservation and management measures shall

--"* * * prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery.

--"* * * be based upon the best scientific information available.

--"* * * 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.

--"* * * not discriminate between residents of different States.

--"* * * where practicable, promote efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.

--"* * * take into account and allow for variation among, and contingencies in, fisheries, fishery resources, and catches.

--"* * * where practicable, mimimize costs and avoid unnecessary duplication."

The act requires the Secretary of Commerce to establish guidelines, based on the national standards, to assist the regional councils in developing fishery management plans. The Secretary reviews the plans for consistency with the national standards, other provisions of the act, and any other applicable law.

PENDING LITIGATION

The council's 1977 and 1978 fishery management plans for ocean salmon fisheries off the coasts of Washington, Oregon, and California are being challenged by commercial

fishermen engaged in these fisheries. The fishermen, unhappy about reductions in their allocated catches, sued the Secretary of Commerce, claiming that the plans did not comply with the act and the Secretary's guidelines, and that the regulations implementing the plans were invalid. Among other things, the fishermen alleged that:

--The plans allowed illegal foreign fishing for salmon.

--The plans were not consistent with national standards contained in the Fishery Conservation and Management Act.

--The plans did not satisfy the Fishery Conservation and Management Act requirements for the contents of Fishery Management plans.

--Implementation of the plans through emergency regulations was not legally appropriate.

This law suit is now pending before the United States District Court for the Western District of Washington.

SCOPE OF REVIEW

We made our review at the Pacific Fishery Management Council in Portland, Oregon; the Northwest Regional Office of the National Marine Fisheries Service in Seattle, Washington; the National Marine Fisheries Service headquarters in Washington, D.C.; the National Oceanic and Atmospheric Administration headquarters in Rockville, Maryland; and at the Department of Fisheries, State of Washington, in Olympia, Washington.

We interviewed council, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, and State of Washington officials. We also met with non-Government representatives of the fishing industry. We reviewed the fishery management plans, minutes of meetings and public hearings, and other pertinent correspondence and records at the council's and at the National Marine Fisheries Service headquarters and regional office.

CHAPTER 2

PACIFIC FISHERY MANAGEMENT COUNCIL'S PROGRESS

After the Fishery Conservation and Management Act was enacted, in April 1976, the Pacific Fishery Management Council held its first meeting in October 1976. Since its initial meeting the council rapidly put into place an organizational structure to respond to assigned responsibilities. Statements of organization, practices, and procedures for various council entities were prepared. In addition, the council established objectives and priorities for its operations.

COUNCIL ORGANIZATION

During the initial council meetings in 1976, the council established organizational entities to achieve assigned responsibilities. The council generally has monthly meetings. As of August 1978, 19 meetings have been held since the first meeting in October 1976. The council had the following organizational elements in June 1978:

--Council; 18 members.

--Council staff; seven full-time, plus one under contract and one part-time secretary.

--Scientific and Statistical Committee; 11 members.

--Fishery management plan development teams; eight teams.

--Advisory subpanels; eight advisory subpanels corresponding to each plan development team.

--Moratorium Task Force (to consider a limit on the number of vessels participating in the ocean salmon fishery); 14 members.

--Task Force on Anadromous Salmonid Environmental Problems; six members.

The council also formed various temporary subcommittees to perform short-term tasks.

COUNCIL INTERACTION WITH OTHER FISHERY MANAGEMENT ORGANIZATIONS

The Pacific Fishery Management Council coordinates its activities with several other fishery management organizations. These include the National Marine Fisheries Service regional offices in Seattle, Washington, and Terminal Island, California; the North Pacific Fishery Management Council in Anchorage, Alaska; the Pacific Marine Fisheries Commission in Portland, Oregon; and fishery officials in the various States within the council's jurisdiction. Council activities are also coordinated with the Western Pacific Fishery Management Council, the International Pacific Salmon Fisheries Commission, the Fisheries Service of Canada, and the treaty Indian tribes and tribal organizations.

National Marine Fisheries Service

The Northwest regional office of the National Marine Fisheries Service (NMFS) provides direct support to the council in developing and implementing fishery management plans. As provided in the act, the regional director of NMFS is a member of the council. Staff from the NMFS regional office and the NMFS Northwest and Alaska Fisheries Center are members of various council organizations, including the Scientific and Statistical Committee and management plan development teams.

North Pacific Fishery Management Council

Significant numbers of salmon originating in Washington, Oregon, and Idaho rivers are harvested by commercial troll fishermen off the Alaska coast. The Pacific Fishery Management Council recognizes the management problems caused by the migratory range of salmon stocks. The council established achieving, for the long term, coordination with both Canada and the North Pacific Fishery Management Council in the development of a coastwide salmon management plan as one of its objectives in the 1978 ocean salmon management plan.

Coordination between the North Pacific and Pacific Fishery Management Councils occurs primarily through individuals serving as members of both councils and other organizational groups of both councils, such as the Scientific and Statistical Committee, advisory panels, and management plan development teams. Four individuals serve as members of both councils, and two persons serve

on both councils' scientific and statistical committees. Washington and Oregon are joint member States of the Pacific Fishery Management Council and North Pacific Fishery Management Council. In addition, the two councils have an advisory panel member and a plan development team member working for both councils.

Pacific Marine Fisheries Commission

The executive director of the Pacific Marine Fisheries Commission is a nonvoting member of both the North Pacific Fishery Management Council and Pacific Fishery Management Council. The commission promotes the wise management, development, and use of fisheries which are of mutual concern to the States of Alaska, Washington, Oregon, California, and Idaho. In 1976, anticipating the Pacific Fishery Management Council's needs, the commission developed background for an ocean salmon management plan for chinook and coho off the coasts of Washington, Oregon, and California. This work provided the foundation for the council's 1977 ocean salmon management plan. In 1977, the commission began developing information on inland aspects of salmon management for the council's use in forming the comprehensive salmon management plan. The commission performs many other functions which support the needs of both councils.

State fishery officials

The council also maintains a close working relationship with State fishery officials in Alaska, Washington, Oregon, California, and Idaho. State officials serve as members of the council, Scientific and Statistical Committee, management plan development teams, and other council organizations.

PRIORITIES AND STATUS OF FISHERY MANAGEMENT PLANS

According to council officials, initial fishery management plan priorities were developing management plans for the salmon and anchovy fisheries. Developing the other fishery management plans was considered secondary.

The salmon fisheries are perhaps one of the most complex and controversial fisheries. When the council was formed, the salmon fisheries were already in chaos. The council faced problems demanding immediate attention, including

--the need to increase ocean escapement of salmon for spawning purposes to certain inland streams,

--court-ordered requirements to satisfy treaty obligations to Columbia River and Puget Sound Indian tribes, and

--the need to meet court-mandated requirements without destroying other (non-Indian) fisheries operating on inland waters.

The council chairman, emphasizing the problems facing the council, stated:

> "It was clear that either the Council could act with some urgency to assist in resolving these problems or the courts would do it on their own with possibly a much greater consequence than might result from a rational planning process. It was also clear that it would be impossible to collect and assemble all of the data necessary for a comprehensive plan in the few months we had to prepare a plan for the 1977 season."

The council accordingly developed an ocean salmon plan for the management of troll and recreational fisheries for the 1977 fishing season. The council elected to submit the same plan, with some modification, for the 1978 ocean troll and recreational salmon fisheries; however, it is still committed to develop a comprehensive salmon management plan for both ocean and inland fisheries. As of September 1978, the comprehensive plan was in process and scheduled to be implemented for the 1980 fishing season.

Since the council initiated operations, it has approved three fishery management plans and sent them to the Secretary of Commerce for adoption and implementation. The three plans are the 1977 and 1978 fishery management plans for commercial and recreational salmon fisheries off the coasts of Washington, Oregon, and California, and the comprehensive northern anchovy plan. The Secretary of Commerce approved all three plans. As of July 1978, both salmon plans had been implemented, while regulations were being developed to implement the anchovy plan. Eight other fishery management plans were in various stages of development; these included plans for the pink shrimp, dungeness crab, squid, billfish, groundfish, jack mackerel, and herring fisheries.

CHAPTER 3

THE PACIFIC FISHERY MANAGEMENT COUNCIL'S ORGANIZATIONAL STRUCTURE

Many organizational elements assist the Pacific Fishery Management Council in accomplishing the responsibilities assigned by the Fishing Conservation and Management Act of 1976. These elements include a scientific and statistical committee, fishery management plan development teams, advisory subpanels, and council staff.

Generally, individuals serving on the Scientific and Statistical Committee and the fishery management plan development teams are Federal and State fisheries officials. Advisory subpanel members include commercial and sport fishermen, charterboat operators, fish processors, Indian representatives, and consumers.

COUNCIL

Besides preparing, monitoring, and revising fishery management plans, regional councils have additional responsibilities. These include

--commenting on applications for foreign fishing within the 200-mile zone,

--conducting public hearings on developing fishery management plans and amendments to such plans,

--reviewing and revising, as appropriate, the optimum yield and the total allowable level of foreign fishing for each fishery in the council's area of authority, and

--submitting an annual report to the Secretary of Commerce on the council's activities.

In compliance with the act, the council has 13 voting and 5 nonvoting members. The Secretary of Commerce selects 8 of the 13 voting members from a list of candidates submitted by the Governors of Washington, Oregon, California, and Idaho. The five other voting members are the principal State officials with marine fishery management responsibility in the States of Washington, Oregon, California, and Idaho; and the northwest regional director of the National Marine Fisheries Service. The five nonvoting members of

the council include the northwest regional director of the U.S. Fish and Wildlife Service, the Pacific Area commander of the the U.S. Coast Guard, the executive director of the Pacific Marine Fisheries Commission, a representative of the U.S. Department of State, and a representative appointed by the Governor of Alaska. A summary of the membership of the council (as of June 1978) follows.

--Northwest regional director, NMFS.

--Regional director (region X), U.S. Fish and Wildlife Service. 1/

--Pacific Area commander, U.S. Coast Guard. 1/

--Office of the Deputy Assistant Secretary for Oceans and Fisheries Affairs U.S. Department of State. 1/

--Director, Washington Department of Fisheries.

--Director, Oregon Department of Fish and Wildlife.

--Director, California Department of Fish and Game.

--Director, Idaho Department of Fish and Game.

--Director, International Fisheries and External Affairs, Office of the Governor, State of Alaska. 1/

--Executive Director, Pacific Marine Fisheries Commission. 1/

--Three fishing industry representatives, including one trawler, one processor, and one fishermen's union representative.

--Two sport fishermen.

--One economist.

--One State legislator.

--One retired State fisheries official.

Five council members also serve on the North Pacific Fishery Management Council in Anchorage, Alaska.

1/Nonvoting member.

COUNCIL STAFF

Regional councils have considerable latitude in determining the duties and composition of council staff. The act allows each council to appoint and assign duties to an executive director and such other full- and part-time administrative employees the Secretary of Commerce determines as necessary.

The council staff is responsible for administering and conducting the council's operations. Their functions include preparing budgets, managing finances, arranging procurements, coordinating planning efforts, acting as liaison between council committees or advisory panels and fishery planning teams, maintaining council records, handling correspondence, and preparing required council reports. As of July 1978, the council staff consisted of seven full-time employees:

--One executive director.

--One executive assistant.

--One administrative officer.

--Two staff officers.

--Two administrative clerks.

According to the executive director, the two staff officers help coordinate the development of fishery management plans. An additional person, under contract with the council, coordinates the comprehensive salmon management plan development.

SCIENTIFIC AND STATISTICAL COMMITTEE

According to the Fishery Conservation and Management Act, each council is to establish a scientific and statistical committee to assist the council

> "* * * in the development, collection, and evaluation of such statistical, biological, economic, social, and other scientific information as is relevant to such Council's development and amendment of any fishery management plan."

In October and November 1976, the council approved the committee's formation and appointed members to it. In addition to the duties described in the act, the council instructed the committee to

--identify scientists able to assist in developing management plans and recommend and/or designate resources for management plan teams and

--review various fishery management plans and advise the council on the scientific contents of these plans.

The committee generally meets monthly, with all meetings open to the public. The council maintains the meeting's minutes. Most committee meetings involve discussions of draft fishery management plans and recommendations to the council and the management plan development teams.

The council decided that the committee should include scientists of national reputation, drawn from Federal and State fisheries agencies, academic institutions, and other sources. Committee members are appointed by the council for a 2-year term. The council emphasized that the committee should have a multidisciplinary background. As of June 1978, the 11-member committee was comprised of:

--The Director, Northwest and Alaska Fisheries Center, NMFS.

--The Director, Southwest Fisheries Center, NMFS.

--Four State fisheries officials from Washington, Oregon, California, and Idaho.

--Three fisheries biologists.

--One economist.

--One attorney.

As of June 1978, committee membership had not changed since 1976. The Director, Northwest and Alaska Fisheries Center, NMFS, and one fisheries biologist also serve on the Scientific and Statistical Committee of the North Pacific Fishery Management Council.

According to the council chairman, the Federal and State officials were nominated from their respective agencies, while the biologists, economist, and attorney were recommended by various council members. The council must approve all individuals nominated to the committee.

MANAGEMENT PLAN DEVELOPMENT TEAMS

To implement the preparation of fishery management plans, the council appointed plan development teams to be directly

responsible for developing the plans. Generally, each team comprises State and Federal fisheries officials and representatives from universities in Washington, Oregon, or California. Team members are nominated by the Scientific and Statistical Committee and confirmed by the council. Team members have no definite term of duty. In nominating team members the committee considers what type of fishery expertise is needed and the best team composition. Team members have a background in fisheries biology or economics.

As of June 1978, the council had eight management plan teams to develop plans for the anchovy, billfish, dungeness crab, groundfish, jack mackerel, pink shrimp, salmon, and squid fisheries. Team size ranged from three to six members. Two team members serve on three different planning teams and four other team members serve on two different teams.

According to a council official, a team is usually composed of a fishery official from each State having an interest in the particular fishery. In addition, an economist from either the National Marine Fisheries Service or an academic institution is appointed to each team.

In developing fishery management plans, each team is responsible for:

--Carrying out tasks assigned by the council to assemble and analyze relevant biological, statistical, economic, and other data for the purpose of organizing alternative approaches to the management of fisheries.

--Maintaining, throughout the above process, reciprocal interaction with the appropriate advisory panel and the Scientific and Statistical Committee.

--Submitting for council decision, draft fishery management plans in the form of alternative approaches to management development.

Further, team members are expected to seek additional expertise from outside consultants and other means as needed. Each team is expected to consult frequently with all interested parties, including fishermen.

ADVISORY PANEL

The act provides that councils may establish advisory panels as necessary to assist the councils in carrying out their responsibilities. During its October 1976 meeting, the

council decided to establish a series of advisory panels, known as subpanels, for each fishery for which a management plan would be developed. The council desired separate fishery-related advisory subpanels instead of a single multi-fishery panel, because individual panels can provide better input into plan development.

Advisory subpanels offer advice to the council on matters contained in fishery management plans, particularly regarding the

--capacity and the extent to which U.S. fishing vessels will harvest the resources considered in fishery management plans,

--affect of fishery management plans on local economics and social structures,

--potential conflicts between user groups of a particular fishery, and

--enforcement problems.

Panel members attend many council meetings to advise on particular fisheries with specific emphasis on social and economic matters.

As of June 1978, eight advisory subpanels were operating at the council. The size and composition of each subpanel follows.

Subpanel	Number of members	Affiliation
Anchovy	8	1 Dealer 1 Sport fisherman 1 Labor official 1 Processor 1 Charterboat operator 1 Harvester 1 Air and water quality official 1 Bait hauler
Dungeness crab	7	3 Commercial fishermen 1 Processor 1 Indian representative 1 Sportsman 1 Consumer

Subpanel	Number of members	Affiliation
Pink shrimp	4	2 Commercial fishermen 1 Processor 1 Consumer
Squid	5	2 Commercial fishermen 1 Processor 1 Sportsman 1 Consumer
Billfish	4	2 Commercial fishermen 1 Processor 1 Recreational fisherman
Jack mackerel	8	1 Dealer 1 Sport fisherman 1 Labor official 1 Processor 1 Charterboat operator 1 Harvester 1 Air and water quality official 1 Bait hauler
Groundfish and Sablefish	13	3 Trawlers 2 Pot fishermen 2 Charterboat operators 2 Processors 2 Sport fishermen 1 Indian representative 1 Consumer
Salmon	24	5 Sport fishermen 4 Indian representatives 4 Troll fishermen 3 Charterboat operators 3 Processors 2 Gill net fishermen 1 Purse seine fisherman 1 Aquaculture industry representative 1 Consumer

The salmon advisory subpanel has the largest membership because of the controversial nature of the fishery and the large number of effected parties. The council chairman said

that the council prefers to obtain the various views of subpanel members rather than consensus subpanel opinions.

According to the council chairman, advisory subpanel members are chosen on the basis of familiarity to council members and from recommendations made by various interest groups. The council solicits nominations from fishing interest groups after the council determines the composition and size of each advisory subpanel. According to the Advisory Panel Charter, each subpanel member should be knowledgeable or experienced in the management, conservation, or harvest of fisheries under the council's jurisdiction. In addition, the membership should reflect geographic distribution, industry and other user groups, and economic and social organizations in the council's geographical area of responsibility. Subpanel members have been appointed by the council for a 2-year term.

OTHER COUNCIL ORGANIZATIONS

In December 1977, the council established two task forces to analyze problems associated with developing the comprehensive salmon management plan. The council created a moratorium task force to study and report on the issues of limiting the number of ocean commercial vessels and charterboats fishing for salmon. (See further discussion in ch. 10.) The council chairman appointed 14 members to the task force. As of June 1978, the moratorium task force included the following members:

--Three commercial troll fishermen.

--Three charterboat operators.

--Three State fisheries officials from Washington, Oregon, and California.

--One sport fisherman.

--One net fisherman.

--One Oregon State legislator.

--One official, Northwest regional office, NMFS.

--One official, Regional Counsel, Northwest region, National Oceanic and Atmospheric Administration (NOAA).

The council also created a task force to study and report on environmental problems found in the production and harvest of salmon in inside waters. This task force is also concerned with enhancing the natural habitat of salmon. Six Federal and State fisheries officials constitute the task force. The composition includes one State fisheries official from Washington, Oregon, California, and Idaho; one NMFS official; and one U.S. Fish and Wildlife Service official. None of these officials serve on any other council organization.

CONCERN OVER THE ADEQUACY OF COUNCIL REPRESENTATION

Various fishing industry organizations expressed the need for greater industry representation on the council. Representatives of these groups stated that

--many members of the council have no experience in the fishing industry,

--Indian representation is needed, and

--representation of other segments of the fishing industry, such as charterboat operators, should be increased.

The council chairman believes the present composition of the council adequately represents a good mix of fishing industry groups. He believed that increasing the level of industry representation would impair the council's objectivity.

CONCLUSION

The council established many organizational groups to help prepare fishery management plans and to perform other responsibilities. These groups include a scientific and statistical committee, eight fishery management plan development teams, eight advisory subpanels, and several task forces.

We believe that the council should receive information from the fishing industry in developing fishery management plans. Many aspects of the fishing industry are represented in the council's organization. We believe this diversity of representation should provide the council with information needed for developing selected aspects of fishery management plans.

CHAPTER 4

PUBLIC AWARENESS AND INVOLVEMENT--A VITAL PART OF COUNCIL ACTIVITIES

Public involvement is a vital part of the fishery management plan development process. It allows various fishery interest groups to voice their concerns and provide ideas. Allowance for this input, however, is often time consuming and may hinder timely development of management plans. Associated with public involvement is the duty of the council to keep the public well informed of its activities.

BASIS FOR PUBLIC INVOLVEMENT

Section 302 (h)(3) of the Fishery Conservation and Management Act states that each council shall:

> "* * * conduct public hearings, at appropriate times and in appropriate locations * * * so as to allow all interested persons an opportunity to be heard in the development of fishery management plans and amendments to such plans. [sic] and with respect to the administration and implementation of this Act * * *."

The act also provides interested persons a period of not less than 45 days to submit written comments on management plans, amendments, and any implementing regulations.

In addition to the above provisions for public involvement, the council is required to follow the provisions of the Federal Advisory Committee Act. This act requires that council, committee, and panel meetings be open to the public with certain exceptions. This provision is designed to ensure open meetings and public access to council-generated information.

Public input to management plan development is also accomplished through direct representation on the council or by advisory panel input. According to the council chairman, advisory panel input has accurately identified many of the various public interest groups' responses to a management plan far in advance of public hearings.

PUBLIC PARTICIPATION AT COUNCIL MEETINGS

Since the council first met in October 1976, through August 1978, 19 council meetings have been held. All council

meetings are open to the public. Portions of meetings, however, are sometimes closed when discussing international fishing matters for national security reasons.

The following qualifier was included in many of the council meeting minutes:

> "This meeting of the Council is to conduct business and not to collect public testimony; however, people having information to contribute pertinent to issues being considered by the Council will be recognized from the audience."

According to the council chairman, all council meetings have had participation from interested persons. In August 1978 the council added a 1-hour public comment period. Reasons for this included the need for a public comment period--which was expressed during congressional oversight hearings--to lessen public interruptions during the remainder of the council meeting and to allow an orderly presentation of comments.

PUBLIC PARTICIPATION AT HEARINGS

For each of the 1977 and 1978 ocean salmon plans, the council held six public hearings on the final draft, with at least one hearing being conducted in a city of each State under the council's jurisdiction. For each of the plans, two hearings were conducted in California, two in Oregon, and one each in Idaho and Washington. According to the council's executive director, hearings were held in coastal fishing communities to maximize input from commercial fishermen.

About 750 people attended the six public hearings on the 1978 draft plan. Only 150 people testified. In addition to comments received at public hearings, the council also received written comments on the draft; it received about 200 letters on the 1977 plan and about 150 letters concerning the 1978 plan.

The council included, as an appendix to each plan, only the most negative critical comments of all the oral or written comments received and the council responses.

COUNCIL ACTIVITIES TO INFORM THE PUBLIC

The council uses various means to inform the public of its activities. These include distributing a monthly newsletter, news releases to the press, and distributing draft

and final plans on request. In addition, notices of council meetings and public hearings are published. Council meeting transcripts are also available.

The monthly newsletter is distributed on request to any individual. As of July 1978, the newsletter was distributed to about 1,300 persons. The newsletter summarizes actions taken by the council during monthly meetings.

In addition, the council issues news releases on items of general interest to about 70 newspapers and television and radio stations. These media people also receive the monthly newsletter. Based on this information, several fishing periodicals also print information on council activities.

As of March 1978, the council's mailing list for both draft and final ocean salmon plans totaled 1,546 people.

COUNCIL CONCERN OVER POTENTIAL DELAYS BY THE FEDERAL ADVISORY COMMITTEE ACT

Several council members expressed concern over the Federal Advisory Committee Act requirements. The act requires that all meetings of the council and associated committees and panels be announced at least 20 days in advance in the Federal Register. Before forwarding information for publication in the Federal Register, the Director, NMFS, must be notified 45 days in advance of any meetings, or segments of meetings, that the council would like to have closed to the public. One council member believes it extremely difficult to carry out business in a timely manner, particularly if an emergency situation arises. He stated that there is a need for some type of emergency procedure to permit the council to meet on short notice. He also questioned whether the Federal Register is an effective means for communicating council activities to the public.

The council chairman also stated the need for more flexibility in scheduling council and council-related meetings. Another member viewed the council as more of a planning body (rather than an advisory body) that should not be entirely under the act's requirements.

PUBLIC CONCERN OVER LOCATION OF COUNCIL MEETINGS

The council received complaints from the public on the locations of monthly council meetings. The majority of the 19

meetings held through August 1978, have been at larger cities, such as Seattle, Washington; Boise, Idaho; Portland, Oregon; and Los Angeles, San Diego, and San Francisco, California. Fishermen complain that these locations are not readily accessible or convenient. They would like to see more meetings scheduled at coastal fishing communities.

The council's executive director said that meetings are scheduled in the most readily accessible cities in each of the four member States to reduce participants' travel costs and because there is a lack of adequate conference facilities in the coastal communities. He said the council is aware of the complaints over meeting locations. He added that the council plans to hold future meetings in coastal communities. Past meetings were held at the coastal communities of Coos Bay, Oregon, and Monterey and Eureka, California.

CONCLUSION

Public awareness and input to council activities and the management plan development process is an important provision of the Fishery Conservation and Management Act. The council has done a good job providing a basis for public input, as well as employing various means to inform the public. These include council newsletters, press releases, distribution of draft management plans to interested parties, and the addition of a public comment period during council meetings.

CHAPTER 5

INADEQUACIES OF DATA BASES FRUSTRATE THE DEVELOPMENT AND IMPLEMENTATION OF MANAGEMENT PLANS

Delays in developing and implementing fishery management plans have been partly caused by inadequate fishery data bases. Although there is a large base of biological data, passage of the Fishery Conservation and Management Act created the need to significantly increase economic and social data bases applicable to fisheries management.

EXPANSION NEEDED IN TRADITIONAL BIOLOGICAL DATA

Fisheries management has traditionally been based on biological considerations. As a result, biological data is perhaps more sophisticated and research concepts are better understood than those for economic or social information.

Even though much biological data has been accumulated, new and different types of scientific data are needed. Inadequacies in current scientific data bases are a concern to many council officials, fishermen, and others. The council's scientific and statistical committee has often declared its concern over inadequate scientific evidence to evaluate alternative management measures for the 1977 and 1978 ocean salmon management plans. For example, in December 1977 the committee told the council that insufficient information was available to demonstrate the effectiveness of a 28-inch minimum size limit for chinook south of Cape Falcon, Oregon. The council recognizes certain data base problems in the salmon fisheries and has taken steps to increase the data base. To resolve some of these problems, the council contracted for various research studies to obtain additional data to develop a comprehensive salmon plan.

THE "BEST SCIENTIFIC INFORMATION AVAILABLE" MUST BE USED FOR MANAGEMENT DECISIONS

Effective implementation of the act will require a new level of understanding about fishing resources and the fishing industry. The act requires each fishery management plan to develop an optimum yield for each fishery which

> "* * * will provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities; and * * *

> which is prescribed * * * on the basis of the maximum sustainable yield from such fishery, as modified by any relevant economic, social, or ecological factor."

The act does not define the relative weight of each factor used to compute optimum yield, however, the relative importance of economic, social, and ecological factors varies by fishery. Council officials believe that having flexibility to consider economic and social factors is important.

In analyzing issues resulting from the act's implementation, the Office of Technology Assessment's June 1977 report stated that the act

> "* * * will require development of methods of balancing biological, economical, and social factors relating to fisheries in order to best serve the national needs. Most of the information necessary for this process does not yet exist."

Controversy over the adequacy of data bases

Along with the development, analysis, and use of data bases, the act specifies that "Conservation and management measures shall be based upon the best scientific information available." Considerable controversy surrounds the adequacy of the data used as a basis for the council's decisions concerning certain sections of the 1977 and 1978 ocean salmon management plans. Various affected groups have challenged the basis for council-approved management measures in the plans. In response to these challenges, the council chairman said:

> "* * * the Council had to respond to pressing conservation needs and judicial allocation decisions immediately, on the basis of the best information available. The 1977 and 1978 plans are responses to this urgency."

In recommending approval of the 1977 ocean salmon plan, the Director, NMFS, stressed a greater consideration of certain issues in 1978, including the strengthening of economic and social aspects. The need for greater economic and social data was again emphasized in NOAA decision documents concerning the 1978 ocean salmon plan. In February 1978, the Acting Administrator for Fisheries, NOAA, pointed out that as with the 1977 fishery management plan there are gaps in the 1978 plan in the socioeconomic and habitat data.

Most council members believe that although more data is needed for all fisheries, current available scientific data supports the proposed policies set forth in the fishery management plans. However, the council plans to include additional social, economic, and habitat data in the comprehensive salmon management plan scheduled to be implemented in 1980.

Greater need for economic data

The greater consideration of economic and other social dimensions required by the act's optimum yield concept places a new demand on fisheries managers. Additional social, economic, and ecological data is necessary for such purposes as

--determining optimum yield,

--projecting the domestic catch and capacity to catch fish,

--promoting efficiency in the harvest sector of the fishing industry,

--understanding and managing the impact of foreign fishing and imports of fish to the U.S. markets, and

--determining overall benefits to recreational fishing.

We discussed the present status and need for additional economic and social data with members of the council, Scientific and Statistical Committee, and management plan development team members. The salmon plan development team economist said that the team does not yet know what economic information is needed. He said that although the act requires that each fishery management plan contain a description of the fishery, including the number of vessels, no reliable coastwide data is available on the number of fishing boats or catch statistics. He added that coastwide data must be complete and its quality improved before effective economic analyses can be performed. He said the following economic data is needed:

--Consistent fishery catch data (catch amounts presently are reported in terms of either pounds, numbers of fish, or catch value).

--Locations of fish catches.

--Days of fishing effort.

--Capital and operating costs of commercial fishermen.

--Fishermen's income from all fisheries as well as nonfishing income alternatives.

Council officials warned, however, that economic research can be expensive and that one must carefully weigh the cost of information against its probable use and effects. They said that because of the act's broad mandate to obtain any relevant economic, social, or ecological data a clear specification of relevant objectives must be determined.

Data bases needed for noneconomic factors

Besides the need to develop better economic data, fisheries management also needs information from other data areas. The act also requires that relevant social and ecological factors be considered in determining optimum yield. Social data on fishermen and the communities in which they live is almost nonexistent in information data bases.

As prescribed by the act, regional councils will need to know the effect of management measures on social factors to properly determine fishery policies. Fisheries management can affect community factors, such as the economic livelihood of fishing crews and cooperatives; community employment levels; values and goals of community populations; and social problems, including alcoholism, delinquency, and crime. An understanding must also be obtained of coastal fishermen's ability to adapt to changes in fisheries management and to use innovative and sophisticated fishing equipment.

NEED FOR A COASTWIDE DATA MANAGEMENT SYSTEM

The responsibility for collecting economic information about U.S. fisheries is presently left almost entirely to the Federal Government, as carried out by NMFS. No comprehensive regional collection programs exist to augment the Federal information base.

An effective coastwide data base is necessary to develop and continually assess management measures for coastwide fishery management plans, such as the council's 1977 and 1978 ocean salmon plans. No such data base currently exists. Development of a coastwide data management system has received added impetus from the council's needs in developing the ocean salmon plans. The council found the current data base particularly inadequate to assess fishing effort and harvests in the waters off the coast of one State by fishing vessels licensed in another State.

NMFS is funding the Pacific Marine Fisheries Commission's project to coordinate coastwide data. As soon as data compatibility problems are resolved among the three coastal States, the commission plans to produce coastwide data files for 1974, 1975, and 1976.

CONCLUSION

Historically, fisheries management has been based on biological data. The passage of the Fishery Conservation and Management Act created the need for increased biological data, as well as the need for fisheries managers to consider relevant economic, social, and ecological factors. To meet these new demands, the council must develop proper data bases. The council recognizes this need and has begun developing improved data bases. The council plans to include additional social, economic, and habitat data in its comprehensive salmon management plan scheduled to be implemented in 1980. This should resolve many factors not totally evaluated by the council in its 1977 and 1978 ocean salmon management plans.

- - - -

Chapters 6 through 11 review major elements of the 1977 and 1978 ocean salmon management plans, alternative management measures, the basis for council decisions, and contrasting views to council actions.

CHAPTER 6

EFFECTS OF THE COUNCIL'S SALMON PLAN ON VARIOUS FISHERIES

Due to an urgent need to increase the ocean escapement of salmon to inland waters, the council developed plans to control the ocean salmon fisheries. Greater ocean escapement was needed to increase spawning of severely depressed chinook stocks and to recognize Federal court decisions allowing treaty Indians an opportunity to catch 50 percent of the allowable fishery harvest.

The 1978 ocean salmon plan is the second interim plan that the council developed to manage the salmon fisheries off the coasts of Washington, Oregon, and California. The 1978 plan replaced the management plan adopted for the 1977 fishing season. As of July 1978, the council planned to use the 1978 plan for regulating the 1979 fishing season, since a comprehensive salmon fishery management plan would not be ready for implementation until the 1980 fishing season.

PLAN OBJECTIVES AND THEIR EFFECTS ON VARIOUS SALMON FISHERIES

The 1977 and 1978 plans were to ensure that conservation and court-mandated allocation requirements for Washington and the Columbia River system salmon stocks were met. These plans had the following objectives:

--Maintain optimum spawning stock escapements.

--Reduce fishery-caused mortalities other than for fish landed.

--Help fulfill Indian treaty obligations.

--Provide all ocean and inland water fisheries 1/ the continuing opportunity to harvest salmon.

1/The primary ocean salmon fisheries include commercial trollers, charterboat operators, recreational fishermen, and certain treaty Indian fisheries. Inside fisheries, those fisheries found on inland salt water areas (such as Puget Sound) and freshwater areas (such as the Columbia River), include purse seiners, gill netters, Indians, and recreational fishermen.

--Recognize the importance of certain economic, social, and cultural values.

--Maximize the poundage yield of commercially caught chinook and coho, as modified by consumer quality preferences.

--Recognize that the optimum value for recreational fisheries does not necessarily require harvesting only mature fish.

--Achieve, for the long term, coordination with Canada and the North Pacific Fishery Management Council in developing coastwide salmon management plans.

Using the average catch experienced during the 5-year period 1971-75, the council predicted the effect of the 1977 and 1978 plans on various fisheries. Preliminary data available indicates that the troll catch in 1977 off Washington and the Columbia River (the area of major impact of the 1977 management plan) was 78 percent of the 1971-75 average coho catch and 88 percent of the 1971-75 average chinook catch. Using catch and price estimates, income for Washington coastal trollers during 1977 is estimated to be slightly over $10 million compared to $6.4 million during 1975, and a record high of $13.8 million during 1976. The council predicted the following effects from the 1978 plan:

--The ocean fishing effort on Canadian, Puget Sound, Oregon coastal, and California stocks would decrease minimally.

--The chinook commercial troll catch poundage off the coast of Washington and the mouth of the Columbia River would decrease up to 25 percent.

--The coho commercial troll catch poundage off the coast of Washington and the mouth of the Columbia River would decrease about 15 percent.

--The number of sport coho caught north of Cape Falcon, Oregon, would increase about 9 percent.

--The number of sport chinook caught north of Cape Falcon, Oregon, would decrease about 24 percent. The average size of fish caught would increase by 1-1/2 pounds.

In developing these projections, the council assumed that the fishing rate of the coho and chinook commercial troll fisheries would not increase and that the reductions in catch would be offset by increases in fish size and value.

The council used a computer model to analyze the anticipated effects of the 1978 ocean salmon plan. Data analyzed included growth rates; maturation schedules; natural and fishing related mortality rates; and catch distribution and fishing rates by time, fishery, and geographic area. From this analysis the council estimated the following effects on coastal and inside Washington State chinook and coho fisheries.

	Increase or decrease (-) in pounds to be caught by Washington State fisheries					
	Commercial					
Species	Wash. coastal troll	Puget Sound	Sport	Columbia River	Wash. coastal	Net effect
Chinook	-900,000	-	-300,000	1,400,000	200,000	400,000
Coho	-800,000	400,000	500,000	100,000	200,000	400,000

The council anticipated little change in 1978 for offcoast fisheries of Oregon and California. Overall, the council estimated that the Washington fisheries net annual catches would increase 400,000 pounds for both the chinook and coho. The council also estimated that the Canadian fisheries total catch would increase about 300,000 pounds annually.

BASIS FOR FISHERY ALLOCATIONS

Balancing equities between competing salmon fisheries is complex and involves a controversial decision process. Even when decisions are made on fishery allocations, the complexity of interacting variables, such as fishing effort, fishing patterns, and escapements to spawning grounds in any single year, inhibits realizing the estimated effects on salmon fisheries.

Moreover, accurate and complete catch records are often not available until after a fishing season. Current technology prevents scientists from accurately determining ocean fishing rates while the salmon fishing seasons are still open. In addition, a high or low fishing rate for chinook does not correlate with a similar fishing rate for coho during a given season.

Both the 1977 and 1978 ocean salmon plans deviated from the biologically determined maximum sustainable yield of salmon stocks to reflect relevant economic, social, and other factors as required by the Fishery Conservation and Management Act. In both plans, the council used the following three factors to justify the reduced ocean fishery allocations, allowing more salmon to escape to inside fisheries and spawning waters.

--Reduced ocean catches of depleted fish stocks.

--Legal rulings that require certain fishing opportunities for treaty Indians.

--Reduced adverse effects of past conservation restrictions on inside fisheries.

According to the council, current technology and inadequate data prevent all justification factors from being quantified. Instead, final fishery allocations are based on professional judgment and experience of the management plan development team, as modified by comments from the Scientific and Statistical Committee, the salmon advisory subpanel, public testimony, and council members. Judgment and analysis are especially important because of inadequate quantifiable information on certain social factors and the absence of any Federal guidance on how one factor should be weighed against another.

CONTROVERSY OVER THE COUNCIL'S FISHERY ALLOCATION DECISIONS

Due to the variability of salmon, annual salmon runs cannot be accurately predicted in advance. As a result, the council must consider many competing interests and management goals when assessing the equitability of the various fisheries.

Commercial troll fishermen are perhaps the most vocal critics of council decisions. Many trollers believe that the council's salmon plans discriminate against them. These fishermen are particularly concerned about the cutback of commercial troll fishing opportunities and the increase of salmon for ocean sport fishermen and inside fisheries. The trollers believe the ocean salmon plans violate the act's national fishery conservation and management standards prohibiting discrimination against fishery groups. The national standards state, in part:

> "If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges."

The trollers believe that they have been discriminated against because the council restricted their opportunity to catch salmon. They believe the council unreasonably favored inside fisheries, including treaty Indians, at the expense of commercial ocean trollers. As a result, the trollers believe they will suffer severe economic and social hardships.

The council's actions changed the ocean trollers' fishing opportunities from what they had been for the last 20 years. From 1957 to 1975, troll fishery operating rules remained essentially the same; most regulatory controls in the past 20 years involved commercial net fishermen operating on inland waters. The council's introduction of regulatory constraints, however, drastically changed the trollers' operating rules.

CONCLUSION

Preliminary available data indicates that the troll catch in 1977 off Washington and the Columbia River was 78 percent and 88 percent of the 1971-75 average for coho and chinook, respectively. Using price and catch estimates, income for trollers during 1977 is estimated to be slightly over $10 million compared to a record high of $13.8 million during 1976.

The council used a computer model to estimate the effects of its 1978 ocean salmon plan. Overall the council estimated that Washington fisheries net annual salmon catches would increase by 800,000 pounds. However, the council expected the catch of commercial troll salmon fisheries off the coast of Washington to decrease by a maximum of 1,700,000 pounds.

For two decades before the implementation of the salmon plans, commercial troll fisheries were relatively unregulated. In contrast, regulatory controls during that period had been imposed on commercial net fishermen operating on inland waters. Although the council's actions decreased the ocean trollers fishing opportunities, they also attempted to equalize regulatory controls. Because of the lack of reliable economic data on the variability in fishing effort and price, and lack of current and uniform catch statistics, we were not able to determine the overall monetary impact on the commercial troll fishermen.

CHAPTER 7

THE 28-INCH MINIMUM SIZE LIMIT CONTROVERSY

The 28-inch minimum size limit for chinook commercially caught off the coast of Washington and the mouth of the Columbia River was initially adopted by amending the 1977 ocean salmon management plan. The 1977 plan established a management boundary at Tillamook Head, Oregon, to separate fishing Columbia River and Washington State stocks of chinook and coho from fishing Oregon coastal and California stocks. The minimum size for commercially caught chinook was 28 inches north of Tillamook Head and 26 inches south of Tillamook Head. The 1978 ocean salmon plan continued these minimum size limits; however, the boundary was moved about 11 nautical miles south to Cape Falcon, Oregon. (See ch. 8, pp. 36 to 43.)

BASIS FOR A 28-INCH MINIMUM SIZE LIMIT FOR CHINOOK

Between 1955-77 the minimum size limit was 26 inches for chinook commercially caught off the coast of Washington. A 28-inch minimum size, however, was formally proposed as early as 1951. More recently, comprehensive studies examined the age, growth, and maturity characteristics of ocean chinook. The council concluded that these studies fully support a 28-inch minimum size limit. The council cited similar studies that supported a 28-inch minimum size limit for the Canadian offshore chinook troll fishery.

The general basis for increasing the minimum size for chinook from 26 inches to 28 inches is that it reduces the harvest of chinook having significant growth potential. The chairman, salmon plan development team, assessed the justification for the 28-inch minimum size limit. He said that a 26-inch minimum size limit would reduce the number of fish entering rivers, and that the separation point between immature and mature 3-year olds is 28 inches. Another team member believed that the chinook fishery catch value would be greater with a 28-inch minimum size.

Research studies cited by the council state that:

> "Only age 3 mature and immature chinook can be differentiated on the basis of length, and these fish form the largest part of the commercial troll catch off the lower west coast of Vancouver Island. Since most age 4 chinook are

mature and larger than age 3 matures, and most age 2 chinook are immature and smaller than age 3 immatures, the size limit used by the troll fishery should be one that best divides immature from mature age 3 chinook.

"On the basis of data presented in this report, a minimum size limit of 66 cm [28 inches] fork length would increase the yield based on a minimum size limit of 61.5 cm [26 inches] fork length."

ALTERNATIVE CONSIDERED BY THE COUNCIL

The council considered extending the 28-inch minimum size for chinook to the Oregon and California coast. If such an extension were applied coastwide, the council believed the Oregon-California chinook troll fishery would experience an 8-percent decrease in the poundage of chinook caught. The council also believed that a uniform coastwide minimum size would enable more efficient enforcement.

The council rejected coastwide extension of the 28-inch minimum size for chinook because of inadequate scientific data. In December 1977 the council's Scientific and Statistical Committee reported that "We still do not have sufficient data off California to demonstrate the effectiveness of a 28-inch size limit south of Cape Falcon."

CONTROVERSY OVER THE 28-INCH MINIMUM SIZE LIMIT

A representative of a fishermen's association said the council failed to contact industry representatives to evaluate the economic and consumer impact from increasing the minimum size for chinook to 28 inches. He said a 28-inch minimum size adversely affects the trollers and is discriminatory since it only applies to trollers. Further, he believes that the 28-inch minimum size limit will decrease the availability of fish for the market because many consumers prefer a 26-inch salmon. A representative of another fishermen's association believes that a study is needed to determine the effects of the 28-inch size limit on chinook for the area north of Tillamook Head before any coastwide implementation.

CANADIAN INTERCEPTION OF U.S. ORIGIN SALMON--A SERIOUS CONCERN

A significant problem affecting salmon management is the salmon's transboundary nature. According to the 1978 salmon plan, a large percentage of U.S. salmon stocks are caught by Canadian fishermen off the coast of British Columbia and in the Strait of Juan de Fuca. Columbia River and Northwest coastal chinook stocks, for example, migrate as far north as southeastern Alaska and contribute heavily to the ocean fisheries of Washington, British Columbia, and southeastern Alaska.

The council chairman stated that based on the best research data available, Canadian fishermen catch 30 to 40 percent of the harvestable Columbia River fall chinook run. Others estimate the Canadian catch of certain stocks to be as high as 70 percent. The 1978 ocean salmon plan predicts that its regulations will yield a 300,000-pound annual increase to Canadian salmon fisheries.

The large U.S. salmon catches by Canadians have increased the difficulty for some U.S. fisheries in inside waters to maintain any open season and obtain the desired level of spawning escapement. The problem is aggravated by recent U.S. Federal court decisions requiring a proportion of the available catch be allocated to treaty Indian fisheries. (See ch. 11.) The 1978 ocean salmon plan stated that

> "Virtually all of the alternatives which might be implemented to increase overall resource yields and/or transfer more salmon to internal state waters have one major flaw -- they also transfer varying but significant numbers of fish to Canadian salmon fisheries. In general, constraints on U.S. ocean fishermen will, in fact, result in a net transfer of salmon from the U.S. to Canada unless compensating regulations are initiated by Canada."

One approach to lessen the impact of Canadian troll fisheries may be to negotiate a 28-inch minimum size limit for chinook off Canada. Currently, Canada has a 26-inch minimum size limit for the chinook troll fishery. Such a limit would reduce the Canadian catch of U.S. salmon returning to their spawning ground and allow the salmon to reach their maximum growth potential. Further, a NOAA-appointed panel of fishery experts stated that one of the

> "Greatest long-range benefits will accrue when and if Canada applies a 28-inch minimum size for chinook caught by its trollers off Canada.

> A strictly adhered to 28-inch size limit by U.S. trollers will strengthen our position that Canada should adopt a similar conservation measure."

The United States-Canada fisheries negotiations are highly complex and cannot be quickly or easily resolved. At issue are such matters as trade-offs on interceptions, boundary determinations, and reciprocal fishing privileges. The regional team of the Federal task force that recommended a settlement plan for the Washington State salmon fisheries also acknowledged the seriousness of the Canadian interception problem. The team concluded that

> "* * * a satisfactory Canadian interception limitation is critical to improvement in Washington State's sport, troll, net, and tribal fisheries for coho and chinook."

CONCLUSION

Recent research studies support a 28-inch minimum size limit for chinook because it reduces the harvest of chinook that still have significant growth potential. Commercial salmon trollers express concern about the council's decision to impose a 28-inch minimum size limit for chinook north of Cape Falcon, Oregon. Some trollers believe that the council failed to adequately consider social and economic effects. Council officials believe that studies being performed for the comprehensive salmon plan will provide more data on the social and economic characteristics of salmon fisheries. Over the short term, the 28-inch minimum will reduce the catch by the ocean trollers; however, over the long term, total poundage should increase.

The significant Canadian catch of U.S.-origin salmon also affects the council's management measures. Some fisheries officials estimate the Canadian catch of certain stocks to be as high as 70 percent. The minimum-size limit for chinook off the coast of Canada is 26 inches. Accordingly, with a 28-inch minimum size limit the U.S. commercial chinook fishermen are at a disadvantage when compared to the Canadian fishermen who can take 26-inch U.S. origin chinook after it reaches the Canadian coast. One approach to lessen the impact of the Canadian troll fisheries may be to negotiate a 28-inch minimum size limit for chinook off the Canadian coast. Fisheries experts believe that significant long-term benefits will occur if Canada also implements a 28-inch minimum size limit for chinook caught by its trollers off the Canadian coast.

CHAPTER 8

BASIS FOR ESTABLISHING FISHING SEASONS AND MANAGEMENT BOUNDARIES

States have used fishing seasons for commercial and sports fisheries for many years primarily to conserve fish. With the passage of the Fishery Conservation and Management Act and the development of specific fishery management plans, regulating fishing times and places has become an important management tool.

The act specifically permits regional councils to establish fishing seasons or fishing zones. Section 303(b) of the act states that "Any fishery management plan * * * may * * * designate zones where, and periods when, fishing shall be limited, or shall not be permitted * * *." All management plans the council approved have designated fishing seasons for the various fisheries under the council's jurisdiction. Ocean salmon fishing season controls are necessary to achieve the specific management plan objectives for optimum yield, including providing inside fisheries the continuing opportunity to harvest salmon, maintain or increase spawning stock escapement, and fulfill Indian treaty obligations.

FISHING SEASONS FOR OCEAN SALMON

Regulations for salmon fishing seasons vary by fishery. The regulations primarily affect commercial trollers, charter, and ocean sport fishing. Regulations for these fisheries are different north and south of the Cape Falcon, Oregon, boundary.

In addition to the season regulations for commercial troll and sport fishing, the ocean salmon management plan specifies the fishing season for the four Washington State Indian tribes with ocean fishing rights. The four tribes are allowed to catch all salmon species from May 1 through October 31.

Before 1977, commercial and recreational salmon seasons often ran concurrently. The council believes, however, that each fishery should be managed for its own objectives and that concurrent fishing seasons should occur only by coincidence.

The following chart summarizes the different salmon fishing seasons included in the 1978 ocean salmon plan.

1978 Ocean Salmon Fishing Seasons

North of Cape Falcon, Oregon

Commercial troll fishing

Season	Salmon species allowed
May 1-June 14	All, except coho
July 1-Sept. 15	All
Sept. 16-Oct. 31	All, south of Point Greenville, Wash.

Sport fishing (including charter boats)

Season	Salmon species allowed
Saturday closest to May 1-Oct. 31	All

South of Cape Falcon, Oregon

Commercial troll fishing

Oregon		California	
Season	Salmon species allowed	Season	Salmon species allowed
May 1-Oct. 31	All, except coho	Apr. 15-Sept. 30	All, except coho
June 15-Oct. 31	Coho	May 15-Sept. 30	Coho

Sport fishing (including charter boats)

Oregon		California	
Season	Salmon species allowed	Season	Salmon species allowed
Saturday closest to May 1-Oct. 31	All	All year (north of Tomales Point)	All
		Saturday closest to Feb. 15-Sunday closest to Nov. 15 (South of Tomales Point)	All

The 1977 fishing seasons were the same, except the boundary was Tillamook Head, Oregon (11 nautical miles north of Cape Falcon).

Basis for the 2-week commercial troll fishery closure

According to the council chairman, the council recommended a 1-month troll closure to increase the ocean escapement of chinook to inland waters. A secondary objective was to allow coho to achieve greater growth potential.

Due to the Secretary of Commerce's concern over the effect of the month-long closure period on the troll fishery, the council, in 1977, reconsidered and amended the closure period to 2 weeks (June 15-30) and included a 28-inch minimum size limit north of the boundary line. The same 2-week closure period was adopted for the 1978 ocean salmon plan.

The 2-week closure does not apply to the recreational salmon fishery. The council does not support the belief that commercial and recreational fisheries should be managed by identical seasons. Although the product of the troll fishery is fish and income, the council believes that the fishing experience is an important consideration in recreational fishing. Accordingly, the council rejected the option of including sport fishery in the 2-week closure because (1) commercial and recreational fisheries are not considered comparable and (2) Washington State had already restricted (by regulations passed in 1976) the recreational fishery, which resulted in a significant reduction in fishing opportunities.

Most commercial salmon trollers oppose the sport fishery's exclusion from the 2-week closure. They believe it is not equitable to restrict the commercial ocean fishery more than the sport fishery. They declare that consistent seasonal closures should apply to all ocean users.

FISHING SEASON ALTERNATIVES CONSIDERED BY THE COUNCIL

The council considered several alternatives to its proposed management measures in the ocean salmon plan. Concerning fishing season alternatives, the 1978 ocean salmon plan states:

> "In some cases, these alternatives may well prove, on further analysis, to be technically superior to the specific recommendations. In other cases, they offer means to solve controversial problems causing serious friction between competing resource user groups."

One alternative considered was the setting of a common opening date of July 1 for the troll coho season off all three coastal States. A computer model analysis projected that this would provide a 400,000 pound annual increase in short-term yield of coho, with greater long-term benefits being dependent on the need of additional spawners for Oregon and California coastal streams. However, some negative fishery impacts were also projected for the individual States.

A second alternative considered was to reduce the early troll chinook salmon fishing season north of Cape Falcon, Oregon. The ocean salmon management plan stated that the 1978 adopted regulations might cause an increase in the troll fishing effort, which at present would be virtually impossible to forecast. If increased effort did occur, reductions in the early chinook troll season would be considered. The council believes that continued early season commercial ocean fishing for chinook is not in the best long-term interest of the salmon resources. The council further said the sacrifice in chinook poundage yields and hooking mortality losses on small chinook and coho cannot be continually supported as sound resource management.

A third alternative considered was to establish concurrent commercial troll and recreational fisheries north of Cape Falcon, Oregon. The unequal seasons established for the two fisheries during 1977 caused serious friction between the trollers and sport fishermen, particularly during the 2-week troll closure in late June when sport fishermen continued to fish. The council rejected this option because each fishery has different objectives, although a return to equal seasons might be justified for sociological reasons.

MOVING THE MANAGEMENT BOUNDARY TO CAPE FALCON, OREGON

A particularly controversial matter in the 1978 ocean salmon plan concerns the provision that the southern management boundary be relocated at Cape Falcon, Oregon, for the area within which a 28-inch minimum size for chinook and a 15-day closure for commercial salmon trolling be imposed. The boundary is 11 nautical miles south of Tillamook Head, the boundary in the 1977 ocean salmon plan. The 1977 ocean salmon plan imposed a 2-inch increase (26 to 28 inches) in the minimum size for chinook and a 15-day closure period (June 15-30) for commercial salmon trolling from Tillamook Head north to the Canadian border.

Controversy over the decision to move the boundary

The boundary change further restricts the operations of commercial trollers. They have strongly protested to the Secretary of Commerce and the Congress. The trollers opposed the boundary change because the decision was

--not in compliance with the act,

--not consistent with the fishery management plan's objectives, and

--not supported in the council's administrative record.

The trollers claimed they would be prevented from fishing an important concentration of coho and chinook during the last 2 weeks in June between Tillamook Head and Cape Falcon. The trollers charged that the council's actions were discriminatory and overly restrictive.

Basis for council's movement of boundary

The council views the boundary change as a correction of the 1977 plan, rather than an additional restriction on trollers. The council believes the Tillamook Head boundary did not meet several of the assumptions upon which the boundary was decided.

> "* * * [The boundary] was not the southerly extent of significant Columbia River chinook harvest as suggested; some of the season's best troll chinook catches were taken just south of that line. Therefore, it did not divide a major fishing area in which chinook were abundant, at least in 1977.
>
> "* * * [The boundary] also was not beyond the range of a day boat's fishing from ports in the Columbia River mouth. Day boat fishermen increased their effort in response to the more restrictive 1977 regulations."

One council member said that biological support for the Tillamook Head boundary was lacking.

In considering the movement of the boundary to Cape Falcon, the Acting Fisheries Management Officer, NMFS, outlined several possible positive and negative effects. Positive effects included:

--A better separation between Columbia River chinook salmon and coastal Oregon and California stocks.

--A greater escapement of fall chinook from ocean fisheries, providing more fish to non-Indian net, recreation, and treaty Indian fisheries as well as allowing more chinook to reach spawning grounds to help rebuild the run.

--Increased catches of chinook salmon by recreational fishermen during the 2-week commercial fishing closure.

--Larger size chinook at harvest.

--Enforcement of the 28-inch minimum size requirement for chinook salmon.

In June 1978 NOAA's Assistant Administrator for Fisheries stated that the major reason for selecting Cape Falcon was the Washington State Department of Fisheries' position that the Tillamook Head boundary made it difficult to enforce the different size limits for chinook. He concluded that since enforcement is important for effective minimum size limits, enforceability should be considered in developing management measures.

The Acting Fisheries Management Officer, NMFS, also felt, however, that the boundary change would:

--Remove an area about 11 nautical miles wide from use by commercial troll fishermen--primarily from Washington and northern Oregon--for the 2-week June closure period.

--Remove the supply of fresh salmon from many Washington and northern Oregon processors for 2 weeks.

--Slightly reduce the supply of salmon available to consumers.

--Provide Canadian trollers off northern Washington a slightly larger harvest of U.S. salmon.

Dispute over adequacy of data

The chairman of the Scientific and Statistical Committee and the salmon plan development team leader assured the council that the scientific data was adequate for making a decision to move the boundary. The council approved the move by an eight to five vote. Many council members expressed concern over the adequacy of data to support the decision.

In December 1977 the Director, Oregon Department of Fish and Wildlife, and a council member, stated:

> "* * * shifting the dividing line south to Cape Falcon does not appear to be justified at this time, either on the basis of enforcement issues, or for additional protection of Columbia River stocks. * * * Proposal to shift the dividing line to Cape Falcon * * * is based on very limited and inadequate data."

The Director said that although tag recoveries indicated that some Columbia River chinook were caught south of Tillamook Head, the size of the sample was not adequate. He further stated:

> "* * * through our samples from Tillamook, some 30 thousand fish were landed. Of those, 600 were sampled * * *. Of those there were 25 marked fish of which 16, or 64%, were from the Columbia River. On this basis, we do not feel we have adequate sample size."

The Director concluded that although Tillamook Head may be the wrong boundary, there is no data supporting the move to Cape Falcon.

After the 1978 ocean salmon plan had been approved, the Assistant Administrator for Fisheries opened a special public comment period on the boundary question. A panel of five fishery experts reviewed the comments received and the available scientific information. Their report, dated June 7, 1978, noted that the scientific data supporting either boundary was weak and somewhat limited, but concluded that the objectives of the plan and the act are best served by moving the management boundary to Cape Falcon. The Secretary of Commerce accepted this position.

CONCLUSION

Historically, fishing seasons have been used for many years as a regulatory measure for fish conservation. Designated fishing seasons have also been used as a management measure by the council in formulating the 1977 and 1978 ocean salmon fishery management plans.

Controversy has arisen over the council's decisions on fishing seasons and management boundaries. The council's decision not to include a 2-week June closure for the recreational salmon fishery has been challenged by commercial salmon fishermen as discriminatory and overly restrictive toward commercial salmon trollers. Moreover, the basis for the council's decision to move the management boundary from Tillamook Head to Cape Falcon, Oregon, has also created much controversy.

We recognize that controversy is common for most management decisions that affect economic livelihood or recreational opportunities. We believe that the decision to convene an "expert panel" to reexamine the Cape Falcon boundary change was proper even though complete satisfaction was not obtained by all parties affected by the panel's conclusion.

CHAPTER 9

BASIS AND IMPACT OF FISHING GEAR RESTRICTIONS

The 1977 and 1978 ocean salmon plans contain provisions restricting or prohibiting the use of certain commercial and recreational fishing gear. Such limitations are permitted under section 303(b) of the Fishery Conservation and Management Act. The act prescribes that any fishery management plan, in order to achieve its conservation and management objectives, may

> "* * * prohibit, limit, condition, or require the use of specified types and quantities of fishing gear, fishing vessels, or equipment for such vessels * * *."

The only gear restriction difference between the two salmon plans is that the 1978 plan extends coastwide the requirement for using barbless hooks by commercial fishermen during the early chinook season and allows barbs on certain hooks. The 1977 plan required all hooks to be barbless, but was applicable only north of Tillamook Head, Oregon. The 1978 plan did not discuss the results from using barbless hooks during the 1977 season north of Tillamook Head.

PROHIBITION OF OCEAN NET FISHING

Net fishing in the ocean has been banned since the late 1950s by an agreement between the United States and Canada.

The basic reasons for the ban are:

--It is difficult to net harvest mixed stocks without overharvesting some stocks.

--Maximum potential commercial use for salmon stocks occurs as the salmon approach their streams of origin when the fish are near maturity. Net fishing the salmon in the ocean would lessen this potential.

OCEAN SALMON SPORT FISHERY GEAR RESTRICTIONS

Gear restrictions for the ocean sport fishery primarily involve the number of poles or fishing lines that each

fisherman can use. Gear restrictions for the salmon sport fishery off the Washington and Oregon coasts are more restrictive than those off the California coast. For the entire Washington and Oregon coast area, the 1978 plan states that:

> "* * * angling shall mean fishing for personal use, and not for sale or barter, with one line attached to a pole held in hand or within immediate control while fighting or landing a fish, to which may be attached not more than one artificial or natural bait with no more than four single or multiple hooks."

Off the California coast, more than one fishing line is allowed, with the only restriction being that not more than four pounds may be directly attached to the fishing line.

The ocean sport fishery is not required to use barbless hooks during the early chinook season. The 1978 ocean salmon plan noted that reliable gear research is not yet available to adequately justify using barbless hooks in the ocean sport fishery or in the regular all-species commercial troll fishery.

USE OF BARBLESS HOOKS

The 1978 ocean salmon plan requires the use of single barbless hooks 1/ coastwide by commercial trollers during the various early chinook seasons off Washington, Oregon, and California. Bait hooks and hooks on plugs may be barbed. In addition, hooks with flattened barbs are authorized. The four Indian tribes with ocean salmon fishing rights are not required to use barbless hooks during their early fishing season.

A primary consideration for this provision is the inadvertent hooking of "shakers"--salmon less than the minimum size limit or fish taken incidentally during a closed season. Many shaker coho are hooked during the

---

1/A single barbless hook is a hook with a single shank and point, with no secondary point or barb curving or projecting in any other direction.

early chinook season. Research studies show that shaker catches can be markedly reduced by using large bait plugs or barbless hooks.

In discussing the control of troll shaker catches, the 1978 ocean salmon plan states that:

> "At a minimum, prior to the coho troll season opening, trollers should be required to use barbless single hooks on all terminal gear. Barbless hooks will improve the survival rate of shaker coho salmon taken incidentally yet still take chinook as efficiently as barbed hooks."

ALTERNATIVES TO BARBLESS HOOKS

The council considered two options for reducing shaker mortality--the use of large plugs for early season chinook and a shaker quota for coho during the early coho season. The council believed that the large plugs were significantly less efficient in taking large chinook. A study cited that plugs took only 15 percent as many shakers as other gear tested, but were only about 50 percent as efficient in catching large chinook. The council questioned whether the lower efficiency offset the plug's reduced mortality advantages. The 1978 plan did not disclose the basis for rejecting a shaker quota for coho.

CONTROVERSY OVER THE BARBLESS HOOK EQUIPMENT

Several fishermen's associations believe that a barbless hook regulation to reduce the mortality of hooked and released salmon should not be implemented because

--it is not enforceable;

--there is no evidence that barbless hooks are effective in reducing shaker mortality;

--larger fish can easily "throw" a barbless hook;

--proper release of undersized salmon is more important; and

--in California, few coho are taken before the start of coho season on May 15.

A fishermen's association declared that the effects of barbless hooks have yet to be thoroughly documented. The group said it is too early to consider barbless hooks for the entire coast without first having an evaluation of their effect north of Tillamook Head. In addition, the group believed that the recreational fishery should be required to use barbless hooks, since the typical sports fisherman is not professionally trained in the release of undersized fish.

A member of the council's salmon team advisory subpanel, who represents an association of commercial fishermen along the Oregon coast, stated that there is insufficient data to support the coastwide regulation, but that the trollers will support it because they do not believe it will have a significant economic impact.

CONCLUSION

The only gear restriction difference between the 1977 and 1978 ocean salmon plans is the coastwide extension of the early chinook season barbless hook requirement and the allowance for certain types of barbed hooks during the 1978 fishing season. This restriction primarily affects commercial trollers. In establishing this restriction the council cited research studies showing that undersized or incidental off-season salmon catches could be substantially reduced through using large bait plugs or barbless hooks. Even though trollers challenged the basis for a coastwide barbless hook requirement, the council believes that it is in the best interests of conservation and management to establish a barbless hook requirement coastwide for the early chinook season.

CHAPTER 10

PROPOSED LIMITED ENTRY POLICY FOR THE COMMERCIAL TROLL AND CHARTERBOAT OCEAN SALMON FISHERIES

In the 1978 ocean salmon fishery management plan, the council declared its intent to limit entry to the commercial troll and commercial passenger fishing (charterboat) ocean salmon fisheries in 1979. The council later modified its position during August 1978, by stating that it would take action to limit ocean fishing access only if the coastal States failed to implement programs by the 1980 fishing season. The council believes that excessive units of commercial gear exist in the ocean salmon fishery and that a gear limit in this fishery might be a useful management tool.

AUTHORITY AND BASIS FOR COUNCIL'S PROPOSAL

The Fishery Conservation and Management Act authorizes regional councils to establish a system for limiting entry to a fishery in order to achieve optimum yield. The council intends to limit access to the ocean salmon fishery off the coasts of California, Oregon, and Washington by means of a moratorium on new participants in ocean salmon troll and charterboat fisheries beginning with the 1980 fishing season only if the coastal States have not instituted their own programs. The moratorium would be imposed for a 2-year period during which time the council intends to evaluate the effects of such a moratorium.

The August 1978 draft report of the council's moratorium task force stated that

> "The nature of the ocean fishery does not allow an immediate reaction by managers to adjust fishing pressure to assure the desired escapement to inland waters. Time/area closures leave uncertain the concentration of fishing effort on a given stock of fish at a given time. Other measures are objectionable because they reduce the efficiency of vessels.
>
> "Management tools presently used by ocean salmon managers do not directly control total effort. However, control of effort may be accomplished

by a limited entry system to achieve the objectives of the Fishery Management Plan.

"Until a decision is made on limited entry, a license moratorium will be the only effective means of curtailing a rush on licenses for purposes of speculation as has occurred with other limited entry systems. Such a rush would be contradictory to the objectives of the plan during this period in that available information indicates that the present level of vessel participation is more than adequate to fully harvest the optimum yield for the ocean fishery.

"Even though a license moratorium is only a holding action, it will help achieve optimum yield, assuming it does not result in increased effort, by establishing a fixed number of vessels in the fishery."

The economic impact statement for the 1978 ocean salmon plan discusses the large number of boats licensed or eligible to catch salmon. The statement showed that many more people and boats are licensed or eligible to catch salmon than actually do so in a given year. The statement declared that in recent years 25 percent of Washington trolling licensees have not landed salmon. Further, among boats landing salmon, only a small number land a high proportion of the total catch. In 1975, for example, 19 percent of Washington commercial trolling licensees landed 75 percent of the total catch. The economic statement concluded that an overwhelming number of trollers do not rely on fishing as a means for their livelihood.

PROPOSED PROCEDURES

The task force declared that the council desires the moratorium for the three coastal States. Each State would issue fishing permits. If the States failed to implement a moratorium that adhered to the council's guidelines, the council would recommend a Federal permit system, with the Department of Commerce issuing the permits. The task force report proposed general principles to be followed by the States:

--A limit on not only the number of licenses issued, but control of the total fishing effort.

--The base period for determining qualifications for entry should be 1974-77.

--Qualification for a permit should be restricted to those vessels that were active participants in the salmon fishery during the 1974-77 base period, or were purchased, contracted for construction, or under construction before December 16, 1977, in good faith anticipation of participating in the 1979 commercial or charterboat salmon fishery.

The proposal would allow a State appeals board to review hardship cases.

PROBABLE EFFECT

Preliminary determinations of the probable socioeconomic consequences of the proposed moratorium show no large adverse effects. Little change is anticipated in such factors as prices of troll-caught salmon; alternative employment for fishermen; participation in alternative fisheries; value of vessels, equipment, and gear; or boat building, service industries, and coastal communities. An economist under contract to the council predicted the moratorium would increase the market value for both ocean troll licenses and Washington State charterboat licenses by several thousand dollars. Fishing effort was expected to slightly increase in the troll fishery, while no significant effect on fishing effort was estimated for the charterboat fishery.

The council's scientific and statistical committee reviewed the probable socioeconomic effects of a license moratorium as disclosed in the economist's report. The committee believed that the scope of the report was too narrow to be much use to the council in deciding whether to impose a moratorium. The committee said the economist failed to consider a license moratorium for the longer term. In conclusion, however, the committee recommended the economist's work be used to improve the council's proposed moratorium.

The council's salmon plan development team concurred with the task force's objectives and conclusions. The team cautioned, however, that studies are necessary to determine effective control measures, or if such measures would be useful.

Various groups have also commented on the council's proposed moratorium. A representative of a fishermen's association believed that, rather than a coastwide license moratorium, the council should establish incentive programs to allow commercial fishermen to transfer to other fisheries and provide guarantees to prevent financial insolvency. A member of the Oregon charterboat fishery, and the council's salmon advisory subpanel, stated that the proposed moratorium is the most important issue facing the charterboat industry. He opposed the proposed restriction preventing charterboat operators from trading in their boats for larger vessels.

LICENSE LIMITATION IN PRACTICE

The Pacific coastal States have had only limited experience with license limitation programs in the salmon fisheries. In 1974, Washington State imposed a moratorium on commercial salmon vessels. Charterboats were added to the moratorium in 1977.

During 1977, the moratorium in Washington and the general discussion of limited entry appear to have stimulated sales of additional commercial fishing licenses in Oregon. Vessel licenses are not specifically issued for salmon fishing. Oregon does not have a moratorium or other form of limited entry program; however, a moratorium bill is planned to be introduced in the Oregon legislature.

California, like Oregon, does not issue vessel licenses specifically for salmon fishing. No moratorium or limited entry has been imposed for the salmon fishery off California. However, California will introduce a moratorium bill during its next legislative session.

CONCLUSION

To maintain the economic viability of the ocean salmon commercial troll and charterboat fisheries, the council's moratorium task force recommended that a moratorium be imposed on new participants in these fisheries. Studies show that many more people and boats are licensed or eligible to catch salmon than actually do so in a given year. The task force proposed that the States of Washington, Oregon, and California impose a moratorium in accordance with council guidelines.

Estimated potential effects of the moratorium have been the subject of much debate and concern. Some believe the moratorium will have no large adverse effects on such factors as troll-caught salmon prices; boat building; or the value of fishing vessels, equipment, and gear. Others believe present studies on the effect of the moratorium are inadequate. During and after the 2-year trial period, the council plans to evaluate the effects of the moratorium.

CHAPTER 11

IMPACT OF TREATY INDIAN FISHING RIGHTS ON THE PACIFIC COUNCIL

Off-reservation fishing rights of Pacific Northwest treaty Indians have been a matter of deep controversy for many years. Off-reservation fishing rights are based on a series of treaties negotiated between the U.S. Government and Indian tribes in the mid-1850s. Each treaty contained a provision providing Indians the right of taking fish at all usual and accustomed places in common with citizens of the territory.

Recent Federal court rulings severely restrict the power of the States to regulate off-reservation fishing by treaty Indians. These rulings provide certain treaty Indians the opportunity to catch up to 50 percent of the total U.S. allowable harvest for stocks of fish destined for treaty Indians' usual and accustomed fishing areas. The treaty Indians' catch partially depends on the Pacific council's management plans for the ocean salmon fishery. Both the 1977 and 1978 ocean salmon plans specify a fulfillment of Indian treaty obligations as a management objective.

LIMITATIONS ON COUNCIL DECISIONS

Section 303(a) of the Fishery Conservation and Management Act requires any fishery management plan to be "* * * consistent with * * * other applicable law * * *" and to describe "* * * the nature and extent of * * * Indian treaty fishing rights, if any." These provisions are the basis for specifically recognizing treaty Indian fishing rights under the act.

The legislative history of the act further indicates that the Congress recognizes both Indian treaties and Federal court decisions as "applicable law." For example, the Chairman, Senate Commitee on Commerce, said:

> "It is not our intent in this legislation to delegate authority to regional councils which would empower them to override existing fishing rights--treaty, statutory, adjudicated, or otherwise."

Among the most controversial Federal court decisions affecting treaty Indian fishing rights are United States v. Washington, 384 F. Supp. 312 (W.D. Wash. 1974), decided by U.S. District Judge George H. Boldt, and Sohappy v. Smith (United States v. Oregon), 302 F. Supp. 899 (D. Or. 1969), decided by U.S. District Judge Robert Belloni. Judges Boldt and Belloni retained continuing jurisdiction over their respective cases and have made subsequent related rulings. There has been considerable debate and concern over the interpretation and implementation of these rulings.

Decision and effects of United States v. Washington

A major recent development in the longstanding Indian treaty rights controversy is the decision of U.S. District Judge George H. Boldt in the case of United States v. Washington. In his opinion, Judge Boldt noted:

> "More than a century of frequent and often violent controversy between Indians and non-Indians over treaty right fishing has resulted in deep distrust and animosity on both sides * * *.
>
> "'* * * in the past, root causes of treaty dissension have been an almost total lack of meaningful communication on problems of treaty right fishing between state, commercial and sport fishing officials and non-Indian fishermen on one side and tribal representatives and members on the other side, and the failure of many of them to speak to each other and act as fellow citizens of equal standing as far as treaty right fishing is concerned * * *.'"

Judge Boldt held that "by treaty the Indians had reserved the right to off-reservation fishing at all usual and accustomed grounds and stations," which he defined as:

> "'* * * every fishing location where members of a tribe customarily fished from time to time at and before treaty times, however distant from the then usual habitat of the tribe, and whether or not other tribes then also fished in the same waters.'"

In analyzing several identical treaty provisions guaranteeing certain Northwest tribes the right to fish at

traditional locations "in common with" citizens of the territory, Judge Boldt decided that the tribes were entitled to an opportunity to catch up to 50 percent of the harvestable number of such fish. Thus, the court held that "in common with" means sharing equally the opportunity to catch fish that would normally reach usual off-reservation Indian fishing areas.

Judge Boldt's allocation formula has been the most widely discussed provision of his decision. The decision strictly limited harvestable fishing to those fish not needed for maintaining the runs. Harvestable fish are considered to be only those above the number needed to assure adequate escapement for spawning. The decision also excluded from the 50-percent allocation fish taken off-reservation for traditional Indian religious, ceremonial, and subsistence purposes.

In June 1975 the Ninth Circuit Court of Appeals upheld all major aspects of Judge Boldt's decision. It held that in giving up their land, the Indians had not given up their right to fish, and that right was protected by the United States. The court also upheld the State of Washington's limited right to regulate fishing for conservation, as well as Judge Boldt's provision allowing tribes to regulate fishing where the appropriate conservation requirements were met.

Washington's primary concern was that the Court of Appeals affirmation of the Boldt decision would lead to the Federal court acting as a regulating body. The Court of Appeals believed, however, that the case justified continued intervention by the court. The State's motion for rehearing was denied and the State filed a petition with the U.S. Supreme Court to review the case. In January 1976, the U.S. Supreme Court declined to review United States v. Washington, thereby letting Judge Boldt's decision and the ruling of the U.S. Ninth Circuit Court of Appeals stand.

Decision and impact of Sohappy v. Smith (United States v. Oregon)

A similar ruling to Judge Boldt's--Sohappy v. Smith (United States v. Oregon)--involved the regulation of off-reservation Indian treaty right fishing in the Columbia River and its tributaries. The case was decided in 1969 by

U.S. District Judge Robert Belloni, Oregon District. The decisions of Judges Boldt and Belloni are similar in that both judges ruled that the State's authority over Indian treaty right fishing is limited to the minimal regulation that is necessary for the preservation of the fishery resource.

Judge Belloni ruled that treaty Indians were entitled to a "fair share" of the fish produced by the Columbia River system. A subsequent ruling in May 1974 adopted Judge Boldt's allocation formula. In August 1975, Judge Belloni ordered Oregon and Washington, with the cooperation of the tribes, to develop a comprehensive plan to assure the treaty tribes an opportunity to take up to 50 percent of the Columbia River fall chinook salmon harvest destined to reach the Indians' usual and accustomed fishing places. According to the council chairman, Judge Belloni adopted a plan developed by the States and Indian tribes. In January 1976, the Ninth Circuit Court of Appeals upheld Judge Belloni's order of May 1974.

SETTLEMENT PLAN PROPOSED TO RESOLVE WASHINGTON STATE FISHERIES PROBLEMS

In April 1977, President Carter announced the establishment of a Federal Task Force on Washington State Fisheries Problems. The task force primarily resulted from the long history of legal conflict in the salmon fishery and heightened tensions between treaty and nontreaty fishermen. The task force's purpose is to recommend to the Carter administration, the Congress, and others, actions and policies that, if implemented, would provide solutions to the complex salmon and steelhead fisheries problems facing Washington State.

In June 1978, the regional team of the task force proposed a settlement plan substantially restructuring the fishery. Before issuing the plan, the team met with and reviewed comments from various fishing interests to discuss fisheries problems and possible solutions. State officials, tribes and tribal organizations, and representatives of nontreaty commercial and sport fishing interests were contacted.

After lengthy discussions and consideration of many proposals, the regional team disclosed a settlement plan calling for a coordinated fisheries management system

delegating authority between Washington State and a newly created Tribal Commission. The commission would serve as an intertribal coordinating body as well as a single source of tribal fisheries management authority.

The plan's management system is designed to provide greater stability in the management of the resource and in the opportunity for the fishermen. The report declared that "* * * within each segment of the fishing community there exists an historic fishing pattern which should be maintained * * *." It said these historic rights may have been established by Federal law (Indian treaty rights) or through years or generations of participation (gill netters, purse seiners, and sportsmen) in the fishery.

The Washington Department of Fisheries and the Tribal Commission would be responsible for managing commercial salmon fisheries within a State commercial management zone and a tribal commercial management zone, respectively. Sport fisheries would be managed in a coordinated manner. The Washington Department of Game would license and manage the steelhead sport fishery throughout the State, except on reservations. The Tribal Commission would manage all sport fisheries on reservations.

To insure the settlement terms are fulfilled, a fisheries review board would be created. The board would respond to disputes raised by the Washington Departments of Fish and Game and the Tribal Commission. The board would recommend corrective action to any of the management agencies. A fishermen advisory panel, composed of tribal and nontribal fishermen, would periodically inform the board how the plan was working from the fishermen's perspective.

Despite the lengthy process involved in developing the proposed settlement plan, most user groups effected are opposed to the plan. The Northwest Indian Fisheries Commission declared that the plan would destroy treaty rights by supplanting tribal government and abolishing usual and accustomed fishing grounds. A coalition of non-Indian sport and commercial fishermen rebuked the plan by offering a counterplan which would return control of fisheries management to the State and remove the 50-percent catch allocation for treaty Indians. The regional team's proposed settlement is being reviewed by members of the Federal task force in Washington, D.C. As of October 1978, the review was continuing and no specific deadline had been set to complete it and make formal recommendations.

PACIFIC COUNCIL CONSIDERATION OF FEDERAL COURT DECISIONS

A problem arising from the controversy over treaty Indian fishing rights is how those rights, as determined by Federal courts, affect the Pacific Council in developing fishery management plans.

The purpose of the council's 1977 and 1978 ocean salmon plans is to manage salmon fisheries for optimum yield, conservation of stocks, and equitable allocation among all domestic fishermen, including treaty Indians. Among other objectives, the council decided the ocean salmon plans should move toward fulfilling Indian treaty obligations and provide all ocean and inside fisheries the continuing opportunity to harvest salmon. These objectives recognize the Federal court decisions but, according to council officials, the ocean salmon plans are not the implementing mechanisms for decisions rendered by Judges Boldt and Belloni.

In March 1977, the Regional Solicitor, Department of the Interior, Portland, Oregon, commented:

> "* * * there would seem to be a strong likelihood that the Court would expect, and if suit were brought would order, a federal agency with regulatory authority under an act such as P.L. 94-965 [FCMA of 1976] to conform its regulations to the requirements of the Indian treaties."

The Regional Solicitor further stated that the United States secured certain fishing rights of Northwest Indian tribes via Indian treaties. The Solicitor concluded that:

> "Upon the assumption of a portion of the regulatory jurisdiction over the taking of such fish, the United States assumed with it the obligation to conform its own regulatory and management actions to those treaty-secured fishing rights unless the Congress intended rights to impair or supercede those rights. * * * Congress did not so intend in P.L. 94-265."

Impact on specific fisheries

We found no data describing the anticipated impact of the council's consideration and movement toward fulfilling Indian treaty obligations. Using a specially designed computer model, the council analyzed the aggregate effects of the management measures in the 1977 and 1978 ocean salmon plans on fisheries. Although the 1978 plan describes the impacts of some proposed actions (such as extension of the 28-inch chinook limit and delay of the troll season) the specific impact of helping to fulfill Indian treaty obligations is not shown.

According to the council chairman, the council reduced the troll harvest to provide greater ocean escapement of salmon to inside waters for spawning purposes, as well as for harvest by Indian and other fishermen. The assurance of increased catch by Indians, however, is beyond the council's jurisdiction. Consequently, the council did not provide specific data on the management plan's effects on Indian fisheries.

CONCLUSION

The initial and continued rulings of Judges Boldt and Belloni constitute a framework for future relations between the Indian tribes, Federal and State authorities, and non-Indian users of fishery resources. The primary problems involve how Indian treaty fishing rights are recognized by the council.

The extent to which the council should recognize any Federal court decisions interpreting Indian treaty rights, is determined by the requirements of the Fishery Conservation and Management Act that management plans describe "the nature and extent of * * * Indian treaty fishing rights, * * *." This requirement provides for the Secretary and other reviewing authorities, when reviewing fishery management plans, to determine whether the council is complying with the "other applicable law" provisions of the act.

The council's salmon plans do not describe the specific impact of fulfilling Indian treaty obligations. The council, however, reduced the commercial troll fishermen's harvest partly to provide greater ocean escapement of salmon to inside waters to afford Indian fishermen increased harvest opportunities.

The council's actions in developing salmon fishery management plans come at a time of great conflict, suspicion, and speculation on the outcome of issues surrounding treaty Indian fishing rights. Future judicial interpretation of both the Fishery Conservation and Management Act and the Indian treaties may result in either an expansion or restriction of treaty Indian fishing rights. Further, the ultimate approval of a modified settlement plan proposed by the Federal Task Force on Washington State Fisheries Problems could alter the council's management responsibilities. Presently, the council is caught in a dispute involving many interpretations and proposed remedies. Whether agreement between affected parties can be achieved for some of these issues remains unknown.

(08205)

★U.S. GOVERNMENT PRINTING OFFICE : 1979 O - 620-167/90

Single copies of GAO reports are available free of charge. Requests (except by Members of Congress) for additional quantities should be accompanied by payment of $1.00 per copy.

Requests for single copies (without charge) should be sent to:

U.S. General Accounting Office
Distribution Section, Room 1518
441 G Street, NW.
Washington, DC 20548

Requests for multiple copies should be sent with checks or money orders to:

U.S. General Accounting Office
Distribution Section
P.O. Box 1020
Washington, DC 20013

Checks or money orders should be made payable to the U.S. General Accounting Office. NOTE: Stamps or Superintendent of Documents coupons will not be accepted.

PLEASE DO NOT SEND CASH

To expedite filling your order, use the report number and date in the lower right corner of the front cover.

GAO reports are now available on microfiche. If such copies will meet your needs, be sure to specify that you want microfiche copies.

AN EQUAL OPPORTUNITY EMPLOYER

UNITED STATES
GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE,$300

POSTAGE AND FEES PAID
U. S. GENERAL ACCOUNTING OFFICE

U.S.MAIL

THIRD CLASS

COASTAL ZONE
INFORMATION CENTER

NOAA COASTAL SERVICES CENTER LIBRARY
3 6668 00001 5919