36th Annual Report of the

PACIFIC MARINE FISHERIES COMMISSION

FOR THE YEAR 1983

TO THE CONGRESS OF THE UNITED STATES AND TO THE GOVERNORS AND LEGISLATURES OF WASHINGTON, OREGON, CALIFORNIA, IDAHO, AND ALASKA

36th Annual Report

of the

PACIFIC MARINE

FISHERIES COMMISSION

FOR THE YEAR 1983

To the Congress of the United States and the Governors and Legislatures of the Five Compacting States, Washington, Oregon, California, Idaho, and Alaska, by the Commissioners of the Pacific Marine Fisheries Commission in Compliance with the State Enabling Acts Creating the Commission and Public Laws 232; 776; and 315 of the 80th; 87th; and 91st Congresses of the United States Assenting Thereto.

Respectfully submitted,
PACIFIC MARINE FISHERIES COMMISSION

OFFICERS OF THE COMMISSION

Chairman	Jerry M. Conley, Director, IDFG
1st Vice Chairman	Dr. Don Collinsworth, Director, ADFG
2nd Vice Chairman	Bill Wilkerson, Director, WDF
3rd Vice Chairman	Dr. John R. Donaldson, Director, ODFW
Secretary	H. D. (Don) Carper, Director, CDFG

LAWRENCE D. SIX, Executive Director

Headquarters
305 State Office Building
1400 S.W Fifth Avenue
Portland, Oregon 97201

Russell G. Porter
EDITOR

May 1,1984

US ISSN 0078-7574

CONTENTS

36th Annual Report—1983

ANNUAL MEETING EVENTS

SUMMARY

The Pacific Marine Fisheries Commission's 36th Annual Meeting was held on November 7-8, 1983 at the Red Lion Inn Downtowner, Boise, Idaho and presided over by Chairman Jerry M. Conley, Director, Idaho Department of Fish and Game. The Annual Meeting highlights included extensive discussion of 13 Proposals, 8 of which were adopted by the Commission as Resolutions, and a symposium on management of Pacific salmon stocks as units throughout their range — guidelines for developing a comprehensive salmon management plan. Status reports were given on the Pacific coast fisheries for 1983 and Commission activities for the year. In addition, Commission elections for 1984 were held.

The text of the presentations by symposium panelists and comments from the audience are presented below. Full texts of the adopted resolutions and actions taken by the Commission to implement them will be found beginning on page 9. The results of the elections are included in the Personnel section under Administrative Reports and Actions (page 15). The various fishery status reports are presented in Appendix II (page 22).

SYMPOSIUM: MANAGEMENT OF PACIFIC SALMON STOCKS AS UNITS THROUGHOUT THEIR RANGE —GUIDELINES FOR DEVELOPING A COMPREHENSIVE SALMON MANAGEMENT PLAN

Seven panelists provided a discussion of the concerns for salmon protection and management and each panel member addressed items to be considered in developing a comprehensive salmon management plan. Dr. John P. Harville, past Executive Director of the Pacific Marine Fisheries Commission served as moderator for the Panel. Panel members included:

Dr. Don Collinsworth, Commissioner, Alaska Department of Fish & Game Mr. Don Martens, Canadian Department of Fisheries and Oceans Dr. Gary Morishima, Indian Tribal Authority and Salmon/Steelhead Advisory Commission Mr. Monte Richards, Idaho Department of Fish and Game Dr. Gene Kruse, Deputy Director, National Marine Fisheries Service, Northwest Region Mr. Curtis L. Marshall, Northwest Power Planning Council Staff

Moderator: John Harville, Pacific Marine Fisheries Commission

As a framework for our panel discussions, a definition of what we mean by comprehensive salmon management and planning seems in order. Management of salmon as units throughout their range, or truly comprehensive salmon management, requires recognition of the life cycle requirements of all salmon, the geographic extent of their oceanic migrations on a species-by-species and a stock-by-stock basis, and the ecological impacts and requirements with respect to their habitat and their interaction with other species. The anadromous nature of the salmon life cycle requires that they migrate from their fresh water spawning and rearing areas to their oceanic feeding and growing environment and ultimately return to fresh water streams to spawn.

In nearly all cases, this anadromous cycle carries salmon through waters under the management jurisdiction of several management entities. The extent of the oceanic migration varies by species and by race of salmon. For some races of Chinook, for example, salmon spawned in green gravels of Idaho, or waters under Indian tribal control, traverse the Columbia River lifeline to the sea and then feed and grow in migrations which encompass the territorial seas of California, Oregon, Washington, British Columbia and Alaska, as well as off-shore waters under Regional Council and federal control, and even the international waters of the high seas. Other races and other species have a less spectacular extent to their oceanic dispersal and migratory range, but in most cases, traverse water under several state and federal jurisdictions.

Comprehensive salmon management must provide for the maintenance of essential habitat and for the assurance of the proper quantity and quality of water required for successful spawning and early life stage rearing. In addition, the transit to the sea as juveniles and the return back from the sea as adults requires the proper water flow and quality. Habitat requirements encompass watershed protection for maintenance of environmental factors essential to salmon health and productivity. It also requires reasonable control of external factors, which can negatively impact salmon throughout the extent of their range. Finally, comprehensive salmon management must take into account an array of ecological and other biological factors, ranging from the competitive interaction among species, to genetic diversity and the impacts of disease.

This Panel will keynote our discussion of comprehensive salmon management and is representative of the range of interests concerned, but certainly not comprehensive of that range. These speakers will demonstrate the scope and depth of concern for salmon protection and management. They will offer suggestions as to how we can move forward toward truly comprehensive planning and implementation of Pacific salmon management.

We're counting on the leaders of other entities to enter their comments and ideas during the extensive audience discussion period, which will follow our Panelists keynote remarks. We'll hear first from speakers representing very broad and multi-jurisdictional interests and responsibilities, the Regional Councils, Federal agencies and the hydropower generation concerns, with those followed by speakers concerned with state and tribal responsibilities.

Joe Greenley, Executive Director, Pacific Fishery Management Council

Soon after the completion of the 1978 Salmon Plan, which is now in existence, the Council stated its intent to prepare a comprehensive plan. Work was begun and the first draft was completed in 1979. This draft included descriptive information on the fisheries, the resource, the habitat and production of both hatchery and wild stocks. It also described and explained the objectives adopted by the Council in 1978 and many alternative measures that might be used to manage the fisheries. It lacked an economic section and the strategies to attain the objectives of the Plan.

Further work on a comprehensive plan was discontinued in 1980 because the Council's Salmon Plan Development Team was unable to devote the necessary time for completion of the comprehensive plan, if they were to continue with their management responsibilities for their agencies and for the Council. In lieu of the comprehensive plan, the Council directed that a report be prepared by an independent writer, stating the goals, objectives, policies and procedures of the Council, relating to salmon management. This was eventually distributed in 1983 and entitled, "Perspective on Management of Ocean Chinook and Coho Salmon Fisheries Within the Fisheries Conservation Zone Off of California."

In Septemer of 1982, the Council adopted the staff recommendation to begin work on a comprehensive plan concurrently with the development of the framework plan procedures. The framework plan is an amendment to the existing Plan. There were no recommendations made nor any Council action taken at that time on 1) the substance of a comprehensive plan; 2) the assignments for developing the plan; or 3) a schedule for development and implementation of the plan.

What is a truly comprehensive salmon fishery management plan? Dr. Harville's opening remarks covered a very broad range of issues that a comprehensive plan could address. I have been quite concerned that the plan that the Council was operating under was basically an ocean management plan, that the Council's efforts were being directed primarily at establishing the annual regulations for harvest and allocations, and that the inland areas were not being given attention. You don't really have a complete plan unless you address the entire range of the species. The inland portion of the habitat must be included, because that can make or break the resouce.

A comprehensive plan can range from basically what we have now as a fishery management plan with a brief discussion of environmental issues, to one that addresses the complex environmental issues found in the four or five Pacific states. This possible extent of a comprehensive plan is something that is viewed with a lot of concern by a lot of people, myself included. The plan could expand the existing Plan to more thoroughly address inland environmental and production issues, and provide for closer coordination with Alaska and Canada on interception problems. It could be simply that, or we can go much further.

In the development of a comprehensive plan, who should be involved? The Council has a small staff and, Plan Development Teams made up of agency representatives who have their own State obligations, the Council Scientific and Statistical Committee, and friendly industry advisors. These groups would all be pretty much overloaded if it were entirely their responsibility to come up and develop a comprehensive plan. I believe that a comprehensive plan, if in fact we are going to develop one, would put a pretty good sized load on the time of other entities. In fact, the Council will have to depend on these other entities, such as the states, the tribes and the various federal agencies that are involved. It will need to be coordinated with the North Pacific Council and with Canada. One of the primary issues to be resolved is to initiate this planning process and to get it moving.

The primary issue to be determined is what the substance and extent of the plan is going to be. The second item is that it will need to be something attainable with the resources available to develop it. By resources, we are talking about the manpower that is available from the States, from the federal agencies, from the Council itself and from the tribes and all of the other entities involved. The end product must be a workable document, not just an accumulation of data and unrealistic goals. It should contain strategies on how to attain the objectives of the plan.

The third step is to obtain commitments from the involved entities to participate in the plan development. The Council can serve to coordinate and monitor plan development, but the states and NMFS, and other entities must commit to providing necessary inputs, and this pretty much has to be understood to start with. The Pacific Marine Fisheries Commission can serve to aid in the coordination with the North Pacific Council and Alaska in addition to the two Councils working together.

The fourth issue is to reach agreements between the two Councils on the plan objectives. The North Pacific Council and the Pacific Council will need to be thinking along the same lines, as far as objectives of the plan are concerned with those stocks which are transboundary. The U.S./Canada interception problem will need to be resolved. We are hoping it will be resolved soon, but plan development can commence before resolution of the problem. As far as Alaska and Canada are concerned, they are very important in any comprehensive plan. But this does not mean that we have to wait until all the problems are resolved with the North Pacific Council, the State of Alaska and with Canada before work on the plan begins. South of central Oregon we have some very substantial stocks of salmon that have nothing to do with the Canadian or Alaskan interception.

In the past we developed an approach to a comprehensive plan. It probably needs a lot of updating and may be to some degree obsolete. The comprehensive plan should be a new updated plan which incorporates selected relevant portions of state salmon plans. These state plans should reflect the planning by federal agencies and intra, and interstate salmon planning entities. Some of these are the Columbia River Basin Fish and Wildlife Council, the Northwest Power Planning Council and Treaty Indian Tribes. The Council must achieve coordination with member states and through them consolidate the maze of overlapping jurisdictions involved in management of salmon and its environments in the territorial sea and in fresh water.

The comprehensive plan should incorporate into a single document the latest data and analysis available in the most recent Council Salmon Plan amendments, including the framework provisions of the ocean management plan. It should more thoroughly address habitat and environmental problems and objectives. Although the Council has no jurisdiction over environmental matters in inland waters, it can exert a significant amount of influence on the decision makers and the agencies that do. An example is state fish and wildlife agencies who have historically addressed environmental issues in areas over which they have no jurisdiction and have been relatively successful in guiding the responsible agencies to protect the fish and wildlife habitat. The state and federal agencies need active Council support to be more effective in these matters.

The comprehensive plan must more thoroughly address the artificial production problems and objectives. This is something that is not often touched upon when we talk about the comprehensive plan, but it is a very important area. Artificial production of salmon as currently practiced is influencing ocean fishery management, particularly with regard to providing for spawning escapement of natural stocks. This practice should be designed to complement, rather than conflict with, the management of stocks that are concerned.

A well designed plan must list alternatives and recommend strategies to attain the plan objectives. It should present a perspective of the future with plans and strategies, including the

framework procedure, for achieving goals and objectives of the Council.

Representatives of each state, the National Marine Fisheries Service, Indian Tribes and Council staff should develop guidelines for the substance of a comprehensive plan. These guidelines would be submitted to the Council's Salmon Plan Development Team, Salmon Advisory Panel and Scientific and Statistical Committee for review and comment, and then to the Council for approval. The development of a revised salmon plan should, for the most part, be the responsibility of the states under guidelines concurred in by the states and approved by the Council. The Council and NMFS staffs should be responsible for coordination of plan development with the states and if necessary, other entities. The Council must also review plan drafts for compliance with National Standards, Council guidelines and other applicable federal laws as well as consolidate state and other plans into a draft for review by the Salmon Plan Development Team, Salmon Advisory Subpanel and the Scientific and Statistical Committee. The coordination of plan development with the State of Alaska and the North Pacific Council should be both a PMFC and a PFMC responsibility.

Dr. Gene Kruse, Acting Director, Northwest Region National Marine Fisheries Service

The Comprehensive Plan should basically consist of the Council's 1978 Salmon Plan and the subsequent Amendments, including the Framework Plan that is presently being prepared. In addition, it needs a section on inland habitat areas, environmental problems and productivity of streams. These could be generally summarized by watersheds in some areas or in the case of the Columbia River, would probably have to be reasonably specific.

The National Marine Fisheries Service would be very supportive of the need for a habitat section. Our agency is in the process of developing a habitat conservation policy, which has been approved at the NOAA level and is now in the Department of Commerce and will go to OMB for final approval. The Assistant Administrator for Fisheries of NOAA has been particularly outspoken on the value of including habitat protection information in fishery management plans. Our Regional staff has been involved quite heavily in the Columbia River as well as elsewhere on habitat protection matters, and would be available to help the Council in such efforts.

A comprehensive plan would also need a section discussing the present management entities, their jurisdiction and authority. Included should be the Salmon and Steelhead Advisory Commission, the Pacific Northwest Power Council and the U.S./Canada treaty negotiations and litigation. The most difficult area to address in the plan will be the one that we have the most trouble with annually. That is the allocation of fish for spawning purposes or among harvesters.

Although these are the major sections that should be included in a plan, there are many other things that should be addressed such as objectives and goals and a framework mechanism for pre-season and in-season management. There have been a number of salmon management conflicts in the past such as the North Pacific Council versus the Pacific Council on chinook salmon management; Alaska versus Washington, Oregon and Idaho on chinook management; Washington and Oregon conflicts with treaty Indian Tribes on all salmon species and steelhead in the Columbia River, the Washington Coast and Puget Sound; California versus Klamath River Indian Tribes on chinook salmon management in the Klamath system; and Idaho, Washington and Oregon and their differing management needs and their allocation responsibilities for their own states. All of these are part of the issues that must be addressed before we can finally resolve the salmon problems on the West Coast.

Several attempts have been made to sit down voluntarily in common forum and work out problems. Some issues have been resolved, but many have not. Columbia River chinook salmon, as an example, are harvested in areas managed by both the Pacific Council and the North Pacific Council. Management has not always been consistent between the two groups on common stocks. Coordination between the two Councils may be enhanced by the Secretary of Commerce. This is certainly a logical point to require consistency between the approaches of the two Councils. This has been tried to some degree in the past, but hasn't used all the avenues of Secretarial involvement in solving the differences. It could take several years before a Secretarial solution would show us how this might be done.

Everyone here is aware that a U.S./Canada treaty was negotiated, but never submitted for ratification. Efforts are continuing to find a package acceptable to both countries. The treaty as presently drafted, would require each country to annually prepare information in advance on stock abundance, allowable catches and domestic allocations. This information would be forwarded to a commission established under the treaty. They in turn would send the information to a northern panel and a southern panel for review and evaluation. The recommendations from the panel would go back to the commission, and upon a decision by that body, they would forward recommended regulations to the two countries for adoption. It has been an assumption that coordination could be provided by the commission and thus provide consistency in management, not only between the two countries, but between Alaska and the Washington-Oregon area where common stocks are involved. This would be a two-way street where the needs of Alaska were balanced with the needs of the Washington-Oregon-Idaho areas.

Another approach is the one being pursued primarily by treaty tribes, and that is litigation. Several court cases are still open-ended. These include the Hoh Tribe versus Baldridge, Confederated Tribes versus Baldridge, U.S. versus Washington, and U.S. versus Oregon. Some of these cases are currently inactive but they are all open-ended. The allocation and management of Columbia River stocks is presently being negotiated under a court order and presumably something should be available before the next fishing season to assist in making decisions on the Columbia River allocation.

The Salmon and Steelhead Advisory Commission is another forum in which a coordination structure is being developed and in which agreement on common objectives among management jurisdictions is being sought. The decisions of the Commission suffer from the same problems as some of the other forums addressed — it requires voluntary agreement on the part of the different agencies participating.

The Pacific Northwest Power Council has a strong role in the Columbia River and its decisions will affect management actions to be taken from California to Alaska. More information on this subject will be provided by another speaker at a later time in the program.

The Columbia River chinook is an example of how decisions not yet made, but beyond Council control, can affect a management plan. It seems that in the key area of salmon allocation, the comprehensive plan is going to have to be incomplete and it will have to weigh decisions made in these other areas at some time in the future. There are several parts of the plan that can be assembled and adopted by the Council now, but many critical management decisions will necessitate continuing annual adhoc decisions. The best way to get around these holes in the plan seems to be to endorse a team approach to thinking through the contents of the plan.

Who prepares the plan is a problem, and we must decide if the current Salmon Plan Development Team can tackle this job along with its' assignment for assembling annual data for current management decisions. Another salmon team could be established but some agencies are already short-handed in providing staff. The effort could be contracted out. In any event, this effort will have to be funded at some level and the federal government has a responsibility to share the burden. With the current budget climate, it seems we would have to consider reprogramming current FCMA activities if we want to support additional work. In any event, NMFS will participate with all the other agencies to identify realistic solutions for funding.

Curt Marshall, Fish and Wildlife Program Manager, Northwest Power Planning Council

This brief presentation is an opportunity to begin developing a forum on a continuing basis to try to mesh a lot of different procedures and processes. It is necessary that the process culminate in a system-wide management program for anadromous fish stocks. This will not be easy, judging by the number of different acronyms, groups and this vast morass of people, agencies, entities and interests, that have to be brought along in any forum like this. Presenting a bit of perspective from the Council's standpoint, as to what we see happening, perhaps will stimulate discussion on what could happen, what is and what is not realistic. The Council's authority is only in the Columbia River Basin. We are moving to a point where we need to see some significant reform in the way anadromous fish stocks are managed. We need to try to mesh the separate processes through a forum. To get dialogue between the State of Alaska, Canada, the other Northwest states, the inland jurisdictions, and the federal land managers. These parties need to sit down together and develop a way to manage these stocks from an area-by-area, stock-by-stock approach. Management should look not simply at the perspective of what we need in the harvest, but at what in-river production can produce, what the propagation potential is, and how to manage the harvest around that propagation potential.

The Power Planning Council's program clearly takes a strong emphasis on trying to rebuild up-river naturally spawning stocks. There are some Council members who will make sure that there is protection in the ocean for these stocks as we begin to rebuild them. There was a lot of effort put into the program by these Council members and they have a reluctance to see a continuance of the present management guidelines with their significant interceptions of weaker naturally spawning stocks. These management practices only acerbate the problem of the Council's efforts to rebuild some of those upriver runs and they prevent the coastwide reduction of those interceptions. The forum available under the Salmon Steelhead Advisory Commission (SSAC) and the issues that are being discussed will lead to some productive forum within which we can resolve some of these problems. But we need to rethink the basic strategies around which we coordinate harvest management with our enhancement efforts, especially in the case of the Columbia River Basin.

The first of the key elements of the Council's program is to produce a section on goals. This section will eventually enumerate anadromous fish production goals for the entire Columbia River Basin. Its concept is to set forth goals on a stock-by-stock and area-by-area approach to address what can be done within a particular sub-basin to improve the propagation potential. Once the goals are established and we begin to produce fish through hatchery supplementation, or whatever, we must protect these stocks throughout their range. In addition to producing production goals, this section will determine the total hydroelectric system obligation for mitigation of anadromous fish habitat. It will determine the total extent of the Bonneville Power Administration (BPA) obligation towards restorative mitigation of anadromous fish in the Columbia River.

Section 300 of the Plan provides for a water budget which is aimed at producing improved downstream migration flows. The cost to rate payers will approach 160 million dollars a year because of the 550 megawatt de-rating of the power system. This represents a significant investment of the hydroelectric system towards improving anadromous fish runs. The Council members feel strongly that because of this investment, there must be some improved accountability in terms of harvest management. There are some significant investments in fish passage and in habitat improvements. As an example, in the Yakima Basin the Plan aims at improving passage, restoring some of the up-river runs, and in the future possibly providing for some additional storage through funding and cost sharing of BPA fund monies.

Significant opportunities exist in the Plan for wildlife mitigation which have gone unmet. There are some significant benefits which can be achieved in the wildlife program

The Plan contains a section on future hydroelectric generation which eventually calls for a sight-ranking study which will assist the Federal Energy Regulatory Commission (FERC) in sighting any future hydroelectric projects. It will also make sure that the cumulative effects of the various projects are taken into account, that critical habitat areas are assigned, and that these areas fit in with the propagation potential and the total determination of what the anadromous fish goals for the Columbia Basin can be.

To give an idea of what the funding levels are now, BPA in FY 83 is spending approximately 9 million dollars, in FY 84 21 million, and in FY 85 through the end of the rate case, about 23 million. We see some additional funding possibilities through BPA's additional borrowing authority. This money, in addition to existing funds through the Mitchell Act and the Lower Snake River Compensation Plan, comes from special funds that were provided under the Northwest Power Act. They are in addition to, as provided under the Act, the existing funding obligations. The Council will continue to support the Mitchell Act hatcheries and the Lower Snake River Compensation Plan.

The Council and other federal agencies have a significant opportunity to improve the operation of the river system to protect fish. Under Section 4H10 of the Act, BPA, the FERC, the Bureau of Reclamation and the Corps of Engineers are all required to take the Council's program into account to the fullest extent practicable. That is very strong language that was put in by Congressman Dingell. The Council takes that language to mean exactly what it says. To date, many of the federal agencies have been quite cooperative. The Council has stressed accountability, both in the development of its budget and in the ocean harvest section of the program. There is a commitment on the part of the Council to put together a strong fish and wildlife program, to make the investments of what could be a billion dollars over 20 years, and to produce some benefits in terms of returning fish.

The Council realizes that its authority does not extend into the ocean, while the Pacific Fishery Management Council doesn't have authority in the inland areas. We need to have the kind of communication as to how we can begin to mesh these processes. Under our goal study we are going to develop specific numerical goals as to how many fish from a particular river basin we want to produce. We want to try and coordinate that with whatever run viability determinations are made by the harvest management agencies. Somehow in this determination of run viability, and the setting of harvest management time and area closures, there is an opportunity to begin to set harvest regulations on specific stocks in the upper river areas to make sure that those goals are eventually met. What we need is a forum where the agencies responsible for harvest guidelines and those responsible for production can sit down together in a reasonable way and negotiate to come up with acceptable and reasonable harvest and production goals.

Don Martens, Officer for Intergovernmental Affairs, Canadian Department of Fisheries and Oceans, Vancouver, British Columbia

The comments presented are not necessarily the views of the Government of Canada, nor the Department of Fisheries and Oceans, although these points have been discussed with some of the individuals in the Department. The comments are presented for this Symposium which seeks to improve the managment of a natural resource. This resource is important to both Canada and the United States and many citizens rely on it for their livelihood, for their recreation and for the preservation of their culture.

During the past five years there have been many contacts between the fisheries managers of Canada and the United States.

Members of the fishing community also have association with their colleagues across the border. There are many benefits which flow from these exchanges. In fact, good communications should be at the heart of any plan which seeks to manage fisheries, regardless of whether it is a domestic fisheries plan or an international fisheries plan.

Communications can take many forms and can occur in a multitude of settings. It is such a pervasive and implicitly important aspect of civilization that it is frequently not given the attention that it is due. In order to communicate effectively, it is desirable that the parties involved speak the same language. In this fisheries sphere, the language that is spoken is quite often numerical, supported by a lexicon containing a vast array of numbers. If the numerical dictionary of one jurisdiction is not the same as that for another jurisdiction, then communication in the true sense of the word is not going to occur. Ideally we should aspire to the use of one numerical dictionary and we should also agree on the manner in which this dictionary is to be used. Our numerical language is a dynamic language which is continuously growing and evolving. Consequently, a mechanism is needed to rapidly update the information and disseminate it to all concerned.

Research is another area which might be looked at in the context of this Symposium, since it is critical to the management of salmon. Perhaps there is room for more cooperative research and coordination of research endeavors. Perhaps a mechanism could be found whereby different fisheries jurisdictions could agree on a number of research priorities, mustering their resources to address each in turn. Perhaps a way could be found to communicate to all what research work is being done. Similarily, a mechanism might be found to inform all interested parties of the work which has been done, but which for one reason or another, has not found its way into the professional literature.

Enhancement is another area where closer cooperation and coordination may be desirable. The benefits of a properly planned enhancement program are significant, but there are a number of aspects of such a program which require careful attention. Enhancement is an area which lends itself to cooperation and coordination among jurisdictions.

The development and the execution of annual fishing plans are areas where there have been cooperation, and coordination, but perhaps more could be done. A colleague suggested that a considerate effort should be made to get rid of the adhocery in fisheries management. While it is recognized that fisheries managers must have flexibility to adjust fishing plans in season and to respond to changed circumstances, perhaps more planning could be done preseason. One example might be the development of a number of different scenarios or options which would attempt to define the way in which fisheries managers would respond in light of a certain set of circumstances. This approach should reduce the number of in-season adhoc decisions and also remove some of the uncertainty which other jurisdictions may have concerning the response of a particular jurisdiction to a particular set of circumstances.

Of course, pre-season and in-season cooperation and coordination implies some form of post-season audit, and a mechanism to address any imbalance, which may have occurred. There is room for innovative approaches to the management of the salmon resource. Although there are many ways and many methods one can use to deal with these issues, it seems unlikely that the concept of gravel-to-gravel management for all species of salmon can be realized without a coastwide approach to the problems and issues. Grappling with them piecemeal, a little here, a little there, falls short of the goal. What is required is a management structure which permits a total review of the resource and which facilitates coordinated management of that resource.

There is such a structure embodied in the proposed Pacific Salmon Treaty. That document addresses many of the issues which we shall be discussing here today. It would establish a legal and political framework within which coordinated management systems coastwide may be developed. It provides a structure within which the various jurisdictions can meet, discuss and resolve their differences. If we are serious about gravel-to-gravel management, if we are serious about coming to grips with the problems facing us in the management of the salmon resource, then we need the Pacific Salmon Treaty. Other approaches offer less by perpetuating a fragmented approach to the management of salmon.

Gary Morishima, Indian Tribal Authority, Salmon Steelhead Advisory Commission, and Pacific Fishery Management Council Salmon Plan Development Team.

The perspective of some producing jurisdictions, that very often get left out of the management picture and the management process, needs to be addressed as does the jurisdictional morass we presently have in salmon management and how it might be corrected. Indian people often speak of life as a circle of renewal. The salmon are sustained by a repeating cycle of life and if that cycle happens to be broken at any point, the fish will simply not survive. This analogy, of course, recognizes that the life of the salmon depends upon respect for the needs of those fish throughout the migratory range. In the modern vernacular, this concept is called comprehensive management. There are very few natural resources which are affected by as many diverse interests as salmon, hence the continuity of the salmon life cycle depends on many different sources. The fish are inseparably bound up with a multitude of interests that are engaged in a battle over scarce resources, like water.

Impediments to comprehensive management are many. Foremost among these impediments is the absence of an effective means to develop and implement consistent management policy throughout the migratory range of the fish. Under the jurisdictional morass of entities involved in fisheries and habitat management, the institutional structure for decision making is fraught with conflicting policies and overlapping responsibilities. And there is presently no means to reconcile or resolve incompatabilities short of litigation.

The Salmon and Steelhead Advisory Commission was established under the authority of the Salmon and Steelhead Conservation and Enhancement Act of 1980. Its principal purpose is to develop a means of overcoming these and other impediments to comprehensive management. The Commission is concentrating its activities on process, rather than detail, and fully recognizes that a comprehensive planning system cannot be static. It has to be a dynamic process, capable of evolving to the changing needs.

The Commission consists of 12 members and is scheduled to complete its report early in 1984. Under the present circumstances, litigation is the only means available to force decisions to be made. The managers themselves have been unwilling, or perhaps unable, to confront the problems directly on their own initiative. Alternatives to litigation would certainly be welcome.

In a formative adversity, differences center about matters of territorial dominion, in which principle management issues involved are frequently obscured or convoluted. Agency positions become entrenched and provincial attitudes prevail, inhibiting the exchange of information between managers. Combative relationships cause every action to be scrutinized for ulterior motives, and interjurisdictional cooperation is thereby generally diminished. Immutable interests are placed on the defensive trying to fend off aggressive actions and during the process the polarization of public attitudes can threaten to undermine the resource base and promote competing uses of habitat which are important to fisheries.

The courts, however, are not only upholders of rights, they are arbiters of differences and interpreters of both the law and the larger needs of society. Courts are established to protect and to enforce the law, but the law is established through political processes and it is interpreted by appointees and elected officials. Moreover, while laws and policies may be developed in public forums, they are commonly implemented by administrative actions. Thus, comprehensive management cannot be accomplished by developing policy alone. Most operational decisions and implementing policy are made locally, and rarely concern matters of

national or even regional significance. Impacts upon the resource base are most difficult to contend with at the local level and gradual attrition is least noticeable, but nonetheless can be cumulatively devastating.

We all know that the salmon resouce consists of several thousand individual runs of fish and that maintenance of these runs depends to a very strong extent upon local control to provide necessary habitat. The influence of Indian tribal governments in determining resource use is most evident at the local level. The intimate knowledge of local issues possessed by tribal governments can play a vital part in preserving the continuity of individual runs of fish and thus helping to achieve comprehensive fisheries management. The role of tribal government in fisheries management has often been overlooked. The determination of certain tribal rights to fisheries resources has greatly improved prospects for achieving comprehensive management in two ways. First is the need for interjurisdictional allocation and second, the need to protect habitat to insure resource production. These two principles form the very cornerstones for any system of comprehensive management. Only recently has the vital part which the tribal governments can and must play in comprehensive management been recognized and acknowledged. Tribal management should not be viewed as a threat or infringement upon the perceived jurisdictional domains of state and federal entities, but rather should be regarded as an intrinsic and complementary part of the institutional structure that is essential for comprehensive management. Future decisions and processes must include representation for tribal governments, if comprehensive management is ever to become reality.

Jursidiction over salmon is overlapping. At the local level control may be exercised by individual tribes, at the regional level, the states, at the national level by the federal government, and at the international level by some multi-national body. But no single entity alone can achieve comprehensive management—not the tribes, not the states, not the federal government, not an international body, and not groups of fishermen. The life of the salmon depends upon the ability of people and governments to interact cooperatively and work together in common purpose.

Monte Richards, Chief of Fisheries, Idaho Department of Fish and Game

The salmon management situation is different in all of our Pacific States. California, for instance, suffers from a minimum of interception problems in the ocean, while this is not the case in Oregon and Washington. The whole world has a crack at the fish before they get to Idaho. The necessity for a comprehensive-type plan varies with these different situations. Taking a broad look, rather than dealing with any particular State, there are several types of things that could be done. It seems like comprehensive planning efforts have been going on for a long time, but this is not the case. If there ever is to be a comprehensive plan something will have to be done differently. It is a matter of just facing reality.

There could be a plan written covering only the ocean-to-stream mouth portion of the salmon's life cycle. That could be a comprehensive plan, even though it is only a part of the overall picture. Some examples are: The Pacific Fishery Management Council's Plan, the North Pacific Fishery Management Council's Plan and Canada's Plan. These entities all have separate plans they are developing. Another type plan might be the ocean-to-gravel portion of the life cycle. It would just address management and harvest. There are no current examples of this type.

The plan that has been described here earlier is a total plan of gravel-to-gravel management which involves all of the habitat aspects. Again, there is no current example. A portion of this type plan is addressed in the North Pacific Power Planning Council program which, aside from management and harvest, does treat most of the other elements involved. These include upstream passage, downstream passage, artificial production and habitat improvement.

The degree to which these various plans could be realistic and feasible varies. The total plan is the most desirable, but it is by far the most difficult. It might even be impossible. The ocean-to-stream mouth plan would involve Canada, the Pacific Fishery Management Council, and the North Pacific Fishery Management Council. The ocean-to-gravel plan is somewhere in between the ocean-to-stream mouth plan and the total plan (gravel-to-gravel). For the coastal streams of Washington and California it would be relatively simple to develop a total plan. Once you get by the ocean-to-stream mouth, all you are doing is adding the inland part of the stream managed by the State. For most of these Coastal streams you have only the jurisdiction of the State plus any treaty tribe interests that might be involved. However, when you get to the Columbia River, then you have an entirely different problem because there are many, many jurisdictions involved.

If there ever is to be a comprehensive plan, it will be some variation or some combination of the above three types of plans. Accepting this fact, which you may or may not, how do you approach establishing a comprehensive plan? To simplify the process we can say there are two major portions in the plan. One is the biological needs — habitat, escapement, production and things of this nature, and the second is harvest allocation. These two portions are both obviously intertwined, but harvest allocation is what normally causes all the problems. The Columbia River Fishery Council Plan that was prepared after several years of agony is an example. There was finally agreement between all the entities on escapement goals and the biological aspects, but this plan never got as far as the harvest allocations. It broke down with jurisdictional-type problems.

Of the two major portions of a comprehensive plan, the biological needs could conceivably be agreed upon. An alternative approach to a comprehensive plan wouW be to just do the biological portion of the plan. In other words, try to get agreement by all parties on escapement goals and other biological parameters. This is feasible through the PFMC, under the Canada/U.S. treaty or whatever. Then let the harvest allocation portion just take its natural course, through the Fishery Councils or the courts. In many cases, it is the same thing — they all end up in court.

Agreeing to escapement goals and then letting the rest of the plan work out on its own is not ideal, but it might be a realistic way to approach a Comprehensive Plan. One advantage of this two-stage approach to a comprehensive plan is that you have a yardstick to see what is going on and how it is progressing.

The total gravel-to-gravel comprehensive plan is an all-out approach which would have everybody agree on doing everything from the ocean to the gravel and solving all the environmental problems. It just does not appear that this type of plan is feasible. The major problem with such an approach is the matter of various jurisdictions. This is a major stumbling block. There are portions of plans, or even plans, that people could agree to were it not for the fact that they feel it would infringe upon or cloud their jurisdiction or legal rights. Treaty tribes have expressed this concern often. Another example involves Idaho which was not included in the Salmon and Steelhead Enhancement Act. Our feelings about the Salmon and Steelhead Enhancement Act are well known and our major reason for these feelings is the fact that we were simply not included in it.

This matter of jurisdiction is a very important thing and is the first step that will have to be overcome before anything can be accomplished. The way to do this is to sit down and list the items on which everyone is in agreement. Agreed upon jurisdictions should be enumerated and for those areas where agreement cannot be reached, some type of disclaimer must be agreed to which everyone is comfortable with. The disclaimer would state that even though you agree to a plan you are not sacrificing any of your legal or statutory jurisdiction.

In the final analysis we should not sit around and wait for Utopia. We must now face reality and get what we can. The belief that fragmented or partial plans are not worth very much is incorrect. Any plan, even if only a partial plan, is better than no plan. And in many instances, the only way to arrive at a complete comprehensive plan is to proceed with individual pieces of the

plan. It may start out fragmented, but towards the end it possibly can be gathered together into a complete plan. We should take whatever part of the comprehensive plan is feasible and realistic and complete it. Then we can move on from there.

Don Collinsworth, Commissioner, Alaska Department of Fish and Game

There has been some misconceptions about Alaska's attitude towards coastwide management and conservation of chinook salmon, as evidenced from some of the events of last summer. Alaska welcomes the chance to try to make our views and philosophy on this issue known. The Alaska Department of Fish and Game staff has prepared a statistical packet on the conduct of our chinook salmon fisheries in 1983 and how this fishery fits into the historical perspective of resource use. This is not the main theme of the Panel, but this information is available and will be distributed to Panel members. It can be made available to anyone who would like to have it. Chinook salmon heads up the list of the complex resource management problems to solve. Chinooks have a rather complex life history with long multiple age class maturity, as well as distribution and migratory habits that guarantee multiple jurisdictions will be involved in their harvest and management. Top that off with the fact that major hatchery production has increased the naturally occurring productivity gap between weak and strong stocks. Since the species is harvested in the ocean (often as immatures) and is an extremely high-valued commodity, it is easy to see how we arrived at the present resource problems. It is much less clear how we are going to work our way out of these problems.

There are some agreed upon concerns amongst these problems. First, many of our natural stocks from Alaska to the Columbia River are in poor shape because of overfishing, habitat degradation or some combination of the two. Second, it is not possible for any single jurisdiction to guarantee the conservation and sustained yields of these stocks by itself. Third, there is considerable interest in enhancing chinook salmon runs, as well as rehabilitating natural stocks. There the consensus seems to end in a flurry of confusion as to what is the best and fairest way to address these concerns.

The 1983 season is a case in point. Previously, a fixed quota system would obviously not have provided the level of conservation required, nor fairly treated the various allocation questions. Alaska is committed to pursuing a comprehensive management plan which will result in rehabilitation and enhancement of these resources. Our fishery is dependent on the health of coastwide chinook stocks and although we are a small percentage harvester of the total stock, this fishery is ingrained in the lifestyle and economy of Southeastern Alaska.

It is obvious Alaska is serious about its chinook management if you look at our extensive inside closures on gillnet and recreational fisheries since the mid-1970s. These have now been followed by troll closures to initiate a 15-year rebuilding plan on Alaska chinook stocks. In addition to this is our dramatic reduction in fishing time allowed in our troll fishery over the last four years, the various forms of gear limitations enacted in the troll fishery, and the considerable commitment by my agency to research in monitoring of this fishery.

Alaska realizes that enhancement of these mixed stocks will be one of the real keys to maintaining viable fisheries, while achieving relatively low exploitation rates with higher harvest. Alaska already has made a serious commitment to this process, both by the rebuilding of natural stocks and the concurrent increasing of enhancement potential. We estimate that by the early 1990s our harvest of hatchery fish from both public and private non-profit facilities, should approach 160,000 chinook. This is based on the current level of facility construction and we anticipate more construction will be on the way.

With all the attention focused on the Alaska fishery in recent years, we perhaps, more than anyone, realize that none of us completely control our destiny. We are committed to a rational coastwide plan and are actively participating in a forum to pursue that end. Some things that are needed are fairly obvious and it is somewhat redundant to go through them. Redundant in that from the standpoint of the U.S./Canada salmon interception treaty negotiations we have technical groups, including representatives of the State of Alaska, discussing the resource and its problems of management. Obviously, we need better data on the status of the stocks, including escapement and harvest in the various fisheries. We need to better address the escapement required and to produce good estimates of current and planned hatchery production and its impact on the various fisheries. Finally, we need an assessment of what type of management procedures can be applied to the myriad of fisheries that share in this harvest. If this information is provided to policy makers, governments and managers, up and down the Coast, the next question will be to negotiate how we will share the required effort.

This is the thrust of the current U.S./Canada salmon negotiations. Where we are headed, and how long it takes us to get there is still problematical. Our data base is poor and there are going to be many fits and starts, governed perhaps more by the exceptions than by the rule, as we wind our way through this problem. The El Nino phenomenon of this season is a good example of how the best laid plans can be thrown into a cocked hat. Certainly any agreement for U.S./Canada is going to have to be backed up by a strong commitment by the individual states to each other, as well as to any treaty and to Canada.

The State of Alaska, the North Pacific Fishery Management Council and the Alaska Board of Fisheries all have a strong regulatory role in Alaska. The Alaska Department of Fish and Game and the Board of Fisheries have regulatory authority to open and close fisheries and to use that authority very freely to accomplish both conservation and allocation objectives. Alaska has already stated the type of contribution we can make to comprehensive planning and our willingness to do so.

It is appropriate that the jurisdictions up and down the coast agree to a common set of objectives before proceeding further. This includes some of the concepts that have already been voiced in the U.S./Canada discussions, such as stabilization of natural escapements through regulation followed by a multi-cycle rebuilding program. This program should be achieved through holding to appropriate levels of harvest accompanied by an aggressive program of enhancement and good habitat management.

There is probably not agreement on how best to accomplish the first objective by regulation, nor do we have actual commitments as to the level and type of enhancement that would be carried out. Plans exist for habitat management in the Columbia River, as we have heard earlier in the Panel discussion. How firm our commitments are to enhancement, habitat management and better research and management of the stocks in these days of shrinking state and federal dollars, is certainly an important question.

Another question is, can we give this problem the priority coastwide that insures that all jurisdictions can hold up their ends of the bargain? These questions are what need to be answered and answered in a good faith fashion on a coastwide basis.

Unfortunately, the chinook conservation question is tied, in many people's minds, to the greater allocation and equity questions bound up in the U.S./Canada salmon discussions. This includes those on the Fraser River, transboundary rivers, and the Dixon Entrance Boundary area. If the chinook question could be taken out of context as a major conservation issue by itself, perhaps we would have more luck in addressing this question. Our challenge is to maintain the most viable industry possible, while measures are taken to rebuild the stocks upon which the future of the industry is ultimately dependent. The State of Alaska's administration has appointed a strong advisory group to consider those policy questions relative to the U.S./Canada treaty discussion. We will participate in scientific forums and be at the

negotiations in November with the view in mind of solving this problem in some fair and equitable fashion.

Comments from Panelists:

DON COLLINSWORTH: The Panel members presented a great deal of information on the issue at hand. Sometimes we tend to attribute to the concept of comprehensive planning a mystique that is not warranted by what we really hope to accomplish. It is clear that there are a lot of jurisdictions involved, a lot of people's interest involved, a lot of data that we do not have and a lot of data that we do have. But what do we really do as managers? We control human-induced mortalities. What do we do in terms of habitat? Well, as resource managers and resource agencies and Councils, there is very little direct authority in dealing with habitat. We can do some stock manipulations by enhancement rehabilitation. But what it is that we really do as managers is control, to some level, the human-induced mortality. You can even extend that into the habitat area because we induce human mortalities by the way that we deal with waste materials and pollution and stream degradations. We are not really going to succeed in completing a comprehensive coastwide plan until we have an institutional framework to complete that plan. What that means is that all of the various entities, that have some autonomy and some discretionary authorities to make determinations about allocation between harvest and escapement, must be willing to give up some autonomy to a unified institutional framework, where conflicts are resolved.

The biggest bottleneck is the question of allocation. We can deal with that on a basis where the allocations are determined in a generic sense by major region. That most likely will be the States. Within that framework, after decisions have been made as to what appropriately is to go into the harvest and what is appropriately to go into escapement, the regulatory agencies, be they the Council's or the States', can make the refinements in allocation to the various user groups.

We are really just kidding ourselves that we are going to proceed to do anything in the way of a comprehensive plan until we have that institutional framework. In order to do that, we are all faced with giving up some autonomy and some discretionary authority. We must, in a good faith way, agree that the initial allocation between the beneficial users and escapement, is fair and equitable.

GENE KRUSE: Since the Power Planning Council program began, they have been concerned about the ocean connection and making sure that there was some responsible management in the ocean before they were willing to do anything in the Columbia River. Washington and Oregon have agreed that the catch of these stocks off their coasts is as identified in the Columbia River Allocation Plan. It is a small proportion of the run, maybe one to three percent, but certainly less than five percent, according to some of the key staff people that have been involved in this. Therefore, what is it that the Power Council members are looking at in terms of requiring a responsible ocean management prior to the time that they will make commitments on the Columbia River? It seems that the problems are within the Columbia system, and we better start addressing them before it is too late. It might be very helpful if the Pacific Fishery Management Council, as well as the Power Planning Council, could have some direct interaction to talk about these things and make sure that both groups see the problem in the same way.

CURT MARSHALL: In response to the question by Gene Kruse, there have been some discussions between the two Councils already. Joe Greenley and I have talked about this numerous times, and the Power Planning Council members have met and talked with Joe Greenley about this. Hopefully there will be some future discussions between the Power Planning Council and the Pacific Council. The ocean harvest section of the Fish and Wildlife Program (Section 500) calls for some consultations with some of the members of the North Pacific Council. There does need to be some further discussions with the Governor of Alaska and with the North Pacific Fishery Management Council in hopes of perhaps reducing some of the interception of the Columbia River-origin stocks.

If we agree that there have been substantial efforts to tighten down the harvest off Washington and Oregon, we should look at this in the proper perspective. When the investments of the Plan start paying off and you see increased runs, that doesn't mean that we want to see any increase in fishing effort on those stocks that we're focusing on and attempting to rebuild until we have met our goals. The Council is looking at Section 500 and in the future intends to maybe make it more precise.

GARY MORISHIMA: There is within the Panel some degree of uncertainty as to precisely what a comprehensive plan might look like. There seems to be two basic schools of thought. One idea for a Comprehensive Plan would be a compilation of all available information that pertains to the management of salmon in their habitat. Another would concentrate on the process of achieving comprehensive management, rather than the actual information that might be used to make your management decisions. Comprehensive management is a continuing process. It is not something that you can hope to be able to put in black and white and remain in concrete for a long time. Things change and we have to be capable of responding to that change.

There is a fundamental question that needs to be asked regarding the focus of the comprehensive planning process. Is the plan what is important, or is it the coordinated and consistent management actions that are necessary to make management of the resource consistent throughout its migratory range? The plan should not focus directly on the compilation of the data itself. It is most important to come up with a way of making interjurisdictional decisions that achieve comprehensive management.

The Salmon Steelhead Advisory Commission (SSAC) consists of 12 members, 6 of whom are voting and 6 of whom are non voting. The actions of the SSAC have to be arrived at through unanimous vote of the voting members. The SSAC has basically concentrated upon institutional management structures and has identified four broad areas where new sorts of institutional arrangements need to be developed. Those four areas are policy development, dispute resolution, coordination of information and its use for management, and establishing a system that would be capable of evaluating the performance of the management system in terms of the management objectives that may be established by the entire structure.

MONTE RICHARDS: There seems to be a mystique about these plans. It does not have to be all that difficult. It does not have to be done under one overall umbrella. As an example, on the Columbia River there are three efforts underway right now, completely separate from each other, which if they were successfully accomplished could be put together and you would have a comprehensive plan. One of these is the U.S./Canada treaty, the other is the ongoing negotiations for the Lower Columbia River harvest, and the third is the Anadromous Fishery Plan that Idaho is putting together and which undoubtedly Oregon and Washington will be working on soon. If you brought these all together, you would have a comprehensive plan (gravel-to-gravel) for the Columbia River, which would include the ocean and on up the river to the headwaters. If you went one step further, and cranked in the Corps of Engineers, the Bureau of Land Reclamation and the Forest Service on the habitat improvement that is kicking around under the Power Planning Program, then you would have a total plan. It would be done with no great mystique, no great difficulty, and without anyone getting distressed about jurisdictions.

JOE GREENLEY: There are relevant portions of state plans which put together are really a start on a comprehensive plan. A lot of planning has been done by very many entities. You have to sort it out to determine what is going to be used in what we call a comprehensive plan.

JOHN HARVILLE: We are finding a substantial agreement in one of the ways to go about things. What we really need is some way of getting this moving. It seems we have been talking about this sort of thing one way or another for a long time. Maybe some of the problem has been the mystique that we have associated with it. We look at the totality of what needs to be done and figure the task is impossible. One of the problems we certainly face with the multiple jurisdictions involved is, who will get the ball rolling? Where do we begin? How do we get started? I hope members of our audience, as well as our Panel, will have some suggestions.

DON MARTENS: We have talked a lot today about a comprehensive plan. This causes Canada some difficulty. A comprehensive plan implies something which perhaps one does not mean to say. It implies a super-management agency. It gives people the wrong impression of what it is attempting to do. Perhaps a term like totality, or total plan, is best for what you are attempting to accomplish. It does cause some people some difficulty when you talk about a comprehensive plan. A coordinated plan or cooperative plan is fine. A Comprehensive Plan implies something else.

CURT MARSHALL: It would be a waste of time and foolhardy to try at this time to suddenly create a total comprehensive plan. What we really need is an approach whereby the entities can reach agreements. Agreements up and down the coast between harvest management entities and producing jurisdictions is something that will eventually lead toward improved coordination between harvest, inland basin planning, and harvest management. We need a way of providing more communication between those that are doing the harvest management and those that are doing these variety of freshwater planning and enhancement. There is a very significant lack of coordination and this seems to be the real challenge.

JOHN HARVILLE: I would certainly agree with that point, from my perspective of having served now for a number of years on two of the Regional Fishery Management Councils. We have been imprisoned terrifically by the fact that the direct jurisdiction of the Fishery Management Councils is for actual regulations outside of three miles. When you couple that with state cooperative implementation inside of three, we are still really dealing just up to the beach or mouth of the river. The greatest void has been in getting the appropriate communication and linkage between those elements of management that are concerned with saltwater management of salmonids and those concerned with the freshwater aspects. This is very definitely a product of differences in jurisdiction.

GENE KRUSE: In terms of inland areas, you can get some communication and coordination that provides a solid basis for that part of the plan until you get the interaction with the inland areas and the ocean harvest. It is simply unrealistic to think you will get different jurisdictions to coordinate their efforts as it relates to allocation or responsibilities that they have delegated to them by the legislature, treaties or some other type of an arrangement. That is the part of the plan that is going to be very difficult. I think we are simply going to have to take it on a piece-meal basis until some other forum develops a forcing mechanism to make this happen.

Audience Comments:

Comments and questions from the audience were answered by panel members. The following is a summary of the points of view which were expressed by members of the audience:

1. It was suggested that the term "Comprehensive Plan" frightens people off, that a strategic plan would be more appropriate. Such a plan would concentrate on the items that can be moved forward. These could include habitat problems, escapement goals, a common data base, real time data, research and enhancement. It would not get involved in the harvest management allocation questions.
2. The term comprehensive means "all encompassing." Trying to get such a plan in effect would be an effort in futility. The ideas presented by Joe Greenley were felt to be a "basic" plan. It is time work commenced on a basic plan and not worry about how all the problems will be solved.
3. Plan development must proceed without waiting for allocation problems to be worked out. The parties involved should submit themselves voluntarily to a system of solving the problems rather than waiting for a formal ratification of a system such as the U.S./Canada treaty. Perhaps the Salmon-Steelhead Advisory Council or PMFC should be used to get the whole process moving instead of everyone just talking about it.
4. It is not possible to get to the end point unless an institutional framework is developed which allows for making the basic allocation type decisions.
5. The managers must be willing to submit themselves to an arbitration procedure that is binding. The most should be made of the plans and information which are now available such as the two Regional Fishery Management Council plans and the plans of the Pacific states. Putting these plans together should cover most of the ocean life of the resource.
6. An institutional arrangement could be used which would overlay separate interests and problems and bring a straightforward approach and some organization to the whole process. This could take the form of many individual written agreements between parties that in the end binds the whole thing together into a plan.
7. Something must be done about habitat problems now. It cannot wait until the allocation problems are resolved. Solving allocation problems means a change in fishing methods and areas of capture.
8. The question was asked whether there were any panel members who did not feel that allocation should be based as closely as possible on the amount of fish produced. It was pointed out that many fishermen cross state lines to catch fish that may originate in the waters of their home state. They then return to their home state to spend the profits earned from their catch. There are many trade offs such as this and between interception of various species between jurisdictions.
9. In response to a question, Curt Marshall stated that a rough estimate as to the cost of the Power Planning Council's Fish and Wildlife Plan would be approximately $750 million over a twenty year period. This might break down to about $1.50-$2.00 per month for the average homeowner on his electrical bill.
10. Panel members felt that user groups would be involved in the development of a comprehensive plan.

UPDATE OF ACTIONS TAKEN ON 1982 RESOLUTIONS

A number of the Resolutions adopted by the Commission in 1982 required continuing efforts by the Secretariat to assure that the Congress or concerned Federal agencies would provide a positive response to permit achievement of PMFC's goals and objectives. These Resolutions grouped according to subject were:

Anadromous Fisheries—1982 Resolutions 3, 5, 6, 21 and 25: PMFC actively worked on funding and management issues for anadromous fish. Continued funding for the Anadromous Fish Conservation Act (P.L. 89-304) was again requested (Resolution 3) and Congress restored the cuts proposed by the Administration. The Regional Fishery Management Councils and applicable State and Federal agencies were urged to proceed at once with a comprehensive salmon plan (Resolution 5). PMFC addressed the contents of a comprehensive plan as the feature symposium of its 1983 Annual Meeting in Boise, Idaho and the Pacific Fishery Management Council held a scoping session for a comprehensive plan in January 1984. Resolution 6 addressed coastwide chinook salmon management. The chinook management resolution was

carried to the U.S./Canada salmon treaty negotiations, and resolution of chinook management issues were addressed in that forum, although an agreement still has not been reached. Full mitigation for fish losses on the Trinity River, California at Lewiston Dam was requested by Resolution 21. Legislation has been introduced to fund full mitigation for this project (H.R. 1438).

Fishery Development —1982 Resolutions 2, 9, 10, 11, 12, 18 and 19 addressed fishery development issues. Continued support from Saltonstall-Kennedy (S-K) funds were requested for research and development projects (Resolution 2).PMFC urged NMFS to provide representation for fishery development foundations on S-K review panels. Resolution 9 requested an analysis of the benefits/costs of buffer zones to promote shoreside processing. Protection for fishermen in bankruptcy proceedings was requested by Resolution 10, and legislation was introduced to provide such protection (H.R. 3019). Truth in seafood labeling (Resolution 11), purchase of West Coast seafood by government institutions (Resolution 18) and the Caribbean Basin Initiative (Resolution 19) were also addressed by PMFC. Legislation (H.R. 5032) addressing the labelling of the origin of seafood products has been introduced. The Caribbean Basin Initiative was amended to exempt tuna from the duty-free provision, which was the essential thrust of the resolution.

Research and Management — Three resolutions under this category addressed fishing in marine sanctuaries (Resolution 8), support for sport fishery socioeconomic studies (Resolution 17) and support for a U.S. Exclusive Economic Zone (Resolution 20). Amendments to the Marine Sanctuaries Act which require consultation with States and Councils, and allow Councils to draft fishing regulations for sanctuaries have been passed by both Houses. These bills differ slightly and the matter is pending in a conference committee. Two contracts have been awarded to study the economics of the sport fishery, and the Pacific Fishery Management Council is investigating the economics of the salmon fishery. The ongoing Marine Recreational Fishery Statistics Survey has also been funded for 1984. By Presidential proclamation on March 10,1983, the administration established a 200-mile exclusive economic zone.

Environmental Issues—Six resolutions adopted in 1982 addressed environmental issues. Protection for wetlands (Resolution 13), emphasis on the detrimental effects of water diversions (Resolution 14) and a request to reduce the effects of acid rain (Resolution 16) were all aimed at improving the inland habitat for fisheries. Protection for the ocean habitat was addressed by a request for a moratorium on outer continental shelf (OCS) development for oil and gas (Resolution 15), opposition to ocean dumping of radioactive wastes (Resolution 23) and West Coast representation at an international dumping convention (Resolution 24). Legislation addressing wetlands protection is pending as is legislation relating to water diversions under the Clean Water Act. The effects of acid rain and its control is addressed by a series of bills introduced and assigned to committee. Hearings on the dumping of radioactive wastes and legislation preventing it are pending. A West Coast representative was assigned to the U.S. advisory group for the International Dumping Convention, but was not a member of the delegation which attended.

RESOLUTIONS ADOPTED IN 1983

A total of 13 proposals for resolutions were submitted to PMFC's Advisors and Scientific and Management staff for evaluation. These proposals were then presented to the Commission for additional review and adoption as Resolutions. As a result of these procedures, seven were unanimously approved, one was approved with Alaska abstaining, four were withdrawn and one was combined with another Resolution. In addition to the Resolutions adopted for 1983 a number of resolutions adopted in previous years were reaffirmed. Previously adopted Resolutions that were reaffirmed are reviewed at the end of the 1983 Resolutions. The process whereby these Resolutions were implemented began with their publication in the PMFC Newsletter (volume 39). The complete texts of adopted Resolutions and a summary of the supporting actions taken to date are provided below. Missing Resolution numbers result from rejected proposals or from those combined with other numbered proposals.

1. Encourage Domestic Utilization of Fisheries Resources in the U.S. EEZ

WHEREAS, the United States proclaimed an Exclusive Economic Zone (EEZ) to establish a national policy for utilization of living marine resources of that zone for the economic benefit of the United States (1982-No. 20);[1] and

WHEREAS, the Magnuson Fishery Conservation and Management Act goal of full domestic utilization of fisheries resources in the Fishery Conservation Zone (FCZ) to the benefit of the United States has not yet been realized; and

WHEREAS, there remains a substantial foreign fishery in the FCZ; and

WHEREAS, joint venture fisheries are only an interim and limited step in a multiphased process to achieve full domesitic harvesting and processing; and

WHEREAS, government institutions are large consumers of fishery products and represent a large potential market for domestically processed West Coast species; and

WHEREAS, the California, Oregon and Washington processing sector has demonstrated its ability to process in excess of the allowed catch of traditional species;

THEREFORE BE IT RESOLVED, that the PMFC requests the Fishery Management Councils to develop measures to provide for the best economic environment for the full development of the domestic seafood industry;

BE IT FURTHER RESOLVED, that PMFC supports the concept of a complete phase-in of the domestic fishing industry by 1990; and

BE IT FURTHER RESOLVED, that PMFC urges Congress and the Administration to establish and maintain a policy which would support current Fish and Chips provisions and which would oppose linking non-seafood issues to TALFF[2] considerations, levels of import or export of seafood products or any other aspect of the seafood industry; and

BE IT FURTHER RESOLVED, that the PMFC encourages Congressional, Administrative, and State support for financial incentives for the domestic industry engaged in the harvest, processing, and marketing of underutilized species; and

BE IT FURTHER RESOLVED, that the Pacific Marine Fisheries Commission urges acceleration of the development of underutilized West Coast groundfish fisheries by encouraging NMFS to screen joint venture applications relative to impacts on domestic processors in areas where the processing sector is highly developed; and

BE IT FURTHER RESOLVED, that the role of government institutions in providing major markets for West Coast fishery products be encouraged by Congress and the States as a means of encouraging and supporting growth of domestically caught and processed seafood products; and

BE IT LASTLY RESOLVED, that the Fishery Management Councils and the Federal government refrain immediately from encouraging or endorsing joint ventures until agreements are negotiated with domestic processors to purchase domestically produced finished or partially finished bottomfish products equal in poundage to the capacity of the domestic seafood industry; and further agree to reduce trade barriers should they exist; and to engage in other activities which will demonstrably promote the full development of the domestic bottomfish or seafood industry.

Adopted unanimously by the five Compact States of Alaska, California, Idaho, Oregon and Washington

[1] PMFC Resolution No. 20 adopted in 1982.

[2] Total Allowable Level of Foreign Fishing.

4. Concern for Effects of Deep Sea Mining

WHEREAS, the Department of Interior's Minerals Management Service has announced its intent to begin a program of leasing ocean bottoms within the United States' Exclusive Economic Zone (EEZ)/United States Fisheries Conservation Zone (FCZ) for the purpose of deep sea mining; and

WHEREAS, the Minerals Management Service is proposing in 1984 to lease large offshore tracts for deep sea mining which may have adverse impacts on fisheries in the U.S. EEZ/U.S. FCZ; and

WHEREAS, the Minerals Management Service is proposing such lease sales for five years of ocean mining — construction material, heavy mineral placers, phosphorites, metalliferous oxides, and polymetallic sulphides; and

WHEREAS, the Minerals Management Service is preparing a Draft Environmental Impact Statement based on limited scoping comments and is proposing a lease sale for early 1984 for polymetallic sulphides in the area of the Gorda Ridge offshore Northern California and Oregon; and

WHEREAS, deep sea mining may result in various types of pollution entering the water column, including greatly increased turbidity, entrainment of soluble and nonsoluble compounds in the water column, and discharge of waste materials or tailings which could endanger marine life; and

WHEREAS, due to the ocean current patterns along the coast, these pollutants could affect the health and productivity of the marine environment throughout wide sections of the U.S. EEZ/U.S. FCZ as well as State waters; and

WHEREAS, the Minerals Management Service has not held regional scoping sessions and has scheduled only one hearing on its Draft Evironmental Impact Statement for its proposed Gorda Ridge lease sale thereby precluding the comments of many fishermen, fishery agencies, local governments and the concerned public; and it appears that the Department of Interior's Minerals Management Service is attempting to rush the lease sales for deep sea mining in the EEZ/FCZ with little regard for public comment and review; and

WHEREAS, there is no identifed interest among the domestic mining industry at this time to conduct deep sea mining operations on the Gorda Ridge or most other offshore areas in the U.S. EEZ/U.S. FCZ; and

WHEREAS, the Minerals Management Service has not consulted with the fishing industry nor State fishery agencies or Regional Fishery Management Councils regarding the effect such mining activities would have on marine life and fisheries;

THEREFORE BE IT RESOLVED, that the Pacific Marine Fisheries Commission memorialize the Secretary of the Interior and the Director of the Minerals Management Service to consult with the fishing industry, fishery agencies and the Regional Fishery Management Councils on any proposed lease sales for deep sea mining and that regional hearings be held for scoping and on Draft Environmental Impact Reports of any proposed lease sale; and

BE IT FURTHER RESOLVED, that the Pacific Marine Fisheries Commission memorialize the President and the Congress to impose an immediate moratorium on any deep sea mining lease sale until an adequate assessment is conducted on the impact of deep sea mining on this nation's fishery resources, and mitigation measures that would be necessary; and

BE IT LASTLY RESOLVED, that the Pacific Marine Fisheries Commission memorialize the President and the Congress to direct that Environmental Impact Statements shall be prepared by the National Oceanic and Atmospheric Administration.

Adopted unanimously by the five Compact States of Alaska, California, Idaho, Oregon and Washington

Action

Oral and written testimony was provided by PMFC's Executive Director at the public hearing in North Bend, Oregon regarding the Gorda Ridge Deep Sea Mining Lease Draft Environmental Impact Statement (DEIS). This Resolution was sent to the Minerals Management Service (MMS) and the Pacific State's Congressional delegations. PMFC's Executive Director met with representatives of the MMS at PMFC's office and discussed the Resolution and the Gorda Ridge DEIS. He stressed the opposition by our member States to this lease sale without adequate environmental studies to more properly determine the effects on fisheries, habitat, food chains and water quality. A decision on the lease sale by the Department of Interior is pending.

Congressman Douglas Bosco (CA) in April introduced legislation to delay action on Gorda Ridge until September 1988, and to require that the President prepare a detailed feasibility study including impacts of Gorda Ridge development by September 1987.

7. U.S.-Mexico **Joint Fishery Management**

WHEREAS, the United States and Mexico share fish stocks which freely cross their joint international border; and

WHEREAS, those fish stocks are critical to the economically important recreational and commercial fisheries of both Southern California and Baja California; and

WHEREAS, there would be mutual benefit to the United States and Mexico if the fish stocks shared by both countries were jointly managed throughout the range of those stocks; and

WHEREAS, little or no progress has been made toward reaching a joint research and management agreement between the U.S. and Mexico;

THEREFORE BE IT RESOLVED, that the Pacific Marine Fisheries Commission requests the Department of State to prepare a report stating the obstacles preventing a joint research and management treaty between the U.S. and Mexico and proposed solutions to those problems; and

BE IT LASTLY RESOLVED, that this resolution and the requested report when finished be sent to the President, the Congress, the Senate, the Governor of California, the California State Legislature, the Director of the National Marine Fisheries Service, the Director of the California Department of Fish and Game, the President of Mexico, the Mexican Congress, the Mexican Secretary of Fisheries, and the Governors of Baja California Norte and Baja California Sur with the request that all officials receiving both the resolution and the report publicly respond to each by way of correspondence or a report to the Pacific Marine Fisheries Commission, which will in turn prepare a package containing all the responses to be sent to the above list of officials.

Adopted unanimously by the five Compact States of Alaska, California, Idaho, Oregon and Washington

8. Artificial Reefs

WHEREAS, properly designed, constructed, and sited artificial reefs have the potential to increase the productivity of fishery resources and to enhance U.S. recreational and commercial fishing opportunities; and

WHEREAS, most if not all artificial reefs will be placed within the three mile limit over which the States have jurisdiction; and

WHEREAS, coordination of State agencies, Federal agencies, and research institutions both public and private is desirable to facilitate the construction and siting of artificial reefs; and

WHEREAS, in the past artificial reefs have at times been developed without exploration into the purpose to be accomplished by those reefs; and

WHEREAS, monitoring of artificial reefs at this state in the history of their development is as important as the actual placement of the reefs;

THEREFORE BE IT RESOLVED, that the individual States should have the responsibility for the development and authorization of artificial reef programs in their waters, taking full advantage of the research resources available to them worldwide, and seeking to comprehensively identify potential reef sites, suitable sources of materials, and proposals for the efficient transport of the materials to the artificial reef sites;

BE IT LASTLY RESOLVED, that H.R. 3474 as drafted would significantly alter the role of the Pacific States in the development of artificial reefs and as there is no proven need for federal involvement we therefore oppose its enactment.

Adopted by the four Compact States of California, Idaho, Oregon and Washington, Alaska abstaining

Action

The Resolution was transmitted to the Secretary of the Interior and to Representative Breaux, author of H.R. 3474 — The National Fishing Enhancement Act of 1983. The bill was reintroduced as H.R. 5447 without the tax credits and approved by the Merchant Marine and Fisheries Committee on May 10. In response to PMFC comments, language was added to clarify that nothing in the Act diminishes State authority for reefs in State waters.

The Marine and Estuarine Committee of the International Association of Fish and Wildlife Agencies has established a working subcommittee on artificial reef standards and guidelines, with Pacific States representation. That subcommittee is drawing together existing State policy statements and guidelines from all three coasts, and will participate in any actions to develop national guidelines. Committee chairman John Harville has written Congressman Breaux and Secretary of Interior Watt advising them of State concern that no Federal initiative should encroach upon State authority and control over the seabed within a State's territorial waters, also urging full State participation in any Federal initiative regarding artificial reef development.

9. Uniform Marine Recreational Fishing License

WHEREAS, the Honorable Harold S. Sawyer of Michigan has introduced into the House of Representatives H.R. 2965 to create a uniform marine recreational fishing license intended to stimulate implementation of marine recreational fishery programs; and

WHEREAS, H.R. 2965 appears primarily influenced by conditions on the eastern seaboard of the United States where various States have been reluctant to implement marine recreational fishing programs funded by user fees; and

WHEREAS, H.R. 2965 establishes a maximum license fee of only $3.00 with no minimum, yet requires interstate reciprocity; and

WHEREAS, H.R. 2965 establishes a number of other rigid and arbitrary standards inconsistent with existing marine licensing programs that would result in federal preemption of existing Pacific coast State licensing systems; and

WHEREAS, certain other portions of H.R. 2965 indicate that the bill has been drafted without benefit of knowledge of existing licensing and recreational programs on the Pacific coast; and

WHEREAS, H.R. 2965, as now written, could curtail and invalidate existing marine recreational fishery programs;

THEREFORE BE IT RESOLVED, that the Pacific Marine Fisheries Commission opposes H.R. 2965 as now written but supports the concept of implementing programs to stimulate enhancement and development of the nation's marine recreational and commerical fisheries; and

BE IT LASTLY RESOLVED, that the Pacific Marine Fisheries Commission hereby makes itself available to the sponsors of H.R. 2965 to assist in the development of acceptable legislation intended to implement effective marine recreational fishery programs.

Adopted unanimously by the five Compact States of Alaska, California, Idaho, Oregon and Washington

Action

Copies of the Resolution were sent to the Pacific States Congressional delegation opposing the Marine Recreational Fishery Licensing Program as set forth in H.R. 2965. Also, in accordance with recommendations of PMFC's secretariat, the Marine and Estuarine Committee of the International Association of Fish and Wildlife Agencies recommend that "any national licensing scheme be designed to encourage State initiatives in licensing, not displace those initiatives with a Federal program; also that any such scheme not require major changes in existing well-established State licensing programs." The IAFWA adopted this recommendation. Representative Sawyer introduced a redrafted version of this bill in 1984 (H.R. 4778). This version corrects some of the objections to the original bill. The bill is not expected to move in this session of Congress.

10. Declaration of National Fisheries Week

WHEREAS, H. Con. Res. 119, presently before the U.S. Congress, expresses the sense of Congress with respect to the declaration and observance of National Fisheries Week; and

WHEREAS, both recreational and commercial fishing are actively pursued by millions of Americans, thereby contributing to the economic and social well-being of this nation; and

WHEREAS, the Pacific Marine Fisheries Commission recognizes the importance of fishing as a vital component of this nation's heritage, as expressed in the conservation and wise use of its fishery resources;

THEREFORE BE IT RESOLVED, that the Pacific Marine Fisheries Commission enthusiastically endorses the legislation presently before Congress to declare and observe National Fisheries Week; and

BE IT FURTHER RESOLVED, that the week designated be established in consultation with those entities responsible for ensuring the appropriate observance of this annual event.

Adopted unanimously by the five Compact States of Alaska, California, Idaho, Oregon, and Washington

11. Assimilation of Southeast Asian Refugees into the U.S. Fishing Industry

WHEREAS, the United States is frequently and appropriately referred to as a nation of immigrants noting that all groups comprising the nation's citizenry have immigrated at sometime or other from other parts of the earth; and

WHEREAS, successive waves of immigrants have traditionally struggled to secure their position in the American socio-economic structure; and

WHEREAS, the federal government introduced considerable numbers of Southeast Asian refugees into U.S. coastal areas fol-

lowing the Viet Nam War, making the normal assimilation process very difficult and strained; and

WHEREAS, many of these refugees, having had difficulties in finding other employment in this country, have turned to fishing as they knew it in their homelands; and

WHEREAS, the fishing practices, customs, philosophies, laws and regulations in their countries of origin are frequently very different from those in this country, causing conflicts; and

WHEREAS, these conflicts have led to sometimes violent confrontations, including loss of life and property, which heighten mistrust, misunderstanding, and general non-productive alienation and polarization; and

WHEREAS, State Fish and Game agencies have made efforts to overcome misunderstanding in this situation; and

WHEREAS, ACTION/VISTA, a federal agency, has had good success in helping assimilate Southeast Asian refugees into the socio-economic structure of this country on a limited basis; and

WHEREAS, the federal government has failed to follow through with the process of assimilation with regard to the conservation and management of fishery resources; and

THEREFORE BE IT RESOLVED, that the Pacific Marine Fisheries Commission memorializes the federal government to accept responsibility for the completion of the assimilation process for Southeast Asian refugees and particularly refugee fishermen through an agency such as VISTA. Such agency should aid refugees in finding a place in the existing system, fostering an understanding of that system's workings—legal and traditional. Such assimilation should also aim at acquainting Southeast Asian fishermen with American fishermen's organizations as a forum for working out differences, and should also aim at acquainting local fishermen with Southeast Asian fishing practices which may be beneficially incorporated in local practices; and

BE IT LASTLY RESOLVED, that the federal government avoid any financial or material aid to refugee fishermen not available to other fishermen, realizing that alienation not assimilation would be the outcome of such activities.

Adopted unanimously by the five Compact States of Alaska, California, Idaho, Oregon, and Washington

Action

A copy of this Resolution was provided to Mr. Phillip Hawkes, Director of the Office of Refugee Resettlement, Department of Health and Human Services in Washington, D.C. Copies were sent to each of the Pacific States Regional Directors and State Coordinators for Refugee Programs. Mr. Hawkes asked Mr. Crossman, Regional Director of the Office of Refugee Resettlement in Seattle to work with PMFC regarding this Resolution. Mr. Crossman is preparing a description of how their office is working to alleviate the concerns and implement the requests addressed in the Resolution.

12. Natural Disasters and Assistance to the Fishing Industry

WHEREAS, there occur in nature natural fluctuations in fish and shellfish populations; and

WHEREAS, fishermen and seafood processors have historically been able to plan for or withstand normal fluctuations that can for example result in low catches; and

WHEREAS, many fishermen are not eligible for unemployment benefits, and food-producing fishermen and processors are not eligible for many of the programs that provide financial assistance to agriculture; and

WHEREAS, the El Nino current and other natural disasters have had a devastating affect on populations and catches of commercial and recreational fisheries; and

WHEREAS, the salmon fishery, as a result of the El Nino current, has been declared a natural disaster in some coastal counties on the Pacific Coast; and

WHEREAS, fishermen have at present neither a source of low interest loans nor catch insurance to provide them needed financial resources during the period of the El Nino current or for other existing and future oceanic or other conditions affecting fish harvests;

THEREFORE BE IT RESOLVED, that the Pacific Marine Fisheries Commission memorialize the Congress, the President, the Small Business Administration and each member State to recognize El Nino, and other natural disasters, as natural disasters to the fishing industry; and thereby make the fishing industry (including commercial fishermen, commerical passenger fishing vessels, onshore support businesses, and seafood processors) eligible for low-interest disaster loans and other appropriate relief, and specifically to expedite declaration of the 1983 salmon disaster; and

BE IT FINALLY RESOLVED, that the Pacific Marine Fisheries Commission requests the Congress and the Legislatures of the member States to conduct a study and report on the feasibility of a form of disaster insurance that would, among other things, allow fishermen to set aside earnings tax free in years of high individual incomes, and to work with the fishing industry in the preparation of such a study.

Adopted unanimously by the five Compact States of Alaska, California, Idaho, Oregon and Washington

Action

The original request of the three Pacific States' Governors to the SBA was denied by the SBA on the grounds that they did not classify El Nino as a natural disaster. This prompted Congressman Bosco to introduce legislation which would require the SBA to treat El Nino as a natural disaster. The House approved this action by voice vote in March 1984. While the Senate took no parallel action, this matter will be addressed in House-Senate conference committee where it is expected to be approved.

Resolutions Reaffirmed in 1983

In addition to the eight Resolutions adopted, a number of resolutions adopted in previous years were reaffirmed. These Resolutions are listed below by year adopted and title. Their complete text can be found in the PMFC Annual Report for the appropriate year.

1979 Resolution No. 6 — Support for Development of Coastwide Data Resources of Adequate Quality and Timeliness for Effective Fisheries Management under the FCMA.

Requests State and Council support for compatible data, supported by federal funding where appropriate, to aid regional management.

1981 Resolution No. 7—Federal Responsibility to Fund Federally Mandated Programs.

Requests long-term base budget funding to support Federally mandated fishery management programs.

1982 Resolution No. 2 — Saltonstall-Kennedy Funds Request

Requests continued funding for the S-K program and a greater involvement by fishery foundations in selecting S-K projects.

1982 Resolution No. 3 — Continued Funding of Anadromous Fish Conservation Act.

Requests continued full funding for this program.

1982 Resolution No. 10—Protection for Fishermen in Bankruptcy Proceedings.

Requests equal status for fishermen along with other debtors in proceedings against processors.

1982 Resolution No. 11—Truth in Seafood Labelling.

Requests proper labelling of imported seafood products in their original package or can as to origin and where products were processed, packaged or canned.

1982 Resolution 9—Analysis of Benefits/Costs or Buffer Zones to Promote Shoreside Processing.

Requests analysis of buffer zones which would exclude foreign vessels around certain ports in order to stimulate shoreside processing expansion.

1981 Resolution 19 and 1982 Resolution 15 — OCS Funds for Fishery Programs.

Requests that a portion of OCS funds be obligated to fishery programs and related activities. Presently the concern is that fishery and related agencies be consulted and/or actively participate in statewide planning for the use of these funds.

STATUS REPORTS OF PMFC ACTIVITIES

Marine Recreational Fishery Statistics Survey

The Marine Recreational Fishery Statistics Survey (MRFSS) will have completed 4-1/2 years of field work on the Pacific coast in December 1983. Although data processing has been behind, the 1979 and 1980 expanded data tables are now complete. These reports are ready to go to press for distribution sometime in 1984. The processing of 1981, 1982 and 1983 data will be completed in 1984.

The expanded catch estimates for 1980 for the four survey subregions are as follows:

Southern California	29.9 Million Fish
Northern California Oregon	26.6 Million Fish
Washington	2.5 Million Fish
	9.2 Million Fish
	Total 68.2 Million Fish

PMFC will publish a volume in their Bulletin series that will be a compilation of about 15 papers addressing marine recreational fisheries along the Pacific coast. The data for these papers has been collected as part of the MRFSS.

PMFC will again be working with the States of California, Oregon and Washington to conduct the field interviews of anglers in 1984.

Regional Mark Processing Center

The work of the Regional Mark Processing Center consists of two discrete but interrelated functions. These include maintaining and upgrading regional data bases for coded wire tags (CWT) and finmarks, and facilitating regional coordination of tagging and finmarking studies.

In the area of Data Management, substantial progress was made in maintaining and upgrading the regional data bases for CWT releases and recoveries. The annual CWT Release Report and the Mark List reports were published on schedule in March, 1983. No recovery reports were published because of problems experienced in obtaining finalized recovery data from recovery agencies.

All States made significant strides in eliminating problems that have created the backlog of recovery data. Alaska Department of Fish and Wildlife centralized all tag recovery work in the Juneau office and hired a programmer to concentrate attention on data processing programs. Oregon Department of Fish and Wildlife hired new personnel with specific responsibilities of processing recovery data. California Department of Fish and Game, with assistance from PMFC, revamped the analysis of CDFG recovery data and expects to complete 1978 through 1982 data sets by July, 1984.

Based on these developments, the 1979,1980,1981, and possibly 1982 recovery reports will be published in 1984, thus largely realizing the goal established by the PMFC Salmon and Steelhead Committee that all States report CWT recoveries to PMFC within six months of the year's end.

Regional coordination efforts emphasized the standardization of procedures used for CWT tagging and recovery programs. Coded-wire tag usage, for example, has expanded dramatically. Over 24 million salmon and steelhead are tagged annually at a cost of over one million dollars. An additional 4.5 million dollars is expended coastwide for tag recovery programs in U.S. and Canadian commercial and sport fisheries. Given the regional importance of CWT data to management and research, and the substantial cost involved in both tagging and recovery, it is important that the results produced are valid as well as being cost-effective.

Two ad hoc PMFC committees were established in 1983 to deal with major problem areas jointly identified by the two CWT workshops held in 1982. The first, a special "Statistical Committee," composed of statisticians and researchers, was given the task of seeking solutions to statistical problems which remain unresolved. The second was an Oversight Committee for coastwide stock evaluation.

The problems facing the Statistical Committee are basically four:

1) Develop statistical procedures for estimating variance and the relative contribution of its components for CWT recoveries.
2) Determine the adequacy of CWT studies for assessing stock contribution rates.
3) Develop statistically valid estimation procedures for pooling time and area strata, and for handling CWT recoveries from multiple catch area landings.
4) Develop guidelines for minimum CWT tagging and sam pling rates.

Frank de Libero was contracted to commence work in August, 1983 (18 man months) on these statistical problems, with guidance provided by the Statistical Committee. The USFWS and the States provided $194,000 (89-304 funds) for the study. Progress was substantial in 1983 and included:

1) Recovery data for 1971-1977 chinook and 1971-1978 coho broods (except California data) were selected, edited, and loaded on the University of Washington computer.
2) The data were merged into an aggregated data base by tag code for both "observed" and "estimated" numbers of recovered chinook and coho tags.
3) Multi-year summary reports (i.e., brood reports) have been generated from the aggregated data for both ob served and estimated recoveries. Preliminary reports were distributed in October, 1983.
4) Preliminary analyses were completed of the internal variance for replicate tag experiments. The work to be performed in 1984 will include enhancing the aggre gated data base in conjunction with the Statistical Package for Social Sciences (SPSS), and making the file available for public access via TELENET. The indi vidual recovery records also will be loaded on a large main frame data management system (SIR) at the Uni versity of Washington for further detailed statistical evaluation.

The PMFC Oversight Committee for Coastwide Stock Evaluation was established to implement the recommendation that regionally important hatchery and wild stocks be identified and adequately marked in order to access their relative contributions to the fisheries. The Committee contracted with Roy Wahle to conduct the study. The following tasks were established for this study:

1) Identify representative hatchery and natural stocks and recommend management units on an agency by agency basis.
2) Determine current coded-wire tagging efforts on an agency by agency basis, with emphasis on harvest management and natural stock tagging efforts.
3) Recommend future stock identification requirements for hatchery and non-hatchery stocks.
4) Describe problems not resolved with CWT programs and identify alternative marking solutions.

Work on this study commenced in November, 1983. Progress in 1983 includes an inventory list of the average present day numbers of chinook and/or coho spawners, plus hatchery production (where applicable), for each stream in California and Oregon. Similar data will be collected in 1984 for Washington, Idaho, British Columbia, and Alaska. Electrophoresis and scale patterns were also investigated as alternatives to coded-wire tagging for stock identification.

Effective September 15, 1983, the Adipose mark was desequestered for Columbia River Basin steelhead. Idaho, Oregon and Washington took this action with the approval of USFWS and NMFS in order that the Adipose mark could be applied as a sport management tool for identifying harvestable fish while protecting wild and developing hatchery stocks. Concurrently, the LV mark was reserved to replace the Adipose as a flag for Columbia Basin steelhead bearing a CWT in order that tag recoveries might continue in the mixed stock fisheries of the main stem Columbia River.

The new policy does not require the agencies to adipose-clip *all* harvestable stocks. Rather it permits the marking of selected stocks on a case-by-case basis without the added expense of tagging. Each agency will determine which of their stocks will be adipose-clipped and which ones will be protected. The change is expected to permit the re-opening of major sport fisheries that have been closed for years because there was no way for a selective harvest that would protect the wild stocks. A review of alternative marks indicates that the adipose clip is the best possible mark for accomplishing these management goals. The four basic reasons are as follows:

1) The mark is the easiest and quickest to apply and there fore the least costly mark.
2) The adipose exhibits the least regeneration and does not impair the fish's mobility.
3) The mark is highly recognizable and usually visible be fore the fish is landed.
4) All other fin marks appear to result in higher mortality.

The policy change will pose some problems for research studies currently underway because of the overlap of returning tagged and untagged steelhead with the ad-clip during 1985 and 1986. The greatest sampling problem will occur in the Indian fisheries in Zone 6 between Bonneville and McNary Dams. The concerned agencies are confident that the transition period problems can be resolved satisfactorily.

Work continued on the development of a coded-wire tag procedures manual. Major chapters on experimental design for multiple comparison studies and for stock assessment studies were completed and reviewed by statisticians and scientists/ managers. The manual will be published in 1984. A modular form (loose leaf binder) will be used to accommodate inclusion of the statistical work underway by Frank de Libero and other information as it becomes available.

ADMINISTRATIVE REPORTS AND ACTIONS

Executive Committee Actions

The Executive Committee met on July 19 and November 7, 1983 and took the following actions:

1. Unanimously approved the 1984 fiscal year budget of $274,257 and the $75,000 addition for coded-wire tag studies.
2. Approved the revised 1983-85 biennial budget. The follow ing are the augmentations totalling $134,500:
   a. Matching funds of $75,000 for coded-wire tag studies.
   b. Funding of $8,000 for an additional in-state meeting of Commissioners and Advisors prior to the Annual Meeting.
   c. Addition of a full-time Secretary/Bookkeeper to the PMFC headquarters staff ($29,000).
   d. Additional four months support for PMFC activities to assist the Executive Director ($14,500).
   e. Additional professional services support for Chuck Woelke to coordinate the Pacific Coast Data Commit tee ($8,000).
3. Approved the list of new Advisors for 1984.
4. Approved Washington State as the site of the 1984 Annual Meeting.

Executive Director's Report for 1983

/. Legislative Advocacy and Resolution Implementation

The Staff was quite busy after the 1982 Annual Meeting and in the following months sending extensive correspondence to Congress, Federal agencies and others urging implementation of the *21* resolutions adopted last year. Work is still continuing on these resolutions. Some have been fully or partially implemented and for others, little or no action has been taken in response to your requests. This is evidenced by the number of proposals before you this year to reaffirm and strengthen past resolutions.

The Staff again this year spent a lot of time arguing in Congress for restoration of funding for fishery programs of critical importance to the States which have been eliminated annually in the President's budget. The current budget status for the Department of Commerce and Interior are as follows:

COMMERCE

The results of the House-Senate conference on the Commerce budget held on October 31 are as follows in terms of gains or losses compared to FY 83:

Regional Councils	-$300,000
Columbia Hatcheries	level
Buy Back Program	level
Enhancement Planning	level
Commercial R & D Grants	level
Anadromous Fish Grants	-$200,000

The budget must now be passed by both Houses and signed by the President.

INTERIOR

The Interior budget was passed by Congress in October and is yet to be signed by the President. It included the following appropriations for State grants:

	(millions of dollars) FY 84	FY 83
Anadromous Fish Grants	4.0	3.5

For the first time, Idaho will be eligible to receive Anadromous Fish Act funding, a provision achieved by Idaho Senator McClure in conference on the Interior budget. For FY 84, Idaho will receive a special direct allocation of up to $500,000. In future years Idaho would compete with the other States for funding based on priority of projects submitted. This program requires a 50% State match. The D-J Expansion legislation has been passed by the House and recently approved by the Senate Finance Committee. It is awaiting approval by the full Senate. If passed, this legislation will triple the amount of funds available for recreational fishery programs (from $35 million to $110 million). These funds require a 25% State match. Funds would become available inFY85.

We also spent considerable time in preparing and submitting testimony on OCS revenue-sharing legislation which, when enacted, will provide significant revenues to certain States. Unfortunately, we have not convinced the Congress to earmark funds for fisheries programs, and there is concern that these funds will replace the current fishery grant-in-aid programs. This issue is before you again this year as a proposal to reaffirm a past resolution.

//. Regional Fishery Data Programs

PMFC continued to coordinate coastwide data consolidation programs, including (1) the Pacific Fishery Information Network which currently is providing in-season estimates of groundfish landings for Pacific Council Management, (2) the Pacific Area Creel Census for the National Marine Recreational Fishery Statistics Program, (3) the printing and distribution of new Trawl and Joint Venture logbooks with a standard coastwide format, and (4) the regional coordination of coded-wire tag programs. This year, we have taken some new efforts to improve the coded-wire tag data base for salmon and steelhead which supplement ongoing efforts. These efforts include:

A. continued management of the coded-wire tag data base for the Pacific coast States and Canada;
B. regional coordination of marking studies; and
C. the joint Washington-Oregon tag recovery project for the Columbia River funded by BPA. Major new

efforts in CWT coordination include:

A. Employment of a biometrician, Frank de Libero, and creation of a CWT Statistical Committee to improve the design of CWT experiments, sampling programs and estimation procedures. Results of this investigation are expected in early 1985.
B. Employment of a biologist, Roy Wahle, and creation of an oversight committee to prepare a coastwide salmon tagging plan which would improve the data base for fishery management.
C. Development of a tri-state policy for the Columbia Basin which would allow release of adipose-clipped steelhead without coded-wire tags as a management tool to protect weak steelhead stocks. Under the policy, anglers would retain only those fish with a clipped adipose fin.

///. Other Major Efforts

In addition to legislative and data activities, the Commission pursued other major activities in 1983. We continue to participate in both management and enhancement planning activities pursuant to the Salmon and Steelhead Conservation and Enhancement Act of 1980. On the management side, John Harville is a member of the Salmon and Steelhead Advisory Commission which must prepare a report for the Secretary of Commerce recommending an improved management structure for Northwest salmon and steelhead. This report will be completed in early 1984. PMFC's Executive Director is a member of the Planning Team that advises the Commission. PMFC provides contract accounting services for the Commission and its Director, Dr. Peter Bergman.

On the enhancement side, PMFC provides a similar contract service for coordination of enhancement planning, plus we recently employed Dr. Derek Poon to serve as the Coordinator of the effort. Dr. Poon's work is guided by the Enhancement Planning Team composed of the relevant State, Federal and tribal members. Dr. Poon and the Team will be developing one or more enhancement plans which will delineate a process and criteria by which enhancement proposals will be judged.

As the U.S. member of the Canada/U.S. Groundfish Committee, PMFC attended the "Parent" Committee meeting in January and the Technical Subcommittee meeting in June. At the request of this Committee, PMFC sponsored and conducted two groundfish age determination workshops in April and August of 1983 with the objective of reaching coastwide consensus on techniques and methods for aging rockfish in order to reduce variability among agencies. A manual is being drafted by workshop participants which will facilitate standardization of the application of techniques. Chuck Woelke will give a brief report on the age workshops.

Under auspices of PMFC and its Shellfish Committee, a Shellfish Disease Subcommittee recently finalized an agreement on procedures governing transfer of shellfish among states to prevent spreading of pests, predators and disease harmful to shellfish. The agreement has been approved by staff representing Alaska, Washington, Oregon, California, Hawaii and Canada and is now undergoing review by the respective agencies. To date, California, Oregon and Washington have approved the agreement. Ron Westley presented a more detailed report on this during the report session.

PMFC recently agreed to handle the BPA contract to employ five individuals in the Water Budget Center who work for the two Water Budget Managers. The Power Council's Fish and Wildlife Plan established a Water Budget Program to increase survival of juvenile migrating salmonids in the Columbia Basin. The PMFC employees include two biologists, a field operations coordinator, a secretary, and a data manager. Finally, the PMFC Executive Director continues to serve as a non-voting member of the Pacific and North Pacific Fishery Management Councils.

On October 29, 1983 at FISH EXPO in Seattle, a panel of PMFC Commissioners, Advisors and Congressional Staff was convened to discuss ways of improving the effectiveness of PMFC, especially in its legislative advocacy role. The panel reviewed the strengths of the Commission which make it a useful forum for input to Congress. First the geographic representation in PMFC is coastwide, including Alaska, transcending the jurisdiction of the two regional councils. Second, because of the resolution process used by the Commission, it speaks for many diverse interest groups and the States at the same time on pervasive regional fishery issues. Finally, the Commission is not limited to certain issues. Resolutions can and have addressed a myriad of fishery problems, including funding, fishery development, fishery management, habitat protection and enhancement, etc. Moreover, the target of a resolution is not restricted, i.e., it can address any State agency or legislature and any Federal agency as well as Congress.

The panelists discussed the strengths and weaknesses of the Commission and offered constructive comments on how it might be improved. Major conclusions were:

- PMFC is a very useful forum to discuss regional issues and to arrive at a consensus, which is a key to effective Congressional input.
- There is a need to establish priorities given the number of resolutions, and to more aggressively implement the resolutions through frequent follow-up with Congres sional Staff.
- PMFC Staff should improve communications with its constituents, solicit more grass-roots input into the re solution process and increase awareness of adopted policies of the Commission.

In the ensuing months the Secretariat will be exploring the best means of implementing these recommendations, within the financial constraints of the Commission's budget.

Treasurer's Report

The Treasurer, Gerald L. Fisher, presented the Reports of Receipts and Disbursements for the period October 1,1982 to October 1,1983 at the Annual Meeting in Boise (see Appendix 1 — Financial and Audit Reports). Receipts were: (1) member States contributions of $106,000; (2) external contract payments of $2,069,519.76; (3) interest of $9,982.90. Disbursements totaled $2,167,953.95 divided between PMFC general support of $241,522.98 and external contract expenses of $1,926,430.97. The audit report for the fiscal year ending June 30,1983 found the financial statements of the Commission to be in satisfactory condition.

The Treasurer further reported that the Executive Committee had approved a revision to the 1983-85 biennal budget. The revision was an augmentation of $134,500 which brings the revised 1983-85 budget to $705,380. These augmentations are summarized under "Executive Committee Actions."

Publications in 1983

The PMFC document entitled *Releases of Coded-wire Tagged Salmon and Steelhead from Pacific Coast Streams Through 1982,* published in March 1983 is the tenth of a series of annual reports tabulating all the various codes used by federal, state, indian and private agencies for coded-wire tags in the Pacific Coast States. The report lists all previously used codes, necessary corrections and all the new codes used in 1982. This report replaces all previous release reports and is the most current data available prior to publication of the eleventh report in the series about March, 1984.

The 1983 *Mark List,* also published in March, contains a record of all groups of salmon and a selected group of steelhead (primarily from the Columbia River Basin) that had been finmarked prior to their release.

A special publication entitled *The Pacific Marine Fisheries Commission: Its Composition, Objectives and Recent Achievements* was published in September, 1983. This useful publication explains what PMFC is and what it does. Copies are available to the public from the PMFC office in Portland. The accomplishments of PMFC under the former executive director, Dr. John P. Harville, are also reviewed in the publication as is the difference between PMFC and the Pacific Fisheries Management Council (PFMC).

The *35th Annual Report of the Pacific Marine Fisheries Commission* for the year 1982 was published and distributed in June 1983. In addition, the 38th and 39th issues of the *PMFC Newsletter* were published in August and December, respectively. The latter issue provided a review of the 1983 Annual Meeting Resolutions. Beginning in 1984, the *PMFC Newsletter* will be published quarterly.

The *Marine Recreational Fishery Statistics Survey Newsletter* was published in July.

1984 ANNUAL MEETING

The 1984 Annual Meeting will be held on November 26-27, 1984 in Seattle, Washington at the Seattle Airport Hilton.

PERSONNEL

The following were Commissioners during all or part of 1983:

Alaska
Dr. Don Collinsworth, Juneau—1st Vice Chairman
Honorable Richard I. Eliason, Sitka Charles H. Meacham, Anchorage

California
H. D. (Don) Carper, Sacramento—Secretary
Honorable Barry Keene, Eureka Stephanie Thornton, Oakland

Idaho
Jerry M. Conley, Boise—Chairman
Norman H. Guth, Salmon Keith Stonebraker, Lewiston

Oregon
Dr. John R. Donaldson, Portland—3rd Vice Chairman
Don Christenson, Newport Phillip W. Schneider, Portland

Washington
Rolland Schmitten, Olympia—2nd Vice Chairman
Honorable Brad Owen, Shelton Robert D. Alverson, Seattle

The following were PMFC Coordinators in each State for 1982:

Alaska
Guy Thornburgh, Manager, Extended Jursidiction, Alaska Department of Fish and Game

California
Mel Odemar, Coordinator, State-Federal Fisheries Management Program, California Department of Fish and Game

Idaho
Monte Richards, Bureau of Fisheries, Idaho Department of Fish and Game

Oregon
Kirk Beiningen, Executive Assistant, Oregon Department of Fish and Wildlife

Washington
Frank Haw, Assistant Director, Washington Department of Fisheries
Sam Wright, Chief, Harvest Management, Washington Department of Game

PMFC's State Coordinators facilitate all aspects of PMFC programs within their State agencies. They constitute a scientific/management advisory body to PMFC's Secretariat and assure appropriate communications among PMFC and agency personnel and the State's PMFC Advisors.

The following served as Advisory Committee members during all or part of 1983:

Alaska
Larry Powell, Yakutat—Section Chairman
Nevan May, Ketchikan
Ole Harder, Kodiak
Pete Isleib, Cordova
Jev Shelton, Juneau
Gordon Williams, Angoon
Andy Mathisen, Petersburg

California
Rob Ross, Sacramento—Section Chairman
Frank Mason, San Diego
Tony West, San Pedro
Jerry Thomas, Fields Landing
Roger Thomas, San Jose
Paul Wood, Bodega Bay
Carl Nettleton, San Diego

Idaho
Fred Christensen, Nampa—Committee and Section Chairman
Louis F. Racine, Jr., Pocatello E. G. Thompson, Sandpoint

Oregon
Frank Warrens, Portland—Section Chairman
Theodore Bugas, Astoria
Henry Pavelak, Albany
Joe Easley, Astoria
Jim Sugg, Charleston
John Marincovich, Astoria

Washington
Earl Engman, Tacoma—Section Chairman
Philip Anderson, Westport
Barry Collier, Seattle
Richard D. Powell, Longview
Guy McMinds, Tahola
Rudy Peterson, Seattle
Ted Smits, Seattle

Elections were held at the 1983 Annual Meeting to select the Commission's Officers and the Advisory Committee's Steering Group for 1984. The following officers were elected for 1984:

Chairman—
Bill Wilkerson, Director
Washington Department of Fisheries 1st
Vice Chairman—
Dr. Don Collinsworth, Commissioner
Alaska Department of Fish and Game
2nd Vice Chairman—
Dr. John R. Donaldson
Oregon Department of Fish and Wildlife
3rd Vice Chairman—
H. D. (Don) Carper, Director
California Department of Fish and Game
Secretary—
Jerry M. Conley, Director
Idaho Department of Fish and Game

The 1984 Steering Group is composed of:

Committee and Washington Section Chairman—Earl Engman
Alaska Section Chairman—Pete Isleib California Section
Chairman—Rob Ross Oregon Section Chairman—Frank
Warrens Idaho Section Chairman—Keith Stonebraker

During 1983 the PMFC Secretariat was composed of:

Lawrence D.Six—Executive Director
Gerald L. Fisher—Treasurer
Dr. John P. Harville—External Affairs Consultant
Russell G. Porter—Staff Assistant, Marine Recreational Fishery
Statistics Coordinator Dr. J. Kenneth Johnson—Regional
Mark Processing Center Data
Manager
Pam Kahut—Administrative Assistant
Faith Cory—Secretary Jan Covert—
Secretary/Bookkeeper

Assisting the staff part-time was:

Leon A. Verhoeven, Consultant

APPENDIX 1—FINANCIAL AND AUDIT REPORTS

1983 Financial Statement

The Commission receives its financial support from legislative appropriations made in accordance with Article X of the Interstate Compact (creating the Commission) in which the signatory States have agreed to make available annual funds for the support of the Commission as follows: eighty percent (80%) of the annual budget is shared equally by those member States having as a boundary the Pacific Ocean; and five percent (5%) of the annual budget is contributed by each other member State. The balance of the annual budget is shared by those member States having as a boundary the Pacific Ocean, in proportion to the primary market value of the products of their commercial fisheries on the basis of the latest 5-year catch records.

TREASURER'S REPORT OF RECEIPTS AND DISBURSEMENTS

October 1,1982 to October 1,1983

CASH BALANCE October 1, 1982 (November 1982 Treasurer's Report)		
RECEIPTS:		
Contributions by Member States:		
Alaska (FY 1984)		$ 29,800.00
California (FY 1984)		25,600.00
Idaho (FY 1984)		5,300.00
Oregon (FY 1984)		22,200.00
Washington (FY 1984)		23,100.00
Other Receipts:		
Columbia Basin Fish & Wildlife		$ 43,900.00
National Marine Fisheries Service		1,471,339.21
Oregon Department of Fish & Wildlife		100,487.31
Washington Department of Fisheries		262,688.82
Bonneville Power Administration		190,987.53
Miscellaneous		116.89
Interest on Saving Certificates		
DISBURSEMENTS:		
Annual Meeting, November 1982, Monterey		
Commissioners		$ 7,362.44
Advisory Committee		12,024.83
Admin. & Research Staffs		12,905.17
Tape Recording & Room Rental		3,290.90
Salaries & Wages		
Retirement & Social Security		
Medical, Dental & Life Insurance		16,489.24
Travel Expenses, Special Meetings & Unclassified		10,033.56
Office Supplies & Maintenance		8,426.96
Telephone & Telegraph		4,411.75
Postage, Freight, Express		7,991.05
Rent, Space & Equipment		16,645.88
Printing & Publications		4,854.00
Bond, Accident & Liability Insurance Premiums		4,533.09
Library Supplies		518.17
Capital Outlay		2,725.00
Professional Services		10,232.11
Cooperative Research:		
Otolith Reader, CWT Study & Regional Mark Center Projects		31,015.58
Other		599.65
Subtotal State Funded Expenditures		$ 241,522.98
External Contract Expenditures:		
Councils Liaison (PMFC & ODFW)	$ 60,382.80	
BPA & NMFS-Columbia River Smolt Coordination	69,525.40	
Wash. Coastal Sampling & Evaluation	168,789.25	
Federal and Oregon Shares of Salmon Maturity Study	5,823.13	
NMFS-Salmon & Steelhead Act Coordinator	147,918.98	
Federal Share of Otolith Readers	25,623.73	
NMFS-Regional Mark Center	29,890.77	
NMFS-Marine Recreational Survey	537,242.07	
NMFS-State/Federal Relations	16,962.36	
NMFS-Albacore Logbook & Port Sampling	36,633.89	
NMFS-Swordfish Sampling	—	
BPA-Columbia River Tag Recovery	242,570.43	
NMFS-Compatible Coast-wide Fisheries Info.	280,003.35	
Columbia Basin Fish & Wildlife Council	52,512.71	
NMFS-West Coast Monitoring/Stats. Program	238,942.36	
Other	13,609.74	
Subtotal External Contr. Expenditures	$1,926,430.97	
Total Disbursements		$2,167,953.95
CASH BALANCE, September 30, 1983		111,191.74
		$2,279,145.69 $2,279,145.69

REVISED BIENNIAL BUDGET FOR JULY 1,1983—JUNE 30,1985

Salaries & Wages	$234,207
Fringe Benefits:	
Industrial Accident Insurance	2,167
Social Security	13,970
Retirement Pension Annuity	10,933
Medical & Dental Insurance	13,511
Unemployment Compensation Payments	10,000
Group Life Insurance	2,693
Subtotal Personnel Services	$287,481
General Operation & Maintenance	
Office Supplies	$ 16,830
Telephone & Telegraph	9,300
Postage	8,400
Rent—Headquarters Office	34,300
Blanket Fidelity	550
Accounting Fees: Independent Audit	8,600
Travel (not otherwise classified)	15,600
Library Supplies	1,500
Miscellaneous	230
Equipment Maintenance	6,600
Professional Services	28,000
Libability Insurance	10,800
Subtotal General, Operating & Maintenance	$140,710
Annual Commission & Staff Meetings	
Advisory Comm.—Travel Expenses	$ 32,845
Commissioners—Travel Expenses	15,413
Res. & Mgt. —Travel Expenses	25,449
Admin. Staff—Travel Expenses	5,692
Mtg. Rms., Steno, Sound Rec'd	3,000
Pre-mtg. In-State	10,000
Spring and Special Meetings	
Executive Comm.—Travel Expenses	2,000
Mtg. & Res. Special Meetings	10,000
Subtotal—Meetings	$104,399
Publications	
Annual Report	$ 8,800
Subtotal—Publications	$ 8,800
Cooperative Research & Management	
CWT Projects—33% Match Share	$ 75,000
Otolith Reader—25% Match Share	22,700
Mark Center—33% Match Share	63,800
Subtotal—Coop. Res. & Mgt	$161,490
Capital Outlay	2,500
TOTAL EXPENDITURES	$705,380

REVENUE

Interest Income	$ 15,000
External Contracts—Indirect Costs	267,679
State Contributions:	
Alaska	59,600
California	51,200
Idaho	10,600
Oregon	44,400
Washington	46,200
State Contributions Subtotal	$212,000
Total Revenue	$494,679
Balance Available from Previous Year	$270,612
Total Available	$765,291
Less Expenditures	705,380
Amount Carried Forward toJMext Year	$ 59,911

CAHALL, FEIFERS & NOLAN
Certified Public Accountants
10700 S.W. Beaverton Highway, Suite 500
Beaverton, Oregon 97005
September 6,1983

The Board of Commissioners Pacific
Marine Fisheries Commission Portland,
Oregon

We have examined the statement of assets and liabilities arising from cash transactions of Pacific Marine Fisheries Commission as of June 30,1983, and the related statements of revenues collected and expenditures, changes in cash position and changes in fund balance for the year then ended. Our examination was made in accordance with the General Accounting Office "Standards for Audit of Governmental Organizations, Programs, Activities and Functions," the "Guidelines for Financial and Compliance Audits of Federally Assisted "Uniform Administrative Requirements for Grants-in-Aid to State and Local Governments," and OMB Circular A-122, "Cost Principles for Non-Profit Organizations" and generally accepted auditing standards and, accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As described in Note 8, the Commission's policy is to prepare its financial statements on the basis of cash receipts and disbursements, with the exception of the accrual of expenses in the General Fund. Consequently, certain revenue and related assets are recognized when received rather than when earned in all funds, and certain expenses are recognized when paid rather than when the obligation is incurred in the special projects funds. Accordingly, the accompanying financial statements are not intended to present financial position and results of operations in conformity with generally accepted accounting principles.

In our opinion, the financial statements referred to above present fairly the assets and liabilities arising from the cash transactions of the Pacific Marine Fisheries Commission as of June 30,1983, and the revenue collected and expenditures during the year then ended on the basis of accounting described in Note 8, which basis has been applied in a manner consistent with that of the preceding year.

Cahall, Feifers & Nolan

BALANCE SHEET JUNE 30,1983

	General Fund	Property Fund	Unemployment Fund
CURRENT ASSETS			
Cash on hand and in savings	$ 89,536		$ 4,442
Receivables: Due from			
Washington Department of Fisheries—			
Otolith Project	8,361		
Freshwater Trapping	7,608		
Ocean Salmon Sampling	35,669		
Due from National Oceanic and Atmospheric Administration—			
Contract #83-ABH-0006	3,054		
Contract #83-ABD-00006	1,767		
Contract #79-ABC-00260	8,303		
Contract #82-ABC-00116	2,634		
Contract #82-ABC-00121	1,449		
Contract #82-ABC-00160	3,607		
Contract #82-ABH-83	1,242		
Contract #82-ABD-PM1 B	6,900		
Contract #82-ABD-109	3,105		
Contract #82-ABH-107	11,489		
Contract #83-ABC-00090	14,947		
Due from Oregon Department of Fish and Wildlife-Council Support	10,961		
Due from Bonneville Power Administration—			
Salmonid Coded-Wire Tag	19,475		
Salmonid Coded-Wire Tag	33,595		
Smolt Monitoring Program	43,329		
Due from Columbia Basin Fish and Wildlife Council	4,219		
Prepaid expense	975		
Miscellaneous accounts receivable	3,978		
FIXED ASSETS			
Investment in furniture and equipment		$116,968	
Total assets	$316,203	$116,968	$ 4,442
LIABILITIES			
Accrued liabilities	$ 7,732		$ 3,978
Unexpended grant funds: National Oceanic and Atmospheric Administration—			
Contract #79-ABC-00175	389		
Contract #03-78-M02-295	2,782		
Contract #81-ABD-PM1B	4,792		
Contract #81-ABD-PM1C	1,387		
Contract #83-ABH-0007	26,156		
Total liabilities	43,238	—	3,978
FUND BALANCES			
General fund balance	272,965		
Property fund balance		116,968	
Unemployment fund balance			464
Total liabilities and fund balances	$316,203	$116,968	$ 4,442

APPENDIX 2—PACIFIC COAST FISHERY REVIEW REPORTS

Albacore Fishery in 1983

The 1983 albacore catch by U.S. vessels fishing off the Pacific Coast is estimated at 20,000,000 pounds. This is nearly twice the 1982 catch and approximately one-half of the 25-year average (Table 1). Washington landings totalled 1,149,000 pounds, an increase of 577,000 pounds above 1982 landings. Oregon's landings of 3,392,000 pounds were 1,493,000 above 1982 landing levels. California experienced the largest increase in albacore landings where the estimated 15,458,000 pounds represent an increase of 6,019,000 pounds from 1982 (Figures 1 and 2). U.S. vessels fishing in the Central North Pacific landed an additional 1,450,000 pounds in Hawaii.

Table 1. Albacore landings in California, Oregon and Washington (in thousands of pounds)

Year	California	Oregon	Washington	Total
1958	27,188	9,754	1,503	38,445
1959	32,740	10,574	2,961	46,275
1960	35,113	4,563	526	40,202
1961	29,123	3,250	456	32,829
1962	36,622	8,949	365	45,936
1963	48,860	11,400	527	60,787
1964	42,551	4,452	1,055	48,058
1965	23,218	12,122	2,048	37,388
1966	18,189	18,041	1,101	37,331
1967	17,858	29,243	1,240	48,341
1968	15,077	37,752	3,050	55,879
1969	14,722	29,828	1,240	48,111
1970	29,932	21,782	4,390	56,104
1971	36,117	8,420	5,250	49,787
1972	21,001	23,056	16,238	60,295
1973	8,641	16,350	14,446	39,437
1974	11,806	25,225	17,983	55,014
1975	15,413	17,166	16,297	48,876
1976	27,754	5,932	7,202	40,890
1977	15,905	4,425	4,948	25,278
1978	21,000	11,248	5,008	37,256
1979	8,187	3,105	830	12,122
1980	9,500	3,250	1,299	14,049
1981	19,463	7,164	1,928	28,555
1982	9,439	1,899	572	11,910
25-year average	22,998	13,158	4,498	40,654
1983	15,458*	3,392*	1,149*	19,999

* Preliminary

Conditions Affecting the Fishery

Market conditions during 1983 were more favorable than those in 1982 which greatly curtailed fishing effort. The cannery price settled on in late June was $975 per ton for fish less than 9 pounds and $1250 per ton for fish greater than 9 pounds. This is down from $1425 per ton paid at the start of the 1982 season and considerably lower than the 1980 high of $1800 per ton.

Oceanic phenomena associated with El Nino also affected the U.S. albacore fishery. The southern California fishery started early, however the thermocline was depressed 25 to 30 meters. This resulted in fish not concentrating on the surface and were therefore less vulnerable to jig vessels. Also, the decrease in offshore winds in the Pacific Northwest resulted in reduced upwelling and fewer well-defined temperature edges along which albacore concentrate. Fish concentrations and fishing effort were therefore often very scattered. **California**

The California albacore fishery for 1983 began in late May with minor scattered catches taken from west of San Juan Seamount out to the Erben Bank area. By early June, long-range sport boats fishing approximately 150 miles due south of Point Loma reported catches of 200 to 700 fish per boat per day. Fish ranged from 14 to 30 pounds with a 22-pound average. Through mid-June, fishing continued in the same area with commercial-bait and sport boats having good success and jig boats faring poorly.

By early July, fishing off Guadalupe Island was producing catches of 20 to 70 fish per day for jig boats and 1-2 tons per day for bait boats. Fish were divided into the 12-pound and 20-pound size classes. By mid-July, fishing was scattered along the coast with the best area for albacore off Tillamook Bay, Oregon. Some good catches were also reported 30 miles west of Trinidad Head with fish averaging 18 pounds. At this time, fishing also picked up farther offshore. Catches of 150 to 400 pounds fish/boat/day of fish averaging 13-15 pounds were reported from as far offshore as 1500 miles west of Fort Bragg. Toward the end of the month, fishing activity had been reported near the 60-Mile and Cortez Banks. Boats were also fishing 15-18 miles off Morro Bay, north of San Simeon. Catches ranged from 200 to 300 fish/boat/day with a 12 pound average fish weight. Water temperatures ranged from 60 to 65 degrees Fahrenheit from off central California to off northern Baja.

At the beginning of August, there was scattered fishing along the entire coast. Poor weather close to the coast hampered fishing effort in the nearer-shore areas, but the fleet fishing 1200 miles offshore had catches of three fourths to one and a half tons per boat/day. By mid-month, the best fishing was off Morro Bay. Later in the month, fishing had moved to 10-80 miles off Morro Bay and 25-80 miles off Point Arguello. Fish were also found 20 to 40 miles off San Simeon up to Trinidad Head. Reported water temperatures averaged 64 degrees Fahrenheit for most of the waters off central California. All in all, good fishing was reported along most of the central California coast. By the end of August, fish were also being taken off Point Conception and Santa Barbara with 26-pound fish dominating catches over Rodriquez Dome.

During early September, fishermen working more southerly waters moved north to the Monterey area, in and around the Pioneer and Guide Seamounts. By mid-month, there was still some fishing off northern California, however, poor weather conditions had halted most effort. By the end of September, scattered fishing occurred in the area of Point Sur and Davidson Seamount. Catches ranged from 50-100 fish/boat/day, mostly in the 20-pound size class with some 6-8 pound fish.

In October, fishermen had some success in the Point Sur-Monterey area, but toward the middle of the month, the effort in California slowed dramatically. Most of the vessels landing albacore at the end of the month were coming in from the offshore fishery.

Spotty landings continued into November, but by the middle of the month, the California albacore fishery for 1983 was essentially over, although albacore continued to be sporadically caught by drift gill net fishermen in the southern California bight through the end of December. Landings for 1983 total 15,457,980 pounds. This is 6,019,000 pounds above 1982 landings and approximately 67% of the 25-year average. **Oregon**

A few scattered albacore catches were made 80 miles off Cape Blanco and 100 miles off Newport in early July. By mid-July, the best catches were made off the southern Oregon area where 50 to 150 fish per boat day were reported. At the same time, catches around the Columbia River dumping grounds averaged 40 to 80 fish/boat/day. Fishing was scattered along the coast as the month ended with catches averaging 20 to 80 fish/boat/day with some catches up to 200 fish. July landings were 299,827 pounds.

Effort was high in early August. Fish were scattered from 50 to 150 miles offshore, but catches averaged only 20 to 80 fish/boat/day with few scores of 100 or more fish reported. Fishing effort declined as the month progressed and catches declined to

the point where many boats left the area. August landings in Oregon amounted to 1,268,923 pounds.

The first two weeks of September were the best of the season as catches increased to 200 to 300 fish/boat/day in the area 35 to 120 miles offshore from Newport to the Columbia River. During mid-month, weather worsened and sent most boats into port, and when they returned, fishing success had dropped dramatically causing most boats to quit fishing or move out of the area. September landings were 1,460,932 pounds.

There was very little fishing off Oregon in October although a few scattered catches were reported off southern Oregon about 120 miles offshore. October landings amounted to 348,996 pounds with an additional 13,421 pounds landed in November.

Total albacore landings in Oregon in 1983 were 3,392,099 pounds. This is 1,493,000 pounds higher than last year's landings, yet still 9,766,000 pounds below the 25-year average.

Washington

Washington's albacore fishery began during the latter half of July with vessels landing fish from waters off of southern Oregon northward to the Columbia River dumping grounds. Catches in the latter area averaged approximately 40 to 60 fish/boat/day with some boats reporting catches in excess of 100 fish per day. July landings in Washington were 93,215 pounds.

Fishing effort in the Pacific Northwest during August centered primarily about 50 to 150 miles off of northern Oregon to the "Willapa Fingers' off southern Washington. Reported catches were mostly lower than 100 fish/boat/day. A few boats began working the area off of Vancouver Island during early August, however catches were mostly small and scattered throughout the month. August landings totalled 264,191 pounds.

The primary center of fishing activity for Washington albacore vessels during the first part of September was 50 to 100 miles offshore of northern Oregon where daily catches of 200 to 300 fish/boat/day were reported. As the month progressed, fishing effort moved northward to Cape Flattery, Washington and Vancouver Island where boats were making catches averaging from 100 to 200 fish per day in an area 70 to 130 miles offshore. Rough weather during September curtailed much fishing effort. Landings for the month were 511,889 pounds.

Albacore fishing in the Pacific Northwest centered 30 to 300 miles west of Vancouver Island during the early part of October with catches reported of 50 to 100 fish/boat/day. Most Washington albacore vessels had concluded their season by mid-month. Although still far below the effort levels of the mid 1970s, there was some recreational harvest of albacore by charter vessels operating out of Washington ports during 1983. This fishery was almost non-existent during 1981 and 1982. October landings were 280,025 pounds bringing Washington's seasonal landings to 1,149,320 pounds which is twice the level of last year's low landings yet still 3,349,000 pounds below the 25-year average.

Compiled by Brian Culver, Washington Department of Fisheries
Other Contributors:
Larry H. Hreha, Oregon Department of Fish and Wildlife
Rhondi Weingard Nuno, California Department of Fish and Game

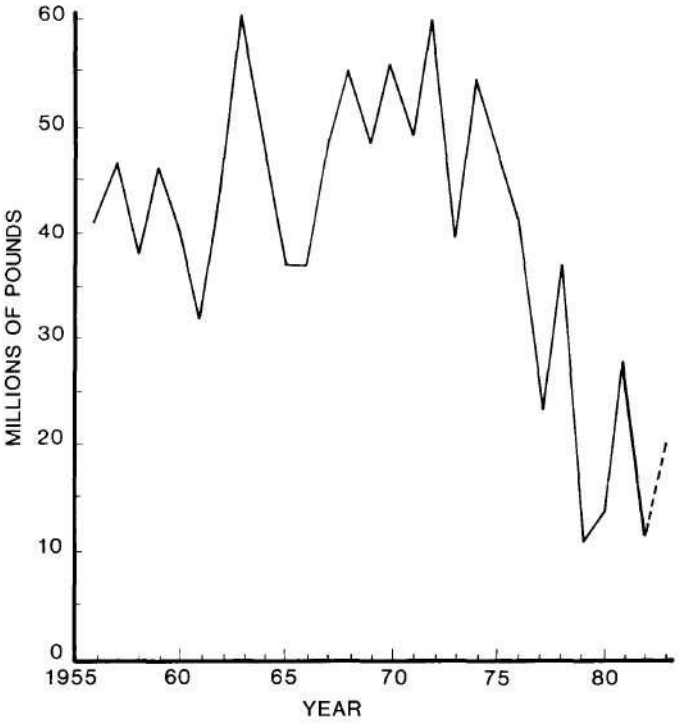


FIGURE 1. Combined annual landings of albacore in California, Oregon and Washington, 1956-1983.

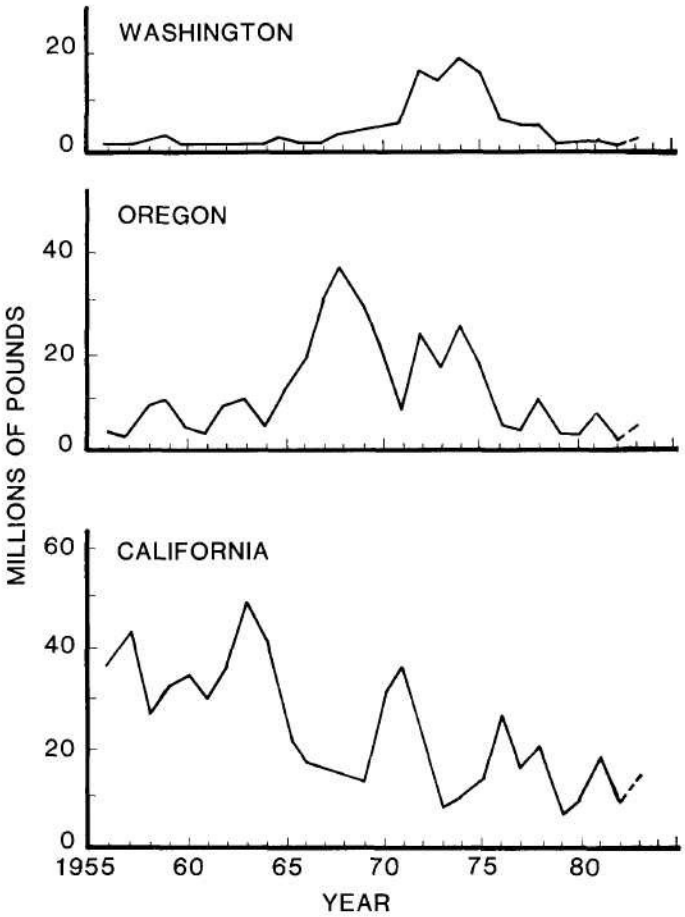


FIGURE 2. Annual albacore landings by State, 1956-1983.

Dungeness Crab Fishery, 1982-83

The 1982-83 Pacific Coast Dungeness crab landings, including Canada, were 27.4 million pounds, 13.7 million pounds below the 1981-82 catch of 41.1 million pounds. This is 12.0 million pounds below the 20-year average (1963-82) of 39.4 million pounds and 9.8 million pounds below the 10-year average (1973-82) of 37.2 million pounds. Landings in Washington (excluding Puget Sound), Oregon and California were 13.4 million pounds, 8.4 million pounds under the 1981-82 season and 7.8 million pounds under the 10-year average (1973-82) of 21.2 million pounds. **Conditions Affecting the Fishery**

Severe weather and sea conditions hampered fishing during the early part of the season resulting in high gear losses. In spite of this fishing was very intense early in the season, but dropped off rapidly for most of the season. Prices at the start of the season were about 90 cents, climbed rapidly at $1.65 and stabilized near $1.45 for most of the season. **Alaska**

Landings were 11.5 million pounds, well below the record of 16.2 million pounds in 1982, but nearly double the previous 10-year average of 6.7 million pounds. Eighty percent of the catch was from the Kodiak, Yakutat, and southeastern areas. Effort declined to 295 boats and crab condition was variable. **British Columbia**

Estimated landings of 2.8 million pounds were slightly less than for 1982. Most of the catch was from the southern area (PMFC Areas 66-68). **Washington**

Coastal landings were 4 million pounds which is a slight increase over last year, but well below the long term average of about 8 million pounds. There were 102 boats in the ocean fleet, up slightly from last year but 20-35 fewer than in the late 70s. Price started at 90 cents but rose quickly to $1.65 then declined to $1.15. The season, scheduled to close September 15, was shortened 14 days due to heavy incidence of unfilled crab.

Puget Sound landings were 1.2 million pounds. There were 300 boats participating. **Oregon**

A total of 375 boats landed 4.1 million pounds, down 50 percent from 1982. Most of the catch was landed early in the season. A rapid increase in fishing effort late in the season harvested one fourth of the total catch in six weeks. Crab condition was poor with 19 of 20 being sorted at sea. However, of that landed 30-70 percent was unfilled. The Oregon Department of Fish and Wildlife recommended that the season be closed early, but the Fish and Wildlife Commission rejected that proposal.

Price at the start of the season ranged from $.90-$1.20 and climbed to $1.70. Ironically, fishermen received $1.45 for unfilled crab. **California**

Catch declined from 10.5 million pounds in 1982 to 5.3 million pounds in 1983. By the end of January 90 percent of the catch had been landed. There were 432 boats in the fishery. Prices started at $.90 and rose to $1.53. Gear losses were severe.

The San Francisco fishery landed 575,000 pounds, a substantial increase over the 200,000 pounds of last year.

Compiled by Darrell Demory, Oregon Department of Fish and Wildlife

Other Contributors:

Jerry McCrary, Alaska Department of Fish and Game T. H. Butler, Canada Department of Fisheries and Oceans Steve Barry, Washington Department of Fisheries Ron Warner, California Department of Fish and Game

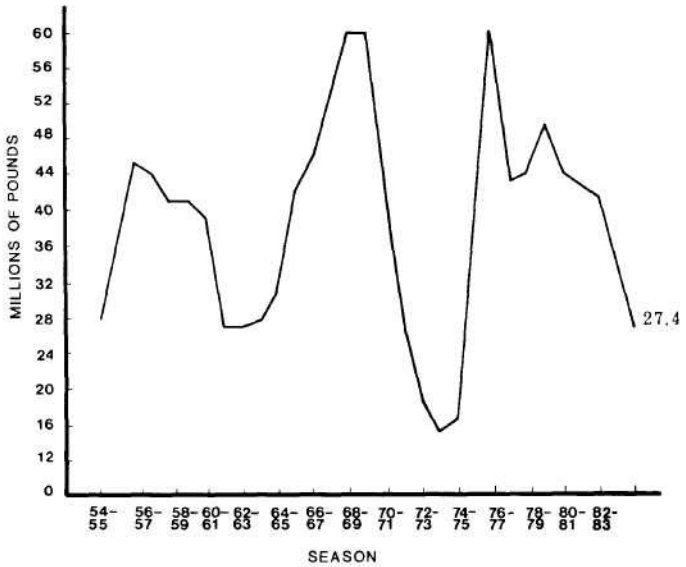


FIGURE 1. Pacific Coast Dungeness crab landings by season, including British Columbia, 1954-1983.

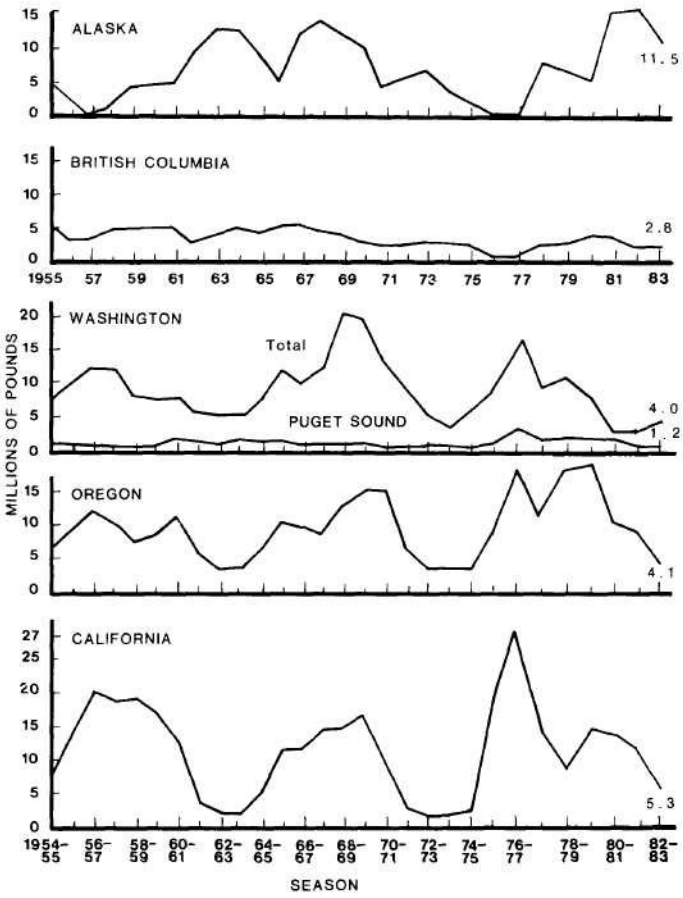


FIGURE 2. Dungeness crab landings by season, 1954-55 through 1983, except Alaska and British Columbia seasons are calender years; i.e., 1954-55 = 1955.

Pacific Halibut Fishery in 1983

Landings of Pacific halibut have increased for the third year in a row. The 1983 landings were 38.5 million pounds, 9.5 million pounds greater than the 1982 landings. The increase was brought about by larger catch limits, and catches exceeding the catch limits in four regulatory areas. The overages are attributed to increased fleet size, and increased CPUE. The use of circle hooks contributed significantly to the larger CPUE recorded this year.

The 1983 catch was valued at $42.7 million (U.S.) compared to $31.2 million (U.S.) in 1982. The catch by 349 Canadian vessels fishing off the coast of Canada was 5.4 million pounds. In United States waters a fleet of 3,300 vessels landed 33.1 million pounds. The catch by regulatory areas is given in Table 1.

Table 1. Catch of halibut by IPHC regulatory areas in 1983 (preliminary in 1,000's pounds)

Area	Canada	United States	Total
Area 2			
2A	—	265	265
2B	5,413	—	5,413
2C	—	6,375	6,375
Total	5,413	6,640	12,053
Area 3			
3A	—	14,188	14,188
3B	—	7,826	7,826
Total	—	22,014	22,014
Area 4	—	4,396	4,396
Grand Total	5,413	33,050	38,463

The Area 2 (waters south of Cape Spencer, Alaska) catch was 12.1 million pounds, 3.1 million pounds over the 9.0 million pound catch limit. The catch limit of 200,000 pounds established for Area 2A (waters of California, Oregon, and Washington) was exceeded by 65,000 pounds in two 13-day fishing periods. Area 2B (Canadian waters) produced 5.4 million pounds which was equal to the catch limit for this area. These landings were made in two 12-day fishing periods, whereas 61-days were required to take a similar poundage in 1982. A single 5-day fishing period produced 6.4 million pounds in Area 2C (waters of southeast Alaska), 3.0 million pounds over the catch limit of 3.4 million pounds.

The Area 3A (waters of the Gulf of Alaska from Cape Spencer west to Cape Trinity, Kodiak Island) catch was 14.2 million pounds just slightly above the 14.0 million pound catch limit. The catch was taken in one 7-day fishing period. In 1982 two fishing periods of 8- and 3-days were required to harvest 13.5 million pounds. The catch from Area 3B (waters between Cape Trinity and Cape Lutke, Unimak Island) was 7.8 million pounds, exceeding the catch limit by 2.8 million pounds. There were two fishing periods of 7- and 3-days in 1983. Last year 18-days were required to catch 4.8 million pounds from this area.

Area 4 (waters of the Pacific Ocean west of Cape Lutke and the Bering Sea) was divided into four separate areas dispersing fishing effort. The catch limits for the entire area totalled 2.6 million pounds, however, the removals reached 4.4 million pounds. Fishing time varied considerably in the various areas. The best fishing success was recorded from Area 4A (waters west of Cape Lutke to 172° west longitude and south of 56°21' north latitude).

The International Pacific Halibut Commission has no authority to limit entry into the halibut fishery. The North Pacific Fishery Management Council proposed a moratorium on entry of U.S. vessels into the halibut fishery at the 1982 level. The proposal was rejected by the United States government and approximately 900 new vessels entered the fishery in 1983. The Canadian government limited entry to the Canadian halibut fishery at approximately 430 licenses.

The recent history of the division of catch between Canada and the United States is shown in Figure 1. Catches fluctuated around 50/50 until 1979 when both countries extended their jurisdictions to 200 miles off shore. A phase-out period occurred in 1979 and 1980, since that time halibut fishing has been limited to the domestic fleet in the waters of each country.

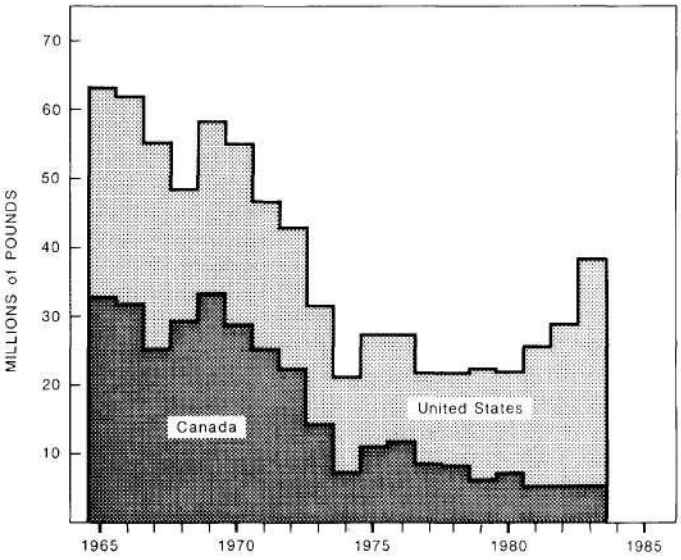


FIGURE 1. Division of Pacific halibut catches by Canada and the United States.

Estimates of stock size, CPUE, and recruitment of young fish into the fishable stocks continue to increase. These factors have prompted the International Pacific Halibut Commission staff to recommend increasing harvest levels to near the annual surplus production in some regulatory areas for 1984. The annual fleet size and fishing efficiency are expected to offset increases in catch limits and result in even shorter fishing seasons in 1984.

Compiled by E. A. Best, International Pacific Halibut Commission

Groundfish Fishery in 1983

Preliminary estimates of 1983 groundfish landings by North American fishermen fishing the Northeast Pacific ocean are 651,400 mt (1.4 billion pounds), including approximately 4,000 mt landed by recreational fishermen. This represents an increase of 177,066 mt (38%) over 1982 landings. U.S. fishermen accounted for 91% (590,954 mt) of the total landings, the remainder (60,446 mt) landed by Canadian fishermen. Trawl fishermen were responsible for 97% of the total landings (624,762 mt), while pot and longline fishermen each contributed about 1% (8,963 and 7,836 mt respectively). The remaining fish (5,839 mt) were landed by miscellaneous gears including jig, troll, gillnet and shrimp trawl. **Commercial Fishery**

Commercial groundfish landings increased sharply in 1983 predominantly on the strength of the expanding joint venture fisheries. Coastwide landings were 647,400 mt (Table 1) representing a 38% increase over the 470,334 mt landed in 1982. Domestic landings, non-joint venture landings, were either unchanged or lower in 1983 than in 1982 everywhere except Alaska.

Table 1. Total commercial groundfish landings (mt) by region for 1982 and 1983 with percent change

Region	1982 (mt)	1983 (mt)	Percent Change
Alaska	27,638	41,014	+48
Washington	43,232	43,438	0
Oregon	40,897	34,909	−15
California	51,489	41,458	−19
Joint Venture	252,602	426,135	+69
Total U.S.	415,858	586,954	+41
Canada (B.C.)	34,425	32,731	− 5
Canada Joint Venture	20,051	27,715	+38
Total Canada	54,476	60,446	+11
Total U.S.-Canada	470,334	647,400	+38

Joint venture fisheries landed 453,850 mt in 1983 or 70% of the total commercial groundfish landings (Table 4). There was a 92% increase in joint venture landings from the Gulf of Alaska and Bering Sea, a 38% increase in Canadian joint venture landings and a 6% increase in the Washinton-Oregon-California (WOC) region. Pollock, Pacific whiting and yellowfin sole remain the principal species in these fisheries.

The domestic commercial fishery landed 193,550 mt in 1983 (Table 2), representing a 2% decline over 1982 landings. This marks the first decline in domestic landings since 1973. Domestic landings were evenly distributed among the states and province, 21% landed in Alaska, 23% in Washington, 18% in Oregon, 21% in California and 17% in British Columbia.

The 1983 trawl fishery delivered 170,912 mt or 88% of all domestic landings, with rockfish (including Pacific ocean perch), Pacific cod and dover sole dominating landings (Table 3). In 1983 rockfish landings were 15% lower than 1982 landings as the PFMC imposed trip limits on the fishery in the WOC region in an attempt to bring annual harvest within ABC guidelines. Dover sole landings, which had been increasing annually since 1967, also fell in 1983, down 3%. On the plus side were Pacific cod landings, up 32%, bolstered by a substantially increased Alaska fishery. Total domestic trawl landings increased 1% from 1982 to 1983.

Domestic landings by gears other than trawl were 22,638 mt in 1983, down 21% from 1982 (Table 2). Principal species landed were sablefish with 14,277 mt and rockfish with 5,066 mt (Tables 5, 6 and 7).

Coastwide landings of sablefish by all gears totaled 22,700 mt representing a 13% decline over 1982 landings. Management restrictions on total landings in Alaska state waters and size at first capture in the WOC region contributed to declining sablefish landings.

Federal and state regulations restricted the landings of sablefish, widow rockfish, Pacific ocean perch and other rockfish in 1983. The 1983 sablefish fishery within the FCZ in S.E. Alaska was closed in August as it had been in 1982 as landings reached the management goal of 2,250 mt; the remainder of Alaska's state waters were closed to sablefish fishing in October. The PFMC began the year with trip limit restrictions on sablefish, widow rockfish and Pacific ocean perch. Limits between January 1 and February 28 were 75,000 pounds per trip for widow rockfish and 5,000 pounds or 10% of the total trip weight which ever was larger for Pacific ocean perch. Landings of sablefish less than 22 inches in total length were restricted to 1,000 pounds per trip or 333 fish or 10% of the total trip weight which ever was larger in all INPFC areas except the Monterey area. On February 28, widow rockfish limits were reduced coastwide to 30,000 pounds per trip and a 40,000 pound per trip limit was imposed on *Sebastes* other than widow rockfish and Pacific ocean perch in the INPFC Columbia and Vancouver areas only. In June the sablefish trip limit was modified to a flat 5,000 pounds of fish less than 22 inches total length. In September, widow rockfish limits were reduced to 1,000 pounds per trip and *Sebastes* limits set at 3,000 pounds per trip. The Pacific ocean perch fishery was closed in the INPFC Columbia area in November.

Alaska's preliminary 1983 estimate indicates landings have risen 48% over the last year increasing from 27,638 mt to 41,014 mt. Pacific cod provided the primary support for this fishery, with landings from the Bering Sea, and to a lesser extent from Kodiak Island. Alaska anticipates potential development of shore-based fisheries for flounder in the Central Gulf and rockfish in S.E.

TABLE 2. Domestic groundfish landings (mt) by region for 1982 and 1983 with percent change

	Trawl		Longline		Pot		Other Gear		Total		Percent
Region	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983	Change
Alaska	21,934	36,307	3,648	3,938	72	36	1,984	733	27,638	41,014	+48
Washington	38,239	38,990	1,786	1,091	1,621	1,472	1,586	1,885	43,232	43,438	0
Oregon	37,374	31,759	846	641	1,463	1,320	1,214	1,189	40,897	34,909	−15
California	43,201	35,581	3,076	1,149	3,443	2,696	1,769	2,032	51,489	41,458	−19
Total U.S.	140,748	142,637	9,356	6,819	6,599	5,524	6,553	5,839	163,256	160,819	− 1
Canada (B.C.)	28,229	28,275	1,211	1,017	3,438	3,439	1,547	N/A	34,425	32,731	− 5
Total U.S. & Canada	168,977	170,912	10,567	7,836	10,037	8,963	8,100	5,839	197,681	193,550	− 2

TABLE 3. Domestic trawl landings (mt) for food, 1982 & 1983 (preliminary) & 10-year mean[1] (1973-1983) by species and region with total commercial landings for all gears

Species by Group		Alaska	Washington	Oregon	California	Total U.S.	British Columbia	Total U.S. & Canada
Petrale sole	1982		329	1,271	781	2,381	367	2,748
	1983		523	1,070	577	2,170	439	2,609
	% change		59	-16	-26	- 9	20	- 5
	1O-yr mean		852	979	1,276	3,107	354	3,461
English sole	1982		855	995	1,442	3,292	559	3,851
	1983		1,038	909	1,245	3,192	525	3,717
	% change		21	- 9	-14	- 3	- 6	- 3
	10-yr mean		1,195	1,006	1,815	4,016	1,046	5,062
Dover sole	1982	0	2,710	8,050	9,970	20,730	914	21,644
	1983	1	2,957	8,322	8,931	20,211	868	21,079
	% change	—	9	4	-10	- 3	- 5	- 3
	1O-yr mean		1,459	3,116	9,762	14,337	957	15,294
Rock sole	1982	2	107	30	13	152	745	897
	1983	8	93	4	5	110	635	745
	% change	400	-13	-87	-62	-28	-15	-17
	1O-yr mean		218	7	6	231	1,375	1,606
Pacific cod	1982	19,175	11,087	116	0	30,378	4,793	35,171
	1983	32,061	9,968	81	0	42,110	4,410	46,520
	% change	67	-10	-30	0	39	- 8	32
	1O-yr mean		5,617	290	0	5,907	8,052	13,959
Lingcod	1982	trace	711	1,355	1,362	3,428	2,872	6,300
	1983	0	1,125	1,604	851	3,580	2,988	6,568
	% change		58	18	-38	4	4	4
	1O-yr mean		1,116	663	1,393	3,172	1,511	4,683
P. ocean perch	1982	8	429	543	25	1,005	5,983	6,988
	1983	14	510	1,070	57	1,651	5,639	7,290
	% change	75	19	97	128	64	- 6	4
	10-yr mean		[b]	491	48	539	3,248	3,787
Other rockfish	1982	5	12,722	19,620	21,653	54,000	4,643	58,643
	1983	1	10,731	13,879	17,319	41,930	6,559	48,489
	% change	-80	-16	-29	-20	-22	41	-17
	10-yr mean		10,320	6,232	14,711	31,263	3,500	34,763
Sablefish	1982	148	1,738	2,943	5,421	10,250	246	10,496
	1983	19	1,377	2,738	4,015	8,149	274	8,423
	% change	-87	-21	-17	-26	-20	10	-20
	1O-yr mean		530	669	2,949	4,148	288	4,436
Pacific whiting	1982		3,312	1	1,021	4,334	2,826	7,160
	1983		5,920	58	1,068	7,046	3,102	10,148
	% change		79	5,700	- 5	63	10	42
	10-yr mean		1,070	164	420	1,654	995	2,649
Walleye pollock	1982	2,334	160	0	0	2,494	924	3,418
	1983	702	66	0	0	768	1,029	1,797
	% change	-70	-59	0	0	-69	11	-47
	10-yr mean		639	0	0	639	1,262	1,901
Total above species	1982	21,672	34,162	34,924	41,688	132,446	24,872	157,318
	1983	32,806	34,308	29,745	34,068	130,927	26,468	157,395
Total all species	1982	21,934	38,239	37,374	43,201	140,748	28,229	168,977
	1983	36,307	38,990	31,759	35,581	142,637	28,275	170,912
	% change	+66	+2	-15	-18	+1	0	+1

[a] Alaska excluded from the 10-year mean.
[b] Mean calculated for other rockfish and Pacific ocean perch combined.

TABLE 4. Catch (mt) by species group and region of joint venture fisheries in 1983 with 1982 totals.

Species	Bering Sea	Gulf of Alaska	Total Alaska	California Oregon & Washington	Total U.S.	Canada (B.C.)	Total
Pacific whiting	0	0	0	72,100	72,100	27,659	99,759
Pollock	149,014	134,090	283,104	0	283,104	6	283,110
Yellowfin sole	22,529		22,529	0	22,529	0	22,529
Other flatfish	11,778	2,651	14,429	2	14,431	0	14,431
Pacific cod	14,362	2,387	16,749	0	16,749	0	16,749
Atka mackerel	10,512	790	11,302	0	11,302	0	11,302
P. ocean perch	136	1,978	2,114	7	2,121	0	2,121
Other rockfish	8	303	311	697	1,008	50	1,058
Sablefish	114	279	393	35	428	0	428
Other fish	1,587	386	1,973	390	2,363	0	2,363
Total 1982	108,567	74,882	183,449	69,153	252,602	20,051	272,653
Total 1983	210,040	142,864	352,904	73,231	426,135	27,715	453,850
% change	+93	+91	+92	+6	+69	+38	+66

TABLE 5. Longline landings (mt) by major species and region in 1982 and 1983

	Sablefish		Lingcod		Rockfish		Pacific cod		Other		Total	
Region	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983
Alaska	3,219	3,534	12	12	244	328	168	59	5	5	3,648	3,938
Washington	658	495	46	29	69	77	1	1	428	489	1,786	1,091
Oregon	641	533	8	11	95	92	trace	trace	102	5	846	641
California	557	109	38	14	2,465	1,017	0	0	16	8	3,076	1,149
Total U.S.	5,075	4,671	104	66	2,873	1,514	169	60	551	507	9,356	6,819
Canada (B.C.)	272	421	26	32	52	63	4	1	857	500	1,211	1,017
Grand total	5,347	5,092	130	98	2,925	1,577	173	61	1,408	1,007	10,567	7,836

TABLE 6. Pot landings (mt) by major species and region in 1982 and 1983

	Sablefish		Lingcod		Rockfish		Other		Total	
Region	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983
Alaska	68	29			4	1	trace	6	72	36
Washington	1,617	1,467	1	1	2	3	2	1	1,621	1,472
Oregon	1,457	1,312	3	2	3	6	trace	trace	1,463	1,320
California	3,416	2,681	1	1	25	13	1	1	3,443	2,696
Total U.S.	6,558	5,489	5	4	34	23	3	8	6,599	5,524
Canada (B.C.)	3,438	3,439	trace	trace	0	trace	0	0	3,438	3,439
Grand total	9,996	8,928	5	4	34	23	3	8	10,037	8,963

TABLE 7. Landings (mt) from miscellaneous gears by major species and region in 1982 and 1983

	Sablefish		Lingcod		Rockfish		Pacific cod		Other		Total	
Region	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983
Alaska	57	0	20	20	12	4	1,893	694	2	16	1,984	733
Washington	171	229	353	449	486	667	47	75	529	465	1,586	1,885
Oregon	40	26	101	103	977	985	2	8	94	67	1,214	1,189
California	0	2	73	82	1,560	1,810	0	0	136	138	1,769	2,032
Total U.S.	268	257	547	654	3,035	3,466	1,942	777	761	686	6,553	5,839
Canada (B.C.)	0	N/A	1,204	N/A	332	N/A	11	N/A	0	N/A	1,547	N/A
Grand total	268	257	1,751	654	3,367	3,466	1,953	777	761	686	8,100	5,839

TABLE 8. Estimated recreational landings (mt) by major species and region in 1982 and 1983

	Sablefish		Lingcod		Flatfish		Pacific cod		Other		Total	
Region	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983
Alaska	[a]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	726	N/A	726	N/A
Washington	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oregon	525	522	91	60	5	6	0	0	16	21	637	609
California	2,600	2,750	350	350	50	60	0	0	0	0	3,000	3,160
Total U.S.	3,125	3,272	441	410	55	66	0	0	742	21	4,363	3,769
Canada (B.C.)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grand total	3,125	3,272	441	410	55	66	0	0	742	21	4,363	3,769

[a] 86,900 fish landed

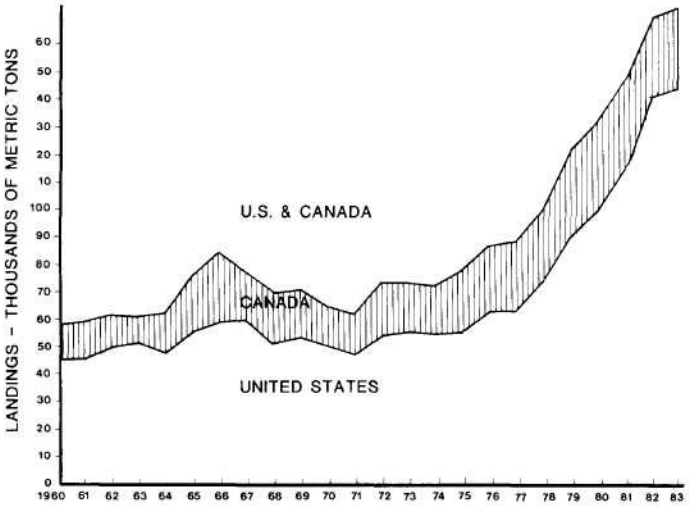


FIGURE 1. Pacific Coast trawl landings of the United States and Canada, excluding joint venture landings.

Alaska, however the abundance of Bering Sea Pacific Cod stocks appears to be declining and landings are expected to reflect this decline over the next several years.

Over the past year, British Columbia's domestic groundfish landings have dropped 5% from 34,425 to 32,731 mt. Significant changes in Canadian landings include increases in "other rockfish " landings, up 41%; increases in Pacific whiting landings, up 10%, and a decline in rock sole landings, down 15%.

Washington's preliminary estimate of 1983 groundfish landings is 43,438 mt which is essentially unchanged from the 43,232 mt landed in 1982. This apparent stability was primarily achieved with a 79% increase in Pacific whiting landings. Despite overall stability, Pacific cod landings declined 10%, including reductions in landings from Alaskan fishing grounds, and rockfish and sablefish landings each declined 15%. Landings of petrale, English and dover sole and lingcod increased between 1982 and 1983. Increased directed pressure on these species was due in part to the restrictions imposed by PFMC on rockfish landings.

Oregon's preliminary estimate of 1983 groundfish landings are down 15% from 1982, falling from 40,897 to 34,909 mt. This decline was due largely to decreases in rockfish landings (primarily widow rockfish) precipitated by falling stock abundance, increased restrictions by management agencies and by the closing of a major processing plant. Projected dover sole landings reached 8,300 mt in 1983, up 4% from 1982.

Preliminary estimates of California's groundfish landings indicate a 19% decline between 1983 and 1982, dropping from 51,489 to 41,458 mt. Major declines occurred in the dominant dover sole and "other rockfish' fisheries, down 10 and 20% respectively. California's sablefish landings fell 28% from 9,394 mt in 1982 to 6,807 mt in 1983. **Recreational Fishery**

Limited data were available for the 1983 recreational fishery (Table 8). Combined 1983 landings from California and Oregon showed a continued increase over 1982, with rockfish again the primary species.

Compiled by Jack V. Tagart, Washington Department of Fisheries.
Other Contributors:
Tom Jow, California Department of Fish and Game Jack Robinson, Oregon Department of Fish and Wildlife J. E. Leaman, Department of Fisheries and Oceans, Canada Phil Rigby, Alaska Department of Fish and Game Russ Nelson, National Marine Fisheries Service Janet Smoker, National Marine Fisheries Service

Salmon and Steelhead Sport Catches in 1982 in the Pacific Coast States

The estimated total sport catch of salmon and steelhead during 1982 in Alaska, Washington, Idaho, Oregon and California is still incomplete. Excluding the freshwater harvest of salmon in Oregon and Washington and the steelhead harvest in Oregon, the estimated total sport catch of both salmon and steelhead was 1,867,100 fish (Table 1). This catch was composed of 1,678,700 salmon and 128,400 steelhead. While still incomplete, it is apparent that the 1982 sport harvests were well below the previous 10-year average for salmon and slightly below the 10-year average for steelhead (Table 2).

Alaska

Alaska anglers harvested an estimated 597,278 sea-run salmon and 3,673 steelhead in 1982. The salmon harvest was a record, up 13% from 1980, the previous record year, and 93% above the 10-year average. The steelhead harvest was 24% below 1980, the previous record year, but was 13% above the 1972-81 10-year average.

The total marine harvest of 221,436 fish included 33,755 Chinook salmon, 84,708 coho salmon, 8,746 sockeye salmon, 90,024 pink salmon, 4,021 chum salmon, and 182 steelhead. The total freshwater harvest of 379,515 fish included 40,781 king salmon, 110,842 coho salmon, 123,845 sockeye salmon, 83,732 pink salmon, 16,824 chum salmon, and 3,491 steelhead.

Washington

Washington recreational marine (ocean and Puget Sound) salmon angler trips during the 1982 season were reduced from the 1972-8110-year average of 1.7 million to 1.4 million. This was an increase over the 1.2 million angler trips during the 1981 season.

Catches for chinook salmon in Washington marine areas amounted to 268,700 in 1982, compared to a 10-year mean of 395,000 and a 1981 catch of 249,100 salmon. Coho showed a similar decrease from the 10-year mean in 1982—from 654,500 to 429,000 salmon. The 1981 coho catch was 415,300 salmon.

No figures are available for 1982 Washington freshwater salmon fishing at this time.

Idaho

The run of chinook salmon to Idaho waters in 1982 was similar to the 1981 level and still well below spawning escapement requirements. Therefore, no chinook salmon fishery was allowed for the fourth consecutive year. An estimated 24,677 anglers fished 134,284 days to harvest 20,500 steelhead in 1982. This harvest was 2 1/2 times greater than the previous 10-year average of 8,100.

Oregon

The Oregon sport catch of salmon (marine only) was estimated at 213,500 fish. No figures are yet available for the 1982 steelhead harvest. The salmon catch consisted of 38,500 chinook and 175,000 coho.

California

The 1982 ocean sport catch estimate of 173,800 salmon was up 86% from the 1981 harvest of 93,400 and up 9% from the previous 10-year average of 159,400 salmon. The coho harvest showed the greatest improvement with an increase of over 2 1/2 times the 1981 harvest. Chinook was also up significantly with a 78% increase over 1981.

Compiled by John Coon, Idaho Department of Fish and Game.
Other contributors:
Mike Mills, Alaska Department of Fish and Game Marc Miller, Washington Department of Fisheries Bill Taylor, Washington Department of Game Richard Berry, Oregon Department of Fish and Wildlife L. B. Boydstun, California Department of Fish and Game

TABLE 1. Salmon and steelhead sport catches in 1982

State	Chinook	Coho	Pink	Other salmon	Steelhead	Total catch
Alaska	74,536	195,550	173,756	153,436[1]	3,673	600,951
Calif.[2 3]	149,200	24,600	—	—	unavailable	173,800
Idaho	0	—	—	—	20,500	20,500
Oregon[3]	38,500	175,000	—	—	unavailable	213,500
Wash.	268,700	416,400	—	9000[4]	104,250	798,350
Total	530,936	811,550	173,756	162,436	128,423	1,807,101

[1] Sockeye and chum salmon.
[2] Preliminary estimates which should not change more than ±10% when finished.
[3] Marine catch only.
[4] Pink, chum and sockeye.

TABLE 2.
Salmon and steelhead sport catches (1,000's of fish) for the Pacific Coast States, 1972 to 1982, and 10-year (1972-1981) averages

	Alaska		California		Idaho		Oregon		Washington		Total	
Year	Salmon	Steelhead	Salmon[1]	Steelhead	Salmon	Steelhead	Salmon	Steelhead	Salmon[2]	Steelhead	Salmon	Steelhead
1972	127.2	1.3	245.0	Steelhead catches are not estimated in California	6.5	13.5	403.0	157.9	1,138.9	167.4	1,920.6	340.1
1973	221.7	0.9	230.0		9.5	10.5	406.6	162.2	1,095.4	148.3	1,963.2	321.9
1974	184.9	1.0	234.0		1.5	3.0	465.0	166.8	1,320.4	110.0	2,205.8	280.8
1975	178.0	2.2	125.0		0.0	0.0	415.9	186.4	1,399.4	92.9	2,118.3	281.5
1976	200.6	2.3	139.0		0.0	2.0	669.0	118.3	1,749.6	89.1	2,758.2	211.7
1977	381.1	3.7	154.0		3.5	13.0	372.2	145.1	1,191.4	100.0	2,102.2	261.8
1978	525.4	4.3	128.0		7.0	11.5	386.9	200.6	1,107.9	163.1	2,155.2	379.5
1979	361.2	3.0	138.7		0.0	5.7	278.8	122.4	1,123.9	94.8	1,902.6	225.9
1980	530.5	4.8	107.0		0.0	9.1	417.3	203.7	852.9	151.1	1,907.6	368.7
1981	379.5	3.3	93.4		0.0	13.0	319.0	155.0	760.1	125.1	1,552.0	296.4
10-year average	309.0	2.7	159.4		2.8	8.1	413.4	161.8	1,174.0	124.2	2,058.6	296.8
1982	597.3	3.7	173.8		0.0	20.5	213.5	[3]	694.1	104.2	1,678.7	128.4

[1] Ocean fishery data only.
[2] Marine catches only for 1972-78 and 1982.
[3] Not available

Troll Salmon Fishery in 1983

Preliminary estimates of the combined 1983 troll harvest of Chinook and coho salmon in Alaska, British Columbia, Washington, Oregon and California total only 40.3 million pounds round weight, two thirds of the 61.1 million pound ten year (1973-82) average. Landings of Chinook salmon coastwide totaled 15.5 million pounds, approximately half of the ten year average. The 24.8 million pound coho salmon total was also below the 31.2 million ten year average.

The 1983 salmon troll season was characterized by restrictive seasons in all management regions except British Columbia. In the Pacific coastal states (WA,OR,CA), the season was further characterized by reduced availability of fish and low average weights for harvested fish. The irregular oceanographic conditions produced by a warm El Nino current undoubtedly affected the fisheries of this region during 1983. Quotas and harvest ceilings were in effect for many coastal fisheries but in serverai of these, actual catches fell short of the established limits.

In Alaska, the 1983 troll harvest of Chinook was restricted by season to keep the total commercial harvest of chinook at approximately the 1982 level. The 1983 summer troll opening of 60 days for chinook salmon was the shortest on record and 5 days less than the 1982 season. The fishery closed for all species on August 5 and reopened for the harvest of all species except chinook salmon on August 15.

Regulations adopted by the Pacific Fishery Management Council and member states for 1983 were particularly complex. Anticipated run sizes were low for most key Washington management units. The non-Indian commercial troll regulations establishing area, season, species, and terminal gear restrictions for the area south of the U.S./Canada border to Cape Falcon were, in total, more limiting than any time in the history of the fishery. Regulations for this area were intended to shift harvest away from coho salmon in order to protect weaker stocks. The whole coastline was open to chinook salmon only in May and to all species in July. An all species fishery was conducted from August 10 to September 8 in waters south of the Columbia River to Cape Falcon, while a separate pink/sockeye salmon fishery occurred north of Carroll Island from August 7 to 20. Catch quotas of 164,000 coho and 114,000 chinook salmon were established for the 1983 season. All but the Fishery south of the Columbia River mouth had special gear restrictions. Minimum legal sizes were 28 inches in total length for chinook salmon and 16 inches for coho salmon. Ocean waters were open to Indian commercial trolling from May through September, with most of that fleet fishing north of Carroll Island.

From Cape Falcon to Cape Blanco, Oregon, fishing for all species except coho was open from May 1 to June 15 with special gear required. The Cape Blanco to Oregon/California border area was open from May 16 to June 15 under similar restrictions. Coho salmon fisheries controlled troll fishery management in this area during the middle of the season. Coho salmon quotas were established for Cape Kiwanda to the Oregon/California border during July (297,000 fish) and for Cape Falcon to Heceta Head during August (254,000 fish). In the first area, the season opened for all species on July 1 and closed on July 24, continuing in southern areas for all species except coho salmon until August 31. In the second area, the season opened for all species on August 1 and closed September 4. The entire Cape Falcon to the Oregon/California border was again open to fishing for all species except coho salmon for the month of October. Minimum legal sizes were 26 inches in total length for chinook salmon and 16 inches for coho salmon.

The season for all species except coho salmon off California south of Point Arena opened April 22 in accordance with Federal regulations. The Federal regulations for 1983 were in place on May 5. Under these new regulations, the season for all species except coho salmon south of Cape Vizcaino occurred from May 1 to June 15 and from July 1 to September 30. North of Cape Vizcaino, the season for all species except coho salmon took place from May 16 to June 15 and from July 1 through August 31. A 12 mile square area off the mouth of the Klamath River was closed to fishing from August 1 to August 31. The minimum size for chinook salmon was 26 inches in total length. Fishing for coho salmon with a minimum size limit of 22 inches in total length was permitted Statewide from June 1 to June 15 and from July 1 to August 31, except south of Cape Vizcaino where coho salmon fishing was permitted through September 30. For the first time, the California coho salmon fishery north of Cape Vizcaino was managed under a quota of 71,000 fish. California trollers in 1983 could use only barbless hooks and could fish no more than six permanently affixed troll lines.

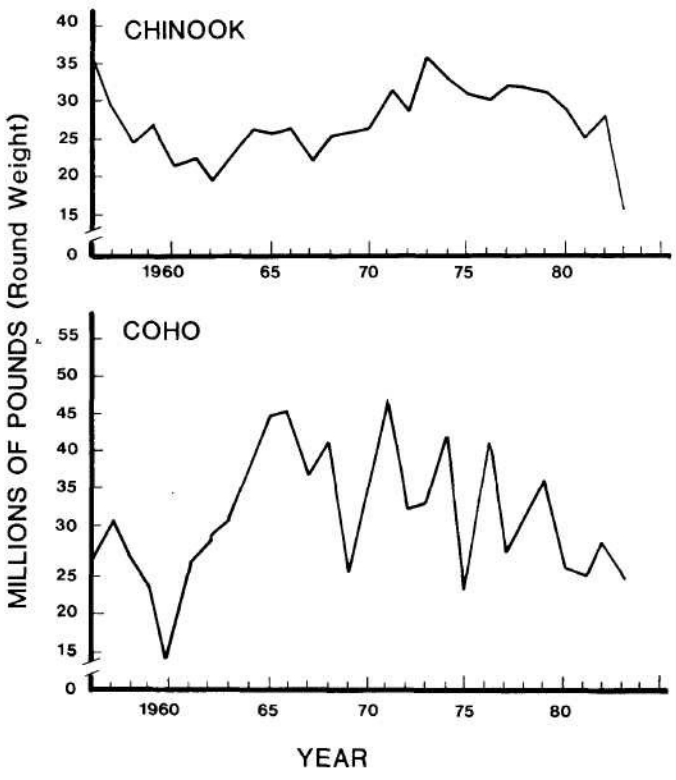
TABLE 1. Estimated landings of troll caught chinook and coho salmon in 1983 and ten year (1973-1982) average. (Round weights in millions of pounds.) All 1983 data are preliminary.

Species=Chinook		
Region	1983	Average
Alaska	5.0	5.07
British Columbia	6.5	12.27
Washington	0.8	2.87
Oregon	0.8	2.78
California	2.4	6.90
Total	15.5	29.89

Species=Coho		
Region	1983	Average
Alaska	9.6	5.89
British Columbia	13.3	14.60
Washington	0.3	4.12
Oregon	1.3	5.02
California	0.3	1.55
Total	24.8	31.18

Species=Chinook+Coho		
Region	1983	Average
Alaska	14.6	10.96
British Columbia	19.8	26.87
Washington	1.1	6.99
Oregon	2.1	7.80
California	2.7	8.45
Total	40.3	61.07

FIGURE 1. Pacific Coast annual landings of troll caught chinook and coho salmon, 1956-1982 and preliminary 1983.



CHINOOK

Alaska preliminary troll landings of Chinook salmon are 5.0 million pounds round weight. These are 300,000 pounds greater than 1982 landings and only 100,000 pounds less than the ten year average.

British Columbia preliminary troll landings of Chinook salmon are 6.5 million pounds. These landings are 5.4 million pounds less than those of 1982 and are 5.8 million pounds less than the ten year average.

In Washington, 800,000 round pounds of Chinook salmon were landed in 1983. This compares to 1982 landings of 1.9 million pounds and a ten year average of 2.9 million pounds. In contrast to previous years, the majority of 1983 non-Indian landings came from the May fishery for Chinook salmon.

Preliminary landings of Chinook salmon in Oregon are 800,00 pounds round weight. These landings are 1.9 million pounds less than those of 1982 and are 2.0 million pounds less than the ten year average.

California preliminary troll Chinook salmon landings are 2.4 million pounds round weight. These are 6.1 million pounds lower than 1982 landings and represent the lowest total for the State since species landing sampling was begun in 1952. The 1983 landings are also 4.5 million pounds lower than the ten year average.

TABLE 2. Pacific Coast commercial troll Chinook salmon landings in millions of pounds round, 1956-83. All 1983 data are preliminary.

Year	Alaska	British Columbia	Washington	Oregon	California	Total
1956	3.9	9.8	4.0	4.4	11.3	33.4
1957	5.1	9.7	4.8	3.0	5.3	27.9
1958	5.7	9.1	3.3	1.8	4.1	24.0
1959	6.7	8.7	2.7	0.5	7.5	26.1
1960	4.8	6.4	1.7	1.5	7.0	21.4
1961	2.9	6.0	2.5	1.4	9.3	22.1
1962	3.9	5.9	2.4	0.7	7.2	20.1
1963	4.1	6.8	2.8	1.6	7.9	23.2
1964	6.0	8.5	2.1	0.7	8.7	26.0
1965	5.1	8.8	1.3	0.7	9.3	25.2
1966	4.8	11.4	2.0	0.9	6.9	26.0
1967	4.3	10.4	1.7	1.3	4.4	22.1
1968	5.8	10.8	1.9	1.1	5.3	24.9
1969	5.1	10.8	2.3	1.4	5.6	25.2
1970	5.1	9.9	2.5	1.9	6.1	25.5
1971	4.9	15.2	3.1	1.2	5.7	30.1
1972	3.3	14.1	2.6	1.5	6.2	27.7
1973	5.0	12.7	3.8	4.0	8.7	34.2
1974	5.1	13.5	4.3	2.6	5.8	31.3
1975	4.4	12.6	3.3	3.0	6.6	29.9
1976	3.5	13.8	4.4	2.2	5.7	29.6
1977	4.7	12.1	3.3	4.0	6.6	30.7
1978	6.8	13.2	2.4	2.2	6.0	30.6
1979	6.0	11.1	2.0	3.0	7.9	30.0
1980	5.6	11.6	1.9	2.5	6.4	28.0
1981	4.9	10.2	1.4	1.6	6.8	24.9
1982	4.7	11.9	1.9	2.7	8.5	29.7
1983	5.0	6.5	0.8	0.8	2.4	15.5
1973–82 Mean	5.1	12.3	2.9	2.8	6.9	29.9

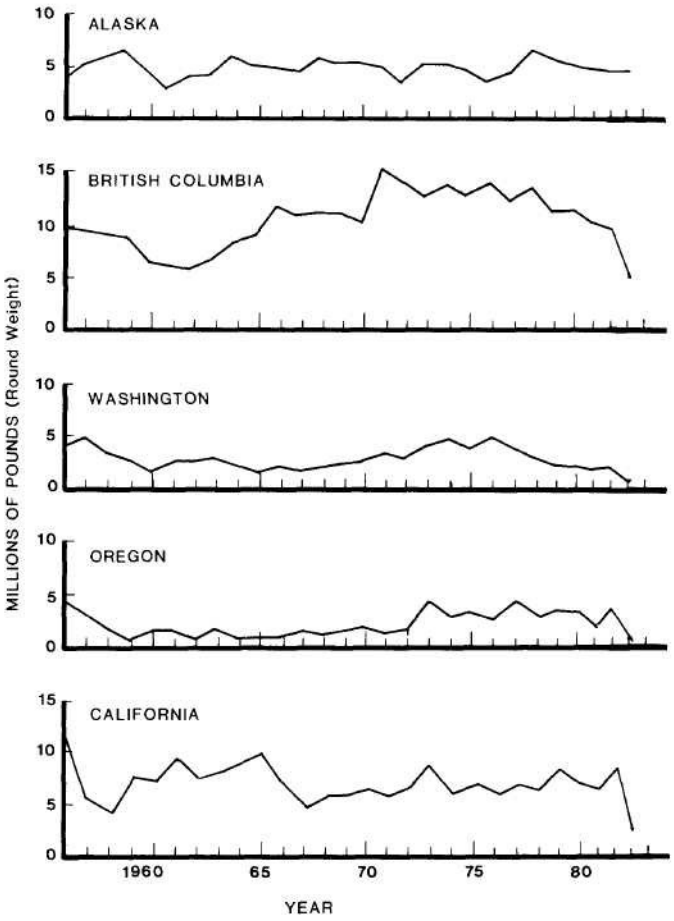


FIGURE 2. Annual troll Chinook salmon landings by area, 1956-1982, and preliminary 1983.

COHO

Alaska preliminary troll landings of coho salmon are 9.6 million pounds round weight. The 1983 landings are 400,000 pounds less than the total troll landings of 1982 but they are also 3.7 million pounds greater than the ten year average.

Preliminary landings of coho salmon in British Columbia are 13.3 million pounds round weight, 2.5 million pounds less than the total in 1982. The 1983 landings are 1.3 million pounds less than the ten year average.

Washington preliminary landings of coho salmon are 300,000 pounds round weight. This is 1.9 million pounds less than the 1982 total and 3.8 million pounds less than the ten year average. In addition to reduced troll fishing effort, the main factors in this dramatic decrease were the gear and landing restrictions enacted to shift fishing away from the capture of coho and the reductions in both availability and success during periods of open coho salmon fishing.

Oregon preliminary landings of coho salmon are 1.3 million pounds round weight. This is 1.8 million pounds lower than the 1982 total and 3.7 million pounds lower than the ten year aver age. Oregon coho fisheries were regulated by quotas but several fisheries fell far short of their quota allocations.

California preliminary landings of coho salmon are 300,000 pounds round weight. This is approximately half of the 1982 landings and 1.3 million pounds below the ten year average. The 1983 troll catch north of Cape Vizcaino was 52,000 coho salmon, 19,000 fish short of the 1983 quota for that area.

TABLE 3. Pacific Coast commercial troll coho salmon landings in millions of pounds round, 1956-83. All 1983 data are preliminary.

Year	Alaska			Oregon	California	Total
1956	3.8	12.9	5.3	3.2	0.5	25.7
1957	7.5	14.4	5.0	3.9	0.6	31.4
1958	5.2	15.6	4.7	1.3	0.1	26.9
1959	5.8	11.7	3.7	1.0	0.3	22.5
1960	2.5	9.3	1.5	0.8	0.1	14.2
1961	3.6	14.8	4.2	2.3	0.6	25.5
1962	5.2	16.4	4.7	2.2	0.4	28.9
1963	6.3	16.1	4.0	3.0	1.2	30.6
1964	5.7	20.5	4.6	4.2	2.2	37.2
1965	6.2	23.5	7.4	4.8	1.8	43.7
1966	4.7	24.3	6.1	5.2	4.0	44.3
1967	4.2	14.1	6.2	8.3	3.9	36.7
1968	5.8	22.6	4.5	5.1	2.7	40.7
1969	3.1	12.7	3.3	3.6	1.4	24.1
1970	2.2	17.3	6.1	8.7	1.5	35.8
1971	3.1	21.4	7.9	10.1	3.7	46.2
1972	5.7	15.9	3.9	5.6	1.2	32.3
1973	4.5	16.2	4.3	5.9	2.3	33.2
1974	6.7	15.6	6.4	8.3	4.3	41.3
1975	1.5	9.5	5.1	4.7	1.3	22.1
1976	4.3	15.3	7.2	10.4	3.3	40.5
1977	4.9	14.4	4.3	3.0	0.2	26.8
1978	8.0	14.9	3.2	3.2	1.5	30.8
1979	7.1	17.7	4.2	5.3	1.2	35.5
1980	5.4	15.3	2.3	2.5	0.3	25.8
1981	6.5	11.3	2.0	3.8	0.5	24.1
1982	10.0	15.8	2.2	3.1	0.6	31.7
1983	9.6	13.3	0.3	1.3	0.3	24.8
1973-82 Mean	5.9	14.6	4.1	5.0	1.6	31.2

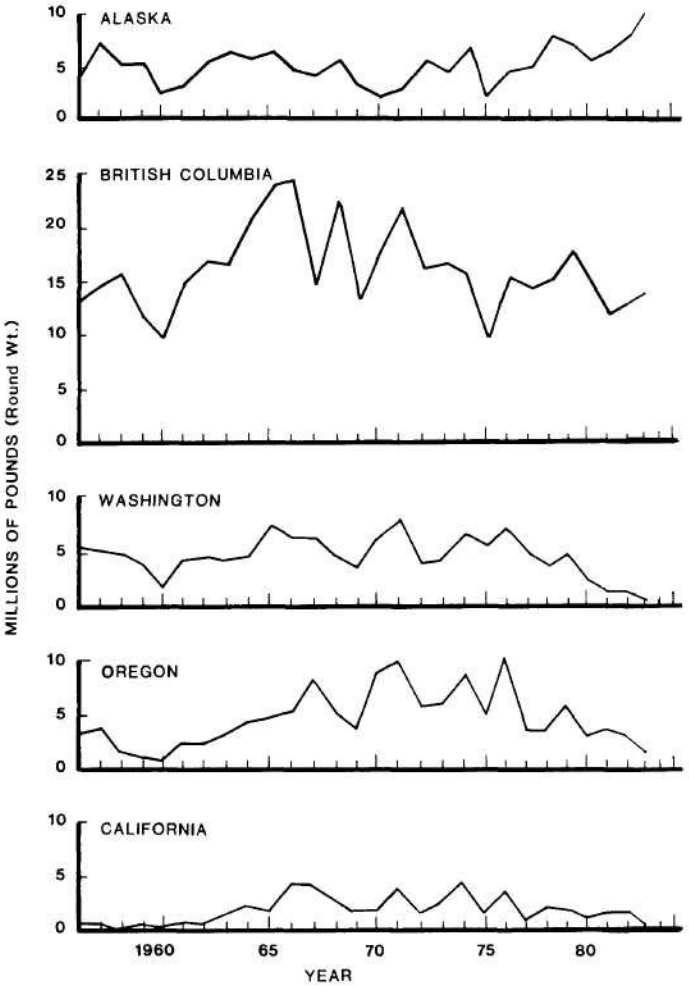


FIGURE 3. Annual troll coho salmon landings by area, 1956-1982 and preliminary 1983.

PINK AND SOCKEYE

Alaska preliminary troll landings of pink salmon in 1983 are 1.7 million pounds round weight and preliminary landings of sockeye salmon are 54,000 pounds. British Columbia preliminary troll landings of pink salmon in 1983 are 7.4 million pounds and preliminary landings of sockeye salmon are 1.1 million pounds.

Washington commercial troll landings of pink salmon are 400,000 pounds in 1983. This compares with odd-year catches of 1.1 million pounds in 1981 and a 1973-1981 mean (5 years) of 1.3 million pounds round weight. During the 1983 season, both gear and time/area restrictions were factors in these reductions over previous years.

Compiled by Al Didier, Alaska Department of Fish and Game
Other Contributors:
Marc Miller, Washington Department of Fisheries Robert McQueen, Oregon Department of Fish and Wildlife L. B. Boydstun, California Department of Fish and Game

Shrimp Fishery in 1983

Pacific Coast pandalid shrimp landings by Canada and the United States reached only 22.0 million pounds (Table 1). This is the lowest production since the early 1960s, the developmental period of the shrimp fisheries, and represents a decline of about 109 million pounds from the previous 10-year average. Combined landings from Oregon, Washington and California totalled 13.3 million pounds, only one fourth of the 10-year average. British Columbia landings of 1.2 million pounds were below average but the same as 1982. Washington landings were 5.7 million pounds, about two thirds of the 10-year average. Oregon landings of 6.5 million pounds declined severely from the 1982 level and were about one fifth of the 10-year average. Alaska landings continued since the 1964 earthquake and about 72 million pounds below the 10-year average.

Conditions Affecting the Fishery

The number of shrimp vessels in the fishery continued to decline from the record 1980 level. Many former shrimp trawlers have switched to groundfish and crab fisheries. Ex-vessel prices for trawl caught shrimp increased overall ranging around 36* in Alaska to a high of 80* off the lower Pacific Coast. Catch rates continued to remain low reflecting the overall depressed condition of most stocks. Warm waters associated with the strong El Nino along the Pacific Coast may have dispersed and displaced shrimp from some normal fishing areas and may also have re-

north off Washington where fishing effort was up 50% over last year. Most major production areas in Alaska continued to remain closed to promote stock rebuilding. Both effort and catch rates remained at very low levels in the Western Gulf of Alaska areas open to fishing. **CALIFORNIA**

Ocean shrimp, *Pandalus jordani,* landings for 1983 totalled 1.13 million pounds with most of it being landed in the south (PMFC Area 98). Last year's landings totalled 4.55 million pounds with the majority of shrimp landed in the northern ports (PMFC Area 92).

Landings from the ports of Eureka and Crescent City (PMFC Area 92) totalled 212,000 pounds, with all but about 200 pounds of it coming from PMFC Area 88. In 1982, 4 million pounds were landed in Eureka and Crescent City.

No landings have been reported from Fort Bragg (PMFC Area 94). This follows four years of low production since the record landings of 2 million pounds in 1978.

No landings have been reported from Bodega Bay (PMFC Area 96). This area has remained unproductive since 1977 when 2 milwion pounds were landed.

Landings from the Morro Bay-Avila area (PMFC Area 98) totalled 918,000 pounds for 1983. This is about double the 490,000 pounds landed last season. **OREGON**

Ocean shrimp *(Pandalus jordani),* landings totalled 6.5 million pounds, 65% less than the 18.4 million pounds landed in 1982 and well below the 10-year average of 30.3 million pounds. The number of vessels continued to decline with only 130 in the fishery compared to 164 in 1982. Many shrimp vessels that had switched to groundfish trawling in 1982 continued to pursue groundfish in 1983. The season started quickly with a price of 60* per pound being agreed upon April 4. The price increased through July and reached a high of 80* per pound. Approximately 17 processors operated shrimp machines in 1983.

Less of the 1983 catch came from areas off Oregon than in 1982. Oregon-based vessels caught 3.0 million pounds or 46% of the season total off Washington compared to 24% or 4.5 million pounds in 1982. Catches off California in 1983 were insignificant totalling 108 pounds. A total of 3.5 million pounds or 54% of the 1983 catch was taken off Oregon. In 1982,13.7 million pounds or 74% of the catch was taken off Oregon.

Catch and catch per unit effort (CPUE in pounds per hour-single rig equivalents) declined in all PMFC areas. The Coos Bay-Cape Blanco shrimp grounds (PMFC Area 86) produced 40% (2.6 million pounds) of the Oregon catch compared to 8.8 million pounds in 1982. The average CPUE for all PMFC areas was 111 pounds per hour.

Although 1-year-old shrimp were predominant in May when they represented 58% of the catch in numbers, 2-year-old shrimp predominated the catch throughout the rest of the season. From June through August the percentage of 2-year-old shrimp ranged from 52% to 59% and 1-year-old shrimp ranged from 30% to 43% of the catch. Count per pound ranged from 86 shrimp in August to 125 shrimp in June.

Landings from PMFC Area 88 (Cape Bianco-California line) declined dramatically totalling only 73,612 pounds compared to 726,000 pounds in 1982. Catch rates averaged 88 pounds per hour compared to 235 pounds per hour in 1982. Although volume was low, shrimp grade was 79 per pound at the beginning of the season. April age composition was 7% 1-year-old, 41% 2-year-old and 52% 3-year-old shrimp. The best grade obtained in this area was 62 shrimp per pound during September.

Northern Oregon (PMFC Areas 82 and 84) shrimp catches accounted for only 868,543 pounds of the season total compared to 4.1 million pounds in 1982. Catch rates in PMFC Area 82 averaged 75 pounds per hour for the 788,373 pounds landed. In 1982,2.8 million pounds were caught at an average of 148 pounds per hour. Catch rates in PMFC Area 84 averaged only 53 pounds per hour compared to 108 pounds per hour in 1982. Production of 80,170 pounds was also well below the 1982 harvest of 1.3 million pounds.

April age composition in PMFC Area 82 was 9% 1-year-old, 77% 2-year-old and 14% 3-year-old shrimp. Shrimp grade was 135 per pound. The percentage of 1-year-old shrimp increased to 77% by August, but additional growth had increased the overall grade to 121 shrimp per pound. Age composition data for PMFC Area 84 was very limited due to the small catch.

Oregon-based vessels fishing off Washington produced 2.6 and 0.8 million pounds from the Destruction Island and Grays Harbor (PMFC Areas 72 and 74) beds, respectively. Less than 2,000 pounds were taken off Willapa Bay (PMFC Area 75). Catches in PMFC Areas 72, 74, and 75 were 3.2 and 1.3 million pounds and 600 pounds, respectively in 1982.

April age composition in PMFC Area 72 was 24% 1-year-old, 70% 2-year-old and 6% 3-year-old shrimp. Shrimp grade was 160 per pound. In May and June the grade averaged 168 shrimp per pound, and the percentage of 1-year-old shrimp averaged 56%. By October a grade of 130 shrimp per pound was present.

April age composition in PMFC Area 74 was 16% 1-year-old, 69% 2-year-old, and 16% 3-year-old shrimp; count per pound averaged 142 shrimp and ranged from 127 to 155 shrimp per pound in May through August. In September and October the grade improved to 107 and 103 shrimp per pound, respectively.

About one half of the season's catch was taken during the first two months of the fishery. The monthly catch for all areas declined from 2.0 million pounds in April to 368,000 pounds in October. Effort declined similarly although a slight increase occurred in October. Overall effort for the 1983 season was 61,643 hours SRE (single-rig equivalent), compared to 102,839 hours in 1983. Average CPUE was 106 and 179 pounds per hour for 1983 and 1982, respectively.

The low landings of pink shrimp in Oregon ports during 1983 are probably the result of a number of factors. The most obvious is the strong El Nino along the Pacific coast which probably dispersed and displaced shrimp from normal fishing areas and probably reduced survival as well. Also, population modelling work by Oregon Department of Fish and Wildlife (ODFW) had suggested that year classes recruiting to the 1983 fishery would be low due to small spawning stock size coupled with poor larval survival conditions. Finally, poor fishing caused many vessels to leave the Oregon shrimp fishery which reduced the fleet's ability to locate shrimp throughout the season. The ODFW is currently studying factors affecting pink shrimp recruitment and availability to fishing gear in order to provide the industry with better estimates of resource yield. **WASHINGTON**

Ocean shrimp landings totalled 5.7 million pounds, an increase of 0.7 million pounds over 1982 landings but over 4 million pounds below the 10-year average. Fishing effort was up 63% over last year. Due to poor fishing off Oregon many vessels that generally fish there moved north and fished off Washington. A high ex-vessel price of 77* to $8O^0$ per pound also encouraged fishing effort. Catch per hour towed averaged 169 pounds for double-rigged vessels, lower than last year's average of 240 pounds per hour.

Small shrimp in the catch were a problem during May, June and July, especially in the Destruction Island area (PMFC Area 72) where the majority of vessels fished. Landings of small shrimp occurred again in October when the 0+ age group began showing up in the catch in large numbers. This year class first appeared in early August commercial catch samples. Generally the 0+ age group does not appear in the catch until the following year, although a few individuals occasionally show up in late October samples. The average size of shrimp comprising the 1983 year class appears normal so its presence in samples indicates it is an extremely strong year class. High counts per pound are anticipated when fishing resumes April 1,1984. **BRITISH COLUMBIA**

Total pandalid shrimp landings (all species combined) reached an estimated 1.2 million pounds, identical to 1982 but well below the 10-year average of 3.0 million pounds. Landings represent production from both the trawl and trap fisheries for shrimp. Due to a new sales slip data processing system the estimated catch is accurate only for production marketed through registered plants.

Landings from the trawl fishery were estimated at 797,000 pounds all of which was taken by the inshore beam trawl fishery. The Tofino and Nootka offshore trawl grounds (PMFC Area 66) produced a majority of the trawl catch in 1982 but no landings were made in 1983.

The coastwide trap fishery for prawns (primarily *P. platyceros)* produced an estimated 398,000 pounds, well above the 1982 level but only about two-thirds of previous peak levels.

ALASKA

Landings of primarily *Pandalus borealis* totalled only 7.5 million pounds, the lowest catch since the early development of the fishery and 72.0 million pounds below the previous 10-year average. Kodiak, Chignik, South Alaska Peninsula and Aleutian Island region stocks remain severely depressed with most historic production areas having been closed to fishing for several seasons to promote stock rebuilding. As yet stocks in these regions have shown little signs of recovery from the severe declines which generally began in the mid-1970s. The cause of this decline is believed due to both fishing and predation. Continuing depression of shrimp stocks is statistically correlated with high abundance of predacious fish and warmer oceanographic conditions.

Kodiak (PMFC Area 54) landings totalled only 2.8 million pounds, 8.1 million pounds less than in 1982 and 72.0 million pounds below the 10-year average. Most of the Kodiak production came from Alitak-Olga Bay and the Alaska Peninsula Mainland areas. The latter area was set aside as an experimental area by the Alaska Board of Fisheries to determine if shrimp stocks where unrestricted fishing is allowed react differently than those in more intensively managed areas. After the first two years of this experiment the catch has declined sharply and it appears that stocks have declined to economically unfishable levels. Former major production areas such as Twoheaded Island, Kiliuda, Ugak and Marmot Bays continue to remain closed and show no signs of recovery. These areas are now commercially important groundfish producers. Thirteen vessels participated in the Kodiak fishery and the ex-vessel price ranged from 32* to 43* per pound. Catch rates generally averaged 1,000 pounds per hour or less.

Chignik, South Alaska Peninsula and the Aleutian Islands (PMFC Area 55) remained closed. Stocks in former major production areas such as Unga Strait-Balboa Bay, Mitrofania Island and Stepovak, Chignik and Kujulik Bays remain extremely low after several years of protection. A recent survey of Pavlof Bay, which in the past produced a catch of 25.7 million pounds in a single season, has indicated some initial signs of stock rebuilding.

Cook Inlet (PMFC Area 53) shrimp production totalled 1.7 million pounds, about one third of the average production level. Trawl shrimp stocks in Kachemak Bay, the primary fishing area, have been declining for the past 3 years. The pot shrimp fishery stocks have also declined and landings were only 93,000 pounds.

Prince William Sound (PMFC Area 52) landings of 602,000 pounds were average. Most of the catch was from Icy Bay by Kodiak-based trawl vessels. The pot shrimp fishery produced 178,000 pounds.

Southeastern Alaska (PMFC Area 51) landings of 2.3 million pounds were well above average. Beam trawl catches accounted for about 2.0 million pounds and were up 900,000 pounds over 1982. The pot shrimp fishery set a new catch record for the second straight year with landings of 253,000 pounds.

The 1984 trawl shrimp harvest in the Gulf of Alaska is expected to be less than in 1983. A catch of about 6.0 million pounds (range 3.0 to 9.5 million pounds) is expected.

TABLE 1. Annual Pacific Coast pandalid shrimp landings and 10-year averages by State and Province (in 1,000's of pounds) 1973-1983.

Year	Alaska	British Columbia	Washington	Oregon	California	Total
1973	119,964	1,729	5,271	24,516	1,240	152,720
1974	108,275	2,644	9,325	19,968	2,338	142,550
1975	98,535	1,728	10,167	23,893	4,993	139,316
1976	129,011	7,723	9,261	25,392	3,400	174,787
1977	116,891	6,176	11,803	48,580	15,633	199,083
1978	73,293	3,460	12,298	56,997	13,163	159,211
1979	50,916	1,578	12,135	29,579	4,922	99,130
1980	52,568	1,500	12,629	30,152	5,050	101,899
1981	28,029	1,841	10,055	25,918	3,670	69,513
1982	16,987	1,200	5,000	18,500	4,550	46,436
Average	79,447	2,958	9,794	30,450	5,896	128,465
1983	7,458	1,200*	5,700	6,500	1,130	21,988

*Preliminary data

Compiled by Jerry A. McCrary, Alaska Department of Fish and Game Other

Contributors:

Phillip G. Swartzell, California Department of Fish and Game Jim Golden, Oregon Department of Fish and Wildlife Barbara McIntosh and Tom Northrup, Washington Department of Fisheries Steve Head, Canada Department of Fisheries and Oceans

Foreign Fishing Activities off the Pacific Coast in 1983

Washington, Oregon and California

In 1983, only one foreign nation, the Soviet Union, was involved in groundfish fisheries off Washington, Oregon and California. No more than 21 foreign fishing vessels (processing or support vessels) operated at any one time off the coast, compared with 41 in 1981 and 18 in 1982. Although fish surplus to domestic needs were available, no foreign trawl fishery developed in 1983. However, the joint venture harvest increased slightly from the previous year. Traditionally, Pacific whiting (whiting) has been the dominant target species in both foreign trawl and joint venture operations.

(NOTE: The species amounts in this section combine reports from foreign vessels and the National Marine Fisheries Service foreign fishing observers. Consequently, the amounts given here may not be identical with those provided by a foreign nation or joint venture company.)

Foreign Trawl Fishery

Continued sanctions against Poland (in 1981 for the imposition of martial law in that country) and the Soviet Union (in 1980 for the invasion of Afghanistan) effectively eliminated foreign trawl component off the west coast. Although 35,000 metric tons of whiting were available for foreign harvest in 1983, no permit applications were received from any nation eligible to fish in U.S. waters. The previous year, only 20 percent of the 35,000 metric tons of whiting available to foreign fishing was taken (by Bulgaria).

Joint Venture Fishery

Joint venture operations in which foreign vessels receive and process U.S. harvested groundfish were not prohibited by political

sanctions because U.S. fishermen benefit from the markets made available by off-shore processing. (Pacific whiting deteriorates rapidly once caught and must be processed as soon as possible in order to be suitable for human consumption.) Although the number of nations participating in joint ventures dropped from four in 1981 to two in 1982 and one in 1983, receipt of whiting increased to 72,000 metric tons, 72 percent of the 100,000 metric tons available for joint venture processing. Production in 1983 was seven percent greater than in 1980. In 1983 as in 1982, 15 foreign processing vessels received whiting from about 20 U.S. trawlers.

Although 4,000 metric tons of shortbelly rockfish were available for joint venture processing, this fishery did not develop in 1983.

Boardings and Violations

While enforcing the foreign fishing regulations, Special Agents of the National Marine Fisheries Service accompanied the U.S. Coast Guard on 79 aerial and 65 surface patrols. Over 40 boarding inspections of foreign vessels were conducted and logbooks were scrutinized again at the end of the season. In 1983,1 enforcement action was taken.

Alaska

The Magnuson Fishery Conservation and Management Act (MFCMA) again regulated foreign fishing in the 3- to 200-mile Fisheries Conservation Zone (FCZ) off Alaska for the seventh consecutive year. In 1983, only three foreign nations (Japan, Korea, and West Germany) were given allocations to fish in Alaskan waters. Vessels from those countries operated under MFCMA management plans governing the Gulf of Alaska groundfish fishery, Bering Sea snail fishery, and Bering Sea and Aleutian Islands groundfish fishery. The Soviet Union did not receive an allocation to fish, but did participate in joint venture operations with U.S. vessels. Taiwan was also limited to joint venture operations in 1983, pending the outcome of seizure cases against two Taiwanese vessels. Poland, which had been fishing off Alaska since 1978, was restricted to joint venture operations in 1982, but did not operate off Alaska at all in 1983.

A total of 570 foreign vessels operated off Alaska in 1983,16 vessels more than 1982. Of these, 394 operated under MFCMA management plans and 176 operated in the high seas salmon fishery regulated by the International North Pacific Fishery Commission (INPFC). The number of foreign vessels present on a monthly basis varied from 152 (in January) to 491 (in June). Total foreign catch in 1983 was 1.29 million metric tons (2.84 billion pounds) of groundfish, salmon, and snails, while U.S. vessels caught approximately 352,900 metric tons of groundfish during joint venture operations. Foreign fishing effort off Alaska totaled 63,036 days in 1983, a decrease of 2.5 percent from 1982. Joint venture effort increased 55 percent to 3,771 days. This resulted in a 5 percent decrease in foreign catch, but a 93 percent increase in joint venture catch levels. The Bering Sea and Aleutians area accounted for 86 percent of effort, 88.5 percent of foreign catch, and 59.5 percent of joint venture catch.

Japanese Fishing

Japan again dominated foreign fishing off Alaska in 1983. A total of 499 Japanese vessels operated during 1983, 12 vessels more than the previous year. Of these, 235 vessels operated independently under the MFCMA, including 130 stern trawlers, 22 longliners, 2 snail pot vessels, 77 transport vessels, and 4 tankers. Also operating under the MFCMA were 58 pair trawlers, 14 Danish seiners, and 10 stern trawlers, which worked for 5 pollock factoryships and 1 yellowfin sole factoryship. Additionally, 4 factoryships and 172 gillnet vessels conducted a high seas salmon fishery under INPFC regulations as in past years. The number of vessels present per month varied from 127 to 441; as usual, effort was highest in June and July during the high seas salmon fishery.

Effort by Japanese fishing vessels came to 57,780 days, or 86 percent of total foreign effort, and fell short of 1982 by 277 days. Joint venture accounted for 992 additional days. This effort yielded a Japanese catch of approximately 984,600 metric tons (76 percent of total foreign catch). Japanese catch decreased by 9.5 percent from 1982, however, joint venture catches increased substantially. As usual, pollock was the predominant species and represented 74 percent of Japan's catch. Other species caught were flounders (14 percent) and Pacific cod (6 percent). The remaining 6 percent consisted of salmon, snails, and other groundfish species. Ninety percent of Japanese catch was taken from the Bering Sea and Aleutians, utilizing 88 percent of effort.

Independent Japanese stern trawlers and longliners operated in all of Alaska's fishing grounds throughout the year. The 130 trawlers fished 27,789 days (90 percent in the Bering Sea/Aleutians) and primarily caught pollock and flounders. Twenty-two longliners fished for Pacific cod and sablefish a total of 4,639 days; only 29 percent of longline effort occurred in the Bering Sea and Aleutians. Effort by trawlers decreased 16 percent from 1982, while longline effort increased 7 percent.

Other Japanese fisheries occurred only in the Bering Sea and Aleutians. The snail fishery off Alaska was continued by 2 snail pot vessels that fished from June to August. The vessels operated in the north central Bering Sea northwest of the Pribilof Islands and landed 326 metric tons in 137 days. That was a 37 percent increase in both catch and effort.

Japan's factory fleets conducted operations in the same areas and months as in previous years. Five factory fleets, with a total of 75 catcher vessels, fished for pollock in the central Bering Sea from May to October. Another factory fleet with seven catcher vessels fished for yellowfin sole June to November in the Bering Sea east of the Pribilof Islands. These six fleets fished a total of 11,880 days, 7 percent fewer than 1982. This reduction in effort resulted in an 11.5 percent decrease in catch to 458,800 metric tons; this was the most significant deviation from the previous year for any Japanese fishery. The high seas salmon fleets, consisting of 4 factoryships and 172 gillnetters, fished north and south of the western Aleutians and in the central Bering Sea during June and July. Effort (9,900 days) and catch (about 15,400 metric tons) were identical to 1982.

Korean Fishing

Korea continued to retain its position as the second most visible foreign nation fishing off Alaska. The 42 vessels employed included 30 stern trawlers, 1 longliner, 1 factoryship, and 10 transport vessels. The number of vessels present monthly ranged from 19 to 35. Korean vessels landed 21.7 percent of total foreign catch in 1983, or approximately 279,600 metric tons of pollock, flounders, Pacific cod, Atka mackerel, and other species. Effort totaled 6,060 days (9 percent of total foreign effort) including 1,075 days for joint venture. While Korean fishing effort declined 14 percent from 1982, catch increased 15 percent. In addition, Korean joint ventures experienced a 62 percent increase in effort and 21 percent increase in catch. Effort in the Bering Sea/Aleutians accounted for 73 percent of vessel days, 82.5 percent of Korean catch, and 15.6 percent of joint venture catch.

West German Fishing

As in previous years, West Germany deployed only one stern trawler to Alaska in 1983. This vessel took 1.85 percent of the foreign catch in 271 days. The trawler operated in the Bering Sea and Aleutians during all months except March and April.

Joint Venture

Joint venture activities continued their upward trend in 1983. Four foreign nations, Japan, Korea, Taiwan and the Soviet Union,

participated in 1983, compared to six nations in 1982. A total of 60 foreign vessels (23 Soviet, 20 Korean, 12 Japanese, and 5 Taiwanese) worked with 65 U.S. vessels. That is 13 foreign vessels and 31 U.S. vessels more than last year. Vessels from Japan and Korea also fished under their nations' allocations. Effort rose 55 percent from 2,439 days in 1982 to 3,771 days in 1983. As in 1982, catch was double the amount taken the previous year, with foreign vessels receiving 352,900 metric tons of pollock, flounders, Pacific cod, and other groundfish. About 58 percent of catch and effort occurred in the Bering Sea/Aleutians.

Enforcement and Surveillance

Joint NMFS-Coast Guard patrols in 1983 included 391 aerial patrols (2,622 hours) and 861 days of vessel patrols. NMFS Special Agents were present during 30 percent of the aerial patrols and 47 percent of the vessel days. Patrol units reported 5,409 sightings of foreign vessels. NMFS and Coast Guard personnel conducted 266 boardings of Japanese vessels, 65 of Korean vessels, 8 of Soviet vessels, and 3 boardings of the West German vessel.

Under the MFCMA, infractions detected during boardings or aerial patrols may result in the issuance of a citation (written warning), violation (assessment of civil penalty), or in the seizure of a vessel for flagrant violations. In 1983, enforcement effort resulted in: 46 citations, 35 violations, and 5 seizures of Japanese vessels; 20 citations and 8 violations by Korean vessels; 9 citations and 1 violation by Soviet vessels; and 1 citation issued to a Taiwanese vessel. In addition, three Canadian vessels were seized for fishing in U.S. waters without an MFCMA permit. Penalties paid for violations and seizures totaled $629,415 as of February 15, 1984; almost 75 percent of these cases are still open.

Provided by the Alaska and Northwest Regional Offices of the National Marine Fisheries Service
Robert W. McVey, Director, Alaska Region
T. E. (Gene) Kruse, Acting Director, Northwest Region