38th Annual Report of the

PACIFIC MARINE FISHERIES COMMISSION

FOR THE YEAR 1985

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

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of the

PACIFIC MARINE

FISHERIES COMMISSION

FOR THE YEAR 1985

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 91 st Congresses of the United States Assenting Thereto.

Respectfully submitted,
PACIFIC MARINE FISHERIES COMMISSION

OFFICERS OF THE COMMISSION

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1st Vice Chairman	John Donaldson, Director, ODFW Jack
2nd Vice Chairman	Parnell, Director, CDFG Jerry Conley,
3rd Vice Chairman	Director, IDFG Bill Wilkerson, Director,
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ANNUAL MEETING EVENTS

SUMMARY

The Pacific Marine Fisheries Commission's 38th Annual Meeting was held on October 1-2, 1985 at the Baranof Hotel in Juneau, Alaska and presided over by Chairman Don Collinsworth, Commissioner, Alaska Department of Fish and Game. The Annual Meeting highlights included **a** presentation on the status of limited entry analyses and proposals, discussion and approval by the Commission on **a** number of 1985 issues, **a** scientists' workshop on salmon hooking mortalities, and selection of issue topics for 1986. In addition, **a** series of poster papers reviewed the status of Pacific Coast fisheries in 1985.

1985 ISSUES

The Advisory Committee addressed three issues at the Alaska meeting and presentations were given on two issues chosen **at** the 1984 Annual Meeting: Full Domestic Utilization of U.S. Fishery Resources, and Economic Stability in the Fishing Industry.

Advisors' Issues

Total Economic Contribution of Pacific Fisheries. In 1984, **a** study was undertaken to analyze recent changes in the U.S. tuna industry as an example of the economic contribution of a fishery. The study was funded by California Sea Grant and the Pacific Marine Fisheries Commission. As **a** result of this study, **a** paper was prepared by Dennis King and Harry Bateman entitled, "The economic impact of recent changes in the U.S. tuna industry." This paper was reviewed by Frank Mason, California Advisor. The report describes some of the difficult circumstances facing the U.S. tuna industry and summarizes the impacts from changes in the industry between 1980-1984. Copies are available from PMFC and the California Sea Grant office. It was proposed that a similar paper be prepared for all Pacific fisheries to better quantify their value to the various segments of the economy. The Commission approved drafting a Request For Proposal (RFP) so that it could be distributed to determine the cost of preparing such a paper. The RFP will be reviewed at the April 1986 Commission meeting.

Regional On-Site Ocean Experts. The Advisors submitted a proposal to provide regional groups of "on-site ocean experts" who would be available to provide expertise to facilitate decision making on issues that deal directly with the Pacific Ocean within the Fishery Conservation Zone and within State waters. It was proposed that PMFC form regional committees made up of commercial fishermen. The exact relationship of these committees to PMFC advisory panels was discussed. It was decided this proposal should be redrafted for submission at the April 1986 Commission meeting.

U.S. **Navy Conflicts in** Fishing **Zones.** In 1985, the U.S. Navy announced closures of the south side of Santa Cruz Island, California for testing purposes. The approved closures are on a three-month rotating basis for a number of years. These closures remove areas used for purse seining, gill netting, abalone and sea urchin diving, lobster fishing, recreational party boat fishing, squid and swordfish fisheries, as well as access by private boats. The Advisors submitted a proposal aimed at keeping the Navy from usurping areas of commercial fishing and recreational uses and directing their efforts towards existing closed areas of non-use. The PMFC staff was instructed by the Commission to investigate channels of communication with persons and departments within the U.S. Navy. This would allow dialogue in the future to prevent or mitigate this type of arbitrary closure of productive fishing areas.

Full Domestic Utilization of U.S. Fishery Resources

The following resolution was adopted by the Commission on October 2,1985 by majority vote with Oregon and Washington voting against the resolution:

A RESOLUTION OF THE PACIFIC MARINE FISHERIES COMMISSION SUPPORTING THE AMERICANIZATION OF THE FISHERY CONSERVATION ZONE

WHEREAS, the fisheries off Alaska and the West Coast are greater than those of the rest of the United States combined, and this resource is tremendously important to the long-range future of communities in Alaska, California, Idaho, Oregon and Washington; and

WHEREAS, Americanization of the fishery will benefit all coastal cities by providing jobs for fishermen, processing workers, ship-building and repair workers, and transporters on **a** continuing basis; and

WHEREAS, there exists an excellent opportunity for American fishermen and processors to benefit from the more than 4 billion pounds of fish currently being taken by foreign fishing interests within America's 200-mile zone; and WHEREAS, Americanization of the fishery will increase American participation in the fishing and processing industries, provide employment opportunities for Americans, stimulate economic growth and foster economic stability in coastal cities, and generate tax revenue; and

WHEREAS, a planned phase-out of foreign fishing and foreign processing in U.S. waters is crucial to enable the American fishing and processing industries to provide for an orderly transfer of the fishery to our domestic interests; and WHEREAS, establishing a time certain for phasing out foreign fishing interests will encourage the financial community to support capitalization of the American fishery; THEREFORE BE IT RESOLVED, that the Pacific Marine Fisheries Commission supports the phasing out of all foreign fishing in American waters;

BE IT FURTHER RESOLVED, that sales of American-harvested fish to foreign floating processors be limited; BE IT LASTLY RESOLVED, that this resolution complements and supports PMFC 1983 Resolution #1 on full domestic utilization.

Economic Stability in the Fishing Industry

At the 1984 Annual Meeting, the Commission discussed a proposal to implement a program to help provide economic stability to the industry. Advisors were concerned about implementing a program without further investigation into its need and feasibility. The following concerns were expressed:

(1) yearly income fluctuations are not the real problem; skyrocketing operating costs (e.g. insurance) and

continued change in management regimes are the real problem; and

(2) government has a questionable role in providing economic stability.

Accordingly, the Commission directed that the need and feasibility of this issue be addressed at the 1985 meeting.

At the 1985 Annual Meeting, the Commission debated how it could adequately address the issue of economic stability. As a more specific effort to investigate this issue, the Commission adopted a proposal to address the issue of adequate and reasonable marine insurance coverage for the commercial and charter fishing industries. One of the major factors affecting economic stability for the commercial fishing industry is the soaring costs of insurance coverage. The Commission appointed an Ad-hoc Committee to study this matter and prepare a plan of action for consideration at its April 1986 meeting.

STATUS OF LIMITED ENTRY ANALYSES AND PROPOSALS

The Commission presented a panel of speakers to provide information on the status of limited entry analyses and proposals. Summaries of the Presentations by the six speakers and a statement on this issue by the PMFC Advisory Committee Chairman follow.

Australian Southern Bluefin Tuna Limited Entry, Bill Robinson, NMFS, Juneau

Australia has recently instituted a limited entry system for their southern bluefin tuna fishery. It is a first attempt in Australia of an individual transferable quota (share-quota system). South Africa and New Zealand have share-quota systems, but there are very few other systems that have actually been put into place in fisheries. Fisheries economics literature indicates this method of management has great potential in improving the economic viability of fisheries and reducing the amount of government regulation. These were two of Australia's overriding objectives for the program.

The Australian southern bluefin tuna fishery was brought under a license limitation form of limited entry in 1975. Although the number of participants was frozen at a fixed level, the catches doubled by 1980. Along with this increase in catch was a decrease in profits because of an increase in harvesting costs and a soft and declining world tuna market.

There were a number of management goals that needed to be achieved in the fishery. These included a reduction in overall catch and an increase in the size of fish caught, a reduction in the cost of harvest, improvement in the monetary returns to both individuals and the fleet, removal of capacity from the fleet, allowing fishermen the freedom to make decisions concerning configuration of their vessels and addition of any new technology or fishing methods, reduction of the government's role in making major decisions concerning the economics of the fishery, and a reduction in the number and extent of management regulations. When all these objectives were compiled, it became apparent that the individual transferable quota was really the only method of management that offered solutions to all these objectives.

The procedure for putting the quotas in place was a two-step process. The first is to determine who qualifies for a ouota and the second step is setting the individual quota for each participant. The qualification for obtaining a quota was set at landing at least 15 metric tons of tuna during a three-year qualifying period during which the individual was the licensee of a tuna boat. This was viewed as having a significant dependence on the fishery. The 15-metric-ton cutoff did not deny anyone from doing some tuna fishing, since anyone can catch up to five metric tons of tuna a year under a registration, open-access type of fishery. Fishermen wishing to catch more than five metric tons must qualify for an individual quota, or lease or buy a quota from another qualified fisherman.

Once the qualified participants were identified, each fisherman's quota had to be determined. In meetings with industry, it was agreed that two items should be used in determining each participant's quota—past performance and capital investment in the fishery. A generalized formula was developed for use in allocating the harvestable catch to each participant by use of these two factors. A number of simulations with different weighting factors for catch and investment were used and reviewed with industry and management personnel. In the end, the quota was determined by weighting actual performance or catch history by a factor of 75% and financial investment by 25%. The preference by industry was that financial investment counted, but it certainly didnt count as much as actual performance in the fishery.

A quota may be sold on the open market with no restrictions other than it must be owned by an Australian national. This restriction arose from the fear that it would be economically viable for the Japanese to buy up the entire quota and simply retire it and eliminate the fishery. Quotas were first allocated on October 1, 1984. There were 200 applicants for quotas. Individual transferable quotas were allocated to 143 applicants. The quotas ranged from 1.4 metric tons to 890 metric tons. The average was about 98 metric tons. Quotas began selling for $800 a ton on October 1, 1984 and rose over the length of the season to slightly over $2,000 a ton. It began leasing at $180 a ton and ended up leasing at $300 to $350 a ton. By February 15, 1985, there were 85 individuals left with quotas of the original 143. Of the 85 individuals left in the fishery, 57 fished in the 1985 season (the other 28 having leased their quota). The catch was reduced from 21,000 metric tons in the 1984 season to 14,500 metric tons in the 1985 season. This reduction in the total catch was one of the principal reasons the number of individuals in the fishery contracted so quickly in the first season, as every fishermen was only allocated about two-thirds of what their best catch had been.

Some of the advantages seen in this system are:

1) Fishermen are freed from the competition with other fishermen—the race for fish and the inefficiencies that the race imposes on them.
2) Management can free the fishermen from excessive regulatory burdens, including many gear restrictions.
3) Fishermen can choose when, where and how they wish to fish.
4) Individual quotas keep firm control over fishing mortality through a total allowable catch, but have no incentive to increase effort.
5) Fishermen can adjust their quota holdings through the lease or transferability options to fit their need and their ability.
6) Beginners can buy into the fishery at low levels whereas they may never have the capital under a license limitation form.

Some of the disadvantages under an individual transferable quota system could be:

1) This management method could be both difficult and costly to enforce depending on the fishermen's access to a multiplicity of ports and markets.
2) It could lead to discards at sea, especially if a fisherman has multiple quotas to fill.
3) The quotas may not be appropriate unless there is a total allowable catch.

A license limitation or a moratorium is definitely a first step

in any system designed to contain or control effort. In most cases, however, it is only a delaying tactic. Unless the problem of increasing effort is controlled through some form of restriction or through some means of reducing capacity, the problem will reappear and grow and it will still have to be addressed. Close consultation with the affected fishing industry at every stage of development of an effort management program is absolutely vital. Some form of quasi-property right, such as individual transferable quotas, boat units, pot entitlements, or whatever, offers great potential to create efficient profitable fisheries with a minimum of government interference.

Limited Entry in Groundfish Fisheries, Dorothy Lowman, Pacific Fishery Management Council

In September of 1982, there was a meeting that was jointly sponsored by Oregon Department of Fish and Wildlife (ODFW) and.the Oregon Trawl Commission because of concern over the rockfish stocks and their needs for different kinds of management measures. One suggestion was that some sort of effort limitation should be examined. There was some support among part of the industry for some sort of license moratorium. However, it just kind of faded away at that time. At the same time, there was a Pacific Fishery Management Council (PFMC) and National Marine Fisheries Service (NMFS) co-sponsored workshop on multi-species limited entry alternatives. At this workshop, there was a discussion of limited entry for the groundfish fishery.

For a period of time, the Groundfish Development Team of the PFMC has talked about the need for some control on effort. It has been an issue that has surfaced from time-to-time for several years. Because of this and knowing that it will be surfacing again, the NMFS' Southwest Region asked, what might be beneficial to help facilitate discussions of limited entry for the groundfish fishery? It was proposed that a document be prepared that would provide a better description of the groundfish fishery, the types of vessels in the fleet, and look at what might be some different limited entry alternatives. Also proposed was a look at what might be some of the consequences on this fleet by imposing different forms of limited entry. The Southwest Region informed the Pacific Council in January 1985 that it proposed doing this review, and described the structure of the group which would make the study.

There are two components involved in the study, the main one of which is a work group made up of economists. The document they are preparing is to be fairly practical, not just theoretical. The second component is an advisory group, which goes by the name of Groundfish Alternative Management (GAM). This group is composed of industry members representing a good coverage geographically and gear types. There are two processors, three trawlers (one from each state), a joint-venture trawler, a gillnet fisherman, a trap fisherman, and state agency representatives. There has been an attempt to get a hook-and-line fisherman without success. There is also a Pacific Marine Fisheries Commission representative on the advisory group.

The work group and the GAM first met together in San Francisco in March of 1985. At that meeting, the general format of a report and some of the general concerns that people had about limited entry were discussed. Bruce Rettig of Oregon State University gave a presentation on some of the definitions needed to address limited entry, and the types of limited entry programs available. There was much discussion on the definition of the industry, whether it was harvesters, processors, boat builders, grocery stores, or just what. The basic approach is to concentrate on the impacts on harvesters and primary processors.

The work group prepared a first draft of the working document and sent it out for review by the GAM in August, 1985. The GAM and the work group then met in September, 1985. The first part of the report is an introduction that describes some of the objectives of why one might wish to talk about limited entry. It also describes the organizations addressed in the report. The second section contains a profile of the groundfish fleet, a brief history of the fishery, and information on the catch by gear types and area. It stresses some of the important characteristics of the fleet. Many of the participants have vessels that are multi-purpose. It is very important for participants in the fishery to have a lot of flexibility. As in many fisheries, a small portion of the fleet catches a large proportion of the fish. The third section of the report gives a general discussion of what open access is, some of the problems that have been associated with it, and then talks about what kinds of limited entry alternatives there are in fairly general terms. It describes some of the issues that have to be considered when looking at different types of limited entry and some of the trade-offs in-between. The fourth section deals with limited entry alternatives. It reviews the elements that need to be considered and some of the options.

The concern among the work group and the GAM is that the report try to be as objective as possible. It is not the intent of the report to recommend any particular limited entry. The next draft will better describe the status quo as an alternative, and the good and bad points of the groundfish fishery at this time. The report tries to articulate what are the pros and cons of choosing any effort limitation option.

The final section of the report is a section on legal and administrative concerns. The goal is to make sure that the systems reviewed will be legally and administratively feasible. It outlines the considerations that need to be taken into account and the trade-offs between different types of limited entry.

The GAM had suggestions for improvements in the latest draft report and the work group is incorporating these. Some of the major additions that will be in the next draft is a better description of the current management regime, a discussion of the options, and their pros and cons. The report will attempt to address optimum fleet size, and look at the efficiency and consequences of changes in that fleet size. It will also detail more extensively the pros and cons of the different alternatives specifically for the groundfish fishery. There will be more up-front discussion of certain concerns that were articulated by the GAM, such as the concern that the big get bigger. It will address problems and the likelihood of them being realized more under one system than another. Finally, it will try to quantify what might be the administrative costs, and where they might be reduced. It is anticipated the next draft will be completed in Spring 1986.

Limited Entry Workshop, Judith St. Claire, Oregon Coastal Zone Management Association

Oregon Coastal Zone Management Association's Oregon Fishing Industry Project co-sponsored with Oregon State University's Extension Sea Grant Program a conference, titled "Fishing for Answers, An Industry Information Exchange," on March 7 and 8, 1985, at Newport, Oregon. The purpose of the conference was to create an informed industry on the topic of limited entry programs and schemes through first-hand experiences of others in Alaska, Canada, the east and west coasts of the United States, and Australia. "Fishing for Answers" took an objective approach by presenting viewpoints from industry members and regulators on this very controversial issue.

Oregon State University is still in the process of transcribing the proceedings of the workshop and expects to

publish them in early 1986. During its implementation grant, the Oregon Fishing Industry Project proposes to conduct, in accordance with the wants and desires of the fishing industry, follow-up workshops to the "Fishing for Answers" conference in Oregon coastal ports. In the event that the fishing industry desires to hold follow-up workshops, the Oregon Fishing Project will act as workshop coordinator, and Oregon Department of Fish and Wildlife, National Marine Fisheries Service and Oregon Sea Grant Marine Extension agents will be invited to actively participate.

Summary of Pacific Coast Limited Entry Activities,
Robert W. Schoning, National Marine Fisheries Service

Alaska Commercial Fisheries Entry Commission

The Alaska Commercial Fisheries Entry Commission was established by statute in 1973 at a time in which Alaska's salmon stocks were severely depressed. Nineteen salmon fisheries were placed under limitation in 1974. By September of 1985, a total of 37 fisheries will have been limited. Recent additions include the northern Southeast inside sablefish longline fishery, and the Southeast king and Tanner crab pot fisheries.

Under Alaska's program, fisheries are defined on the basis of species, gear and area for limitation purposes. Thus, for example, the Cook Inlet set net salmon fishery, Cook Inlet drift gill net salmon fishery, and Cook Inlet purse seine salmon fishery represent three different limited fisheries.

Under Alaska's statue a fishery is limited by adopting a regulation on the maximum number of participants. This maximum number generally reflects recent participation levels. Once a fishery is limited, anyone who had landings in the fishery as a gear operator or interim-use permit holder prior to the qualification date (January 1 of the year in which the fishery is limited) is eligible to apply for one of the limited permits. The Commercial Fisheries Entry Commission ranks applicants according to the hardship they would suffer from exclusion, and the limited number of permits are allocated to the persons with the most points under the ranking system. The criteria used in ranking systems are related to past participation and economic dependence on the fishery. The three-member Commission adjudicates all disputes which arise with respect to both eligibility and an applicant's relative standing under the ranking system.

Most of the permits issued in the limited fishery are freely transferable. As a result persons who don't receive an initial permit allocation can enter the fishery by purchasing an existing permit. Exceptions to this are permits issued to persons who the Commission feels would only suffer "minor economic hardship" from exclusion. Such permits are nontransferable and expire when the permit holder dies or fails to renew for two consecutive years.

The entry Commission can implement limited entry in a fishery whenever it determines that the program will promote the conservation and sustained yield management of the resource and/or the economic health and stability of the fishery without unjust discrimination. Limited entry is the only management measure delegated by the Alaska legislature to the Commission. Traditional management regulations are all controlled by the Alaska Board of Fisheries.

Alaska Department of Fish and Game

In the State of Alaska fisheries all commercial fishing limited entry activities are administered by the Alaska Commercial Fisheries Entry Commission discussed above.

California Department of Fish and Game

Limited entry was initiated in California in 1977 for abalone. There are presently seven programs with three types of controlled effort. The fisheries are: (1) abalone; (2) herring; (3) troll salmon; (4) drift gillnet shark and swordfish; (5) central California drift gillnet swordfish; (6) central California set gillnet; and (7) the general set gillnet/trammel net fishery. The first five are limited entry programs that allow for new entry under certain conditions. The sixth is a temporary moratorium that allows for no new entry, and the seventh is open only to qualified entrants.

The programs are continuously monitored and changes are made as deemed necessary. All existing programs were initiated in cooperation and consultation between the industry and the California Department of Fish and Game. No additional specific efforts are underway by staff to include more fisheries, but there is interest by individuals in other fisheries for additional limited entry programs and individuals are working on task forces of PMFC and PFMC to investigate the potential merits of limited entry on other Pacific Coast-wide fisheries with other states.

Fishermen's Marketing Association

The Fishermen's Marketing Association (FMA) drafted text for a moratorium on groundfish licenses in the trawl fisheries off the three states and arranged to have it introduced in the California, Oregon, and Washington state legislatures. Staff from the PFMC and ODFW and a task force of fishermen selected by the FMA assisted in the drafting. The Oregon Trawl Commission canvassed its members on the proposal and found the majority opposed. As a result the lobbying effort was terminated in all three states. No additional efforts are ongoing and plans are indefinite.

National Marine Fisheries Service

Alaska Region

There are no specific efforts underway by the staff of the Alaska Region to push for any limited entry in any fishery, although personnel are working on a task force of agency interests exploring the development of more information through public meetings on the relative merits of alternate controls on fishing effort. A staff member is a joint author on a background paper about limited entry in general.

Northwest Region

No regional office staff are working on any specific limited entry program but members assist task forces of PMFC and PFMC with information development. The regional director is publicly committed to working with the states, councils, and industry in developing background information, but will not initiate action for advocacy of any controlled entry programs in the region.

Southwest Region

The regional office staff are participating in a cooperative project with its Southwest Fisheries Center (SWFC) to develop information for a potential limited access program for the Pacific Coast groundfish fishery. It is presently planned as a two-year effort. A written four-page proposal dated November 20,1984, contained the basic elements.

Southwest Fisheries Center

The staff has developed a four-page proposal dated November 20, 1984, for a two-year effort to develop background information for a limited access study of the Pacific Coast groundfish fishery. The project includes (1) establishing a baseline information set for evaluating limited access systems for groundfish, (2) sponsoring in-depth economic analysis of the groundfish fishery and management options using a Working Group of NMFS and academic econo-

mists, and (3) evaluating practical difficulties of limited access systems through discussions and coordination with a Steering Committee of industry and management agency personnel. Good progress is being made on each of the three parts of the study.

Washington D.C. Office

Staff collaborated on a published draft paper for lay consumption on the application of limited entry to fisheries and its potential advantages and limitations. The thrust is not to push for any form of limited entry in any specific fishery but to disseminate background information to interested parties.

North Pacific Fishery Management Council

In 1979 the Council implemented a Fishery Management Plan (FMP) for the high seas salmon troll fishery off Alaska that limited participation to those with a valid State of Alaska salmon troll permit or who were issued a federal troll permit. Federal troll permits were issued to those who did not hold a State troll permit and who harvested salmon in the high seas troll fishery in 1974, 1976, or 1977. Two federal permits were issued.

The Council actively led an effort to implement a limited entry program for halibut and submitted a proposal to the Secretary of Commerce in 1983 for a moratorium on new entry. The proposal was rejected at the DOC level after input from OMB. Subsequently the Council directed staff to prepare briefing material to be used in limited entry workshops in the States of Alaska and Washington with industry members. A subcommittee of representatives from various organizations has been formed and has held two planning meetings. Discussions have also been held at Council meetings on the possibility of exploring limited access for other fisheries under Council jurisdiction. The Council sponsored with several other entities a fisheries management conference in Anchorage in November 1984 which dealt primarily with various facets of limited entry applications to Alaska fisheries.

Oregon Coastal Zone Management Association (OCZMA)

A limited entry conference was jointly hosted by OCZMA and OSU Sea Grant in Newport, Oregon, in March 7-8,1985. It was entitled "Fishing for Answers" with a two-day program of speakers from Australia, Canada, and east and west coasts of the United States, representing government agencies and various segments of the fishing industry. Proceedings will be available in a few months. Many of the attendees responded on a questionnaire that they would welcome additional information and discussion. Future plans are indefinite.

Oregon Department of Fish and Wildlife

ODFW is administering restricted vessel permit systems in the ocean troll salmon, ocean pink shrimp, Columbia River gillnet, and ocean scallop fisheries. In 1979 the Oregon legislature enacted a moratorium on the entrance of new vessels into the troll salmon fishery. Implementation of the permit system drew a number of historically active vessels back into active participation in that fishery to maintain eligibility. Permits have been freely transferable until the law was modified in 1983. Beginning in 1984 a vessel permit may be transferred to a larger vessel only if the vessel owned held a permit prior to 1983 and the vessel receiving the permit either is of new construction or it possessed a permit prior to 1983. The potential to use a lottery system to allow new entrants in order to maintain the ceiling of vessels at the 1978 level was postponed until at least 1988. Permit holders are required to land at least one salmon a year, in addition to purchasing the annual permit, in order to remain qualified. During 1984 and again in 1985, the annual eligibility requirement of landing at least one salmon was waived for permit holders because the catch quota and associated regulations were so restrictive. The number of vessels landing troll caught salmon in Oregon averaged 2,442 annually for the three years 1974-76. For the period 1977-79, inclusively, the average annual number of permit holders was 3,127. For the years 1980-85, permit holders have numbered 4,314, 3,926, 3,646, 3,437, and 3,201, respectively. Fourteen percent of the permit holders did not land salmon in 1983 and 12 percent did not in 1984.

Beginning in 1979, legislation was passed requiring every individual intending to operate a vessel in the ocean pink shrimp fishery to first obtain a vessel permit. Eligibility for purchasing a pink shrimp permit includes evidence of history of landings in Oregon, and landing in Oregon at least 5,000 pounds a year since 1979. Permits can be transferred to a replacement vessel by the same permit holder, or to the purchaser of a permitted vessel. A lottery is available to maintain the fleet at the 1978 level of approximately 373 vessels. Beginning with 1980 the number of permit holders has gradually decreased (373; 295; 269; 234; and 209).

In 1981, the US Congress and Oregon Legislature authorized the Oregon River Gillnet Salmon Vessel Fleet Reduction (Buy-Back) Program. The Program's objectives are to: (1) promote conservation and protection of Oregon's salmon resources through fleet reduction and (2) respond to hardships resulting from federal court decisions on Indian treaty rights. ODFW implemented the program in April 1983, utilizing federal funding provided through a US Department of Commerce grant. Oregon conducted three rounds of permit purchases and received 170 offers to sell Columbia River gillnet permits. A 23% reduction in the Oregon gillnet fleet has been achieved with the purchase and retirement of 118 permits. A comprehensive evaluation of the effects of the Oregon program on the current and potential effort and capacity of the combined (Oregon and Washington) Columbia River gillnet fleet is scheduled to begin this fall. The fleet reduction program can potentially reduce the Oregon gillnet fleet to more manageable and efficient levels. It is not known if the program will be of sufficient magnitude and duration to fully accomplish program objectives.

In 1981 the Oregon legislature enacted a permit system on vessels operating in the ocean scallop fishery. Eligibility requirements are comparable to those for pink shrimp, except that 10 pounds of food fish must be landed annually to qualify for next year's permit. A permit can be transferred, providing the receiving vessel has participated in the scallop fishery for at least three years. Scallop permits diminished from 196 in 1981 to 164, 144, and 134, respectively, in 1982, 1983 and 1984.

OSU Sea Grant

The staff provided active leadership in and cohosted with OCZMA the limited entry conference in Newport, Oregon, in March 1985. Future plans are indefinite.

Pacific Fishery Management Council

At a Council meeting in November 1984 a motion was passed to create a committee of appropriate Council and agency staff members to look into the limited entry situation in conjunction with others to develop background information to be made available to all including the fishing industry. The council is committed at this time to assist others in information development and not to take the leadership in espousing limited entry in general or individual aspects for any particular fishery.

Pacific Marine Fisheries Commission

The Commission formally adopted a motion at its annual meeting in Seattle in November 1984 to create a committee to

prepare an issue paper on effort limitation. The paper will provide background on and an evaluation of existing programs worldwide, and a discussion of advantages and disadvantages. Committee members Alverson, Beiningen, Odemar, and Woelke were appointed. Also, at its April 1985 meeting, the Commission decided to appoint an industry committee to review the issue paper. This committee will be comprised of one industry member opposed and one in favor of limited entry from each state. The issue paper was to be ready for Commission review at its October 1985 meeting.

Washington Department of Fisheries

The goeduck limited entry program went into effect in 1979. The harvest rights to the goeducks from public land are sold at auction and, therefore, there is direct control over the number of licenses sold. Crab limited entry has been in effect since 1980. Basically it is a moratorium on issuance of new licenses and a non-transferability clause to achieve reduction. The number of licenses has been reduced from 400 to 300, the target is 200. A herring license moratorium was enacted in 1973 and has effectively kept the lid on herring licenses. It does not include a program to reduce the number of licenses. The salmon license limitation was started in 1974. It includes a moratorium on issuance of new licenses and a separate buy back program to reduce licenses. The moratorium on goeducks came into being at the onset of the fishery. In the other three cases the programs were implemented on existing fisheries because of concern for excessive effort. All programs were created by specific legislation sought by the department and industry. All programs are administered by WDF.

Western Pacific Fishery Management Council

The Council sponsored a conference on limited entry in Kailu-Kona in August 1984 to provide background to interested fishermen on what limited entry is and how it has been used, and possible applications to appropriate Council area fisheries. There was a productive exchange and plans were made to consider including limited entry provisions in drafts of Shrimp and Bottomfish FMPs. Appropriate wording was included and the drafts are being reworked. A second round of hearings is underway.

Limited Entry in the Alaska Halibut Fishery, Ron Miller, North Pacific Fishery Management Council

In 1982, the Council voted to implement a moratorium in the halibut fishery off Alaska to begin with the 1983 season. Prior to 1982, there were some questions regarding the Council's authority to take any management action whatsoever in the fishery, much less access limitation. The Northern Pacific Halibut Act of 1982, which implemented a new treaty between the United States and Canada, gave the Council authority to implement regulations, including limited entry regulations, if they didni conflict with International Pacific Halibut Commission (IPHC) regulations.

The Council action was instigated by substantial concern over expanding halibut fleets and shortening seasons. In 1974, the fishery in Southeast Alaska and the Eastern Gulf of Alaska lasted 121 days. In 1979, in Southeast Alaska, it was 23 days and in the Gulf, 32 days. The fleet had grown by approximately 1,000 vessels from 2,073 in 1974 to 3,050 in 1979. The halibut fishery was one of the last open access fisheries for highly valued species in the region. Fishermen could enter it at relatively low costs compared to other fisheries, like king crab. In 1979, the price for halibut was approximately $2.13 a pound, so price was drawing a bt of people into the fishery. Some of the more established participants in the fishery petitioned the Council to do something to address the increase in participants. In July 1982, the Council voted to implement a moratorium in the fishery. This moratorium was to last for a period of three years (1983-1985). Its purpose was to give the Council a breathing period to decide what permanent regulation they wanted to implement in the fishery. Participation in the fishery during the proposed moratorium period would have been limited to those who had a legal harvest and sale of halibut at any time during the period from 1978 through 1982.

The Council conducted extensive hearings throughout the State of Alaska and in Seattle to take public comment on the proposed moratorium. At its March, 1983 meeting, after considering the public comments, the moratorium was substantially changed. The same 1983-1985 period applied, but there was a special circumstances provision included. It allowed any individual otherwise eligible to participate in the moratorium period who was prevented from doing so because of death, injury, disease or age to designate a substitute to fish his or her vessel. In addition, the vessel criteria became more complicated. There was no prior participation or other requirement for vessels under 5 net ton. For vessels over 5 net ton, there were substantial restrictions. In order for a vessel to be introduced into the fishery during the moratorium period, it would need to have replaced one that was used prior to the moratorium period, and was sunk or otherwise disabled. The replacement was limited to an increase in size of 10% of the net tonnage of the vessel it replaced. A vessel under construction of 5 net tons or over whose keel was laid on or before March 31, 1983, could be used in the fishery if owned by a person, who before December 3, 1982, had owned a vessel that was used in the fishery during 1978 to 1982.

The Council adopted the moratorium at its March, 1983 meeting and submitted it for Secretary of Commerce approval. At the May, 1983 meeting, the Council was informed that the proposal would stand a better chance of being approved if the Council included an appeal procedure. The Council did not want to do this, because it would actually circumvent the purpose of the moratorium. An administrative appeals procedure would allow people to fish pending the final resolution of their appeal. The Council, therefore, declined to include that provision. The National Marine Fisheries Service Central Office had submitted a proposal that would have allowed those not authorized to fish during the moratorium, to petition for an exception, and required that they state the circumstances which prevented them from fishing during the 1978-1982 eligibility period. It would also be necessary to demonstrate the financial loss that would be incurred if not allowed to fish. The Council also turned this proposal down and decided to go with the proposal as submitted.

On June 15, 1983, one day before the beginning of the halibut season in Alaska, John Byrne, who was then NOAA Administrator, disapproved the moratorium because, in his opinion, it did not contribute to the resolution of the problem of excess participation and over-capitalization in the fishery. The moratorium was not intended to solve those problems, its purpose being to allow the Council three years to make a decision on what form of permanent regulation it wanted to implement.

NOAA's disapproval was based in a large part on the recommendation from the Office of Management and Budget (OMB) which took a look at the proposal and saw that it was a fairly complex regulatory scheme. They thought that the Council would just stop with this moratorium, and would not move to implement permanent limited entry or any other form of permanent regulation. There was also a great deal of political pressure applied to OMB and to National Marine Fisheries Service to disapprove the proposal.

The summer following disapproval, the Council directed its halibut work group to decide whether they should pursue a moratorium for the 1984 season. That work group recommended at the December, 1983 Council meeting that the initial moratorium proposal be amended and resubmitted for 1984. The amendments proposed by the work group were to limit the term of the moratorium to two fishing seasons, to include an appeals procedure, to include a provision that any halibut vessels sold during the moratorium period be transferred with any rights in any future limited entry system, to change the qualifying period for the moratorium to 1978 to 1983, and to include a statement that adoption of a moratorium constituted a commitment by the Council to implement a permanent halibut limited entry system at the end of the moratorium period.

After a review of the recommendations, the Council voted to discontinue consideration of the moratorium in the halibut fishery. The Council directed its staff to prepare material on management regimes available for implementation in the fishery as quickly as possible.

A report entitled, "The North Pacific Halibut Fishery Options for Realization of Management Goals," was released on August 1, 1984. That report concluded that it was unlikely that any traditional method of regulating the halibut fishery available to the Council, would be effective in the long term in achieving any viable management goals. It proposed that the Council must implement some form of access limitation if it decided to manage the fishery.

At the Council meeting following the release of the report (September, 1984), the Council voted to take an active management role in the fishery and directed the staff to prepare material on management options that would be presented in December. This material was to include, but not be limited to, information on exclusive area registration, license limitation and quota shares. The Council also appointed a special Halibut Subcommittee to work with the staff in this task.

In December, this material was presented, along with a recommendation by the work group. If the Council were to meet its management goals in the halibut fishery, it would have to aggressively pursue a program of effort management, which would take into account the long-term well-being of a multi-fishery longline fleet, for which halibut was the principal target. The Council considered the report and the recommendations. It directed the Committee to rework the material in the report and include information on status quo management. The Council intended that this modified report be used in a series of workshops in Alaska and Seattle in the spring of 1985. The purpose of these workshops was to insure that the fishing community was fully briefed on various management options available to the Council for the halibut fishery.

There was substantial political pressure exerted on the Council to cease any action regarding the halibut fishery. After some consideration, the Council decided to defer action on the management workshops. Instead, the Council requested that Sea Grant and the National Coastal Resources Research and Development Institute pursue the project. At present, the Council is not taking an active role in the management of the halibut fishery.

Alternative Forms of Limited Entry Workshop,
R. Bruce Rettig, Oregon State University

There are plans to hold a workshop or symposium to review limited entry programs sometime in 1986. The goal and approach to be used at the workshop are as follows.

Statement of Issue or Problem:

Restrictive licensing of fishermen, vessels, and gear has become increasingly important in fishery management in the United States (especially during the last 15 years) and in many other parts of the world. There is a general impression that most U.S. programs need to be revised and that careful analysis of experience in both domestic and foreign limited access fisheries would be quite valuable. However, the specific details of many programs have not been carefully evaluated. Among the variations on U.S. licensing programs being considered are individual fisherman quota programs like those recently introduced in Canada and Australia and large-scale vessel reduction programs like those used in Norway and Japan. Information needs to be collected on the economic, social, and biological implications of these programs. Fundamental concerns identified by fishermen, such as the need for flexibility by fishermen operating in several fisheries, must also be carefully analyzed. While these kinds of discussions are of particular interest in all Pacific states where limited entry is being considered for introduction or revision, these same concerns have been debated in many Atlantic and Gulf fisheries, such as the Mid-Atlantic surf clam fishery, the South Atlantic shrimp fishery, and the Gulf spiny lobster fishery.

Who Will Benefit from this Study?

The primary beneficiaries of this study are fishermen involved in designing effort limitation programs. Many fishermen are trying to include successful aspects of current limited entry programs while avoiding parts that are not right for them. Another group that will benefit from this study are fishermen who do not want limited entry, but want to reach this conclusion by understanding alternative policies rather than basing their reactions solely on emotions. Finally, government agencies responsible for managing fishing effort will benefit from the critical review of experience by other government agencies, fishermen, and the academic community.

Overall Project Goal:

The purpose of this project is to identify consequences of alternative programs to limit fishing effort, especially measures recently adopted or under consideration; to assess these approaches with respect to resource conservation (biological effectiveness), industry profitability, community stability, equity, political acceptability, and costs of administration and enforcement; and to provide the fishing industry, fishery managers, and other interested groups information on possible new options.

Approach to be Used:

(1) Concerns about limited entry programs would be identified by the principal investigator through correspondence with state and national fishery management agencies, both in the United States and other countries. Assistance will also be provided by several regional offices and research centers of the National Marine Fisheries Service.

(2) Reports would be requested from staff of limited entry programs in Australia, Canada, Japan, New Zealand, Norway, the United States, and selected other countries. These reports would emphasize new initiatives and provide information on items of special concern identified in the first step of the project.

(3) A workshop would be held to review the reports on limited entry experience. While the background papers would consist largely of material written as experience papers (state by state and country by country), the workshop sessions would be organized around points of concern. An example might be whether transferability tended to shift ownership of licenses from small, local fishing villages to urban areas, possibly in another state or region.

(4) A paper would be produced summarizing similarities and differences of alternative programs to limit fishing effort. If adequate funding can be secured, the reports described in (2)

would also be published in a proceedings volume.

PMFC Advisory Committee Comments, John Garner, PMFC Advisory Committee Chairman

It is the opinion of the Advisory Committee that no one entity provides an adequate clearinghouse and source of information relating to limited entry systems and alternatives. PMFC can maintain a viable role in that regard. The Commission is encouraged to continue to gather information on effort management, which includes limited entry, and to address all facets of the issue and disseminate that information to those it affects. The Commission must remain neutral on the decision as to whether limited entry should be employed in a particular fishery.

PMFC Position on Limited Entry

The following directive was adopted unanimously by the five compact States on October 2, 1985 at the Annual Meeting in Juneau, Alaska:

The Commission reaffirms its position to remain neutral on the issue of limited entry, but feels it desirable to serve as a clearinghouse for information on the broader subject of effort management. The Staff is directed to continue to gather relevant information on all facets of effort management and distribute it to the various trade associations.

INTERJURISDICTIONAL FISHERIES MANAGEMENT

The National Marine Fisheries Service (NMFS) drafted a policy in 1985 to improve management of interjurisdictional fisheries throughout their range. The Pacific Marine Fisheries Commission did not take a position on the NMFS Policy, but instead recommended that it be published in the Federal Register for comment. The Policy has not been published and apparently is not being pursued further by NMFS. At the Commission's request, PMFC Staff prepared a paper describing current management arrangements for Pacific interjurisdictional fisheries which recommends no new management arrangements. A draft of this paper entitled, "Status of Management of Pacific Coast Interjurisdictional Fisheries and Recommendations for the Future" was discussed at the 1985 Annual Meeting, at which time the Commission instructed the PMFC Staff to distribute the paper for public and agency comment. Comments were received through the end of December 1985 and the final draft of the paper will be reviewed by the Commission at its April 1986 meeting.

SCIENTISTS' WORKSHOP ON HOOKING MORTALITY

The Commission sponsored a one-day workshop at its 1985 Annual Meeting on the Problems relating to assessment of salmon shaker (release) mortalities in hook and line fisheries. Approximately 30 representatives from the Pacific States fishery agencies, the Pacific and North Pacific Fishery Management Councils and from Canada participated. The group discussed the ways in which hooking mortality is addressed by the respective agencies, reviewed recent hook and release studies, and discussed ways of reducing hook and release incidence. A brief summary of the workshop results follows.

Hook and release problems of some magnitude do exist in most coastal salmon fisheries. Because of the chinook and coho catch ceilings imposed under the new U.S./Canada treaty, some expansion of hook and release problems is expected. It is therefore appropriate that hook and release be included as a consideration in the development of management regimes. It is also important that ways of improving information on hook and release be developed. On the other hand, hook and release mortality is only one of several types of incidental, fishery-induced mortalities such as gillnet dropout and squishers in seine fisheries.

The manner in which hook and release is dealt with in various coastal fisheries was discussed. From the comments of agency representatives present, it appears that hook and release impacts are considered in the management of most coastal fisheries. Because of the constraints resulting from the way in which fisheries are conducted, most agencies attempt to minimize hook and release mortalities by regulations and by public information programs. There are differences in the extent to which these mortalities and their impacts are quantified and incorporated into management decisions.

The workshop addressed recent hook and release studies. A number of new studies have been conducted in recent years and several are currently being conducted. Some of these have been fishery monitoring programs designed to estimate total numbers and mortalities of hooked and released fish in ongoing fisheries. Others have been more limited research studies designed to provide information on specific aspects of the hook and release problem, such as injury rates for different types of gear. Data and estimates from the different studies are often quite variable. This seems to be due in part to variations in the types of studies, types and nature of the fisheries and the ways in which the data are collected. No general conclusions were reached at the workshop regarding such things as "standard" mortality rates which might be applied broadly to different fisheries.

The workshop also discussed ways of improving data bases and information on shaker mortalities, and ways of reducing hook and release incidence and mortalities when hook and release fisheries are unavoidable.

Three recommendations were drafted by the workshop participants. The first was for a standardization of certain aspects of hook and release studies to allow comparison and incorporation of the results from different studies. This would include a standardization of the injury codes and, in more general terms, a standardization of the types of data collected. The second recommendation was for sensitivity analysis studies of the mortality rates. The question was raised as to the relative importance of numbers of hooked and released fish versus the mortality rate of these fish. Some participants felt that the numbers of fish hooked and released was far more important than the accuracy of the mortality rate. Mortality rates ranging from 20 to 40 percent may not change the impact significantly if the numbers of fish hooked and released are known with acceptable precision. If this is true, then substantive costs to increase the precision of the mortality rates may not be warranted. It was recommended that those agencies which currently include hook and release mortalities in their management models attempt to conduct sensitivity analyses prior to the 1986 season.

The final recommendation was that a formal 2-3 day technical workshop on hook and release should be conducted in mid-1986. It should involve coastwide participation with an emphasis on detailed data presentations. It would include a review of current hook and release monitoring programs, an analysis of ways of improving studies and maximizing information obtained for dollars spent, and ways in which hook and release mortalities could be reduced.

Under the U.S./Canada treaty, there will be a substantial increase in hook and release monitoring studies. Some of these studies will be expensive and it is important that these programs are designed to provide the maximum amount of usable information.

As a follow-up to the workshop, PMFC contracted with Howard Horton and Ruth Wilson-Jacobs for a literature review of hooking mortality studies. Their manuscript paper entitled, "A review of hooking mortality of coho (Oncorhynchus kisutch) and chinook (0. tshawvtscha^ salmon and steelhead trout (Salmo aairdneri) was completed in December 1985. The paper recommends a composite estimate for immediate and delayed mortality in the chinook and coho sport fishery of about 7%. The authors consider the data used to reach this estimate to be insufficient for long-term management purposes. For troll caught coho and chinook, the literature contained a wide range of mortality estimates. The authors offer 10% as an appropriate estimate of immediate mortality rate and about 30% for delayed mortality. When these two are added, a rate of 40% for total hooking mortality of troll caught chinook and coho is suggested. The authors point out that "the data used to make this estimate are incomplete and extremely variable." Insufficient data was found for estimates of sport caught hooking mortality of chinook or coho salmon in rivers or streams. Unpublished data from Canada and Washington indicate that immediate and delayed hooking mortality combined for steelhead trout in rivers and streams is probably between 4 and 11 percent. Copies of this manuscript report are available from the Commission.

In response to the scientists' recommendation for a 2-3 day workshop in 1986 to address in more detail this issue of hooking mortality, the Commission directed the Executive Director to write the Pacific Salmon Commission and ask that it sponsor such a workshop.

1986 ISSUES

1. Marine Insurance. An Insurance Committee was established to address the soaring costs of insurance coverage for commercial fishermen, processors, workers, support equipment, and fishing vessels. The Committee shall review the pros and cons of requesting a modification of the Jones Act to remove commercial fishermen from the "Merchant Seamen" category. The current practices for establishing insurance premiums and the information base used will be examined. Alternative methods for providing insurance coverage and the pros and cons of each will be identified. The Insurance Committee's report shall be presented to the Commission at its spring 1986 meeting.

2. Evaluation **of PMFC.** An evaluation of PMFC will be prepared by an Evaluation Committee for the spring 1986 meeting of the Commission. The evaluation shall review the function of the Commission, its Staff, the Executive Committee and the Advisors and Scientists/Managers. The Annual Meeting format that now includes a concentration on broader issues versus the past practice of resolutions will be reviewed. Finally, the evaluation will analyze the various functions of the Commission since the inception of the Magnuson Fishery Conservation and Management Act of 1976.

3. North American Fishery Resources Interceptions. The Commission directed the Staff to support efforts to eliminate high seas interception of North American fishery resources by foreign nations, and to gather information on interceptions and disseminate such information to affected parties. The Executive Director was instructed to write a letter to the State Department recommending elimination of Japanese high seas interception of North American salmonids, in advance of the bilateral discussion scheduled for October. (Unanimously approved. Moved: WA Seconded: OR)

ADMINISTRATIVE REPORTS AND ACTIONS

EXECUTIVE COMMITTEE ACTIONS

The Executive Committee met on April 25 and October 1, 1985 and took the following actions:

1. Unanimously approved changes to the FY1986 budget for a new amount of $393,058.
2. Approved participation by PMFC employees in the State of Oregon Deferred Compensation Plan.
3. Approved changes to the PMFC Pension Plan allowing a more flexible contribution rate, withdrawal and re entry provisions, and more liberal eligibility require ments.
4. Adopted a revised personnel policy.
5. Placed a cap of $5,000 on the amount of money for special studies that may be requested by the Commis sion in 1986.
6. Instituted a 5% add-on to fringe benefits to be placed in an accrued leave fund for payment of leave and termination leave.
7. Approved PMFC joining as a charter member of the American League of Anglers and Boaters.

EXECUTIVE DIRECTOR'S REPORT FOR 1985

In 1985, the Commission Staff continued its role of implementing Commission policy on various regional issues of concern, facilitating regional data collection and research, and participating in external activities. Staff activities since the 1984 Annual Meeting are summarized in this report.

Legislative Activities

The Commission took a position on several legislative bills at the 1984 Annual Meeting which required follow-up action in 1985 by the Executive Director. Also, the Staff continued to monitor all national legislation affecting fisheries in 1985, and the Executive Director served as Chairman of the Pacific Fishery Management Council's Legislative Committee. The major legislative activities in 1985 were as follows:

Magnuson Fishery Conservation and Management Act

At its 1984 meeting, the Commission recommended the following proposed changes to the Act:

1. Councils should include habitat concerns in manage ment plans and the Secretary of Commerce should respond to these concerns and condition the action of other Federal agencies that adversely impact habitat;
2. The Secretary should bear the burden of proof that fishery management plans are not in compliance with the law;
3. The Secretarial plan review period should start as soon as plans and regulations are transmitted by the Councils;
4. Fishery rule making should be exempt from regulatory reform requirements;

5. Councils should have the authority to implement dom estic fishery observer programs; and
6. Joint venture processors should pay fees comparable to domestic processors with the revenue earmarked for management of species harvested by joint ventures.

These recommendations were transmitted to the House Merchant Marine and Fisheries Committee and the Senate Commerce Committee. The House discussed some fairly significant changes to the Act in response to numerous industry and government comments. Several bills were introduced in the House, including H.R. 1533 (Breaux), H.R. 1876 (Bosco) and H.R. 2003 (Howard). On May 8, 1985 the Commmittee approved a revised H.R. 1533, which still awaits floor action. The bill contains numerous changes to the Act, but not the major changes in Pacific Council composition nor the consolidation of certain Councils that was proposed by some. In fact, Congress and the Administration agreed that major changes should not be made and that the Act should be reauthorized for only two years pending results of a Federal study of fishery management. H.R. 1533 includes habitat provisions and a more timely Secretarial review process as suggested by PMFC. Other major provisions of H.R. 1533 include: (1) authority for the Secretary of State to negotiate bilateral agreements allowing special foreign access, (2) restriction of the "basket" clause to living marine resource matters, (3) provision for adequate representation by user groups on Councils, (4) requirement for financial disclosure statements from Council members, (5) 2/3 industry approval before a limited access system and a prohibition on the sale of permits can be implemented, (6) provision for fees to be charged to fund a fishery compensation plan, and (7) changes to the State preemption section that would allow more timely preemption, set a time limit on preemption, and expand preemption to internal State waters. PMFC, the Pacific Council and the International Association of Fish and Wildlife Agencies are on record in opposition to internal waters preemption.

The Senate Commerce Committee is considering several bills, including S. 747 (Lautenberg), S. 958 (Danforth), S. 1245 (Stevens), and S. 1386 (Gorton). The Committee held a hearing on July 23, 1985, at which the principal issue discussed was phase-out of foreign and joint venture fisheries. There was not unanimous consensus for phase-out, but many testifiers supported the compromise phase-out provisions of S. 1386, which do not completely eliminate Total Allowable Level of Foreign Fishing (TALFF) and provide a continuing opportunity for joint ventures. The other major item discussed was the inclusion of tuna in the Act proposed by S.747. East and West Coast representatives were split on this issue, the West Coast and the State Department favoring status quo (exclusion of tuna).

As of this writing, there is no Committee consensus on phase-out language. Lacking that, the Committee likely will recommend reauthorization for two years (S. 958) with some amendments, including habitat language and some provisions of the Stevens' bill (S. 1245). There seems to be little agreement between the House and Senate on amendments and no particular rush to reauthorize the Act, which expired September 30, 1985. As of early 1986, there is still no action.

FY 1986 Appropriations

Each year the Executive Director submits testimony on Federal budgets affecting fisheries. In 1985, we commented on the budgets of NMFS, FWS and the Forest Service.

NMFS--The President's proposed budget for FY 1986 recommended a decrease of nearly 50% in NMFS funds compared to funds available in FY 1985. In oral and written testimony before the House and Senate, the three interstate compacts argued for restoration of these cuts, with emphasis on research and management of interjurisdictional fisheries. The state grant programs again were proposed for termination. PMFC argued for add-ons to adequately fund fishery data collection programs in support of North Pacific and Pacific Council management, but was unsuccessful. The House and Senate Appropriations Committee's reports state that "... of the funds provided for interjurisdictional fisheries management, that $350,000 be provided to develop interjurisdictional fishery management plans for species of priority interest." Presumably this money would be made available to the Interstate Fisheries Commissions if legislation requiring plans for interstate fisheries is passed (H.R. 1028, see below). In final action, Congress restored and actually enhanced the NMFS budget overall compared to FY 1985, although the two State grant programs were each cut $250,000.

FWS—The President's budget for FY 1986 would have completely eliminated funding for the Anadromous Fish Conservation Act program in the Fish and Wildlife Service (FWS) budget. PMFC argued for full funding at $4.0 million. The Administration proposed termination because it believes that new Wallop-Breaux funds would cover all ongoing anadromous fish projects. The FWS estimates that only about 50% of the Anadromous Fish Conservation Act projects would be eligible for Wallop-Breaux funding. Based on this estimate, the Congress restored $2.0 million for the Anadromous Fish Conservation Act program in FY 1986.

Forest Service—PMFC rcommended restoration of adequate funding for anadromous fish habitat research in the Pacific area. The Congress approved $1.1 million for habitat-related research.

Grant Program Reauthorization

The Anadromous Fish Conservation Act and Commercial Fisheries Research and Development Act were up for reauthorization in 1985 (Appropriations for these programs were covered above). Congress passed a straight reauthorization (no changes) to the Anadromous Fish Conservation Act program, which PMFC supported.

The House proposed significant changes to the Commercial Fisheries Research and Development Act. H.R. 1028, the Interjurisdictional Fisheries Research Act, was passed by the House on July 29, 1985. In essence, this bill would eliminate most inland States, limit projects to research on interjurisdictional fisheries, and require adoption of a Council or Commission fishery management plan before a State can spend its allocation. It authorizes an appropriation of $350,000 for the Interstate Fisheries Commissions to develop plans for interstate fisheries. The three Commissions testified that they would prefer no changes to the Act, but supported the concept of H.R. 1028 to place emphasis on interjurisdictional fisheries with the aim of garnering Administration support, which has been lacking under the present Act. Requiring plans for all fisheries which the States currently use these funds for creates a burden and requires new funds, while funds for current obligations are in short supply. Moreover, management plans may be unnecessary for some fisheries. The Pacific Council decided a few years ago that plans were not necessary for Dungeness crab, pink shrimp, herring, jack mackerel, squid and billfish. The Senate is expected to reauthorize the Act without changes, in which case a conference committee would have to settle the differences. As of early 1986, there was no final action from Congress, although appropriations for this program were approved for FY 1986 without the reauthorization.

Wallop-Breaux Appropriations

PMFC among many other agencies, organizations and individuals, worked with Congress to combat an Administration attempt to impound the funds accruing under the recently expanded Sport Fish Restoration (or Wallop-Breaux) Program. Congressional action to date ensures that all of the revenue will be made available, and will be automatically appropriated each year without the need for annual Congressional action; however, annual attempts by the Administration to use these funds to reduce the deficit can be expected. The new revenue was made available to the States on October 1,1985.

Fish and Wildlife Coordination Act

At the 1984 Annual Meeting, the Commission expressed its support for H.R. 5755, a bill to strengthen the provisions of the Act. No action was taken on this bill. In the new Congress of 1985, Representative John Breaux reintroduced the bill as H.R. 2704. PMFC submitted comments in favor of the bill and also recommended an additional amendment to include Federal land management actions which adversely impact aquatic resources. The House passed the bill in November 1985. PMFC's suggested amendment was not included because it was believed to be controversial. There has been no action in the Senate.

National Marketing Councils

Congressman John Breaux introduced H.R. 2935 in July 1985 to promote the consumption of fish in the United States through establishment of seafood marketing councils. Pursuant to this bill, the fishing industry would have the option of establishing a marketing council in a particular region for one or more seafood products, if approved by referendum among all participants. The House passed this legislation in December 1985. There is no companion bill in the Senate. By direction of the Commission, its staff did not comment on this bill.

National Fish Hatchery System

In August 1985, Congressman Breaux introduced H.R. 3167, to establish a National Fish Hatchery System within the Fish and Wildlife Service. Federal involvement would be limited to the following five primary objectives:

(1) mitigation for impacts of Federal water projects (e.g., Mitchell Act hatcheries), in which case the bene ficiaries of those projects would pay the cost of mitigation;
(2) restoration of depleted stocks of national signifi cance;
(3) fulfillment of international or Indian treaty obligations;
(4) research and development related to fish culture; and
(5) recovery of endangered or threatened species.

The bill is expected to be approved by the Merchant Marine and Fisheries Committee in March 1986.

Implementation of Other 1984 Commission Actions

In addition to commenting on legislation, the Executive Director followed up on 1984 actions of the Commission during 1985. These action items are described elsewhere in this Annual Report.

Facilitation **of Research and Data Collection**

In addition to seeking continued funding for State research and data collection projects, PMFC continued its role of facilitation and coordination of data activities in 1985. The Commission administered $3.4 million in contract funds in 1985 dedicated to numerous programs. PMFC's payroll in 1985 included 170 individuals and totalled $1.4 million. PMFC's responsibility under these contracts varied and included the following:

1) pass Federal funds directly through to the States and provide contract services (contract services include preparing proposals for funding, preparing periodic reports, paying bills and travel expenses, accounting, budgeting, and fiscal responsibility);
2) use Federal funds to employ samplers to bolster State workforces;
3) provide a "parent" organization and contract services for non-State and non-Federal entities (e.g., Columbia Basin Fish and Wildlife Council, Enhancement Plan ning Team, and Water Budget Center); and
4) employ headquarters and contract staff with major program responsibility (e.g.,Marine Recreational Survey, Regional Tag Coordination).

A brief review of the major projects follows:

West Coast Fishery Data Collection and Analysis-In 1985, PMFC and the NMFS NW Region initiated a new effort to combine Pacific Coast Data Committee and PacFIN projects with Pacific Council programmatic projects into the coastwide program entitled "West Coast Fishery Data Collection and Analysis." This program includes State data collection, reporting and analysis projects in support of Pacific Council salmon and groundfish management. PMFC will administer this program with funds combined from several NMFS sources. A total of $708,000 is available for FY 1986 which will meet the Council's needs. Under this new system, PMFC submits one proposal to NMFS, and NMFS pools available revenues in an attempt to meet the needs. PMFC then subcontracts with the States of Washington and Oregon, and directly hires samplers for the California projects.

The Executive Director currently is convening meetings of the State and Federal Directors in the Pacific Council area to establish long-term commitments and plans for funding these projects in FY1987 and beyond.

Marine Recreational Fishery Statistics Survey-Under this national survey funded by NMFS since 1979, PMFC and the States of Washington, Oregon and California conduct the angler intercept portion for the West Coast area. In calendar year 1985, $665,000 was dedicated to this effort. These funds support field interviewers in three States, who contact 41,000 anglers per year to estimate catch by species and mode of fishing. Social data also are collected. The contract also supports one-half of the salary of Russell Porter, PMFC's Survey Coordinator. Funds for calendar year 1986 are well below those needed to continue the Survey at present sampling levels. PMFC and the States are seeking alternative sources of funding.

Fish Passage Center-Under a contract with the Bonneville Power Administration (BPA), PMFC employs one of the two Water Budget Managers and the Center Staff. The Center monitors the success of juvenile salmon and steelhead migration downstream through the various pools and dams, and makes recommendations to dam operators on flows and spills to maximize migration success. The fishery agencies, tribes and BPA are conferring to select a long-term parent organization.

Enhancement Planning--To meet the mandates of the Salmon and Steelhead Conservation and Enhancement Act, the Northwest agencies and tribes set up an Enhancement Planning Team to develop enhancement plans for the Washington and Columbia River areas. With NMFS funding, PMFC was responsible for coordination of this activity through

January 1986. Dr. Derek Poon served, as Coordinator through that time, after which the coordination activity is being handled by Washington Department of Fisheries. The Team expects to complete its tasks by December 31,1986.

Regional Salmonid Tag Coordination--In 1985, PMFC's Regional Mark Processing Center published the following reports:

1) 1983 tag recovery data (1984 recovery data expected to be published February 1986)
2) 1984 tag release data
3) 1985 mid-year tag release report
4) 1985 fin mark requests
5) Coded-Wire Tag Procedures Manual

In addition, the Center now has the capability to provide(on request) multi-year recoveries for a given brood year and tag code. PMFC continues to explore the feasibility and need for an on-line regional coded wire tag data base. This discussion likely will continue under the auspices of the Pacific Salmon Commission.

Two major analyses commenced in 1983 and funded by USFWS will be completed in 1986. They are "Coastwide Plan to Identify Chinook and Coho Salmon Stocks" and "Improving Salmonid Coded-Wire Tag Studies."

BPA Coded-Wire Tag Sampling Program--BPA provided $580,000 in calendar year 1985 to help support salmon and steelhead tag recovery efforts by ODFW, WDF and WDG. The agencies and PMFC met with BPA in May 1985 to secure a long-term funding commitment for these efforts. BPA agreed to continue to provide its share of the CWT recovery costs.

External Activities of the Executive Director

The Executive Director is a non-voting member of the Pacific and North Pacific Fishery Management Councils. By contract, John Harville represents PMFC on the North Pacific Council. This arrangement will continue until September 30,1986, after which the Executive Director will attend meetings of both Councils. This has been a productive arrangement, which has allowed the Executive Director to devote substantial time to important activities of the Commission and the Pacific Council. During FY 1985, the Executive Director served as Chairman of the Pacific Council's Legislative Committee. In FY1986, the Executive Director will continue in that role as well as Chairman of the Groundfish Select Group which recommends management measures to the Council. He will also serve on the Budget Committee and the Groundfish Objectives Committee.

The Executive Director continues to serve as the U.S. member of the Canada-U.S. Groundfish Committee. This is a useful forum to exchange biological and economic data, propose needed research, and discuss the impacts of regulatory alternatives on transboundary groundfish stocks. The Committee is advised by a Technical Subcommittee composed of Canadian and U.S. scientists. The Subcommittee has created a standing group of age reading experts, whose activities are coordinated by PMFC.

The Executive Directors of the Atlantic States, Gulf States and Pacific Marine Fisheries Commissions serve as consultants to the Marine Fisheries Advisory Committee (MAFAC) which advises the Secretary of Commerce and the NOAA Administrator on fishery policy. MAFAC meets 3-4 times per year. Also, PMFC is represented on several committees of the International Association of Fish and Wildlife Agencies. The Executive Director also serves on the Pacific Coast Fisheries Data Committee and the Committee on Anadromous Fish Marking and Tagging.

In addition to the above activities, the Executive Director attended the following meetings during 1985:

1) Oil and Gas/Fisheries Conflict Meeting, Orlando Florida, January
2) Limited Entry Conference, Newport, Oregon, March
3) State Directors' Conference, Washington, DC, June
4) Groundfish Constituents' Meeting on NMFS Budget Priorities, Los Angeles, July
5) Pacific Fisheries Legislative Task Force, Portland, September

Other

During 1985, the Staff worked on revisions to the PMFC Personnel Policy and Pension Plan for Commission action in October.

TREASURER'S REPORT

The Treasurer, Gerald L. Fisher, prepared the Reports of Receipts and Disbursements for the period October 1, 1984 to September 1, 1985 for the Annual Meeting in Juneau, Alaska (See Appendix 1-Financial and Audit Reports). Receipts were: (1) member States' contributions of $89,200 (subsequently Oregon's contribution of $22,100 was received September 15, 1985); (2) external contract payments of $2,980,070 divided between PMFC general support of $188,100 and external contract expenses of $2,791,970. The audit report for the fiscal year ending June 30, 1985 found the financial statements of the Commission to be in satisfactory condition.

UPDATE OF ACTIONS TAKEN ON 1984 ISSUES

Uniform Tuna Tariff

The Commission endorsed a policy of a uniform tariff on all canned tuna and secondarily for all water-packed tuna. The Executive Director contracted staff assistance to prepare a paper, documenting the impacts of the tariff policy on the tuna industry and the need for a uniform tariff, entitled, "Trouble in the Tuna Industry—the impacts of tariff policy on the U.S. tuna industry." It was distributed to the Pacific Coast U.S. Congressional delegation and other interested parties. PMFC recommended that the tariff on water-packed canned tuna (presently 6%) be consistent with oil packed tuna (35%). Representative Glenn M. Anderson of California introduced H.R. 1262 on February 26, 1985 whose intent was to equalize these tariffs. The bill is currently being considered by the House Ways and Means Committee.

Vessel Access to Midway Island

Pursuant to Commission action, the Executive Director sent inquiries to the Navy Department requesting access by U.S. fishing vessels to Midway Harbor. Adjacent harbor facilities currently are not available to albacore fishermen who operate near Midway, the closest harbor being in Hawaii. After much correspondence, the Navy Department indicated they could allow fishing vessels to use the harbor as long as the fishing operation was self-supporting and did not interfere with military operations. Before this agreement could be finalized, it was withdrawn by the Navy Department.

Economic Cost of a Lost Fishery

California Sea Grant and PMFC jointly funded a study which estimates the total economic impacts of the relocation of the tuna industry. The paper by Dennis A. King and Harry A. Bateman was published in August 1985 and is entitled, "The economic impact of recent changes in the U.S. tuna industry." This Paper, which documents the value of the tuna fishery to all segments of the U.S. economy, was sent to the Pacific States Congressional delegations as further documentation of

the impacts of the current tuna tariff policy. It was also reviewed at the PMFC 1985 Annual Meeting.

Economic Stability in the Fishing Industry

This topic was adopted as an issue paper for the 1985 Annual Meeting. It is presented in the 1985 Annual Meeting section of this report.

Joint U.S./Mexico Fishery Research and Management

The Executive Director wrote the Commission of the Californias, NMFS, CDFG and the Pacific Fishery Management Council encouraging progress toward the goal of joint research and management of common fishery resources. The Pacific Council reactivated its U.S./Mexico Ad Hoc Committee with a specific charge of improving efforts to achieve joint research and data exchange. PMFC encouraged the Commission of the Californias to facilitate communication and research on transboundary fishes of concern to both the State of California and Baja California, Mexico. In February, 1985 a meeting was held at the National Marine Fisheries Service, Southwest Fisheries Center in La Jolla, California between the California Cooperative Fisheries Investigations Committee (CalCOFI) and the new head of the Mexican National Fisheries Institute and his associates. A draft U.S.-Mexico cooperative fisheries research agreement was prepared for review and further discussion, but no additional meetings were held in 1985.

Mitigation by U.S. Bureau of Reclamation and Federal Land Management Agencies

The position statement by the Commission regarding mitigation by Bureau of Reclamation, and Federal Land Management Agencies was transmitted to the Secretary of the Interior, the International Association of Fish and Wildlife Agencies and to Pacific States Congressional delegations. The Commission also endorsed amendment of the Fish and Wildlife Coordination Act to include land management agencies (such as BLM and the Forest Service), as well as habitat amendments to the MFCMA. The Executive Director continues to work with the National Wildlife Federation and the International Association of Fish and Wildlife Agencies on this issue. Congress passed omnibus water resources legislation containing authorization for some 300 water projects. This legislation includes language which requires mitigation measures concurrent with any construction or development.

PUBLICATIONS IN 1985

The following documents were published by the Commission in calendar year 1985:

1) 1982 Pacific Salmonid Coded Wire Tag Recoveries
2) 1983 Pacific Salmonid Coded Wire Tag Recoveries
3) 1985 Pacific Salmonid Mark List
4) Pacific Salmonid Coded Wire Tag Releases through 1984
5) Procedures for Coded Wire Tagging Pacific Salmonids
6) Thirty-Seventh Annual Report of the Pacific Marine Fisheries Commission for the Year 1984.

1986 ANNUAL MEETING

The 1986 Annual Meeting of the Commission will be held October 21-22, 1986 in Newport, Oregon at the Embarcadero Resort Hotel and Marina.

PERSONNEL

COMMISSIONERS

The following were Commissioners during all or part of 1985:

Alaska
Dr. Don Collinsworth, Juneau -- Chairman
Honorable Richard Eliason, Sitka Pete Isleib, Juneau

California
Jack Parnell, Sacramento ~ 2nd Vice Chairman
Honorable Barry Keene, Sacramento Stephanie Thornton, El Cerrito

Idaho
Jerry Con ley, Boise -- 3rd Vice Chairman
Norman Guth, Salmon Richard Hanson, Bayview

Oregon
Dr. John Donaldson, Portland - 1st Vice Chairman Don Christenson, Newport Phillip Schneider, Portland

Washington
Bill Wilkerson, Olympia -- Secretary
Honorable Brad Owen, Shelton
Robert Alverson, Seattle

COORDINATORS

PMFC Coordinators facilitate all aspects of PMFC programs within their State. The following were PMFC Coordinators in each State for 1985:

Alaska
Guy Thornburgh, Deputy Director, Commercial Fisheries Division, Alaska Department of Fish and Game

California
Mel Odemar, Assistant Chief, Inland Fisheries Division, 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
Gene DiDonato, Assistant Director, Washington Department of Fisheries; Sam Wright, Chief, Fisheries Management, Washington Department of Game

ADVISORS

The Advisory Committee is composed of representatives of the major user groups in each State. The following were Advisory Committee members during all or part of 1985:

Alaska
John Garner, Juneau -- Committee and Section Chairman
Bob Blake, Cordova
Paul Gronholdt, Sand Point
Ole Harder, Kodiak
Jack Lechner, Kodiak
Larry Powell, Yakutat
Bruce Wallace, Ketchikan

California
Robert Ross, Sacramento ~ Section Chairman
Frank Mason, San Diego
Carl Nettleton, San Diego
Charles Platt, Fort Bragg
Jerry Thomas, Fields Landing
Roger Thomas, Sausilito
Tony West, San Pedro

Idaho

Keith Stonebraker, Lewiston -- Section Chairman
Fred Christensen, Nampa Louis Racine, Pocatello

Oregon

Frank Warrens, Portland - Section Chairman
Joe Easley, Astoria
John Marincovich, Astoria
Henry Pavelek, Albany
Allan Fleming, Garibaldi
Herb Goblirsch, Newport
Jay Rasmussen, Newport

Washington

Barry Collier, Seattle - Section Chairman
Phillip Anderson, Westport
Rudy Petersen, Seattle
Richard Powell, Longview
Art Statt, Seattle
Terry Wright, Olympia
Rob Zuanich, Seattle

PMFC STAFF

During 1985, the PMFC Secretariat was composed of:

Portland Office

Lawrence D. Six -- Executive Director
Russell G. Porter -- Assistant to the Executive Director
Dr. J. Kenneth Johnson - Regional Mark Processing Center Data Manager
Pam Kahut -- Administrative Assistant
Jan Covert - Personnel Assistant
Michelle Dodgson - Secretary

Seattle

Will Daspit -- PacFIN Data Manager

Part-time Staff (Portland)

Dr. John P. Harville -- External Affairs Consultant
Gerald L. Fisher -- Treasurer
Leon A. Verhoeven -- Consultant

1986 OFFICERS

Elections were held at the 1985 Annual Meeting to select the Commission's officers for 1986. The following officers were elected for 1986:

Chairman

Dr. John Donaldson, Director, Oregon Department of Fish and Wildlife

1st Vice Chairman

Jack Parnell, Director, California Dept. of Fish & Game

2nd Vice Chairman

Jerry Conley, Director, Idaho Department of Fish and Game 3rd

Vice Chairman

Bill Wilkerson, Director, Washington Department of Fisheries

Secretary

Dr. Don Collinsworth, Commissioner, Alaska Department of Fish and Game

SUMMARY OF PMFC DATA PROJECTS

Pacific Fishery Information **Network (PacFIN),**
Will Daspit, PacFIN Data Manager

The basic design and capabilities of the PacFIN data base were reviewed in last year's Annual Report. During 1985, data structures and software were developed to perform an analysis of groundfish landings using the 1981 Washington Department of Fisheries (WDF) and Oregon Department of Fish and Wildlife (ODFW) research data base files. The end products were reports and data files displaying the distribution of landed catch, number of vessels making landings, and the number of landing receipts stratified by port group (in lieu of area), vessel class (classified by length), gear group, species group, and month of landing.

Software was completed to establish the PacFIN Historical Salmon Database. A test year of 1983 data was run through the software and reviewed by the appropriate States. The Pacific Coast Fishery Data Committee approved incorporating 1981-1985 salmon data into the system. Modifications were made to the Inseason Salmon Data System in order to indentify Treaty Indian catch prior to May 1st of each year. This was necessary since quota management is now required for Treaty Indian catch on or shortly after May 1 st.

Software was added to the PacFIN groundfish data base to present the display of "Grade/Size" information for various species by month or week and by area, port, and gear type. This was in response to a request by the Pacific Fishery Management Council's Groundfish Team for sablefish grade/size information from the PacFIN system. Since 1984, the Pacific Council's Groundfish Team has been collecting weekly catch estimates for various quota species/species-groups. Using these data in conjunction with data contained in the PacFIN Management Data Base, the team is able to provide on a monthly basis a "best estimate" of the year-to-date catch for each species/species-group to the Council, Industry and NMFS regional offices. In 1985, this "best estimate" projection was automated into the PacFIN system.

Changes were made in the PacFIN this year for North Pacific Fishery Management Council (Alaska) reports. The data base structure and the update and retrieval software were changed to provide reports consistent with the North Pacific Council's Groundfish Management Plans.

The Joint Venture Log data base was enhanced this year by adding two additional index sets. This has reduced the cost and time necessary to perform data base retrievals. Software to retrieve JV log records and compute various statistics was developed. The system can now select log records for any time period, area, and catch category.

Final specifictions were approved for the PacFIN system which will allow the merger of the PMFC Groundfish Data Series and the PacFIN Groundfish Data Base. The target date for completion of this merger is November, 1986.

Regional Mark Processing Center, Dr. Ken Johnson,
Data Manager

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 1985 in maintaining and upgrading the regional data bases for CWT releases and recoveries. The annual CWT Release report and Mark List report were published in May. The two reports provide summary data on all new CWT or finmark releases plus all cumulative marking studies dating back to 1971.

The area of greatest progress, however, was in the publication of the CWT recovery reports. All States made significant strides during 1984 and 1985 in eliminating problems that created a backlog of recovery data. This development was paralleled by a greatly accelerated flow of recovery data to the Mark Center in 1985. As a result, the 1981, 1982, and 1983 recovery reports were completed and distributed. In addition, the 1980 report was completed with the availability of the California data. Oregon and California

1984 recovery data also were completed and made available.

Programming work was largely completed on the development of software for generating summary reports of total tag recoveries of a given tag code across all agencies, fisheries, areas, and years. These new reports in effect constitute a "brood report."

The brood reports summarize total recoveries by tag code in three different time period formats: a) statistical two-week periods: b) calendar months: or c) on a seasonal basis. In each case, total observed and estimated recoveries are listed by fishery for each successive year in which recoveries occurred. In addition, the mean length and number of fish measured (if available in standard fork length) are provided, along with a summary of pertinent release data for the tag code. Area of catch also is provided in the two-week and monthly summary formats.

The summary reports are based upon finalized recovery data for years 1977-1983. Some holes exist since Alaska's 1981 recoveries and Washington's 1983 recoveries are not yet finalized and available. In addition, British Columbia's recoveries for all years have not been entered yet. These missing data sets are expected to be available soon.

The announcement of the availability of these new brood reports in October 1985 has resulted in a tremendously favorable response by data users. It is anticipated that user demand will continue to grow as most data users become aware of this service.

Programming also has been completed to give data users the option of obtaining the brood report summary data on magnetic tape so that it can then be downloaded onto other systems. Users may either select individual recovery records or data in the identical form as the 2-week hard copy brood reports. In addition, work is progressing on making the data file accessible to users on an interactive basis via remote site terminals. It is expected that this option will be fully implemented in 1986.

Regional coordination efforts in 1985 emphasized the standardization of procedures used for CWT tagging and recovery programs. The following summarize the three major tasks of these regional coordination efforts.

A. Development of Regional On-line Data Base

One primary emphasis was to pursue the development of a regional on- line CWT data base. The project was an outgrowth of substantial discussion on the subject during the 1984 Mark Meeting. It was, in addition, a response to a proposal by the Northwest Indian Fisheries Commission (NIFC) in December 1984 that PMFC coordinate the development and implementation of a regional on-line CWT data base management system.

As a first step, PMFC convened a preliminary meeting in January on the NIFC proposal to determine what was feasible and to expedite further discussion during the 1985 Mark Meeting. Those in attendance were experienced in data processing and the use of CWT data for research and management applications.

The resultant concensus was that an on-line CWT data base was essential. It was further agreed that it should consist of the "raw" individual records rather than data that had been aggregated or restructured to meet specific management and/or research needs.

Results and recommendations of the preliminary meeting were subsequently presented to the Mark Committee during the 1985 Mark Meeting. Committee members were in general agreement with the preliminary findings and recommendations. However, *very* little new progress was achieved because of the uncertainty introduced by the imminent U.S.-Canada Salmon treaty ratification process with all of its ramifications. The proceed further with efforts to define the data elements of the proposed broad-based regional CWT data base.

Ratification occured and the Pacific Salmon Commission was established, replacing the International Pacific Salmon Fisheries Commission in December 1985. The regional data base is now being considered by the Pacific Salmon Commission, meanwhile, the Mark Center pressed ahead with the development of CWT brood reports (i.e., summary of tag recoveries by tag code across all years, agencies, fisheries, and areas).

This effort was successful, and while not meeting all of the original objectives of the proposed regional data base (i.e., on-line accessibility, high-speed main-frame computer, and significantly expanded data set), the new brood reports meet the essential needs of providing users with summarized recovery data across all strata on a timely and easily accessible basis.

B. Update CWT Manual

The CWT procedures manual that was initially produced in 1983 following the two 1982 workshops was substantially revised during the first quarter of FY85. The 1983 version had a great deal of redundancy because the chapters on stock assessment studies and multiple comparison studies had been designed to stand alone. This redundancy has now been removed and the entire manual is much more cohesive.

The revised manual is divided into five chapters. Chapter 1 provides a general overview of the entire CWT program and is designed for the benefit of administrators and program managers. Chapter 2 provides a review of specifics on coded wire tagging and fin marking, plus a summary of regional agreements. Chapters 3 and 4 serve as technical reference for carrying out stock assessment studies and multiple comparison studies, respectively. Chapter 5 has not yet been completed, but will deal with sampling and tag estimation procedures.

Still needed is an adequate discussion of recommended ways to determine the number of fish to tag in order that the recovery data are at adequate levels and statistically reliable. It is anticipated that work by Frank de Libero, Bob Vreeland (NMFS), and others will be added to the manual as results become available.

C. Coastwide CWT Tagging Plan

The Oversight Committee for a Coastwide Tagging Plan met in Portland on May 30, 1985 to review Roy Wahle's preliminary draft of a final report and to determine what further work remained to be done to develop a coastwide tagging plan for fishery management purposes. A substantial number of improvements were recommended for the report by Committee members. PMFC staff time was committed to see that the needed changes are made.

Preliminary coordination work was carried out during June, July and August in an attempt to define what additional data could be furnished by the State agencies and by British Columbia. Particular emphasis was given to revising production levels of chinook and coho in all streams, and in determining what geographical areas constituted "management units" (i.e., production or stock release areas) and "management areas" (i.e., fishery areas).

In addition, considerable effort was taken to develop a detailed and comprehensive outline for revising the Wahle report into a coastwide tagging plan. The extensive outline benefitted from substantial input and help provided by Rich Lincoln (WDF) and Larry Six (PMFC), and from input of the Oversight Committee. Revisions and additional writing were commenced in December, with the goal of completing the

Marina Recreational Fisheries Statistics Survey,
Russell Porter, Pacific Marine Fisheries Commission

The end of calendar year 1985 marked the completion of 6-1/2 years of data collection coordinated by PMFC under the Marine Recreational Fisheries Statistics Survey funded by the National Marine Fisheries Service. The goal of the Survey is to estimate catch and effort data for the marine recreational fishery in the States of California, Oregon and Washington. An identical survey is also conducted on the Atlantic and Gulf coasts. The survey methodology employs a complemented-surveys approach: a telephone survey to estimate effort and a field survey of anglers to estimate catch and gather demographic data. Final reports detailing catch, angler trips, target species and many other paramenters by mode of fishing have been published by the National Marine Fisheries Service (NMFS) for the years 1979-1984. The 1985 report will be published in April 1986. The Survey is continuing into calendar year 1986. Copies of the final survey reports can be obtained from PMFC.

The survey concentrates on non-salmon recreational trips because the Pacific states all have extensive sampling programs underway in the salmon fishery. A summary of non-salmon angler trips and catch is provided in the following tables.

Non-Salmon Angler Trips (in millions)[1]

Year	Southern California	Northern California	Oregon	Washington	Total
1980	8.9	3.6	0.7	1.5	14.7
1981	5.1	2.9	1.1	1.9	10.9
1982	5.7	2.6	0.9	1.7	10.9
1983	5.1	3.0	0.9	1.8	10.8
1984	5.6	2.7	0.6	1.3	10.2

Non-Salmon Catch (in millions offish)[1]

Year	Southern California	Northern California	Oregon	Washington	Total
1980	50.0	31.1	2.9	9.8	93.8
1981	27.6	16.8	3.8	10.5	58.7
1982	34.5	12.7	3.8	10.0	60.7
1983	25.2	11.6	1.8	6.0	44.5
1984	26.6	15.2	1.2	3.8	46.8

[1] Marine Recreational Fishery Statistics Survey, Pacific Coast, 1979-80, 1981-82 and 1983-84. National Marine Fisheries Service, Current Fisheries Statistics Numbers 8321,8323 and 8325.

A recent review of target species by CIC Research, Inc. of San Diego, California (Telephone Survey Contractor for the Pacific Coast) has provided a detailed breakdown of angler target species by mode. This data is summarized in the following tables as one example from the very extensive database generated by this survey. Anglers are asked to indicate if they were targeting on any particular species. Up to two target species are recorded on the interview form. The following table provides data on the percentage of anglers indicating one, two and no target species.

1985 Intercept Survey

Area (Sample Size)	One Target Species Indicated	Two Target Species Indicated	Not Targeting on any Particular Species
Southern California (12,153)	40.3%	7.3%	59.7%
Northern California (9,642)	67.0%	10.9%	33.0%
Oregon (7,023)	71.2%	5.4%	28.7%
Washington (9,239)	90.3%	1.7%	9.7%

The following table presents the percentage responses for anglers indicating a target species by mode and area. The major species are listed for each area and mode. The table includes species indicated as either the number one or number two target species. Therefore, the summation of all percentages in any particular mode can exceed 100% (up to 200%).

1985 Target Species Indicated[1] by Angler by Mode

	Species	Beach/Bank	Piers, Jetties Breakwaters, etc.	Private/Rental Boats	Party/Charter Boats
SOUTHERN CALIFORNIA	Respondents:	778	757	1,763	1,605
	California Halibut	12.5%	37.4%	24.2%	27.9%
	Mackerel	0.5%	18.2%	1.9%	1.1%
	Surf perches	72.4%	12.0%	0.7%	-
	Sand & Kelp Bass	8.5%	5.8%	29.1%	41.6%
	Corbina	9.0%	4.1%	0.1%	-
	Bonito	0.9%	11.5%	6.0%	6.7%
	Groundfish	0.1%	0.9%	7.9%	3.0%
	Rockfishes	7.6%	2.8%	17.5%	20.5%
	Yeltowtail	~	1.0%	6.9%	21.6%
	Albacore, Tuna	--	-	4.6%	4.1%
NORTHERN CALIFORNIA	Respondents:	1,346	1,514	2,546	1,053
	Groundfish	0.6%	1.0%	14.2%	12.6%
	Sturgeons	0.4%	2.2%	15.7%	4.6%
	Rockfishes	6.6%	13.6%	24.9%	62.4%
	Lingcod	6.0%	10.8%	13.6%	17.7%
	Striped Bass	24.8%	18.7%	31.1%	5.0%
	California Halibut	1.3%	0.6%	2.8%	
	Surf perches	45.5%	32.3%	1.0%	
	Sharks	1.6%	3.0%	2.9%	0.9%
	Herring	0.1%	5.5%	-	~
	Salmon/Steelhead	10.0%	7.5%	N/A[2]	N/A[2]
	Tuna/Albacore	--	-	1.6%	8.1%
OREGON	Respondents:	1,880	1,302	1,543	281
	Groundfish	3.4%	10.8%	22.4%	55.5%
	Salmon/Steelhead	12.6%	24.3%	N/A[2]	N/A[2]
	Lingcod	2.2%	4.4%	7.8%	17.4%
	Rockfish	2.8%	9.9%	7.8%	15.0%
	Surf perch	82.1%	51.7%	20.7%	—
	Sturgeons	--	-	5.7%	3.9%
WASHINGTON	Respondents:	1,498	3,013	2,748	1,083
	Groundfish	19.7%	59.0%	61.9%	64.0%
	White Sturgeon	14.0%	—	2.9%	9.8%
	Steelhead	8.8%	1.1%	N/A[2]	N/A[2]
	Surf Smelt	9.1%	2.4%	—	—
	Rockfish	3.5%	10.2%	12.6%	16.4%
	Lingcod	0.5%	1.0%	5.2%	7.1%
	Surf perch	36.7%	19.5%	0.6%	—
	Pacific Halibut	-	-	8.6%	1.7%
	Flatfish	2.9%	3.9%	2.1%	0.2%

[1] Note: Up to two target species are recorded per angler; therefore, the summation of percentages by mode may exceed 100%. Percentages include species indicated as either target species number 1 or target species 2 combined.

[2]Salmon boat anglers are not included in this Survey, but are sampled by the State fishery agency.

APPENDIX 1 — FINANCIAL AND AUDIT REPORTS

1985 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 1,1984 to September 1,1985

CASH BALANCE October 1,1984 (November 1984 Treasurer's Report)			$ 194,311
RECEIPTS:			
Contributions by Member States:			
Alaska (FY1986)	$30,600		
California (FY1986)	25,300		
Idaho (FY 1985 & 1986)	10,600		
Washington (FY 1986)	22,700		89,200
Other:			
U.S. Army Engineers	$ 19,163		
U.S. Fish & Wildlife Service	59,846		
Columbia Basin Fish & Wildlife Council	57,945		
National Marine Fisheries Service	1,519,815		
Oregon Department of Fish & Wildlife	10,748		
Washington Department of Fisheries	331,916		
Bonneville Power Administration	977,561		
Miscellaneous	3,076		2,980,070
Interest on Saving Certificates			12,737
DISBURSEMENTS: Annual Meeting, November 1984, Seattle		$26,603	
Salaries & Wages		114,851	
Retirement & Social Security		9,464	
Medical, Dental & Life Insurance		11,758	
Travel Expenses, Special Meetings & Unclassified		9,883	
Office Supplies & Maintenance		13,850	
Telephone & Telegraph		6,438	
Postage, Freight, Express		5,684	
Rent, Space & Equipment		23,034	
Printing &Publicatbns		2,965	
Bond, Accident & Liability Insurance Premiums		8,425	
Capital Outlay		993	
Professional Services		13,444	
Cooperative Research:			
Otolith Reader, CWT Study & Regional MarkCenter Projects		47,762	
Other		2,639	
Subtotal State Funded Expenditures			$297,793
External Contract Expenditures:			
Corps of Engineers - Fish Marking	$ 17,837		
NMFS - Enhancement Planning Team Coord.	127,548		
Councils Liaison (PMFC, CDFG & ODFW)	38,063		
BPA - Columbia River Smolt Coordination & Water Budget Manager	486,453		
Wash. Coastal Sampling & Evaluation	321,626		
Federal Share of Salmon Maturity Study	13,035		
NMFS - Salmon & Steelhead Act Coordinator	9,056		
Federal Share of Otolith Readers	1,426		
NMFS - Regional Mark Center	43,784		
NMFS - Marine Recreational Survey	548,884		
NMFS - State/Federal Relations	13,897		
NMFS - Albacore Logbook & Port Sampling	33,412		
USFWS-CWT Data Improvement	34,654		
BPA - Columbia R. Tag Recovery	432,066		
NMFS - Compatible Coastwide Fisheries Info.	169,112		
Columbia Basin Fish & Wildlife Council	49,119		
NMFS - West Coast Monitoring Statistical Program	424,320		
Other	27,678		
Subtotal External Contr. Expenditures	$2,791,970		
Total Disbursements			$3,089,763
CASH BALANCE, August 31,1985			186,555
			$3,276,318 $3,276,318

CAHALL, FEIFERS & NOLAN
Certified Public Accountants 10700 S.W. Beaverton Hwy, Suite 500
Beaverton, Oregon 97005
September 11,1985

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, 1985, and the related statements of revenues collected and expenditures, changes in cash position and changes in fund balances 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 Programs," and fulfills administrative requirements of OMB Circular A-102, "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 5, 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 revenues 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, 1985, and the revenues collected and expenditures during the year then ended on the basis of accounting described in Note 5, which basis has been applied in a manner consistent with that of the preceding year.

Cahall, Feifers & Nolan

BALANCE SHEET JUNE 30,1985

	General Fund	Property Fund	Unemployment Fund
CURRENTASSETS			
Cash on hand and in banks	$59,033		$16,055
Receivables. Due from Washington Department of			
Fisheries - Coho Trapping	10,384		
- Freshwater Trapping	10,147		
- Ocean Salmon Sampling	10,873		
- Puget Sound Assessment	4,599		
- Coastal Stock Assessment	19,708		
- Coastal Trapping	30,245		
- Salmon Catches	40,594		
Due from National Oceanic and Atmospheric Administration			
- Contract #84-ABH-00026	5,077		
- Contract #85-ABD-00002	102		
- Contract #82-ABH-107	6,189		
- Contract #83-ABH-0007	1,744		
- Contract #83-ABC-00090	14,059		
- Contract #83-ABD-00017	8,899		
- Contract #83-ABC-00303	441		
- Contract #84-ABD-00111	3,248		
- Contract #84-ABC-00211	2,086		
- Contract #85-ABH-00008	12,971		
- Contract #85-ABC-00115	9,779		
Due from Oregon Department of Fish and Wildlife- Council Support	4,683		
Due from Bonneyille Power Admin.			
- Smolt Monitoring	9,887		
- Water Budget Manager	36,467		
Due from National Coastal Resources and Development Institute -			
Due from Corps of Engineers - Fish Marking Services	12,767		
Due from U.S. Fish and Wildlife - Coded Wire Tag Data Base	5,756		
Prepaid expense	975		
FIXED ASSETS Investment in furniture and equipment		$ 295,629	
Total assets	$324,692	$ 295,629	$16,055
LIABILITIES			
Accrued liabilities	$ 10,014		$ 2,669
Unexpended grant funds: National Oceanic and Atmospheric Administration			
- Contract #84-ABH-00009	582		
- Contract #84-ABH=00034	158		
- Contract #85-ABH-00027	3,794		
Bonneville Power Administration -Salmonid Coded Wire Tag	8,977		
Total liabilities	23,525		2,669
FUND BALANCES	301,167	$ 295,629	13,386
Total liabilities and fund balances	$324,692	$ 295,629	$16,055

APPENDIX 2 - PACIFIC COAST FISHERY REVIEW REPORTS

ALBACORE FISHERY IN 1985

The 1985 albacore catch by U.S. vessels fishing off the Pacific Coast is estimated at 16,269,000 pounds, approximately 58% of 1984 and 41% of the 25-year average. California landings were down by about 12.2 million pounds. Oregon landings were down by 128,000 pounds, and Washington landings were up 235,000 pounds, but both Oregon and Washington landings were only a fraction of the 25-year average.

California

The 1985 albacore season had a fairly traditional start, with an excellent bite at Midway at the end of May, and reported daily scores of 400 fish/boat by early June. Fish appeared off Baja and southern California in mid-June, and by the end of June, fish had been spotted as far north as Mendocino Ridge. Actual landings were light, however, at 348,000 pounds.

During early July, most of the nearshore commercial fishing effort was in the area between Cape Colnett and Ensenada. During the last half of July, coastal fishing spread northward, so that boats were fishing along much of the California coastline. Fishing dropped from excellent to good in the Midway fishery, with average daily scores of approximately 100-200 fish/boat. July landings totalled 2,072,000 pounds.

There was a large increase in albacore landings during the first half of August. High winds and an impending price drop brought in many fishermen. Fish were caught from 6 to 80 miles offshore from Morro Bay, Monterey and San Francisco. By the end of the month fishing was good at Guide Seamount, and some of the boats in the Mendocino Ridge area each caught more than 1 ton/day. Landings for August were 3,944,000 pounds.

Much of September's fishing was hampered by rough weather. Most vessels concentrated their efforts off Pt. Arena and Bodega Bay when weather permitted. A good bite started in the last week of the month off Pt. Arena, when most boats averaged about 100 fish/day. September landings totalled 4,382,000 pounds.

By October many boats had quit for the season, and the remaining boats were fishing their last trip of the season. However, bait boats continued fishing with good success off Cape Mendocino, with several skippers reporting large schools of 18 lb. fish. But, the rough weather was a limiting factor. During October, 2,878,000 pounds were landed.

The 1985 California albacore season ended by November. Approximate landings were only 520,000 pounds for the month. By year's end, the preliminary 1985 season total for California was 14,370,000 pounds. Approximately 1.5% of this was accounted for by fishermen retailing their catch directly to the public. The total was a little more than half of last year's season total, and about 15% below the 10-year average. The landings fell 36% below the 25-year average of 22,528,000 pounds. Last year there was a significant contribution to the catch by the southern California purse seine fleet. This year, as is more typical, the fish were not readily available and schooling at the surface, and so were not vulnerable to the purse seiners.

A 1985 price agreement of $1300/ton for fish greater than or equal to 9 lbs. and $950/ton for fish less than 9 lbs. was reached in June between Pan Pacific cannery and the Western Fishboat Owners Association. During the summer the price dropped twice, bringing the rate down to $1000/ton for fish sold directly to the cannery. This price was as low as the rates in the mid-1970's. Shipping charges continued to be deducted from albacore sales at other locations. Last year the prices opened at $1400/ton and $1125/ton. However, by the end of the 1984 season the prices were $1150/ton and $875Aon.

Market demand has been one of the most significant events affecting the fishery. Pan Pacific at Terminal Island was the only cannery to process and can albacore this season. The other major cannery, Starkist, stopped processing tuna in the United States in October 1984. This year they did continue, however, to purchase albacore and then shipped it to Puerto Rico for processing. Few buyers, and low prices combined with occasional wholesaler buying limits, discouraged several fishermen and reduced some fishing effort. And, considering the southern California sport boats reported fair to excellent fishing this season, the low landings were probably due more to reduced fishing effort than fish availability.

Oregon

The 1985 Oregon albacore fishery was characterized by low landings (1,522,183 pounds), and low effort (149 landings) probably caused by low prices and poor markets.

July started slowly with little effort until about mid-month when scores of 200 fish/boat/day were reported near the Jackson Seamount. Fishing effort gradually increased as the month progressed and the area of good catches moved north to off Newport. July landings totalled 79,279 pounds.

During August, the best catches were made 100 to 200 miles off Newport and the Columbia River on 11- to 12-pound fish. Scores ranged from 50 to 250 fish/boat/day. At mid-month, high winds sent most boats into port at the same time the price dropped to $1,000Aon at the cannery and some boats quit fishing. Catches were good but spotty for those boats that continued fishing. The best catch areas were 150 miles off Newport and 100 miles off the Columbia River on 12-pound fish.

At the end of August, good catches of up to 350 fish/boat/day were made about 100 miles off Grays Harbor on 15- to 20-pound fish, but the number of boats fishing had dropped to about half what had been fishing before the price reduction. August landing totalled 984,836 pounds.

Good fishing off Grays Harbor continued until the second week of September when gale winds again sent most boats to port and many quit for the season or went south to California to finish out the season. September landings totalled 373,114 pounds.

There was very little fishing off Oregon during the rest of the year and most landings were from boats returning from California. Landings for October, November and December were 62,059 pounds, 19,352 pounds and 3,543 pounds, respectively.

Washington

Washington's 1985 albacore season was characterized by low effort and landing levels. Low prices at commercial buying stations discouraged many vessels from participating in the fishery while other vessels elected to retail their catch directly to the public. The time in port required for this method of selling their catch resulted in the loss of substantial fishing time for vessels using this method of sale.

Most albacore landed in Washington this season were caught off of Oregon. July landings were 7,142 pounds while August landings were 113,654 pounds. September landings totalled 163,498 pounds. Landings in October were 52,757

pounds. Vessels returning from California at the conclusion of their season and vessels selling the remainder of the fish in their holds after retailing to the public brought November and December landing totals to 41,446 pounds. Washington's albacore landing totals for 1985 amounted to 377,497 pounds which is more than double last year's record low, but still far below the 25-year average of 4,373,000 pounds.

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

Year	California	Oregon	Washington	Total
1960	35,113	4,563	526	40,202
61	29,123	3,250	456	32,829
62	36,622	8,949	365	45,936
63	48,860	11,400	527	60,787
64	42,551	4,452	1,055	48,058
65	23,218	12,122	2,048	37,388
66	18,189	18,041	1,101	37,331
67	17,858	29,243	1,240	48,341
68	15,077	37,752	3,050	55,879
69	14,722	29,828	1,240	45,790
1970	29,932	21,782	4,390	56,104
71	36,117	8,420	5,250	49,787
72	21,001	23,056	16,238	60,295
73	8,641	16,350	14,446	39,437
74	11,806	25,225	17,983	55,014
75	15,413	17,166	16,297	48,876
76	27,754	5,934	7,202	40,890
77	15,905	4,420	4,948	25,273
78	21,549	11,285	5,008	37,842
79	8,508	3,107	830	12,445
1980	11,958	3,505	1,299	16,762
81	20,584	7,727	1,928	30,239
82	9,439	1,913	572	11,924
83	16,732	3,410	1,168	21,310
84	26,520	1,631	142	28,293
25-year average	22,528	12,581	4,373	39,481
1985*	14,370	1,522	377	16,269

'Preliminary

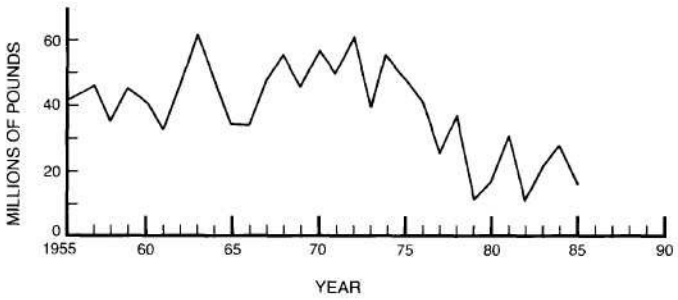

Figure 1. Combined annual landings of albacore in California, Oregon and Washington, 1956-1985.

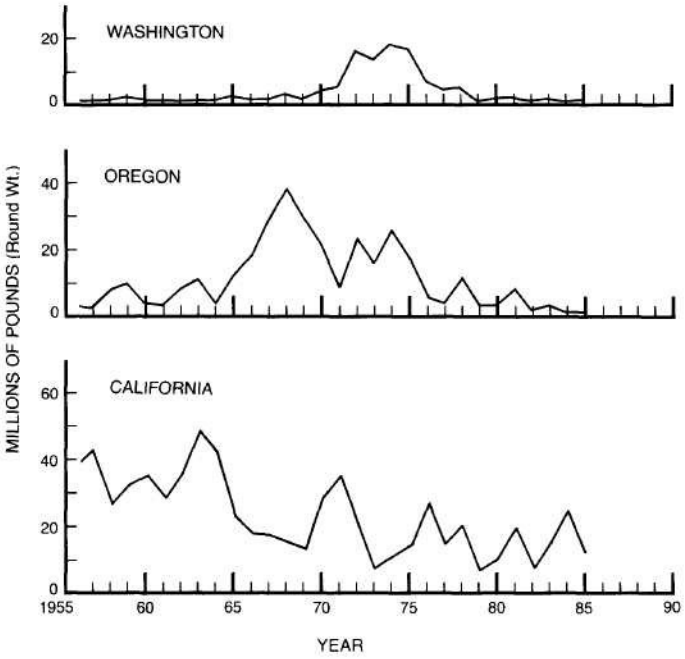

Figure 2. Annual albacore landings by State, 1956-1985.

Compiled by Larry Hreha -- Oregon Department of Fish and Wildlife
Other Contributors
Brian Culver - Washington Department of Fisheries Terri Dickerson ~ California Department of Fish and Game

PACIFIC HALIBUT FISHERY IN 1985

The Pacific halibut landings showed a marked increase again in 1985. The 1985 landings to date are 55.9 million pounds, nearly 11 million pounds larger than the 1984 landings. All data presented in this report are preliminary and subject to change as additional information becomes available. Increased catch limits in all regulatory areas were responsible for the increased landings. Excellent stock conditions allowed for the increased catches from all sections of the coast.

The Area 2 (waters south of Cape Spencer, Alaska) catch was 19.9 million pounds, just slightly above the 19.5 million-pound catch limit. Catches totalling 493,000 pounds were taken from Area 2A (waters off California, Oregon, and Washington) in three fishing periods totalling 31 days. This catch was very near the 500,000 pound catch limit established for this area. Area 2B (Canadian waters) produced 10.2 million pounds, just slightly over the 10 million-pound catch limit. These landings were made in three fishing periods totalling 22 days. Last year 22 days of fishing produced 9.1 million pounds of halibut. In Area 2C (waters of southeast Alaska) two 2-day fishing periods accounted for 9.2 million pounds, slightly more than the 9 million-pound catch limit.

Catch limits for Areas 3A and 3B were 23 and 9 million pounds, respectively, with the stipulation that the two areas should be managed as a unit. Therefore, both areas would close if the combined removals reached 32 million pounds. The combined catch was 31.75 million pounds. The catch in Area 3A (waters of the Gulf of Alaska from Cape Spencer west to Cape Trinity, Kodiak Island) of 20.7 million pounds, 2.3 million pounds less than the catch limit, was taken in two 2-day fishing periods in April and May and a 1 -day period in September. The catch from Area 3B (waters between Cape Trinity and Cape Lutke, Unimak Island) was 11.0 million pounds, 2 million pounds over the catch limit. The catch was taken in three fishing periods of 2-days each in April, May, and September, and a 1 -day period in June.

Area 4 (waters of the Pacific Ocean west of Cape Lutke and the Bering Sea) is divided into five separate areas to spread fishing effort. The catch limits for the entire area totalled 4.25 million pounds and the removals equalled 4.28 million pounds in 1985.

The short fishing periods established by the Commission permitted the staff to collect the information necessary to evaluate past landings and adjust the seasons to the poundage remaining in the established catch limits and prevent any serious over fishing.

The number of United States vessels landing halibut decreased from 3,379 in 1984 to 2,797 this year. In Canada the vessels landing halibut increased by two vessels from 390 in 1984 to 392 in 1985.

Evidence of increasing stock abundance in all areas prompted the Commission to recommend increased catch limits totalling 66.4 million pounds for the 1986 season.

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

Table 1. Catch of halibut by IPHC regulatory areas in 1985 (preliminary in 1000's of pounds).

Area	Canada	United States	Total
Area 2		493	493
2A 2B	10,172	9,224	10,172
2C		9,717	9,224
Total	10,172		19,889
Area 3	—	20,712	20,712
3A 3B		11,030	11,030
Total		31,742	31,742
Area 4	—	4,280	4,280
Grand Total	10,172	45,739	55,911

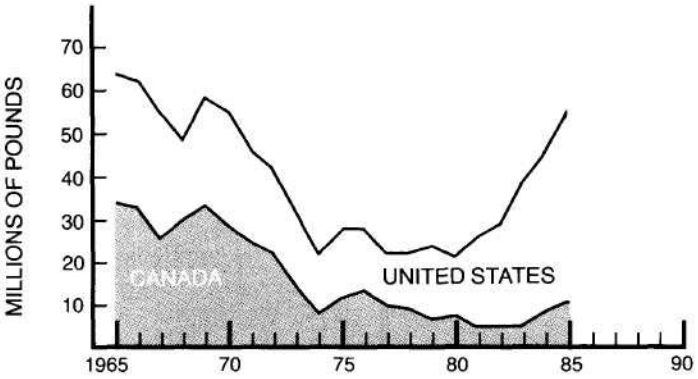

Figure 1. Division of Pacific halibut catches by Canada and the United States, 1965-1985.

GROUNDFISH FISHERY IN 1985

Preliminary estimate of 1985 groundfish landings by North American fishermen fishing the northeast Pacific Ocean, including Bering Sea, is 1,179,136 mt a 34% (300,580 mt) increase over 1984 landings. Recreational catch estimates for 1985 are incomplete and are not included in the above estimate. U.S. fishermen accounted for 95% (1,122,042 mt) of the total landings with the remainder (57,094 mt) landed by Canadian fishermen. Trawl fisheries landed more than 96% (1,139) of the aggregate catch, followed by longline (2% or 20,359 mt), pot (1% or 9,878 mt), and "other gear" fisheries (1%or9,074.mt).

Commercial Fishery

Commercial groundfish landings expanded by more than one-third during 1985, principally due to greater Alaska joint-venture and domestic deliveries. Domestic landings between 1984 and 1985 increased in all regions except Washington (Table 1).

Canadian and U.S. joint venture fisheries landed 78% (919,925 mt) of the total commercial groundfish harvest (Table 4). Joint-venture operations in both the Bering Sea and Gulf of Alaska expanded by 77 and 12%, respectively, whereas joint-venture operations in the Canadian and Washington-Oregon-California (WOC) regions declined 54% and 60%, respectively, from the 1984 levels. Pollock and yellowfin sole were the principal species in these fisheries, followed in importance by various flatfishes, Pacific whiting, Pacific cod, and Atka mackerel.

The domestic commercial fishery landed 259,212 mt during 1985 (Table 2), an increase of 31% over 1984 landings. Especially noteworthy is the 129% increase in the domestic Alaskan fishery, which accounted for 39% of the total northeast Pacific catch, compared with 17% in California, 17% in British Columbia, 16% in Washington, and 11% in Oregon.

As in 1984, the trawl fishery accounted for 85% of all domestic landings. Predominant species were sablefish, Pacific cod, and the rockfish complex (Table 3). Sablefish landings expanded by 35,189 mt, followed by the 6,639 mt increase in Pacific cod landings. With the exception of Dover sole, landings of other flatfishes declined between 1984 and 1985. California accounted for the increased 1985 Dover sole deliveries. Total domestic trawl landings increased 36% from 1984 to 1985.

Domestic landings in 1985 by gear types other than trawl were 39,311 mt, an increase of 12% over 1984 (Table 2) major species landed were sablefish, 25,093 mt and the rockfish complex, 8,510 mt (Tables 5, 6, and 7). Coastwide 1985 sablefish landings by all commercial gears totalled 72,935 mt an increase of 127% over 1984 landings.

Joint venture fisheries landed 919,925 mt in 1985, an increase of 35% (Table 4). Joint venture catches in the Bering Sea and Gulf of Alaska for groundfish continued their phenomenal expansion, increasing 53% over the 1984 level.

Reasons for this growth include a Magnuson Act amendment, which links foreign directed-fishing allocations to joint venture participation, and the decline of Alaskan shellfish resources resulted in the conversion of many U.S. vessels to trawlers for groundfish. The 1985 season off Alaska was marked by an increase in joint venture partnerships (26 compared with 22 in 1984) and of U.S. vessel participation (101 compared with 78 in 1984). Also notable were the expanded catches of species other than pollock (traditionally the bulk of the Alaskan catch). Deliveries of flatfish including yellowfin sole reached 179,000 mt more than triple the 1984 value of 53,000 mt. Pacific whiting remained the principal species in the Canadian joint venture fishery, which declined 54%. Total Pacific whiting joint venture landings in the WOC region dropped 60% between 1985 and 1984. This decline, caused by a decrease in Soviet participation, occurred for two reasons. First, the initial Soviet request for whiting was 75% lower than in 1984 due to concerns with product quality. Second, when the Soviets were certified for excessive minke whale harvest, their directed-fishing allocation for Pacific whiting was reduced by 50%. In response, the Soviets reduced their joint venture commitment by half, resulting in Soviet over-the-side purchases that were almost 85% below 1984 levels. Poland was the other foreign nation in the WOC Pacific whiting joint venture, doubling its 1984 request for whiting.

Federal and state management regulations for the WOC region restricted the domestic harvest of sablefish, widow rockfish, Pacific ocean perch, and other rockfishes during 1985. Vessel trip and frequency limits were the principal regulatory measures used to provide a year-round fishery without exceeding harvest quotas or guidelines. The year began with a coastwide widow rockfish trip limit of 30,000 lb once-per-week but with an option to land 60,000 lb biweekly. The remainder of the rockfish complex was managed on an area- by-area basis. In the Vancouver and Columbia INPFC areas, a rockfish complex trip limit of 30,000 lb once-per-week was imposed, of which no more than 10,000 lb could be yellowtail rockfish. As with the widow rockfish regulations, fishermen had the option of declaring their intention of making one landing biweekly of twice the weekly trip limit. For the third consecutive year a 40,000 lb trip limit without a frequency restriction was retained for the rockfish complex for the area south of Cape Blanco. Pacific ocean perch regulations were revised to a maximum trip limit of 20% of the total weight of fish on board for the Vancouver/Columbia areas. Unrestricted landings of sablefish were allowed, with the provision that landings of fish less than 22 inches in length could not exceed 5,000 lb per trip.

The rapid pace of the WOC fishery necessitated the following in-season regulatory measures. On April 28 the 60,000 lb rockfish trip limit was rescinded to reduce the rate of landings. This proved to be insufficient, and on July 21 the trip limit was reduced to 3,000 lb per trip without a frequency limitation. The Vancouver and Columbia rockfish complex trip limit was halved to 15,000 lb per trip effective April 28, of which no more than 5,000 lb could be yellowtail rockfish. The pace of this fishery slowed sufficiently to allow an increase to 20,000 lb per trip on October 6. The Pacific ocean perch regulations were also modified in season to restrict the trip limitation to the lesser of 5,000 lb or 20% of the total fish weight on board. A new sablefish trip limit of 13% of a trawl vessel's total weight of fish landed per trip was imposed on November 25, by which time 90% of the optimum yield had been harvested. This remained in effect until December 5, when the sablefish optimum yield of 13,600 mt was reached and the fishery subsequently closed. On September 1, the management line separating northern and southern Columbia area rockfish complex trip limits was shifted 30 miles north to Coos Bay, Oregon to minimize management difficulties.

Alaska's domestic groundfish fishery landed 102,558 mt of groundfish in 1985, which represents a 129% increase over the previous year. Pacific cod and walleye pollock, which dominated the trawl fishery, increased 14,357 and 35,896 mt, respectively. Pot and longline landings of sablefish increased dramatically, as well.

During 1985, British Columbia's total commercial groundfish harvest declined 15% from the previous year's harvest level. The domestic component of this total actually

increased 14%, but catches in the Pacific whiting joint venture fishery declined 54%, from 28,906 mt in 1984 to 13,306 mt. Pacific whiting with 19,506 mt taken, the rockfish complex with 17,463 mt (of which 6,100 mt was Pacific ocean perch), and lingcod with 5,444 mt harvested, dominated the 1985 British Columbia groundfish catch. Landings of the flatfish complex, Pacific cod, and spiny dogfish declined for the year; lingcod, rockfish, pollock and the domestic harvest of Pacific whiting increased moderately.

Washington's commercial groundfish landings are projected to decline 11 % from 1984 to 1985. Landings of every major species trawl fishery increased 15% since 1984 apparently due to increasing fishing pressure by vessels traditionally targeting on rockfish. Rockfish fishermen adjusted to the 1985 regulations so that, although landings were well below the 10-year average, they did show a modest 5% increase over the 1984 landings. Despite strong market demand, total Washington sablefish landings decreased 11% in 1985. Hardest hit was the trawl fishery which suffered a 45% decline in sablefish landings. While sablefish landings fell in the trawl, pot, and setnet fisheries, longline landings increased. A partial explanation for the increase in longline landings is increased effort resulting from restrictions on landings in Alaskan waters.

The preliminary estimate of Oregon's total groundfish landings (commercial and recreational) is 29,498 mt compared to 28,959.mt landed in 1984. Landings by longline and miscellaneous gear types increased 114% and 61%, respectively, whereas recreational landings declined 54%. Trawl and pot landings in 1985 increased slightly over 1984. Trawl landings of the rockfish complex have stabilized due to the PFMC's management regulations as well as a leveling off of effort. Improved markets, development of a small southern Oregon-based fleet and the continuation of a major pot fishery operation which began in 1984 accounted for the increase in sablefish landings. Slight reductions in landings of some species in 1984 were offset by a 160% increase in Pacific whiting landings due to the development of shore-side processing capability in two major Oregon ports. A modest increase in shrimp production during 1985 provided an incentive for some vessels to remain in that fishery rather than switching to the groundfish fleet.

California's domestic groundfish landings (commercial only) in 1985 exhibited a modest 6% increase to 43,158 mt from the 1984 harvest of 40,570 mt. Trawl landings of the principal groundfish species, with the exception of lingcod and Pacific whiting, species of particular sensitivity to market demand, registered increases due in part to robust market demand and, in the case of Dover sole, to the continued expansion of the Morro Bay flatfish fishery. As in Washington and Oregon, trawl-caught rockfish landings were relatively stable. Conflicts continued during 1985 between the central

Table 1. Total commercial groundfish landings (mt) by region for 1984 and 1985 with percent change.

Region	1984 mt	1985 mt	Percent Change
Alaska	44,660	102,558	129
Washington	45,347	40,573	-11
Oregon	28,242	29,244	3
California	40,570	43,158	6
Joint Venture	652,260	906,510	39
Total U.S.	811,080	1,122,042	38
Canada (B.C.)	38,340	43,679	14
Canada Joint Venture	29,136	13,415	-54
Total Canada	67,476	57,094	-15
Total U.S.-Canada	878,556	1,179,136	34

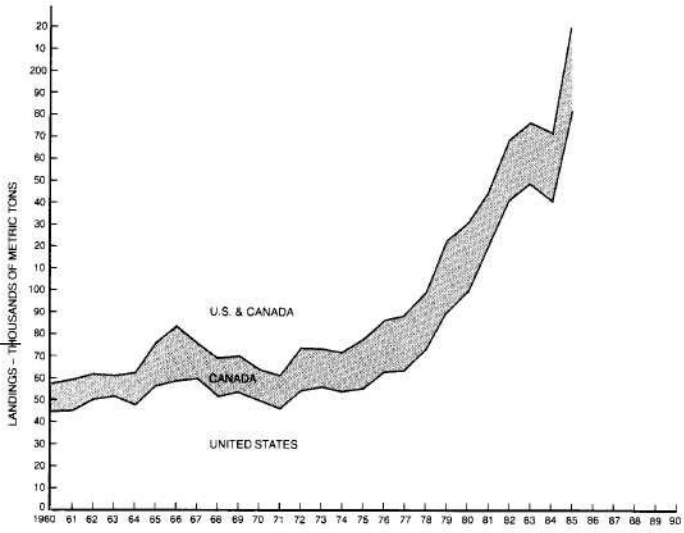

Figure 1. Pacific Coast trawl landings of the United States and Canada, excluding joint venture landings.

Table 2. Domestic Commercial groundfish landings (mt) by region for 1984 and 1985 with percent change.

Region	Trawl 1984	Trawl 1985	Longline 1984	Longline 1985	Pot 1984	Pot 1985	Other Gear 1984	Other Gear 1985	Total 1984	Total 1985	rerceni Change
Alaska	34,195	86,416	9,545	13,156	275	2,823	645	163	44,660	102,558	129
Washington	41,208	34,798	1,679	3,446	992	845	1,468	1,484	45,347	40,573	-11
Oregon	25,514	25,737	313	669	1,830	1,898	585	940	28,242	29,244	3
California	29,313	35,150	747	1,460	1,004	936	9,506	5,612	40,570	43,158	6
Total U.S.	130,230	182,101	12,284	18,731	4,101	6,502	12,204	8,199	158,819	215,553	35
Canada (BC)	31,896	37,800	2,175	1,628	3,276	3,376	993	875	38,340	43,679	14
Total U.S. & Canada	162,126	219,901	14,459	20,359	7,377	9,878	13,197	9,074	197,159	259,212	31

Table 3. Domestic trawl landings (mt) for food, 1984 & 1985 (preliminary) & 10-year mean (1975-1984) 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	1984		456	688	562	1,706	417	2,123
	1985		400	576	795	1,771	330	2,101
	% change		-12	-16	41	4	-21	-1
	10-yrmean		713	988	1,046	2,747	323	3,070
English sole	1984		771	450	918	2,139	812	2,951
	1985		693	466	1,045	2,204	700	2,904
	% change		-10	4	14	3	-14	-2
	10-yrmean		1,116	955	1,612	3,683	1,040	4,723
Dover sole	1984		3,311	6,103	9,187	18,601	1,148	19,749
	1985		2,799	5,690	12,099	20,588	990	21,578
	% change		-15	-7	32	11	-14	9
	10-yrmean		1,968	4,657	8,714	15,339	992	16,331
Rock sole	1984		80	2	6	88	525	613
	1985		73	1	9	83	430	513
	% change		-9	-50	50	-6	-18	-16
	10-yrmean		159	11	6	176	1,317	1,493
Pacific cod	1984	27,040	14,581	78	0	41,699	3,460	45,159
	1985	41,569	7,891	38	0	49,498	2,300	51,798
	% change	54	-46	-51	0	19	-34	15
	10-yrmean		7,505	218	0	-	7,221	-
Lingcod	1984	trace	1,661	978	596	3,235	2,971	6,206
	1985	6	1,912	944	380	3,242	4,850	8,092
	% change	1,060	15	-4	-36	-	63	30
	10-yrmean		1,204	815	1,229	3,248	1,837	5,085
P. ocean perch	1984	1,397	853	752	39	3,041	6,698	9,739
	1985	1,554	906	781	68	3,309	6,100	9,409
	% change	11	6	4	-79	9	-9	-3
	10-yrmean		-	693	46	-	4,191	-
Other rockfish	1984	60	6,055	11,713	11,570	29,398	7,905	37,303
	1985	1,679	6,368	11,658	12,085	31,790	10,800	42,590
	% change	2,713	5	-1	4	8	37	14
	10-yrmean		10,718	10,207	15,561	36486	4,734	41,220
Sablefish	1984	4,349	2,434	2,775	2,908	12,466	187	12,653
	1985	40,245	803	2,843	3,731	47,622	220	47,842
	% change	825	-67	2	28	282	18	278
	10-yrmean	-	900	1,435	2,980	-	313	-
Pacific whiting	1984		3,927	338	2,31	6,596	4,600	11,196
	1985		3,256	877	3,130	7,263	6,200	13,463
	% change		-17	160	34	10	35	20
	10-yrmean		1,451	200	657	2,308	1,767	4,075
Walleye pollock	1984		3,493	0	0	3,493	800	4,293
	1985		1,382	0	0	1,382	1,860	3,242
	% change		-60	0	0	-60	133	-25
	10-yr mean		555	0	0	555	1,435	1,990
Total above species	1984	32,846	37,622	23,877	28,117	122,462	29,523	151,985
	1985	85,053	26,484	23,874	33,342	168,752	34,780	203,532
Total all species	1984	34,195	41,208	25,514	29,313	130,230	31,896	162,106
	1985	86,415	34,798	25,737	35,150	182,101	37,800	219,901
	% change	153	-16	1	20	40	19	36

Table 4. Catch (mt) by species group and region of joint venture fisheries in 1985, and 1984 combined species totals by region.

Species	Bering Sea	Gulf of Alaska	Total Alaska	Calif., Oregon Washington	Total U.S.	Canada (B.C.)	Total
Pacific whiting	0	0	0	31,512	31,512	13,306	44,818
Pollock	377,540	237,860	614,283	0	614,283	78	614,361
Yellowfin sole	126,407	0	126,407	0	126,407	0	126,407
Other flatfish	46,339	2,447	48,786	trace	48,786	0	48,786
Pacific cod	41,272	2,266	43,538	0	43,538	0	43,538
Atka mackerel	37,859	1,846	39,705	0	39,705	0	39,705
P. ocean perch	446	254	700	0	700	0	700
Other rockfish	17	53	70	49	119	21	140
Sablefish	110	226	336	1	337	0	337
Other fish	0	0	108	6	114	10	124
Total 1984	354,862	218,351	573,213	79.047	652,260	29,136	681,396
Total 1985	629,990	244,952	874,942	31,568	906,510	13,415	919,925
% Change	77	12	51	-60	38	-54	35

Table 5. Longline landings (mt) by major species and region in 1984 and 1985.

	Sablefish		Linqcod		Rockfish		Pacific cod		Other		Total	
Region	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
Alaska	8,362	11,020	47	56	861	769	268	402	7	908	9,545	13,156
Washington	882	2,094	51	125	117	356	5	7	623	864	1,679	3,446
Oregon	227	516	11	22	73	126	trace	trace	2	4	313	669
California	24	331	4	49	707	1,015	0	0	12	65	747	1,460
Total U.S.	9,495	13,961	113	252	1,758	2,266	274	409	644	1,841	12,284	18,731
Canada (B.C.)	365	450	50	51	147	238	1	1	1,611	900	2,175	1,628
Grand Total	9,860	14,411	163	303	1,905	2,504	274	410	2,255	2,741	14,459	20,359

Table 6. Pot landings (mt) by major species and region in 1984 and 1985.

	Sablefish		Linqcod		Rockfish		Other		Total	
Region	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
Alaska	270	2,820	0	0	trace	trace	5	2	275	2,822
Washington	980	840	3	1	7	4	2	0	992	845
Oregon	1,828	1,895	1	1	1	2	trace	trace	1,830	1,898
California	987	877	trace	2	17	55	trace	2	1,004	936
Total U.S.	4,065	6,432	4	4	25	61	7	4	4,101	6,501
Canada (B.C.)	3,275	3,376	trace	trace	trace	trace	0	0	3,276	3,376
Grand Total	7,340	9,808	4	4	25	61	7	4	7,377	9,877

Table 7. Landings (mt) from miscellaneous gears by major species and region in 1984 and 1985.

	Sablefish		Linqcod		Rockfish		Pacific cod		Other		Total	
Region	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
Alaska	62	55	36	24	63	36	338	33	146	15	645	163
Washington	384	407	424	457	385	412	26	44	249	207	1,468	1,484
Oregon	8	19	67	82	482	493	2	trace	26	278	585	940
alifornia	901	393	350	277	7,338	4,680	2	0	915	262	9,506	5,612
Total U.S.	1,355	874	877	840	8,268	5,621	368	77	1,336	762	12,204	8,199
Canada (B.C.)	0	0	590	542	396	324	3	9	4	0	993	875
Grand Total	1,355	874	1,467	1,382	8,664	5,945	369	86	1,340	762	13,197	9,074

Table 8. Estimated recreational landings (mt) by major species and region in 1984 and 1985.

	Sablefish		Lingcod		Rockfish		Pacific cod		Other		Total	
Region[1]	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
Washington^	222	244	63 68	44	57 3	713	157 0		272	221 6	771 554	646
Oregon	472	213	394	32	29	NA	0 157		1199	NA	4,309	254
California	3,787	NA	525	NA	89				382		5,634	NA
Total	4,481											

[1] Recreational landing data from Alaska and Canada (B.C.) are unavailable as are 1985 recreational data from California
2 Puget Sound recreational landings only.

California recreational fishery and the setnet fishery for rockfish and lingcod.

Recreational Fishery

Recreational catch data **were** relatively limited for 1985. Oregon recreational landings of groundfish decreased due to a shorter sampling period and a 62% reduction in the number of fishing trips directed towards groundfish in 1985 compared to 1984. Recreational catch values for California were only available for 1984 as of this report, but serve to illustrate the magnitude of that State's recreational groundfish fishery.

Compiled by Frank Henry, California Department of Fish and Game

Other Contributors:
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DUNGENESS CRAB FISHERY, 1984-1985

Pacific coast Dungeness crab landings, including Canada, were 26.1 million pounds, about 1.4 million pounds less than in 1983-84 and over 13 million pounds below the long-term average. The coastal Washington, Oregon and northern California fisheries produced 11.5 million pounds compared to the 10-year average of about 21 million pounds.

Conditions Affecting the Fisheries

Fishing effort in the major fisheries continued at high levels despite several years of below average production from most stocks. In recent years a dramatic increase in fishing effort has occurred in Alaska due to reduced production from the other Pacific coast Dungeness crab fisheries, decreased opportunity in other fisheries and high ex-vessel prices for Dungeness.

Ex-vessel prices at the opening of the northern California, Oregon and Washington seasons were generally $1.25/lb but reached $1.75/lb by Christmas. Prices in Alaska ranged from $1.15/lbto$1.30/lb.

Alaska

Alaskan landings for calander year 1985 totaled 9.6 million pounds, well above the 10-year average, but slightly below 1984. Fishing effort set a record high as 481 vessels fished. Kodiak landings of 4.1 million pounds were above average but down 1.2 million from 1984. Southeast, Cook Inlet and Prince William Sound landings were about average at 2.3, 1.4 and 1.0 million pounds respectively. Yakutat landings were only 285,000 pounds, far below the record 5.9 million pounds landed in 1982.

British Columbia

Preliminary 1985 figures indicate the fishery should produce about 2.7 million pounds, slightly higher than 1984.

California

California landings totaled 4.75 million pounds, about 600,000 pounds less than in 1983-84.

In northern California 347 vessels produced 92% of the seasonal catch by the end of January, 1985. Crecent City and Eureka landings were 2.3 and 1.4 million pounds, respectively. The season closed July 15, 1985. As in the 1983-84 season sub-legal crabs appeared to be fewer than normal.

The November 12 to June 30 San Francisco season was disappointing with production of only 600,000 pounds at an opening ex-vessel price of $2.00/lb. This is a decrease of about 250,000 pounds from the 1983-84 season.

Oregon

Oregon landings for the 1984-85 season totaled 4.9 million pounds, only slightly above.the previous season but far below the long-term average of about 10 million pounds. The number of vessels participating in the fishery decreased to 315, the lowest figure since 1972. About 58% of the catch was taken in December, 1984 and 84% by the end of February, 1985. Permanent changes effective in 1985 shortened the season by one month to the new closing date of August 15 and required fishermen to register brands and mark buoys.

Washington

Coastal landings totaled 2.9 million pounds, the third lowest figure in the last 35 seasons and sixth consecutive season of below average production. The three 35-year lows have all occurred in the last 5 seasons. December production was 1.0 million pounds and monthly production thereafter did not exceed 300,000 pounds until August when summer recruitment and increased fishing effort, especially in the Destruction Island area, led to a catch of 401,000 pounds. The Washington fleet declined to 110 vessels, however, most of the decrease was due to vessels leaving to participate in the Oregon or northern California fisheries.

The Puget Sound fishery produced 1.3 million pounds, slightly below the long term average. A substantial reduction in the number of boats in the 1984-85 fishery occurred apparently due to newly initiated pre-season gear inspection requirements.

Compiled by Steve Barry, Washington Department of Fisheries

Other Contributors:

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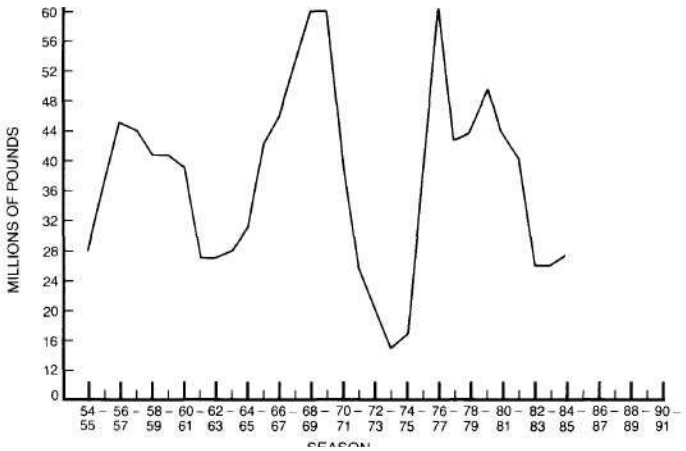


Figure 1. Pacific Coast Dungeness crab landings by season, including British Columbia, 1954-1985.

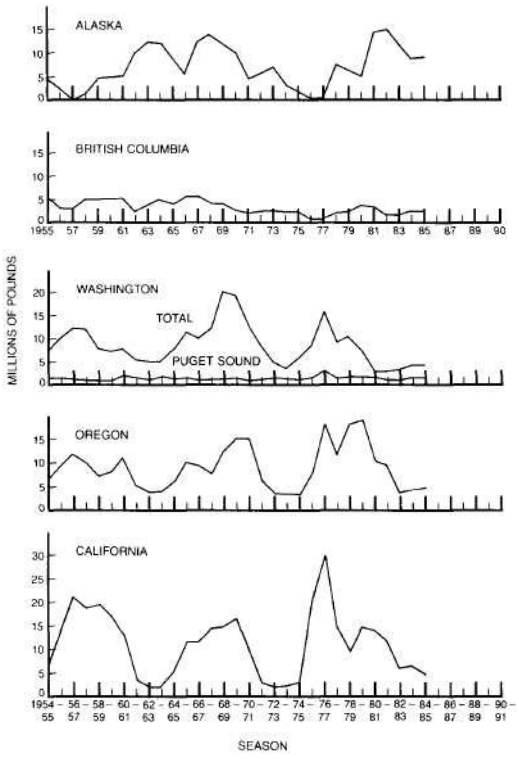


Figure 2. Dungeness crab landings by season, 1954-55 throughi 984-85, except Alaska and British Columbia seasons are all in the pertinent calendar years.

TROLL SALMON FISHERY IN 1985

ALASKA

The Alaska troll summer season for chinook salmon opened June 3 and closed June 12. The season reopened July 1 for all species and on July 22 changed to an all-species-except-chinook fishery until August 14. The troll fishery re-opened August 25 for all species. After August 26, when the chinook quota was met, the season remained open until September 20 for coho only.

The Alaska summer troll chinook catch was 3.8 million pounds round weight and the troll coho catch was 13.5 million pounds round weight.

WASHINGTON

Washington trailers fished May 1-14 and May 21-31 for chinook, concurrent with the season in Oregon north of Cape Falcon. The fishery for coho salmon ran from July 15-18 and a troll fishery targeting on pink salmon in the area from Carrol Island to the U.S.-Canada border ran from August 3 to August 31.

These seasons produced catches of 600,000 pounds of chinook, 1.2 million pounds of coho and 600,000 pounds of pink salmon, round weight.

OREGON

The Pacific Fishery Management Council set regulations that opened the area north of Cape Falcon for chinook fishing on May 1 with a minimum size of 28 inches. The fishery was closed on May 14, but when it became known that the quota had not been exceeded, the fishery was reopened May 21-31.

Table 1. Estimated landings of troll caught chinook and coho salmon in 1985 and 10-year (1975-1984) average (round weights in millions of pounds). All 1985 data are preliminary.

Species = Chinook

Region	1985	Average
Alaska	3.8	5.0
British Columbia	9.8	11.6
Washington	0.6	2.2
Oregon	2.3	2.3
California	5.2	6.0
TOTAL	21.7	27.1

Species = Coho

Region	1985	Average
Alaska	13.5	6.9
British Columbia	17.3	14.3
Washington	1.2	3.1
Oregon	0.6	3.6
California	0.1	1.0
TOTAL	32.7	28.9

Species = Chinook + Coho

Region	1985	Average
Alaska	17.3	11.9
British Columbia	27.1	25.9
Washington	1.8	5.3
Oregon	2.9	5.9
California	5.3	7.0
TOTAL	54.4	56.0

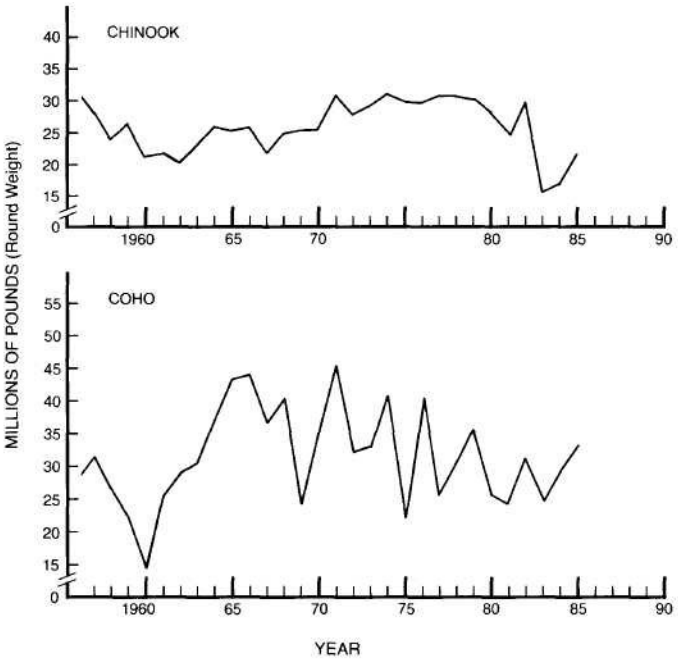


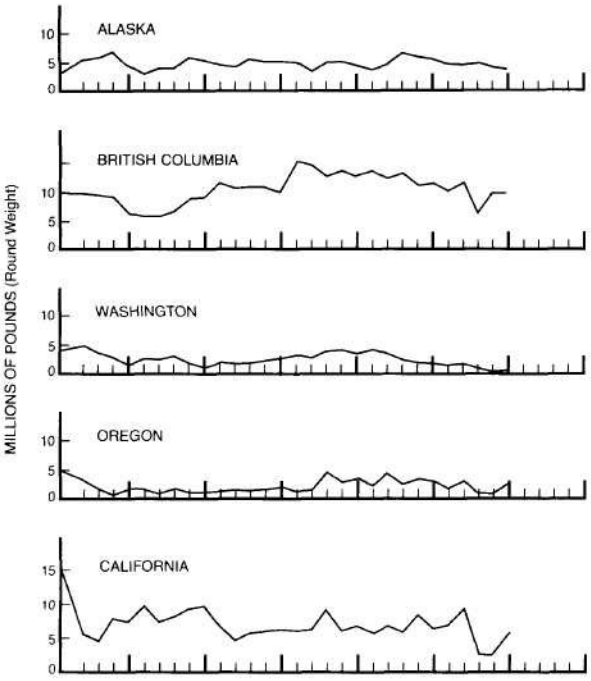
Figure 1. Pacific Coast annual landings of troll caught chinook and coho salmon, 1956-1984 and preliminary 1985.

Table 2. Pacific Coast commercial troll chinook salmon landings in millions of pounds round, 1956-85. All 1985 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
1984	4.2	9.8	0.2	0.6	2.3	17.1
1975-84 Mean	5.0	11.3	2.2	2.3	5.9	27.4
1985	3.8	9.8	0.6	2.3	5.2	21.7

Table 3. Pacific Coast commercial troll coho salmon landings in millions of pounds round, 1956-85. All 1985 data are preliminary.

Year	Alaska	British Columbia	Washington	Oregon	California	Total
1956	3.9	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	4.3	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
1984	11.2	17.3	0.3	0.1	0.4	29.3
1975-84 Mean	6.9	14.5	3.1	3.6	1.0	29.1
1985	13.5	17.3	0.6	0.6	0.1	32.1



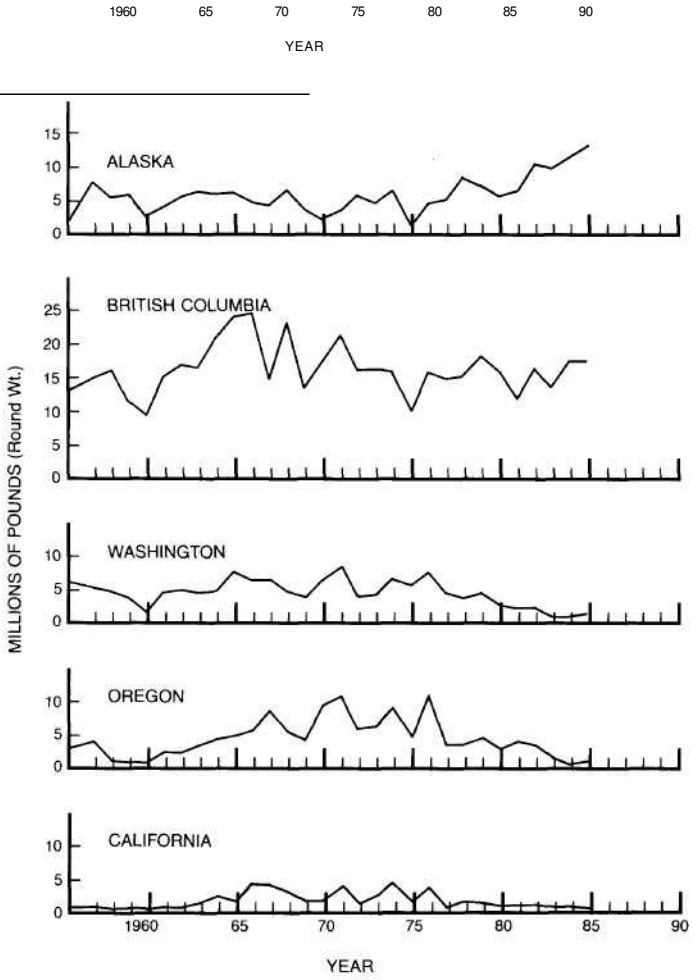


Figure 2. Annual troll chinook salmon landings by area, 1956-1984 and preliminary 1985.

Figure 3. Annual troll coho salmon landings by area, 1956-1984 and preliminary 1985.

An all-species fishery between Cape Falcon and the Columbia River was opened August 21 with a coho quota of 10,000 fish and a chinook quota of 2,700 fish. The coho quota was exceeded in one day (32,500 coho landed) and the fishery closed.

From Cape Falcon to Cape Blanco an all-species-except-coho fishery was open from May 1 through June 30, at which time an all-species fisheries, targeting on chinook, ran through July 26, when the coho quota of 45,000 fish was met. At that time the fishery reverted to an all-species-except-coho fishery, ending October 31. No troll fishery opened in 1985 between Cape Blanco and the Oregon/California border.

The only gear restriction off Oregon was the requirement of barbless hooks. Plugs and bait hooks were exempt from this requirement north of Cape Falcon. The 1985 chinook landings of 2.3 million pounds round were approximately equal to the previous 10-year average catch. Coho landings of 556,000 pounds round, however, were the second lowest on record. In addition, 297,000 pounds, round weight, of pink salmon were landed by the Oregon troll fishery in 1985.

CALIFORNIA

In 1985 there was no troll season between Point Delgada (north of Shelter Cove) and the California/Oregon border. South of Point Delgada the troll season opened May 1 and closed September 30, with no coho fishing permitted until June 1. The minimum size limits statewide for chinook and coho were 26 and 22 inches, total length, respectively. As in the two previous years, California trailers could use only single

barbless hooks and could fish no more than six permanently affixed troll lines.

California preliminary troll chinook landings are 5.2 million pounds round. This is about 15% lower than the previous 10-year average. California preliminary landings of coho salmon are 93,000 pounds round. This is by far the lowest coho landings since sampling began in 1952 and is due to both the closure north of Point Delgada, where most coho in California are landed, and to low coho abundance. In addition, 39,700 pounds of pink salmon round weight were landed in the California troll fishery in 1985.

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SALMON AND STEELHEAD SPORT CATCHES IN 1984 IN THE PACIFIC COAST STATES

It is not possible to estimate the total 1984 sport catch of salmon and steelhead in Alaska, Washington, Idaho, Oregon, and California, since California does not estimate steelhead catches, and the estimated steelhead sport catch is unavailable for Oregon for the years 1983 and 1984 (Table 1). Given the absence of these data, it still appears that the total 1984 harvests of both salmon and steelhead were below the 10-year averages. Salmon catches in Oregon, Idaho, and California were below the 10-year averages, while salmon and steelhead catches in Alaska and steelhead catches in Washington and Idaho were well above the previous 10 year averages (Table 2).

ALASKA

Alaskan anglers harvested an estimated 625,800 sea-run salmon and 6,500 steelhead in 1984. The salmon harvest exceeded the previous 1982 record harvest of 596,300 fish and was 62% above the previous 10-year average. The 1984 steelhead harvest was the largest on record, exceeding the previous 1983 record harvest by 20%.

The total marine harvest of 203,000 salmon and steelhead included 29,800 chinook, 76,800 coho, 11,800 sockeye, 75,200 pink, and 9,000 chum salmon, and 400 steelhead. The total freshwater harvest of 429,500 fish included 55,200 chinook, 161,800 coho, 112,700 sockeye, 78,600 pink, and 15,000 chum salmon, and 6,100 steelhead.

WASHINGTON

The estimated 1984 Washington State sport harvest of steelhead was 149,500 fish. This was the largest harvest since 1980. This improvement was primarily due to better quality hatchery smolt releases and increased ocean survival.

Washington recreational marine (ocean and Puget Sound) salmon angler trips were 1.6 million, the same as the 1983 season. Catches of chinook salmon in Washington marine waters amounted to 248,000 in 1984, compared to a 10-year mean of 328,160 and a 1983 catch of 243,200. Coho catch for 1984 was 294,000 compared to 486,000 in 1983 and the 10-year mean of 627,750.

IDAHO

The 1984 returns of chinook salmon to Idaho were again below spawning escapement requirements. Therefore, no consecutive year. An estimated 29,400 anglers fished 172,800 days to harvest 25,100 steelhead in 1984. Effort and harvest on steelhead were reduced due to a smaller steelhead run into the Salmon River than was seen in 1983.

OREGON

The Oregon marine sport catch of salmon was estimated at 140,300 fish. Catch figures are not available for the 1984 steelhead harvest. The salmon catch included 17,000 chinook and 123,300 coho.

CALIFORNIA

The 1984 ocean sport catch estimate of 107,600 salmon was up 18% from the 1983 harvest of 89,000 but was down 19% from the 10-year average. Coho salmon made up 30% of the marine sport catch in 1984.

The major warm water current (El Nino) that adversely affected the sport catch in 1983 was also felt in 1984. This was reflected in the small size of the salmon caught in both the sport and commercial fisheries.

Compiled by Doug Mecum, Alaska Department of Fish and Game.

Other Contributors:

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Table 1. Salmon and steelhead sport harvest, 1984

State	Chinook	Coho	Pink	Other Salmon[1]	Steelhead	Total
Alaska	85,000	238,500	153,800	148,500	6,500	632,300
Wash.[2]	248,000	294,000	240	5,100	149,500	696,840
Oregon[2]	17,000	123,300	-	-	[3]	140,300
Idaho	-	-	-	-	25,100	25,100
Calif.[2]	88,600	19,000	-	-	[3]	107,600
Total	438,600	674,800	154,040	153,600	181,100	1,602,140

[1]Sockeye and chum salmon.
[2]Marine catch only.

Table 2. Salmon and steelhead sport catches (1,000's of fish) for the Pacific Coast States, 1974 to 1984 and 10-year (1974 to1983) averages

	Alaska		California		Idaho		Oregon		Washington		Total[1]	
Year	Salmon	Steelhead	Salmon^	Steelhead	Salmon	Steelhead	Salmon^	Steelhead	Salmon^	Steelhead	Salmon	Steelhead
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	Steelhead	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	catches	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	are	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	not	closed	5.7	278.8	122.4	1,123.9	94.8	1,902.6	225.9
1980	530.5	4.8	107.0	estimated	closed	9.1	417.3	203.7	852.9	151.1	1,907.6	368.7
1981	379.5	3.3	93.4	in	closed	13.0	319.0	155.0	760.1	125.1	1,552.0	296.4
1982	596.3	3.7	173.8	California	closed	20.5	213.8	*	736.9	104.2	1,678.7	128.4
1983	532.5	5.4	89.1		closed	32.2	171.7	*	860.6	78.6	1,653.9	116.2
10-year averag t	387.0	3.4	138.2		1.2	11.0	371.0	162.3	1,110.3	110.9	2,003.5	255.1
1984	625.8	6.5	107.6		closed	25.1	140.3	*	547.4	149.5	1,452.7	181.1

[1]1ncomplete figures.
2Marine fishery data only
*Not available

SHRIMP FISHERY IN 1985

The 1985 Pacific coast pandalid shrimp landings in the United States and Canada totalled 34.4 million lb (Table 1), a 62% increase over the record low landings of 1983 and 1984. Although an improvement over the previous two years, the 1985 catch was 70 million pounds lower than the 1975-1984 coastwide average. Combined landings for Washington, Oregon and California were 27.3 million lb, or 26% of the Pacific coast catch. Landings in all states were below the 10-year average, but British Columbia landings showed an increase of 4% over the 10-year average.

Table 1. Annual Pacific Coast pandalid shrimp landings (In 1000's of pounds) by State and Province, 1975-1985.*

Year	Alaska	British Columbia	Wash-ington	Oregon	Calif-ornia	Total
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	116.011	6.176	11.803	48.580	15.633	199.083
1978	73.293	3.460	12.298	56.997	13.167	159.211
1979	50.916	1.578	12.135	29.579	4.992	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	18.462	4.550	46.436
1983	7.458	1.200	5.656	6.547	1.132	21.995
1984	9,539	2,009	3,423	4,844	1,485	21,300
Mean	58,323	2,842	9,243	27,036	5,807	103,267
1985	4,204	2,969	9,118	14,848	3,293	34,432

* Based on reported landings through January 1986.

The number of vessels in the Pacific coast shrimp fishery increased for the first time since 1976 and was due primarily to an increase in vessels delivering into Oregon ports. Ex-vessel prices continued to decline from the record 1983 levels and ranged from 15 cents per pound in Alaska to 40 cents per pound in Washington, Oregon, and California. Catch rates and the grade of shrimp available improved off Washington and Oregon, but the continuing availability of imported shrimp continued to restrict the domestic market.

ALASKA

Shrimp landings (primarily *Pandalus borealis)* for the 1985 Alaska shrimp fishery totalled 4.2 million lb, a decrease of 56% from 1984, and 54 million lb below the 10-year average. Kodiak, Chignick, South Alaska Peninsula and Aleutian Island stocks remain severely depressed and the most historic production areas remain closed to promote stock recovery. Shrimp assessment surveys indicate little change in stock status and predacious fish remains the major component of survey catches.

Kodiak (PMFC Area 54) landings totalled 1.2 million lb, less than half of the 1984 catch and far below the previous 10-year average of 21.8 million lb. Only one processor and six vessels operated in 1985, and the first landings did not occur until July. Alitak Bay, the only historic major production area open to fishing in recent years, was closed due to depressed stocks. Wide Bay and Kukak Bay, part of the Mainland Section established by the Alaska Board of Fisheries as an unrestricted fishing area, produced 70% of the catch. The new fishery that developed in Shelikof Strait in 1984 produced only 100,0001b.

Chignik, South Alaska Peninsula and Aleutian Islands (PMFC Area 55) remained closed except for certain offshore waters. No landings were reported and stock assessment surveys indicate continued severe stock depression and high abundance of predacious fish.

Cook Inlet (PMFC Area 53) landings of 1.8 million lb were about half of the 1984 catch. Shrimp stocks have been below average abundance in recent years and quotas have been more conservative for both trawl and pot shrimp fisheries.

Prince William Sound (PMFC Area 52) landings reached only 597,000 lb, far below the record landings of 1.5 million lb in 1984. Reduced effort by Kodiak based vessels was primarily responsible for the decline. Landings of pot shrimp reached a new record of 220,000 lb.

Southeastern Alaska (PMFC Area 51) trawl landings of 687,000 lb were far below average as the major processing plant in Petersburg was destroyed by fire. Pot shrimp landings of 219,000 lb were well above average. No shrimp landings were reported from Yakutat.

BRITISH COLUMBIA

The total of pandalid shrimp landings (all species combined) for 1985 is estimated to be 3.0 million lb. This is about a 50% increase over the 1984 catch and about equal to the 10-year average. Trawl fishery landings were approximately 61% higher than in 1984 with the major increase coming from offshore otter trawl grounds in PMFC areas 66 (Tofino grounds) and 62 (Chatham Sound). Test fishing on Tofino grounds in May showed catches were dominated by a large 1983-year class. Coastwide trap fishery landings of prawns (primarily *Pandalus platyceros)* were 26% lower than 1984.

WASHINGTON

The 1985 ocean shrimp *{Pandalus Jordan)* landings in Washington totalled 9.1 million lb, a 168% increase over 1984 landings. By season's end 27 vessels (22 of which were double-rigged) each landed shrimp five or more times. This was an increase of 7 vessels over the 1984 season, but a low amount of effort compared to the 33-38 vessels that fished in the high effort years of 1979-1983. Increased shrimp production occurred even though most of the fleet did not fish the entire season off Washington. Productive fishing off Oregon resulted in low fishing effort off Washington in April. Poor weather the last two weeks of October prevented fishing in most areas and brought the season to an early close. In mid-June most buyers imposed weekly trip limits of 20,000 lb on the fishermen, but 3-4 weeks later increased the limit to 30,000 lbs. The earlier limit of 20,000 lb decreased landings, but the increase to 30,000 lb did not restrict most fishermen from landing as much as they could catch. Double-rigged vessels landed 89% of the catch. Almost all single-rigged vessels that landed in 1985 started the shrimp season trawling for bottomfish but converted to shrimp fishing when large catches of shrimp were reported.

Price remained low throughout the season averaging 35 to 38 cents per lb, primarily due to continued imports of foreign caught shrimp. Good quality shrimp was landed the entire season. The incoming year-class of shrimp was larger than average in size resulting in landings of lower count-per-pound shrimp (ct/lb whole shrimp), especially during the April through June time period when small shrimp are frequently landed. Landings were somewhat limited as buyers and processors set very restrictive limits on the size of shrimp they would buy. In fact several buyers would not buy shrimp smaller than 140 ct/lb.

The Destruction Island grounds (PMFC Area 72) produced 52% of the total landings or 4.7 million lb. Catch per unit of effort (CPUE) for the 1985 season was the highest since 1978. Standarized CPUE (reported as pounds of shrimp caught per hour towed in single-rigged equivalent hours, lb/hr SRE) for double-rigged vessels averaged 360 lb/hr SRE, up dramatically from the average of 141 lb/hr SRE in 1984. The highest catch rate occurred in May at 493 lb/hr SRE, and the lowest catch rate was in August at 264 lb/hr SRE.

The Grays Harbor area (PMFC Area 74) produced 37% of the total landings or 3.7 million lb. Average CPUE for the season was 314 lb/hr SRE, again the highest since 1978. As in Area 72, May showed the highest catch rate at 459 lb/hr SRE. August was the least productive month at 265 lb/hr SRE.

For the first time in several years the Willapa area (PMFC Area 75) produced good catches. This area yielded 291,000 lb, or 3% of the total landings. In October, when most of the fishing effort took place in the Willapa area, CPUE averaged 449 lb/hr SRE.

Vessels fishing off Oregon but landing in Washington produced 8%, 671,000 lb, of the total Washington landings. The Oregon catch areas, primarily PMFC Area 84, received the majority of the Washington fleet fishing effort in April when CPUE averaged 338 lb/hr SRE.

OREGON

Ocean shrimp landings totalled 14.8 million lb, or just over three times as much as the 4.8 million lb landed in 1984. Vessels landed 5.8 million lb in Newport, over four times as much as was landed in 1984 and the highest since 1981. Landings in Astoria and Garibaldi also increased substantially, while landings in southern Oregon ports remained relatively low. The number of vessels participating in the Oregon fishery increased to 96, from 59 in 1984. Total fishing effort for the 1985 Oregon shrimp fishery was 49,000 SRE hours, a 51% increase over the 33,000 SRE hours trawled in 1984. The season average CPUE increased from 149 lb/hr SRE in 1984 to 302 lb/hr SRE in 1985. Fishermen received an average of 35 cents per pound for their catch throughout the season.

Oregon based vessels fishing off Washington (PMFC Areas 72,74, and 75) and delivering in Oregon ports landed a total of 4.5 million lb, or 30% of the total Oregon landed catch. The Destruction Island grounds (PMFC Area 72) produced 16% of the total Oregon catch, or 2.4 million lb. Vessel CPUE off Destruction Island averaged 368 lb/hr SRE, a substantial increase over the 152 lb/hr SRE averaged in 1984. Samples of landings taken from this area had monthly ct/lb averages ranging from 154 in May to 93 in August.

From the Grays Harbor area (PMFC Area 74), Oregon landings increased 2.0 million lb in 1985 from only 606,000 lb in 1984. This catch represents 14% of the total Oregon catch. CPUE averaged 336 lb/hr SRE as compared to 134 lb/hr SRE in 1984. Monthly ct/lb averages ranged from 143 in May to 100 in September.

The Willapa area (PMFC Area 75) produced 120,000 lb for Oregon processors, the highest catch from this area since 1980 when 157,000 lb were caught in this area at an average rate of 109 lb/hr SRE. All of the 1985 catch was taken during October at an average rate of 400 lb/hr SRE.

Northern Oregon shrimp catch (PMFC Areas 82 and 84) totalled 6.5 million lb, or 44% of the total 1985 Oregon catch. Tillamook Head area (PMFC Area 82) landings increased dramatically from 39,000 lb in 1984 to 817,000 in 1985. In 1984 the catch rate averaged only 82 lb/hr SRE, but increased to 306 lb/hr SRE in 1985. The grade of shrimp available in PMFC Area 82 ranged from 87 to 111 ct/lb.

Cape Falcon to Cape Perpetua shrimp area (PMFC Area 84) catch totalled 5.7 million lb. Catch in this area had not been as high since 1981 when 5.6 million lb were caught, and this area produced the most shrimp of any PMFC area since 1980. The 1985 average rate of catch in PMFC Area 84 was 270 lb/hr SRE, up from 188 lb/hr SRE in 1984. Shrimp ranged from 73 to 111 ct/lb.

Catch in the Cape Perpetua to Cape Blance area (PMFC Area 86) was 3.3 million lb, about a 50% increase over the 1984 catch. The average CPUE improved from 140 lb/hr SRE in 1984 to 304 lb/hr SRE in 1985. Large shrimp were caught in Area 84, as market samples indicated that shrimp ranged from 129 ct/lb in April to 83 ct/lb in October. Zero-age shrimp comprised as much as 6%, by number, of the shrimp sampled in October.

Southern Oregon shrimp catch (PMFC Area 88) totalled 94,000 lb, an increase from 48,000 lb that were caught in this area during 1984. CPUE was the lowest of any area during the

1985 season and averaged only 213 lb/hr SRE. In 1984 this same area had the highest rate of catch, 440 lb/hr SRE. Shrimp caught ranged from 90 to 127 ct/lb.

Oregon based vessels fishing off California (PMFC Area 92) and delivering in Oregon ports landed only 81,000 lb in 1985, about the same as in 1984. The grade of shrimp available averaged about 135 ct/lb throughout the season. Catch in Area 92 might have been much higher if more Oregon vessels fished there. California vessels fishing Area 92 produced 2.9 million lb, when this area was the most productive during August and September, and Oregon vessels were busy working northern Oregon PMFC Areas 82 and 84.

CALIFORNIA

California ocean shrimp landings for the 1985 season were 3.3 million lb with most of this catch coming from the northern portion of the State (PMFC Area 92). Catch in this area totalled 2.9 million lb, or 88% of the catch. Only 381,000 lb were caught off Oregon (PMFC Areas 86 and 88) and landed in California. The Morro Bay to Avila area (PMFC Area 98) landings totalled 23,000 lb for three landings made during April and May.

No landing were reported from the Fort Bragg area (PMFC Area 94) during 1985. This area has been unproductive since 1982 when 12,000 lb were landed. Bodega Bay area (PMFC Area 96) was also unproductive in 1985 and has been unproductive since 1977 when 2.0 million lb were landed.

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FOREIGN FISHING ACTIVITIES OFF THE PACIFIC COAST IN 1985

Washington, Oregon, and California

In 1985 two foreign nations, Poland and the Soviet Union, were involved in groundfish trawl and joint venture fisheries off Washington, Oregon, and California. At most 24 foreign fishing vessels (trawl, processing, or support vessels) operated at any one time off the coast, compared with 25 in 1984, 21 in 1983, 18 in 1982, and 41 in 1981. As in the past, Pacific whiting (whiting or hake) was the target species in both foreign trawl and joint venture operations.

Foreign Trawl Fishery

Both nations requested allocations in 1985. However, Poland was the only participant in the foreign trawl fishery, using a total of 22 trawlers (some of these vessels also participated in the joint venture fishery). Of the 80,000 metric tons of whiting available for foreign harvest in 1985, 54,000 metric tons were allocated to Poland. The Poles were able to harvest almost 94 percent (50,653 metric tons) of their total allocation by the end of the season. The Soviets did not accept their directed fishing allocation for whiting in 1985 in response to the action taken to reduce their allocation by one-half when the Soviets were certified for excessive harvest of minke whales in Antarctica. Therefore, the remaining 26,000 metric tons available for foreign harvest were not allocated.

Although 6,600 metric tons of shortbelly rockfish were available for foreign fishing in 1985, there was no interest in this fishery.

Joint Venture Fishery

Joint venture operations in which foreign vessels receive and process U.S.-harvested groundfish involved both Poland and the Soviet Union, as in 1984. However, joint venture production declined 60 percent in 1985 largely because Soviet participation in the fishery decreased. First, the initial Soviet request for whiting in 1985 was 75 percent lower than in 1984, due in part to their concerns about product quality. Second, when the Soviet directed fishing allocation for whiting was reduced by one-half for taking too many minke whales, the Soviets responded by reducing their joint venture commitment by one-half.

The total receipt of whiting by Polish and Soviet processing vessels in 1985 was 31,512 metric tons, 40 percent of the 1984 level, and 37 percent of the 85,000 metric tons available for joint venture processing. A total of 15 foreign processing vessels received whiting from 18 U.S. trawlers in 1985.

Although 10,000 metric tons of jack mackerel were available for joint venture processing in 1985, there was no interest in this fishery.

Boardings and Violations

Special Agents of the National Marine Fisheries Service accompanied the U.S. Coast Guard on 94 aerial and 15 surface patrols to assure compliance with the foreign fishing regulations. Twenty-three boarding inspections of foreign vessels were conducted with 1 violation confirmed in the 1985 fishery.

Alaska

The Magnuson Fishery Conservation and Management Act (MFCMA) continued to regulate foreign fishing in the 3-200 mile Fisheries Conservation Zone (FCZ) off Alaska for the ninth consecutive Year. In 1985, four foreign nations (Japan, Korea, Poland, and the Soviet Union) were given allocations to fish in Alaskan waters. In addition, vessels from Taiwan and Portugal participated in joint venture activities, and one vessel from Greece provided support services to foreign vessels.

A total of 547 foreign vessels (418 Japanese, 41 Korean, 43 Soviet, 38 Polish, 5 Taiwanese, 1 Portuguese, and 1 Greek) operated off Alaska in 1985, 45 vessels less than 1984. Of these, 371 operated under MFCMA manaqement plans governing the Gulf of Alaska groundfish fishery, Bering Sea and Aleutian Islands groundfish fishery, and Berinq Sea snail fishery. The other 176 vessels (all Japanese) operated in the high seas salmon fishery regulated by the International North Pacific Fishery Convention (INPFC). The number of foreign vessels present on a monthly basis varied from 71 (in January) to 391 (in July).

Total foreign catch in 1985 was 1,075 million metric tons (2.37 billion pounds) of groundfish, salmon, and snails; that was 19 percent less than 1984's catch. However, joint venture

catch increased by 52 percent to 883,500 metric tons (1.9 billion pounds). Effort in directed fishing operations decreased correspondingly by 23 percent to 34,685 days; foreign effort in joint venture operations increased 62 percent to 10,443 days. The Bering Sea/Aleutian Islands area accounted for 91 percent of total effort, 96 percent of foreign catch, and 72 percent of joint venture catch.

Japanese Fishing

As in past years, Japan dominated foreign fishing off Alaska in 1985. A total of 418 Japanese vessels operated during 1985, 65 vessels less than the previous year. Of these, 242 vessels operated independently under the MFCMA, including 71 stern trawlers; 22 longliners; 1 snail pot vessel; 74 transport vessels; 3 tankers; 49 pair trawlers, 9 Danish seiners, and 7 stern trawlers that worked with 5 pollock factoryships and 1 yellowfin sole factoryship. Four factoryships and 172 gillnetters conducted a high seas salmon fishery under INPFC regulations as in the past. The number of vessels present per month varied from 25 to 330. Effort was highest in June and July during the high seas salmon fishery.

Effort by Japanese fishing vessels was reduced from 38,585 days in 1984 to 31,573 days in 1985. This effort yielded a Japanese catch of approximately 807,000 metric tons (75 percent of total foreign catch), a decrease of 14 percent from 1984. Pollock was the predominant species and represented 80 percent of Japan's catch. Other catch included flounders, Pacific cod, other groundfish, salmon, and snails. Almost 91 percent of Japanese catch was taken from the Bering Sea and Aleutians. Joint venture activities accounted for 2,821 additional vessel days.

Independent Japanese stern trawlers and longliners operated in all of Alaska's fishing grounds in 1985, although effort in the Gulf of Alaska was reduced substantially (from 2,186 days in 1984 to 652 days in 1985). The 71 trawlers fished 6,516 days (96 percent in the Bering Sea/Aleutians) and caught primarily pollock and flounders. Twenty-two longliners fished for Pacific cod a total of 2,410 days; 82 percent of longline effort occurred in the Bering Sea and Aleutians. Effort by trawlers dropped by 49 percent from 1984; longline effort decreased by 16 percent.

Japan's other fisheries occurred only in the Bering Sea and Aleutians. A small snail fishery was conducted by one snail vessel that fished off Alaska from June to August. The vessel operated in the Bering Sea northwest of the Pribilof Islands and landed approximately 103 metric tons in 60 days. That was almost the same amount of effort as in 1984, however, catch decreased by 58 percent.

Japan's factory fleets conducted operations in the same months and areas as in previous years. Five factoryships processed pollock caught by 59 catcher vessels in the central Bering Sea from June to October. Another factory fleet with six catcher vessels fished for yellowfin sole from July to November in the Bering Sea east of the Pribilof Islands. The six fleets fished a total of 8,437 days, 18 percent fewer than in 1984. This reduction in effort resulted in a 2.5 percent decrease in catch to approximately 415,900 metric tons. 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. Catch (about 12,460 metric tons) was 14 percent lower than in 1984, while effort (8,360 days) was 12 percent lower.

Korean Fishing

Korea utilized 41 vessels to conduct fishing and joint venture operations off Alaska in 1985. The 41 vessels included 29 stern trawlers, 1 factoryship, 10 transport vessels, and 1 tanker. From 8 to 37 vessels operated in Alaskan waters each month. Korean fishing vessels landed 21 percent of total foreign catch in 1985, approximately 225,700 metric tons of pollock, flounders, and other groundfish. Effort totalled 6,168 (14. percent of total foreign effort), including 2,551 days for joint venture. Korean fishing effort declined 17 percent from 1984, while catch decreased 18 percent. However, Korean joint ventures experienced an 88 percent increase in effort. Effort in the Bering Sea and Aleutians accounted for 94 percent of Korean fishing days, 96 percent of Korean catch, and 68 percent of joint venture vessel days.

Soviet Fishing

As in 1980 to 1984, Soviet vessels conducted joint venture operations off Alaska. In addition, Soviet vessels were again given an allocation for directed fishing. A total of 43 Soviet vessels operated in 1985, including 33 stern trawlers, 2 factoryships, and 8 transport vessels. The number of vessels present each month ranged from 0 to 30. Fishing vessels operated only in the Bering Sea, taking approximately 10,600 metric tons of flounders, pollock, and other species in 492 vessel days. Joint venture effort increased 87 percent over 1984 to 3,359 days.

Polish Fishing

Poland continued fishing operations off Alaska in 1985, as well as continuing to participate in joint ventures. Thirty-eight Polish vessels (29 trawlers, 8 transport vessels, and 1 tanker) worked in Alaskan waters, with 2 to 32 vessels operating each month. Polish vessels fished a total of 1,838 days and caught approximately 32,100 metric tons of groundfish, primarily pollock. Most fishing effort occurred in the Bering Sea, with about 11 percent of effort along the Aleutian Islands. In addition, Polish vessels operated a total of 936 days in joint ventures with U.S. vessels.

Portuguese Fishing

Portugal deployed one side trawler to Alaska during February and March 1985. The vessel conducted joint venture operations in the Bering Sea for 46 days. Catches received from U.S. vessels totalled approximately 860 metric tons and included Pacific cod and other groundfish.

Joint Venture

Six foreign nations (the Soviet Union, Japan, Korea, Poland, Taiwan, and Portugal) participated in joint venture operations during 1985, compared to seven nations in 1984. A total of 104 foreign vessels (30 Soviet, 29 Japanese, 28 Korean, 12 Polish, 4 Taiwanese, and 1 Portuguese) worked with 109 U.S. vessels. That is 28 foreign vessels and 29 U. S. vessels more than 1984. Foreign effort rose 62 percent from 6,462 days in 1984 to 10,443 days in 1985. Catch was 52 percent higher than the previous year, with foreign vessels receiving 883,500 metric tons of pollock, flounders, Pacific cod, and other groundfish. About 72 percent of catch was taken from the Bering Sea/Aleutians, with 74 percent of effort.

Enforcement and Surveillance

Joint NMFS/Coast Guard patrols in 1985 included 336 aerial patrols (1,940 hours) and 1,104 vessel patrol days. NMFS Special Agents were present during 40 percent of the aerial patrols and 32 percent of the vessel days. Patrol units reported 4,648 sightings of foreign vessels. NMFS and Coast Guard personnel conducted 553 boardings of foreign vessels (291 Japanese, 118 Korean, 51 Polish, 58 Soviet, 12 Taiwanese, 2 Portuguese, and 1 Canadian).

Under the MFCMA, infractions detected during boardings or aerial patrols may result in the issuance of a citation (written warning), report of violation (assessment of civil penalty), or in

the seizure of a vessel for flagrant violations. In 1985, enforcement effort resulted in 37 citations and 6 violations for Japan; 14 citations and 5 violations for Korea; 19 citations and 3 violations by Soviet vessels; 19 citations and 3 violations for Poland; 3 citations for the Portuguese vessel; and 1 citation and 1 vessel seizure for Taiwan. The Taiwanese vessel *GOLDEN DRAGON NO. 1* was seized in October 1985 for retention of prohibited species (halibut and sablefish). In addition, one Canadian vessel was seized for fishing in U.S. waters without an MFCMA permit. Penalties collected in settlement of the seizure cases totalled $88,000; as of March 20, 1986, all of the cases potentially involving assessment of a civil penalty were still open.

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