



*48th Annual Report of the*

# **PACIFIC STATES MARINE FISHERIES COMMISSION**

**FOR THE YEAR 1995**

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

## **PSMFC COMMISSIONERS 1995**

**Loren Leman, Chair**

### **ALASKA**

LOREN LEMAN, Alaska State Senate

DAVID BENTON, Alaska Dept. Fish & Game

DALE KELLEY, Governor's Appointee

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NAO TAKASUGI, California State Assembly

AL PETROVICH, California Dept. Fish & Game

DAVID PTAK, Governor's Appointee

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RICHARD MEIERS, Governor's Appointee

**OREGON**

BOB MONTGOMERY, Oregon House of Representatives

RUDOLPH ROSEN, Oregon Dept. Fish & Wildlife

PAUL HEIKKILA, Governor's Appointee

**WASHINGTON**

DEAN SUTHERLAND, Washington State Senate

ED MANARY, Washington Dept. Fisheries

HARRIET SPANEL, Governor's Appointee & Washington State Senate

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*Our goal, as stated in the bylaws, is "to promote and support policies and actions directed at the conservation, development and management of fishery resources of mutual concern to member states through a coordinated regional approach to research, monitoring and utilization".*

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**48th Annual Report of the  
PACIFIC STATES MARINE FISHERIES COMMISSION  
FOR THE YEAR 1995**

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 States Marine Fisheries Commission in Compliance with the State Enabling Acts Creating the Commission and Public Laws 232; 766; and 315 of the 80th; 87th; and 91st Congresses of the United States Assenting Thereto.

**Respectfully submitted,  
PACIFIC STATES MARINE FISHERIES COMMISSION**

**RANDY FISHER, Executive Director**

**Headquarters  
45 SE 82nd Drive, Suite 100  
Gladstone, Oregon 97027-2522**

**Al J. Didier, Jr.  
EDITOR**

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**TABLE OF CONTENTS**

ADMINISTRATIVE REPORTS AND ACTIONS

EXECUTIVE DIRECTOR'S REPORT

IN MEMORIA - DR. DONALD E. BEVAN

FINANCIAL, AUDIT, AND BUDGET REPORTS

1995 Audit Report

ANNUAL MEETING EVENTS

SUMMARY SPECIAL ISSUES

Restructure of the National Marine Fisheries Service

Endangered Species Act Panel

Highly Migratory Species Panel

BUSINESS MEETING

ANNUAL PSMFC AWARD

1996 ANNUAL MEETING

1995 PUBLICATIONS

PACIFIC COAST FISHERY REVIEW REPORTS

DUNGENESS CRAB FISHERY IN 1994-95

SHRIMP FISHERY IN 1995

SEA URCHIN FISHERY IN 1995

ALBACORE FISHERY IN 1995

TROLL SALMON FISHERY IN 1995

SALMON AND STEELHEAD SPORT HARVESTS IN 1994

PACIFIC HALIBUT FISHERY IN 1995

GROUND FISH FISHERY IN 1995

PERSONNEL

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**48TH ANNUAL REPORT - 1995**

**ADMINISTRATIVE REPORTS AND  
ACTIONS**

## **EXECUTIVE DIRECTOR'S REPORT**

The Pacific States Marine Fisheries Commission helps the fishermen and resource agencies of our five compacting states address the management of Pacific ocean living marine resources. In 1995, PSMFC remained active as custodian and coordinator of coastwide fisheries data bases, increased contract services for the states and related agencies, and worked with fishermen on issues such as crab quality testing, marine debris, and habitat protection. The following are among the highlights of the year:

At the request of California crab fishermen and the state of California, PSMFC became involved in the oversight of pre-season crab quality testing in northern California. The tests follow a procedure similar to that endorsed by the **Tri-State Dungeness Crab Committee** for the Oregon-Washington fishing area. The California tests are completely industry-funded. PSMFC observers monitor the sample collection and processing, and disseminate the results to the state of California, processors, and fishermen's port associations. Crab tested by PSMFC in northern California during November 1995 were projected to be of acceptable quality for a traditional December 1 opening. Similar tests conducted by the Washington Department of Fish and Wildlife and the Oregon Department of Fish and Wildlife off Washington and northern Oregon were used as the basis for a 15-day delay of the season opening in that area during 1995.

The value of external contracts administered by PSMFC increased 16% from \$12.0 million in 1994 to \$13.9 million in 1995.

1995 was a slow year for federal fisheries-related legislation. Congress was unable to reach agreement on reauthorizations of the **Magnuson Fishery Conservation and Management Act (MFCMA)**, the **Endangered Species Act (ESA)**, or the **Clean Water Act (CWA)**. PSMFC will continue to monitor progress on each of these pieces of legislation, and will keep member states apprised of significant developments.

The 1994 amendments to the **Marine Mammal Protection Act (MMPA)** required the National Marine Fisheries Service (NMFS) to prepare a scientific report describing impacts of California sea lions and Pacific harbor seals on salmon stocks and Pacific ecosystems. Although the working group preparing this report met several times during 1995, the final report was not completed by October 1 as scheduled. Since NMFS was unwilling to fund additional new research for the report, PSMFC funded several projects which investigated marine mammal food habits, abundance, and distribution in Washington, Oregon, and California. We now expect that the report will be completed during 1996, at which time the discussions between the NMFS and PSMFC on recommendations to accompany the report will begin.

The **Information Management Services (IMS)** section is comprised of the following programs:

- Pacific Fisheries Information Network (PacFIN)
- Regional Mark Processing Center (RMPC)
- Pit Tag Information System (PTAGIS)

- Coordinated Information System (CIS) - now called StreamNet
- PSMFC Computer Services Center (CSC)

The **Pacific Coast Fisheries Information Network** (PacFIN) office continued the transfer of the PacFIN system from the Burroughs B7900 to the Orca computing platform (UNIX server system). The PacFIN system resided on the Burroughs platform from its inception in 1981 until March 1995. Although all of the capabilities for processing input data were not implemented by March 1995, all of the existing data was available in Oracle database tables and accessible via SQL script routines.

The Quota Species Monitoring (QSM) subsystem was the first major unit completed. The QSM subsystem combines hard data from fish-tickets with weekly reports of estimated catch into a single-page report that is used by fishery managers for the Pacific Fishery Management Council (PFMC) to monitor the groundfish fishery. Although all of the data from fish-tickets was not available throughout 1995, the QSM subsystem provided weekly estimates of cumulative catch to PFMC fishery managers.

The transaction processing subsystem was the second unit on-line, restoring the ability to validate and store all input data from California, Oregon, and Washington (W-O-C). With the completion of this portion of the system, any information that could be derived from the fish-ticket base for 1981 through 1995 for W-O-C was available to fishery managers, biologists, economists, and other researchers.

The last major development of the year involved the processing of aggregated-catch transactions. This transaction is used by Alaska Department of Fish & Game (ADFG), the NMFS Alaska Regional Office (AKR), the Alaska Fisheries Science Center (AFSC), and the Department of Fisheries and Oceans, Canada (DFO) to input their data to the PacFIN system. Development was started in June, and this third subsystem was active processing input data from ADFG and AKR in the first part of January 1996.

The In-season Salmon subsystem was not fully implemented; this portion of the system can now only accept and store data in Oracle tables. In response to a Technical team request, the staff developed Oracle tables that contain all of the data currently available for limited-entry-permitted vessels. This project involves periodic transfer of data files from the Northwest Regional Office (NWR) of the NMFS.

The fish-ticket-summary subsystem; the PacFIN reporting subsystem; and the build-vessel-summaries subsystem were in various stages of development at the end of 1995. With most Oracle/UNIX re-development completed, all PacFIN subsystems should be operational before mid-1996.

The **Regional Mark Processing Center** (RMPC) continued to provide regional services to all State, Federal, Tribal, and non-governmental agencies involved in marking anadromous salmonid fishes on the entire Pacific Coast, including Canada. These include coastwide coordination of tagging and fin marking programs, and maintenance of a regional database for releases and recoveries of coded wire tag (CWT) marked salmonids. The CWT data are distributed to users via hardcopy reports, magnetic media,

or on-line data retrievals through PSMFC's Regional Mark Information System (RMIS). Users are provided on-line access to the CWT data at no charge. In addition, the Mark Center serves as the single United States database to exchange CWT information with Canada for Pacific Salmon Treaty purposes.

Regional coordination activities focused on the issue of mass marking of hatchery fish using the adipose-only clip for identification in selective fisheries, and the potential impact on the coastwide CWT system. Following the initial PSC Workshop on Selective Fisheries in Vancouver, B.C., PSMFC sponsored two additional workshops in Portland and San Francisco to facilitate a regional airing of the issues and results of the PSC study. The Portland workshop was held in conjunction with the annual Mark Meeting to improve coordination between those groups interested in selective fisheries and those concerned about preserving the integrity of the CWT system.

The Mark Center's on-line "Regional Mark Information System" (RMIS) was ported to a new SUN 1000 minicomputer (UNIX system) during 1995. The SUN system is 8 to 10 times faster than the former Sequent S81 system and costs far less for both maintenance and new disk drives, memory, etc. The SUN environment supports a Windows/MOTIF environment and World Wide Web (WWW)-based tools for developing regional web-based database management and reporting projects, including images and SQL driven database links.

Work also began on development of a RMPC project page on PSMFC's WWW site for access to the CWT database via RMIS. Planned developments include CWT query and reporting, CWT current data status tables with links to the Data Description file, and CWT query and reporting based on maps. To date, a prototype project page and CWT release data queries have been completed.

As anticipated, the number of PIT Tag Interrogation and Tagging records doubled yet again over that collected since 1987. Because the **Pit Tag Information System (PTAGIS)** project was able to anticipate this growth, a new SPARC 1000 Server was acquired and processes were re-engineered and implemented. These actions allowed the project to process a record quantity of data and minimize down time for the peak of the season to less than a single day.

There was an unexpected change in the manufacture of PIT Tags used in the Columbia River during 1995, and our field maintenance staff noticed reduced reading efficiencies early in the out-migration season. Our crews teamed with the electronics staff from National Marine Fisheries Service and our PIT Tag equipment manufacturer to develop a solution to the poor reading efficiency problem. Over 150 coils throughout the basin were modified to correct the potentially disastrous problem in time for the peak out-migration.

During 1995 the project developed a management plan to implement the new International Standards Organization (ISO) tag frequency in the Columbia River basin, and presented this plan to the Bonneville Power Administration. BPA has adopted the principle concepts and milestones of the plan and is implementing it.

The project teamed with the University of Washington, BPA, Battelle and others to provide near real time PIT Tag data for the Columbia River Technical Management Team. The project provided a file on daily basis to the PSMFC file server.

Plans for 1996 include another process re-engineering effort aimed at improving how tagging and release information is added to the database. We are utilizing World Wide Web (WWW) browser technology to provide improved maintenance tools for our field maintenance staff and improved data query and reporting tools for our customers in the research community. The project continues to consult and advise BPA regarding implementation of the ISO standard tag frequency within the Columbia River basin. We anticipate this conversion will be complete in time for the out-migration of 1998.

The foundations of **StreamNet**, a collaborative venture of the region's fish and wildlife agencies and tribes, began in 1995. StreamNet consolidates the data compilation and management activities that were previously conducted through the PSMFC's **Coordinated Information System (CIS)** and the Northwest Environmental Data Base (NED) projects. Administered by PSMFC, StreamNet is cooperatively implemented by the States of Oregon, Washington, Idaho, Montana, as well as the Columbia River Inter-Tribal Fish Commission, the Shoshone-Bannock Tribes, the U. S. Fish and Wildlife Service, the Northwest Power Planning Council (Council), and Bonneville Power Administration (BPA). Other cooperators include the National Marine Fisheries Service, the U.S. Geological Survey, and the Environmental Protection Agency. The project is funded by the BPA under the Council's Fish and Wildlife Program, and participating agencies contribute significant in-kind services. Other entities provide funding for select project components.

Some of the many data categories contained within StreamNet are: measures of anadromous fish productivity, fish species distribution, measures of aquatic habitat quality; stream flow records and other measures of river system management, information on dams and diversions, mitigation project tracking; an electronic bibliography with over 12,000 peer reviewed and unpublished "gray" literature bibliographic citations; and state-maintained rivers information systems that includes a variety of fish and wildlife data. All data are geographically referenced for search access, mapping, or organization

StreamNet information is currently accessible through: an annual salmon and steelhead status report that summarizes data compiled through StreamNet and identifies trends; a prototype World Wide Web page ([www.streamnet.org](http://www.streamnet.org)) that provides a sample of available tabular and graphic data (all StreamNet data will soon be available via the Internet); or diskettes available upon request or downloadable from the project's Web page. The StreamNet library is managed by the Columbia River Inter-Tribal Fish Commission and contains over 20,000 books, journals, technical reports, and newsletters focusing on anadromous fisheries in the Columbia Basin and the region, with emphasis on "gray" literature.

The major milestones of 1995 for the UNIX - TCP/IP side of the **Computer Services Center** were reconfiguration of the PSMFC Network, addition of a "firewall" between PSMFC and the Internet, World Wide Web (WWW) server setup, upgrades to the RMPC computer system, addition of a central backup system, and various system upgrades and enhancements.

Together, the first three milestones provide a secure internal network while keeping our site available to the Internet community. The reconfiguration split our site into several internal networks and one external network. We added a "firewall" system between our internal and external networks to protect the internal network from tampering via the Internet, while still allowing Internet access to and from PSMFC. We then added a machine to our external network to serve as our WWW server, dialup server, anonymous FTP server, Kermit server, telnet server, DNS server, network news server, and PPP server. PSMFC's web site (<http://www.psmfc.org>) provides us visibility on the Internet and new ways to disseminate data to other sites. General PSMFC WWW Pages and project pages have been established. Part of our web effort has been to set up on-line query facilities using a WWW interface front end and a SQL back-end to query data from our database engines.

An effort was made to upgrade and enhance the computing environment throughout the year. The Sequent computer which was used by RMPC was phased out this year and replaced by a SUN SPARC server 1000. A new backup system allowing unattended tape backup over the local-area network to a central server was installed for all PSMFC UNIX and NT servers. All UNIX systems disk storage arrays were upgraded to the latest version. Our Network Information System (NIS) was upgraded and our network management software was upgraded and enhanced. Systems were developed to allow remote access to the local area network and Internet, and to give the personnel/payroll section the ability to access both WFW net and Novell simultaneously. A variety of system monitoring softwares were developed to check for system problems. Several new personal computers were purchased and configured for PSMFC staff, and most PC's in the office were evaluated and reconfigured for maximum efficiency.

The **Fishermen Involved In Saving Habitat Education Program** promotes public awareness of the habitat and water quality needs of fish. It encourages cooperative work among sports fishermen, commercial fishermen, conservation organizations, agencies, and others to help protect habitat and increase public understanding of these issues. Activities in 1995 included: sponsoring overflights which took forty-five Washington fishermen, decision makers, local planning officials and the media on airplane tours over their watersheds to highlight habitat problems; facilitating the work of Oregon's mid-coast watershed council; facilitating a region-wide oil spill prevention education team (dedicated to curtailing small oil spills and other pollution resulting from fishermen, boaters, and fuel docks); working cooperatively with the group "For the Sake of the Salmon" to develop information on watershed groups and restoration incentive mechanisms; promoting aquatic habitat awareness at fishing trade shows, state fairs, and other public events; developing educational information for distribution; and helping other groups and agencies produce additional public outreach materials.



The program continued to promote the only on-going net recycling program in North America. Nylon gill nets were collected for recycling in Dillingham, Naknek, Kenai, Cordova, and Petersburg, Alaska as well as in Bellingham, Port Townsend, Anacortes, Everett, and Seattle Washington. About 100,000 pounds of used gillnet web are collected each year for processing into items such as auto parts, electronic and appliance parts, toothbrush and hairbrush handles, zippers, and bicycle seats.

PSMFC's *Habitat Hotline* is a newsletter which informs fishermen and fisheries conservationists, conservation groups, state and federal agencies, and PSMFC Commissioners and advisors about important habitat issues in PSMFC five member states. Information on national legislation and rule-makings is also included. It is hoped that as habitat issues arise, commercial and recreational fishermen, as well as fish conservationists, will use the Habitat Hotline to inform others about issues of regional importance. In 1995, eight issues of the Habitat Hotline were printed. The September issue abstracted laws affecting fish habitat which were passed in the PSMFC member states.

The **Recreational Fisheries Information Network (RecFIN)** coordinated marine recreational fisheries sampling in California and Oregon using the nationwide Marine Recreational Fisheries Statistics Survey (MRFSS) methodology and NMFS and State funds. The MRFSS data set is the largest and most continuous recreational data set on the Pacific coast. It resides at PSMFC as the foundation of RecFIN. The MRFSS data includes year-round catch and effort estimates in all modes of fishing from 1980-1989 for CA, OR & WA and 1993 to 1995 for California and Oregon. Washington will again conduct the MRFSS as the foundation of their marine recreational fishery sampling beginning in 1996. Data are maintained in the format used by NMFS and can be readily converted to other required formats as needed by managers. State data resident at PSMFC includes: (1) Washington state marine recreational data summaries; (2) some of the Northern California Commercial Passenger Fishing Vessel(CPFV) survey data; and (3) Oregon ocean boat survey catch and effort for July through August of each year. The MRFSS estimates total catch and effort, along with estimates of the number of participants in four modes of fishing (beach/bank anglers, man-made structure anglers, charterboat anglers, and private and rental boat anglers). The MRFSS sampling complemented some seasonal fishery-targeted state sampling programs to provide a complete general overview of all modes of marine recreational fishing from March through December. During 1995, RecFIN also provided funding to Washington state to expand their Ocean Sampling Program and Puget Sound Boat Survey, and for partial funding for the Halibut Sampling Program.

The Pacific coast RecFIN received additional funding from NMFS in the latter part of 1995. This allowed completion of MRFSS sampling through the end of the calendar year in California and Oregon. It also provided MRFSS sampling for the first 6-months of 1996 in California, Oregon and Washington. State sampling programs in Oregon for ocean boat trips during July and August, and in northern California and Washington for salmon are funded by the states and will be integrated with the MRFSS sampling.

PSMFC coordinated the inclusion of economic data elements in the 1995 sampling in Oregon and California. These data will be jointly processed by PSMFC and a NMFS Southwest Fisheries Science Center economist. The data will be used in distance-traveled models to estimate economic value for recreational fisheries.

In 1996 PSMFC will expand its Internet site for MRFSS data and RecFIN information. A RecFIN Programmer/Analyst will be added to the PSMFC staff in 1996 to assist users with the RecFIN data.

The 1995 **Northern Squawfish Predator Control Program** was similar to 1994. PSMFC is the primary contractor for this program funded by Bonneville Power Administration (BPA). The Commission subcontracts parts of the program to state and tribal entities. During 1995 the components of the Program included: the Sport Reward Fishery, Site-Specific Fisheries; Dam Angling, Project Evaluation, Fish Handling, Technical Administration, and Fiscal Administration. PSMFC handled payments to anglers for the Sport Reward Fishery and Washington Department of Fish and Wildlife ran the Sport Reward Fishery field registration and check stations for anglers. PSMFC subcontracted with the Columbia River Intertribal Fish Commission, Yakama Indian Nation, Nez Perce Tribe, Confederated Tribes of the Warm Springs Indian Reservation and the Confederated Tribes of the Umatilla Indian Reservation to conduct dam angling and site-specific fisheries (gill netting Northern Squawfish at tributary mouths). Program biological work and evaluation were subcontracted to Oregon Department of Fish and Wildlife. Fish handling was subcontracted to S.P Cramer and Associates. Technical administration was provided by the Columbia Basin Fish and Wildlife Authority and fiscal administration by PSMFC.

The 1995 Sport Reward Fishery was the most successful to date. A total of 199,600 fish were harvested by sport anglers toward the goal of 200,000. Special promotion activities during 1995 stimulated fishing effort and good fishing conditions saw the program reach its harvest goal. This year a tiered reward structure was implemented to encourage successful anglers to fish hard to help reach the harvest goal. A basic reward of \$3 was paid for the first 100 fish harvested. The reward increased to \$4 for fish 101-400, and to \$5 for all fish caught above 400. The Program seems to be reaching its goal of reducing Northern Squawfish predation on salmonid smolts with no adjustment in fecundity or growth rate by the remaining squawfish population. The goal of reducing the percentage of larger fish in the population is also being achieved. A detailed impact analysis of the removal of 11-inch and larger fish by the Sport Reward Fishery will be published after the 1996 season. Reports detailing the components of the program are available from either BPA or PSMFC.

PSMFC was selected to administer the Data Collection Jobs Program of the **Northwest Emergency Assistance Program (NEAP)** for salmon disaster relief. Stock assessment and management research projects were begun in 1995 employing qualifying salmon fishers for field work.

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## ***IN MEMORIA - DR. DONALD E. BEVAN***

The fishing industry of the North Pacific lost an influential champion with the death of Dr. Donald E. Bevan in May 1996. A scientist and professor emeritus of fisheries and marine affairs at the University of Washington, Dr. Bevan helped pioneer the use of tagging and computers in assessing salmon populations. Many of the graduate students he influenced as an educator have become the professional fisheries scientists and managers of today.

Dr. Bevan also recognized that effective fisheries management requires a blending of science and politics, and could often be found knee-deep in the most controversial issues of fisheries policy. He was an early supporter of individual fishing quotas, and worked to get fishermen and vessel crews involved in self-monitoring programs. He was fluent in Russian, having studied in Moscow as early as 1959, and helped secure resource management cooperation in fisheries between the United States and the former Soviet Union. As chairman of the Snake River Salmon Recovery Team, advisor to the Pacific Salmon Commission, and long-time scientific advisor to the North Pacific Fishery Management Council, he crusaded for resource policies rooted in science. Dr. Bevan was the driving force behind the Pacific Fisheries Coalition, which brought fishermen, processors, and management agencies from the Pacific, North Pacific, and Western Pacific regions together to lobby effectively for adequate federal funding for fisheries management. These and other interests made him no stranger to the legislative halls of Washington, DC.

PSMFC has been proud to include Dr. Bevan among its advisors since 1987. He was a strong supporter of PSMFC and its programs, and always helped us schedule our meetings to avoid elk and pheasant hunting seasons. We will miss him.

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## ***FINANCIAL, AUDIT, AND BUDGET REPORTS***

The Commission receives its financial support from contributions from its member states, grants, contracts, and indirect cost charges on external contracts. Since 1977, the states' contributions have remained level funded at \$106,000 per year. These contributions are made available from the member states in accordance with Article X of the Interstate Compact which created the Commission. The formula calls for eighty percent of the total contributions to be shared equally by those states having as a boundary the Pacific Ocean and five percent from Idaho. The fifteen percent balance is divided by the states in proportion to the primary market value of the products of their commercial fisheries on the basis of the (then) latest 5-year catch records.

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### **COMBINED BALANCE SHEET - JUNE 30, 1995**

General	Totals	General	Special	General
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	Fund	Revenue	Fixed
Long-Term			Assets
Debt			
	ASSETS		
Cash	1,820,186		
1,820,186			
Due from other Funds	2,106,772	744,356	
2,851,128			
Receivables:			
Grants and Contracts		2,106,772	
2,106,772			
Other	43,873		
43,873			
Prepays	8,570		
8,570			
Fixed Assets			3,594,568
3,594,568			
Amount to be Provided for			
827,107	827,107		
Retirement of General			
Long-Term Debt			
Total Assets	3,979,401	2,851,128	3,594,568
827,107	11,252,204		
	LIABILITIES AND FUND EQUITY		
Liabilities			
Due to Other Funds	744,356	2,106,772	
2,851,128			
Accounts Payable	2,495,430		
2,495,430			
Payroll Liabilities	165,639		
165,639			
Accrued Compensated Absences	247,600		
12,768	260,368		
Tenant Deposits			
0			
Capital Lease Obligations			
220,617	220,617		
Real Estate Contracts			
593,722	593,722		
Deferred Revenues		744,356	
744,356			
Total Liabilities	3,653,025	2,851,128	0
827,107	7,331,260		
Fund Equity			
Investment in General Fixed Assets			3,594,568
3,594,568			
Fund Balance Reserved for	8,270		
8,270			
Prepaid Insurance			
Unreserved Fund Balance			
Designated for Subsequent	318,106		
318,106			
Years' Expenditure			

Total Fund Equity	326,376	0	3,594,568
0 3,920,944			
Total Liabilities and Fund	3,979,401	2,851,128	3,594,568
827,107 11,252,204			
Equity			

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## 1995 Audit Report

To the Board of Commissioners

Pacific States Marine Fisheries Commission

Clackamas County, Oregon

We have audited the general purpose financial statements of Pacific States Marine Fisheries Commission, as of and for the year then ended June 30, 1995 as listed in the table of contents. These general purpose financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the general purpose financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the general purpose financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the general purpose financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the general purpose financial statements referred to above present fairly, in all material respects, the financial position of Pacific States Marine Fisheries Commission, at June 30, 1995 and the results of its operations for the year then ended are in conformity with generally accepted accounting principles.

In accordance with *Government Auditing Standards*, we have also issued a report dated December 14, 1995 on our consideration of the Commission's internal control structure and a report dated December 14, 1995 on its compliance with laws and regulations

Our audit was conducted for the purpose of forming an opinion on the general purpose financial statements taken as a whole. The supplementary data as listed in the table of contents is presented for purposes of additional analysis and is not a required part of the general purpose financial statements. Such information has been subjected to the auditing procedures applied in the audit of the general purpose financial statements and, in our

opinion, is fairly stated in all material respects in relation to the general purpose financial statements taken as a whole.

Pauly, Rogers and Co., P.C.

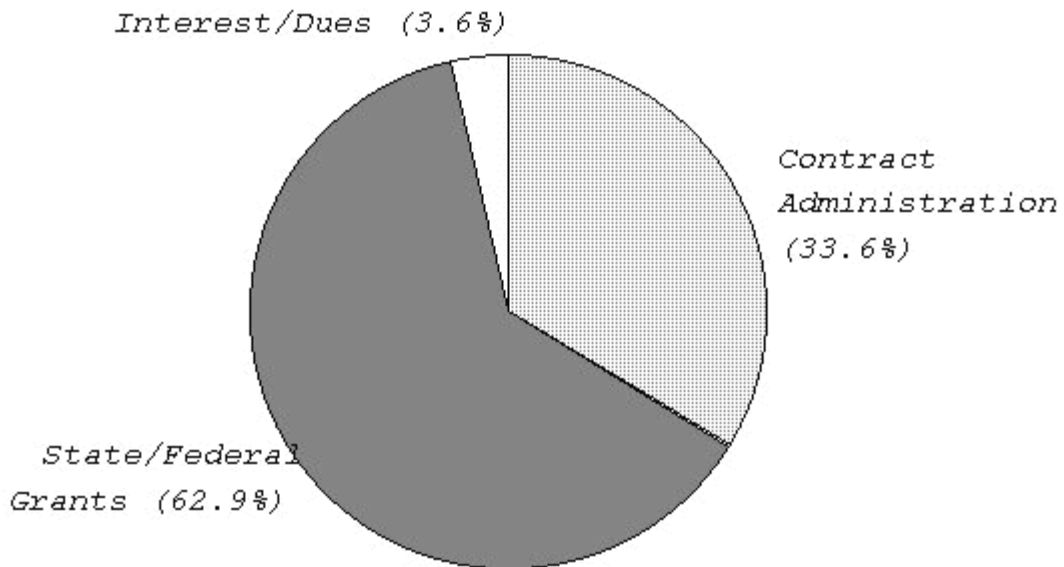
Tigard, Oregon

December 14, 1995

**1995 PSMFC OPERATING BUDGET**

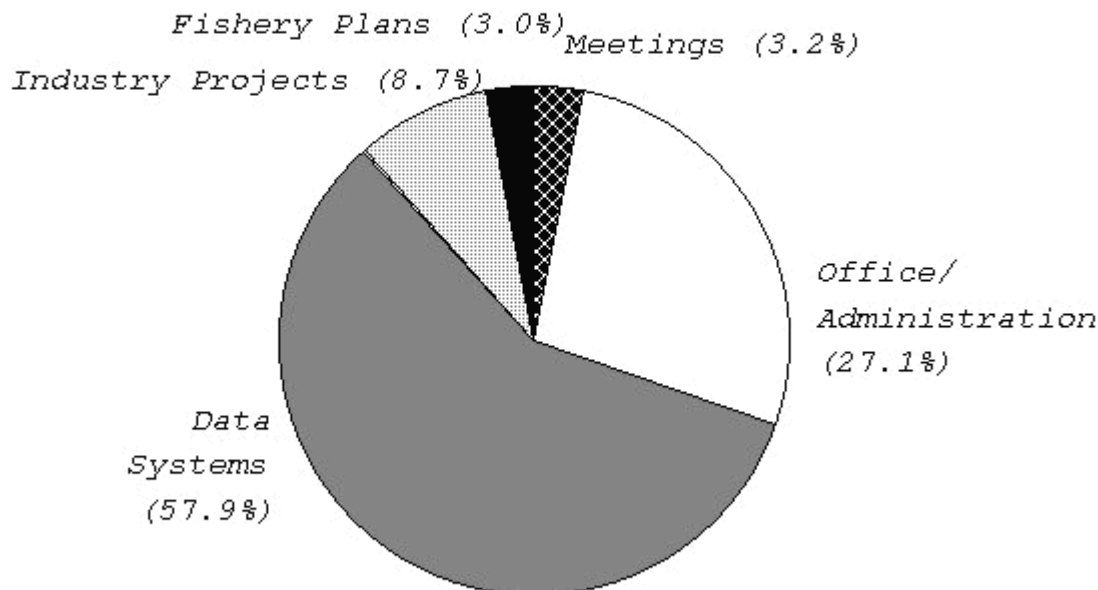
**REVENUES**

*(\$3,243,078)*



## EXPENDITURES

(\$3,243,078)




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External Contracts for the Period  
July 1, 1994 - June 30, 1995

NMFS Albacore Logbook & Port Sampling	\$33,705
NMFS Columbia River Gill-Net Fisheries Observer Program	20,011
NMFS Interjurisdictional Fisheries Program	98,333
NMFS Pacific Fisheries Information Network (PacFIN)	1,545,572
NMFS Recreational Fisheries Information Network (RecFIN)	273,545
NMFS/USFWS Regional Mark Processing Center	335,900
USFWS Wallop-Breaux	335,264
USFWS Snake R. Comprehensive Plan (CEA)	535,427
PFMC/NPFMC Council Support	36,448
Investigational New Animal Drug	186,250
CA Bay, Estuary	29,177
CA Northern Sportfish	42,000
CA Salmon Protection & Enhancement	25,128
CA Sea Urchin Fishery	69,496
CA Sportfish Sampling Studies	250,850
ODFW/PSMFC Whiting Observer Program	32,628
BPA Analytical Method Coordination	95,726
BPA Columbia Basin Fish & Wildlife Authority / IPP	1,059,318
BPA Columbia River Coded Wire Tag	1,319,713
BPA Coordinated Information System	865,171
BPA Integrated Hatchery Operations	575,192
BPA Fish Screen Oversight Committee	241,529

BPA PIT Tag Data Base	596,332
BPA Smolt Monitoring	914,182
BPA Smolt Coordination (FPC)	816,851
BPA Squawfish Sport Reward Program	3,560,117
Fish Marking Coordination Support	39,129
Total Contracts	\$13,932,994

Submitted by Pam Kahut, Fiscal  
Manager/Treasurer

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*Editor's Note: Copies of the complete auditor's report are available upon request.*

## **ANNUAL MEETING EVENTS**

### **SUMMARY**

The 1995 PSMFC Annual Meeting was held October 1-3 in Anchorage, Alaska. State Senator Loren Leman of Alaska was chairman. The agenda included reviews of federal legislation and appropriations; a report on bycatch by Dr. Lee Alverson; a report on the ongoing restructuring of the National Marine Fisheries Service; panel discussions on the Endangered Species Act and on a new proposed management regime for highly migratory species; in-state meetings for the five member states; and the annual business meeting. Luncheon speaker Tom Pero described the work of The Wild Salmon Center, a collaborative effort of the sport fishing industry and the University of Washington School of Fisheries, to establish a comprehensive salmonid tissue collection for molecular genetic research. Luncheon speaker Geron Bruce of the Alaska Department of Fish and Game (ADFG) described fisheries management in Alaska. Dinner speaker Gary Liepitz described the ADFG Habitat Division's Kenai River Cumulative Impact Project, a comprehensive database of habitat type and quality available by tract for planners and habitat enforcement officials. PSMFC presented a special award to former Commissioner Gerald Felando recognizing his past service to the Commission.

### **SPECIAL ISSUES**

#### **Restructure of the National Marine Fisheries Service**

Hilda Diaz-Soltaro of the NMFS Southwest Region stated that the forces for change include Congress, constituents, Department of Commerce, OMB, NOAA, and employees, among others. Remaining with the status quo is not an option; in the future, NMFS will be required to have fewer employees, a flatter structure, and more teamwork. NMFS formed an Organizational Review Team 18 months ago to improve the ability of NMFS to accomplish its mission. This team identified the use of good science, a talented work force, and the ability to respond well to crisis as strengths of NMFS. The agency, however, needs to improve its image, leadership planning, priorities, communication, teamwork, accountability, and human resources management. The team recommended



changes in management systems, organizational structure, and roles. Ms. Diaz-Soltaro described the responsibilities of the three major offices which will be created: Sustainable Fisheries, Protected Resources, and Habitat Conservation. Concerns expressed by the PSMFC audience included the location of the Inter-American Tropical Tuna Commission under the Protected Species office rather than under Sustainable Fisheries, and the apparent subordination of the Regional Science Centers under the respective Regional Directors.

## **Endangered Species Act Panel**

### Rick Applegate - Trout Unlimited

The over-riding goal of the ESA has been to prevent the extinction of species, and the Act has proven to be an imperfect bulwark to prevent that event. There have been some successes but lots of problems. TU would like to see more than just the restoration of stocks at remnant levels. The status of fish stocks is not good: over 100 salmonid stocks in the Pacific Northwest are extinct, 300 populations in spotted owl habitat are in trouble, and 10 salmon stocks have been listed. The warning for western salmonid stocks has been sounded loud and often. We have failed to protect habitat and have left in place detrimental practices. Salmon stocks are not failing, however, because the ESA is too strong. The ESA is a convenient whipping boy for our failures; the ESA did not cause the declines. Specific salmon runs are not receiving sufficient attention until they are petitioned or listed, and people have dominated the equation in watersheds. To those that maintain that salmon recovery is too expensive, Mr. Applegate encourages a look at the true costs. Much of that expense is due to the cost of lost power generation, even though the water was taken from fish in the beginning. Few other existing subsidies are counted in the same way as these water subsidies to the power industry. Despite its problems, the ESA has recorded some successes, including the Apache trout and the greenback cutthroat trout.

Improvement could be made to the ESA in the listing process (the process should not be politicized and scientific peer review should not delay the process), and in a more aggressive pursuit of critical habitat and Section 7 consultations. Development of recovery plans takes too long. The federal government needs to take a more active role in getting federal, state, and tribal managers together. It will also take more money and staff to effectively implement ESA provisions. Gutting the ESA will not help anyone. The ESA is only one of several laws which require salmon recovery, including the Northwest Power Planning Act, the Pacific Salmon Treaty, and treaties with Pacific Northwest tribes. We need to keep the ESA and improve it.

### Teresa Platt - Fishermen's Coalition

In Ms. Platt's area of expertise, the tuna/dolphin controversies of the eastern tropical Pacific, there are no endangered species. The issues revolve around how we are going to handle healthy populations. Her experiences in this area have demonstrated, however, that top-down policies do not work. Since fishermen, farmers, and others are immediately

affected by government regulations, bottom-up policies are needed. A positive aspect of the ESA debate is that it has started resource users talking to one another. Fishermen are a small political group, and are therefore less powerful; coalitions of resource users are a step toward political power. The private property right debate is an issue fishermen have in common with other resource users, since it is a natural human reaction to protect what you have. Current ESA regulations have made the presence of an endangered species a detriment for resource users. This is precisely what should not happen; these are the individuals in a position to most directly influence recovery. Fishermen and others should become involved now in the ESA public policy debate; it is still relatively early compared to the MMPA. Communicate with the general public. Consider the long-term. We must decide how are we going to deal with declining species without making them a detriment to have around.

### Bob Irvin - Center For Marine Conservation

There are many examples that could be cited demonstrating the importance of saving species, including: useful new chemicals and cures; the value of jobs and the economy; and ecosystem benefits. The ESA is under attack because it is a tough law designed to deal with tough problems. It was designed to be a safety net.

Myth: The ESA is a failure because it has only saved a few species. The success of an emergency room is not measured by the cure rate but by the number of patients that were stabilized so that they could recover. Full recovery takes time.

Myth: The ESA is shutting down development. The statistics say otherwise. Of the approximately 150,000 projects that have been reviewed, over 99% have gone forward as proposed or with minor modifications

Myth: The ESA is based on bad science. The National Research Council report states that the ESA is based on sound science.

Myth: The ESA violates private property rights. There has never been a court case that found the ESA took private property in violation of the Constitution.

Fishermen should become involved in the ESA reauthorization because recent developments are alarming. The current House and Senate bills, HR 2275 and S765, will lead to widespread habitat degradation, and to more listings rather than fewer. These bills would redefine critical habitat to only that necessary to preserve a species for 50 years. The Secretary of Interior would be able to unilaterally decide whether recovery of a species was worth the cost. Section 7 consultations would occur only at the discretion of the acting agency.

The ESA is not perfect, but the key is habitat conservation leading to protected species conservation. The ESA should be made more effective at heading off train wrecks. Recovery planning should be improved so that it is completed in a time certain with concrete timelines, and involving all stakeholders. The ESA should offer greater

incentives to conserve species on private land. The Act should be implemented in a more user-friendly manner; much of the frustration with the ESA is actually a general frustration with bureaucracy. The ESA is a commitment to ourselves and our children, and some of the recent reauthorization proposals would break that commitment.

Deborah Williams - Assistant to the Secretary of Interior

The ESA has recorded some successes in Alaska. Of the six species in Alaska that have been listed by the US Fish and Wildlife Service, one has been delisted, one has been down-listed, and one has been proposed for down-listing. Of the remaining three species, two are stable or recovering while the third is recently listed and the recovery plan is still being developed. The Aleutian Canada goose is a notable example of how people care and can successfully work together. Introductions of fox to the Aleutians decimated goose populations on most islands, and birds on the single fox-free island were subject to hunting during their southern migration. The recovery team decided to remove fox from the islands and repopulate them with geese, protect the geese from hunting during recovery, and protect winter habitat. Although reintroductions of captive geese were not usually successful, the cooperation of gun clubs and landowners made other parts of the recovery plan a success. From its listing in 1973 until 1993, the goose population increased from about 300 birds to over 20,000 and the species was down-listed. The ESA can and does work.

The Administration opposes both HR 2275 and S765 because, among other things, they redefine harm to exclude destruction of habitat. The bills increase emphasis on the use of captive propagation, and history has shown that to be an inadequate substitute. The bills abandon the protections of population stocks, and they do not protect biological diversity. Finally, the bills eliminate the role of the NMFS in the process, and they prohibit employees of the departments of Commerce and Interior from participating in peer review.

The Administration does believe that we can and should improve the way the Act is administered, increasing involvement by affected individuals and states. Some of these changes can be accomplished through regulations and policy, and some require legislation. ESA actions should be based on sound and objective science, so independent scientific peer review of listings should be required, and there should be more rigorous standards established for the types of science required for petitioning and listing. Recovery needs should be scientifically identified, and affected groups should be involved more effectively. Congress should modify the Act to allow more flexibility in the recovery planning required for "threatened" versus "endangered" species. We must provide quick and responsive certainty to landowners on what will and will not be required; landowners must be dealt with fairly and with confidence. We must create incentives for landowners to protect and conserve declining species. Resources must be used effectively through a multi-species approach. We must focus on how to avoid listings rather than on how to deal with those that have been listed, and we must promptly delist species when appropriate. States must be given more flexibility to implement the Act, and we must promote more consistency between agencies. Opportunities for the

early and effective involvement by state, local, and tribal governments must be promoted. Of the draft bills that have been published to date, the Administration supports the version of ESA reauthorization proposed by the Western Governor's Conference.

## **Highly Migratory Species Panel**

William Dilday - U.S. Department of State

In early August, a consensus treaty on the conservation and management of highly migratory species was adopted at the United Nations in New York. The treaty recognizes the right of coastal states to exclusive jurisdiction over vessels fishing in their zone. Distant water fishing states retain authority over their own vessels on the high seas. The treaty contains new provisions that allow non-flag states to board and inspect vessels from other nations fishing in areas covered by international agreements, and to prosecute if severe violations are detected. The treaty is consistent with current US law (ESA, MMPA, MFCMA), as well as with current international treaties (Donut Hole, IATTC, etc.)

A basic principle of the treaty is that states should cooperate through international and regional agreements, and where there are no such agreements states should cooperate to create them. While agreements are already in place in most areas, exceptions are the South and Western Pacific regions. A recent conference of island Pacific nations endorsed the UN treaty and stated there should be multilateral arrangements with fishing nations. This represents a change for these nations, as they have been unwilling to conclude those types of arrangements in the past. The State Department believes that these agreements may come sooner than the US had previously expected, so we need to look at how we manage highly migratory species in our own zones. Our data collection plans are not as good as they could be, and there are some data gaps. To strengthen our negotiating hand, the State Department would like the US to have done its homework before we begin negotiations. The US has significant interests in these areas, and until we have our own house in order we will be at a disadvantage internationally.

In response to questions from the audience, Mr. Dilday identified several fundamental problems involved with extension of the IATTC to the West and South Pacific. There are an unwieldy number of countries involved, and this bureaucratic size limits the effectiveness of management. Extension is conceivable but would require fundamental changes to the structure of the organization; the necessary negotiations to accomplish this will require time. Finally, Latin American countries have threatened to withdraw from the IATTC if the US does not withdraw its embargoes on tuna caught in conjunction with marine mammals by non-member nations like Mexico.

Hilda Diaz-Soltaro - NMFS Southwest Region

The State Department has identified Highly Migratory Species in the Pacific as a top priority. Some parts of the Pacific are currently not covered by agreements, and events will move forward with or without US participation. Unfortunately, recent trends have

been toward a closing of opportunities for US fishermen. The US needs to be at the table during these discussions. NMFS has committed to providing enough scientific information to support the Department of State in these negotiations, and would like the affected management councils to form a plan or agreement on how this information will be gathered. If no solution is agreed upon, NMFS will be forced to act on its own. Ms. Diaz-Soltaro urged the councils to work together to achieve consensus on a process.

Edwin Ebisui, Jr. - Western Pacific Fishery Management Council (WPFMC)

The WPFMC proposes that it assume sole jurisdiction over highly migratory species in the US zone. Domestic fishermen land or transship significant amounts of fish in the Western Pacific region, and many of the highest ports of landing in the US are in the Western Pacific. Data gaps make management problematic. A single council designation will enhance the US position in international negotiations; the US should not sit idly by waiting for international management to occur. The WPFMC views the results of the joint preparation of a management plan by several councils in the Atlantic as unsatisfactory, and dislikes the loss of local control associated with a Secretarial plan. The WPFMC has extensive experience with managing pelagic species, and currently has a management plan for these species that addresses many of the pertinent issues. The WPFMC is also acutely aware of international developments in the Pacific. Mr. Ebisui pledged that WPFMC will not make unilateral decisions regarding Alaska and West Coast fishing interests.

Kitty Simmonds - Western Pacific Fishery Management Council (WPFMC)

Management principles of the WPFMC: (1) exercise a precautionary approach; (2) support quality research to obtain timely and relevant data and scientific information; (3) emphasize participation of industry and the public in planning/management decisions; (4) promote sustainable fisheries that support broad opportunities for participation and long-term economic growth and stability; (5) develop and apply technologies and measures for achieving effective enforcement; (6) recognize the human dimensions of and traditional practices of native and indigenous Pacific islanders; and, (7) promote an ecosystem-based conservation ethic.

The WPFMC will not initiate any changes in the Pelagics FMP that would directly affect west coast or Alaska fishery interests without the respective Councils having ample opportunity to assist in (a) identifying problems and possible solutions, and (b) determining a proposed course of action for submission to NOAA/NMFS. Any affected council would have an opportunity to vote on these matters and provide their recommendations to the WPFMC before it submits a proposal to NOAA/NMFS. The WPFMC will not independently determine the appropriate method for another council to make inputs to the problem identification and resolution process. However, the WPFMC would rely on both other councils to make inputs to the annual report required under the FMP, and the draft process proposes formal joint organizations which would achieve the collaboration desired to address problems or issues. Each council would use its established procedures to notify the public of meetings and hearings dealing with pelagic

fisheries management issues and possible actions, and to solicit public comment on management-related documents. The WPFMC will have representatives at any meetings or hearings dealing with multi-council pelagic fishery issues.

The draft coordination process is intended to provide a method for other council's inputs to the decision process of the WPFMC described in its framework procedures under the existing FMP. These procedures are similar to the Pacific Council's procedures for considering regulatory changes in the groundfish fishery, with the potential for abbreviated rulemaking for non-controversial changes to existing management measures. The draft process is for an action that involves two or three councils, and presumes approval by NOAA/NMFS. At any stage in the process, it could be necessary to move back to deal with newly identified issues or problems.

The annual report requirements described in the regulations are indicative of the information that should be presented in any independent report to the WPFMC concerning an issue or problem that a particular organization wants the council to address in this process. Such reports should include: a description of the problem or issue; facts and figures to demonstrate the scope and magnitude of the issue or problem; identification of fishery interests that are involved and how they are affected; implications of not taking any action for stocks, fishery sectors, and managing agencies; possible actions that could resolve the problem or issue; and, types of impacts that each possible action might have.

#### Tom Crehan - Fishermen's Association of San Pedro

The West Coast fishing industry vigorously opposes the WPFMC proposal to serve as sole or senior management authority for highly migratory species in the Pacific Ocean. No rationale can justify a change at this time to a fishery management plan such as that proposed by the WPFMC. The existing regulatory system should be maintained in light of available evidence indicating that highly migratory stocks in the Pacific are currently stable and not over-fished, and considering that data collection efforts are currently underway, as well as negotiations toward developing international agreement on the long term conservation of these stocks. The State Department has done a good job to date with the management framework outlined in the recent UN treaty. Species like tuna must be managed through an international plan, since a plan that manages only US fishermen will be ineffective. US micro-management is unnecessary; we need neither a FMP that covers just the EEZ nor a unilateral position. It is necessary for US interests to talk among themselves to decide what is appropriate, but it is arrogant to believe that the US can dictate its terms to the rest of the world. If a change in current regulations is ever necessary, the logical first step should be scientific research and stock analysis through an international organization or organizations (like IATTC) with participation by all harvesting countries throughout the range of the subject fish stocks. The West Coast fishing industry supports ongoing and future research efforts to gather information on highly migratory stocks.

#### Bob Fletcher Pacific Fishery Management Council

The WPFMC has immediately reached the conclusion that management of highly migratory species is necessary, and the only question is what type of management is needed. Their proposal has not addressed where all the money will come from to develop this plan. NMFS has already informed PFMC that it has neither the personnel nor the money to develop a coastal pelagic FMP for the Pacific region. The Pacific Council EEZ is home to most of the highly migratory species, but the PFMC feels that the highly migratory species are lower on the priority list than some species it already manages. The PFMC has already had two meetings to discuss highly migratory species management, and there is unanimous opposition to the WPFMC proposal for sole jurisdiction. The PFMC is not convinced of the need to alter the current management approach. PFMC recognizes the need for coordinated data collection, but believes that function can be performed outside a FMP. The Pacific Council supports broad biological sampling and stock assessment to support plan and treaty development. A plan is needed, but it should be a structured data collection plan and not a FMP. The PFMC believes that all three councils, the states, and the federal government should place emphasis on data collection and not on plan development. The international arena is the appropriate forum for development of a FMP. All Pacific nations respect good scientific data. NMFS and the State Department should pressure other nations to step up collection of data on their impacts on highly migratory species. The State Department should also identify a funding source if getting the US house in order is such a high priority.

## ***BUSINESS MEETING***

At its annual business meeting on October 3, PSMFC approved the following resolution dealing with the management of highly migratory species:

Resolved:

1. PSMFC recognizes the primary role of the US State Department in negotiating international treaties;
2. The National Marine Fisheries Service (NMFS) should coordinate efforts among the affected councils for the collection of data including, but not limited to, catch and effort data, including the means to gather data on effort;
3. NMFS and the State Department should immediately convene a meeting of the US parties to identify issues and to develop a long-term proposal for data collection and management;
4. All data should be collected in a manner consistent with Annex One of the Straddling Stock Treaty; and
5. PSMFC offers to collate and distribute the data collected for management of the Eastern Pacific.

In a separate action, the Commission voted to again extend the offer of membership in PSMFC to state of Hawaii.

On other matters, the Commission agreed that when the NMFS coastwide marine mammal study is presented to PSMFC, the Commission will host a workshop and form a task force of coastwide biologists, managers, and industry, to develop an action plan for preparing recommendations to Congress on changes needed in the MMPA. Staff was also

requested to review information currently available on bird predation on salmonids in the Columbia River, and to explore the potential for the three interstate commissions to host a forum to discuss alternative funding mechanisms for marine fisheries research and management. The Commission voted to send a letter of thanks to Dr. Don Bevan, who announced at this meeting his resignation as chair of the Fisheries Coalition on Federal Appropriations. The Commission also voted to send a letter to the widow of the late Harold Spark of Alaska expressing appreciation for his efforts on behalf of fisheries in the North Pacific. Mr. Spark was instrumental in the early efforts to limit interceptions of salmon on the high seas.

## ***ANNUAL PSMFC AWARD***

### **FOR CONTRIBUTION TO PACIFIC COAST FISHERIES**

#### **ELMER RASMUSON**

The Commission's 1995 award for contributions to Pacific coast fisheries was presented to Elmer Rasmuson. Mr. Rasmuson was born in Yakutat in 1909. His family moved to Juneau, and then to Skagway where he attended school. He went on to receive B.S. and M.A. degrees from Harvard University. He also received an honorary doctor of laws degree from the University of Alaska in 1970. Mr. Rasmuson became a certified public accountant and President of the National Bank of Alaska, serving as its Chairman of the Board until his retirement in 1974. He continues to serve on its Budget and Planning Committee. Mr. Rasmuson was Mayor of Anchorage from 1964-67, following the Great Alaska Earthquake in March 1964. His leadership helped Anchorage rebuild from the devastation of that earthquake.

Subsequently, Elmer Rasmuson served as a commissioner on the International North Pacific Fisheries Commission from 1969-84; as a member of the Advisory Committee of the Institute of Arctic Biology; as a member of the Marine Fisheries Advisory Committee from 1974-77; as the first chairman of the North Pacific Fishery Management Council from 1976-77; and as chairman of the Alaska Permanent Fund Corporation from 1980-82. His commitment to fisheries are further exhibited by his continued service as a member on the Arctic Research Commission, and by his \$1 million donation to the University of Alaska in 1993 as an endowment for fisheries research. Mr. Rasmuson and his wife Mary Louise live in west Anchorage. PSMFC is proud to present this award to Elmer Rasmuson.

## ***1996 ANNUAL MEETING***

The 49th Annual Meeting of PSMFC will be hosted by the state of Oregon, and chaired by Oregon Department of Fish and Wildlife Director Dr. Rudolph Rosen. The meeting has been scheduled for September 28 through October 1 in Sun River.



## **1995 PUBLICATIONS**

*20 Ways You Can Help Restore Native Salmon to the Pacific Northwest* (no date) is a series of three brochures, each focused at a different interest group (From Your Own Home; While Visiting Our Area; In Your Spare Time) that describe practical things individuals can do to assist salmon restoration through energy and water conservation, habitat activism, and other means.

*Fish For the Future ?* (no date) is a brochure for the general public which describes some of the general forces that can restrict the availability of fish.

*Habitat Hotline* (published periodically) is a bulletin board of current events dealing with water quality, wetlands development, logging, and other habitat issues that affect fisheries.

*1995 PIT Tag Specification Document* (March 1995) describes file structures, codes, and tag, release, and collection sites, and data input specifications used in the Columbia River Basin PIT Tag Information System.

*Forest Practice Riparian Management Regulations for State and Private Lands in Idaho, Oregon, Washington, California, and Alaska* (April 1995) is a single-page spreadsheet that summarizes and compares forest practice regulations in each of the Pacific coast states.

*Pacific Salmonid Coded Wire Tag Releases: 1988 - 1994* (June 1995) documents coded-wire tag (CWT) releases of Pacific coast salmon and steelhead during 1988 through 1994, plus some preliminary 1995 data.

*Mark List: 1988 - 1995* (August 1995) documents both actual and projected fin mark releases of Pacific Coast salmon and steelhead from 1988 through 1995, plus some projected 1996 releases.

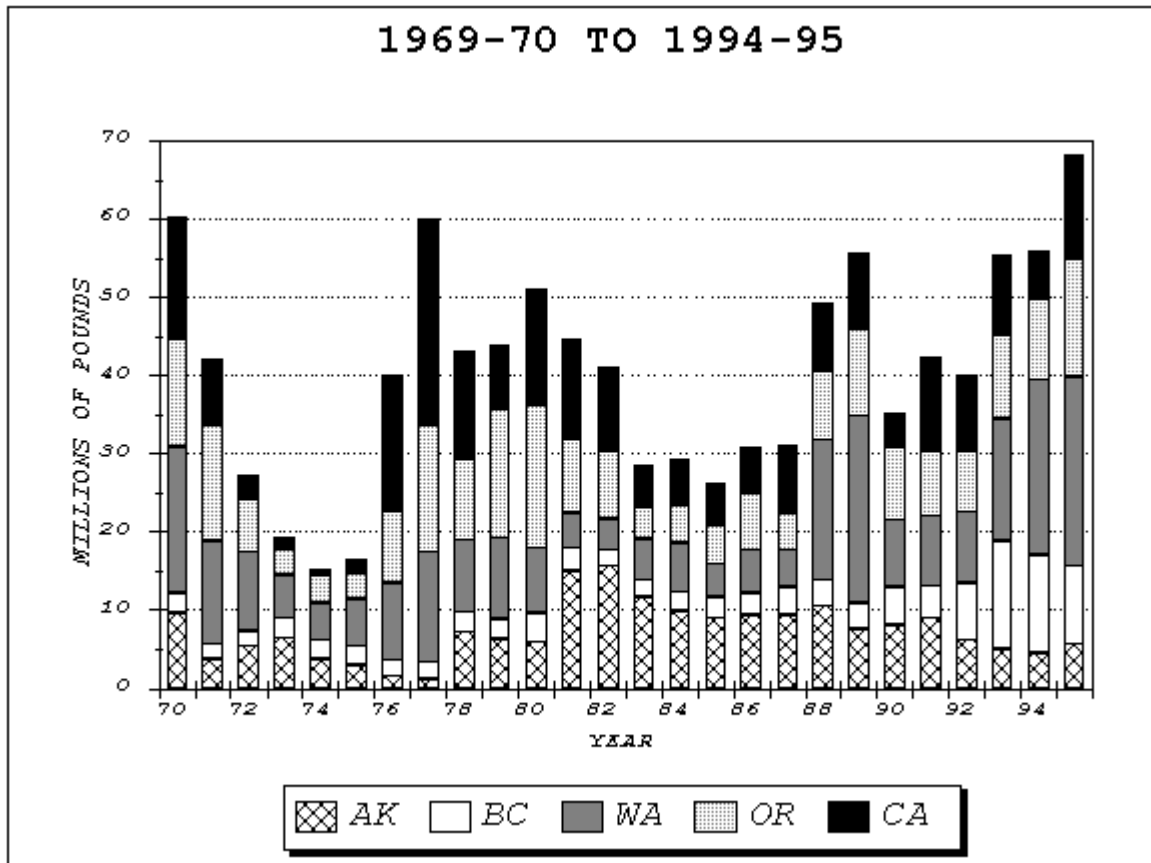
*PITVAL II Users Guide* (August 1995) is a manual designed to give an overview of the Command Line, Desktop, and Status Line features of the PITVAL II

*47th Annual Report of the Pacific States Marine Fisheries Commission for the Year 1994* (September 1995) contains a summary of PSMFC activities, funding, and expenditures, and reviews selected Pacific Coast fisheries statistics for 1994.

*Columbia River Coordinated Information System: Distributed System Introduction* (September 1995) is a manual describing the installation and operation of the CIS Distributed System database.

# PACIFIC COAST FISHERY REVIEW REPORTS

## DUNGENESS CRAB FISHERY IN 1994-95



### 1994-95 FISHERY

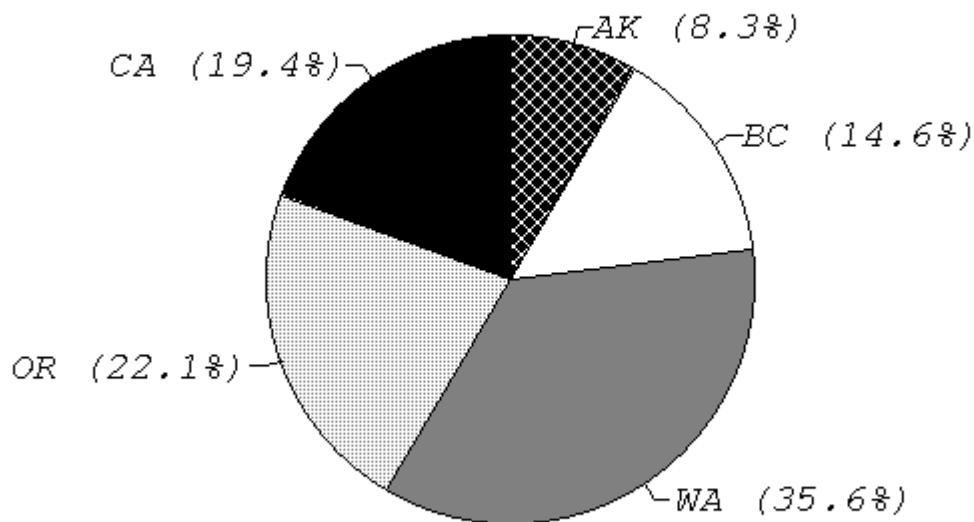


Table 1. Annual landings of Dungeness crab by state, province, and entire Pacific coast (in thousands of pounds).

Year or Season †	Alaska	British Columbia	Washington	Oregon	California	Total
1969-70	9,696	2,548	18,675	13,849	15,564	60,332
70-71	3,749	1,963	13,211	14,735	8,501	42,159
71-72	5,448	1,975	10,095	6,780	2,875	27,173
72-73	6,423	2,580	5,583	3,143	1,500	19,229
73-74	3,818	2,500	4,604	3,462	880	15,264
74-75	3,036	2,513	5,896	3,335	1,816	16,596
75-76	1,545	2,121	9,885	9,099	17,410	40,060
76-77	1,162	2,269	14,023	16,200	26,404	60,058
77-78	7,169	2,592	9,237	10,375	13,800	43,173
78-79	6,334	2,599	10,362	16,352	8,300	43,947
1979-80	5,912	3,750	8,320	18,277	14,853	51,112
80-81	15,109	2,903	4,494	9,429	12,717	44,652
81-82	15,811	1,973	3,928	8,700	10,786	41,198
82-83	11,801	2,116	5,237	4,100	5,413	28,667
83-84	9,967	2,546	6,166	4,700	5,854	29,233
84-85	9,180	2,568	4,266	4,900	5,248	26,162

85-86	9,358	2,912	5,430	7,171	5,990	30,861
86-87	9,346	3,596	4,806	4,747	8,597	31,092
87-88	10,571	3,377	17,858	8,685	8,754	49,245
88-89	7,667	3,355	23,896	11,154	9,552	55,624
1989-90	8,145	4,780	8,629	9,236	4,548	35,338
90-91	9,062	4,160	8,883	8,248	11,956	42,309
91-92	6,210	7,335	9,173	7,657	9,807	40,182
92-93	5,016	13,865	15,533	10,873	10,071	55,357
93-94	4,575	12,591	22,493	10,343	6,067	55,928
10-year Mean	7,913	5,854	12,097	8,301	8,059	42,210
1994-95	5,670	9,980	24,259	15,042	13,186	68,137

† Alaska and British Columbia crab catches are reported on a calendar year basis. The last year mentioned in this column is the calendar year. Washington, Oregon, and California catches are reported on a season basis that begins during the first year and ends the following year.

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## Alaska

Total 1995 landings were 5.7 million pounds, about 1.1 million pounds more than in 1994. Southeast Alaska was again the area of greatest production (4.9 million pounds), followed by Kodiak (0.5 million pounds). Only 226,848 pounds were taken in Cook Inlet, the Alaska Peninsula, Dutch Harbor, and Bristol Bay, combined. A total of 284 vessels made 3,110 landings statewide.

## British Columbia

Total Dungeness crab landings for the 1995 calendar year were 9.98 million pounds (4,527 tonnes), down 2.61 million pounds from 1994. This decrease is due, for the most part, to declining landings from the Queen Charlotte Island/Hecate Strait areas for the second year in a row. Overall average price per pound was \$2.30 (Canadian) ranging from \$0.95 to \$3.22 depending on area and season, with reported prices for large hard crabs from the Queen Charlottes (Area A) exceeding \$4.00 per pound. The overall value of the fishery in 1995 was \$23.18 million.

British Columbia crab fisheries are divided into five regional management areas. In recent years the bulk of the landings have come from the Queen Charlottes (Area A; 5.6 million pounds in 1995), followed by the North Coast Skeena River Central Mainland (Area D; 1.44 million pounds), the Fraser River (Area C; 1.42 million pounds), Georgia/Johnstone Straits (Area E; 0.95 million pounds), and the West Coast of Vancouver Island (Area B; 0.57 million pounds). Historically, landings from Area A have cycled over a period of approximately 10 years, and decreasing catches over the last

two years may indicate a return to lower levels of production for that area. Catches from other areas show much less interannual variation.

Crab licenses were limited to 223 in 1995. Licensees are required to select one of the management areas in which to fish. Most fisheries are open year-round, with the exception of the Fraser delta (Area D) which is closed from January to mid-July for soft-shell season and, for the first time, Area A was closed for a six-week period due to soft-shell. A trap limit of 300 was introduced for the Fraser Delta in 1995; a 125 trap limit also exists for the waters around Tofino. Otherwise, the fishery is managed by a 165 mm maximum carapace width measurement coastwide. Traps are also required to have one escape port of 100 mm diameter and to be equipped with a biodegradable release mechanism to prevent ghost fishing.

## **Washington**

Landings for the 1994-95 Washington Dungeness crab fishery totaled 24.3 million pounds. The coastal fishery (December 16, 1994 - September 15, 1995) produced 19.6 million pounds, with a record ex-vessel value of \$33.8 million. Two hundred seventy vessels made 9,142 landings. The Puget Sound fishery (October 1, 1994 - April 15, 1995) produced a record 3.5 million pounds from 8,490 landings, with an ex-vessel value of 5.8 million dollars. Tribal landings are included in the coastal and Puget Sound figures. In May through September, Puget Sound tribal fishers made an additional 2,967 landings for a total harvest of 1.1 million pounds, valued at \$1.7 million. Washington and Oregon implemented the Tri-state Dungeness crab soft-shell agreement for the first time, after coastal test fishing in October and November 1994 revealed a late recruit molt. The opening of the coastal season was delayed until December 16, 1994. The opening ex-vessel price for the coastal fishery was \$1.40 per pound. Limited entry for the coastal fishery started January 1, 1995. The legislature established a two tier license system: permanent transferable "A" licenses; and temporary (5-year) non-transferable "B" licenses. A federal court ruling, known as the Rafeedie Decision, upheld the entitlement of treaty tribes to up to 50% of the harvestable shellfish in respective Usual and Accustomed (U & A) fishing areas.

## **Oregon**

Total Oregon landings improved to 15.0 million pounds, with a record ex-vessel value of 24.8 million dollars. The leading ports of landing were again Astoria, Newport, and Charleston at 5.4, 4.2, and 2.1 million pounds, respectively. A total of 424 vessels made landings in the ocean fishery. The fall bay fishery produced 38,000 pounds of the total. Ex-vessel prices averaged \$1.40 per pound in December and rose to \$2.00 in February. Pre-season testing for quality prompted a delay in the season opening north of Cape Falcon until December 16.

The Oregon legislature passed a limited entry bill for the ocean Dungeness crab fishery. The bill was signed into law in September 1995, and the Oregon Fish and Wildlife

Commission adopted additional administrative rules in October. Vessel permits will be required for participation in the ocean crab fishery beginning December 1, 1995.

### **California**

California Dungeness crab landings were 13.2 million pounds, an 116% increase over the previous season. Landings for the northern California ports of Crescent City, Trinidad, Eureka, and Fort Bragg were 5.7, 1.1, 2.3, and 1.0 million pounds, respectively. The opening ex-vessel price was \$1.40 per pound. A total of 385 vessels made 6.600 landings. In the San Francisco, Monterey, and Morro Bay areas, landings totaled 3.1 million pounds, an increase of 288% over the 1993-94 season.

#### Contributors:

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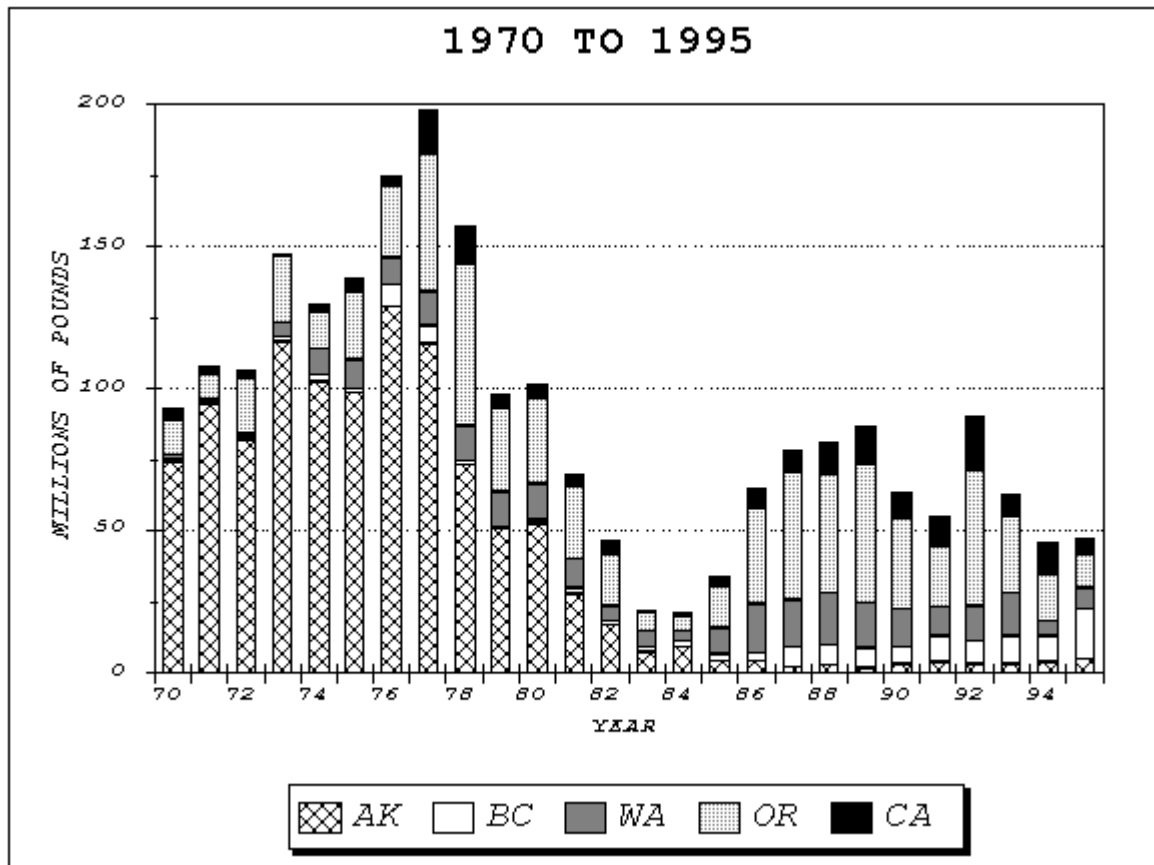
Leslie Barton, Department of Fisheries and Oceans, Canada

Paul LaRiviere, Washington Department of Fish and Wildlife

Neil Richmond, Oregon Department of Fish and Wildlife

Ron Warner, California Department of Fish and Game

# SHRIMP FISHERY IN 1995



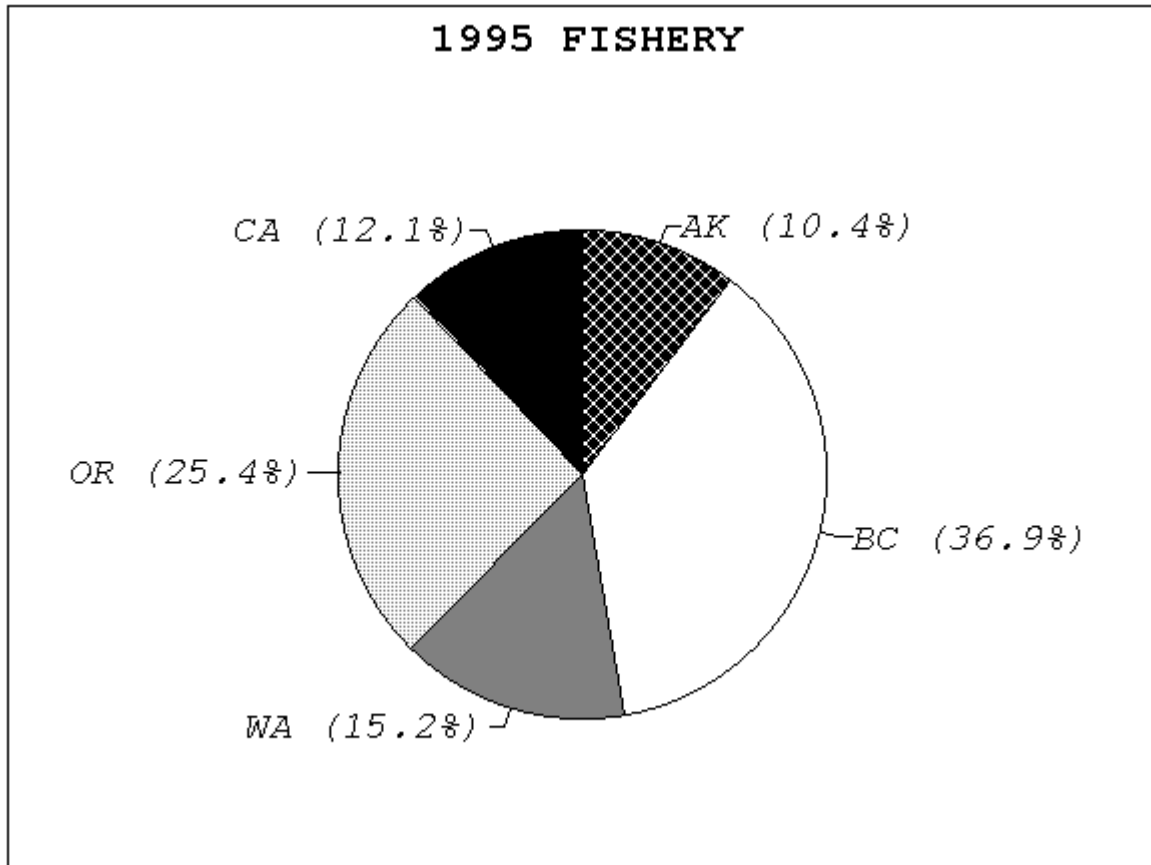


Table 2. Annual Pacific Coast pandalid shrimp landings (in thousands of pounds) by state and province.

Year	Alaska	British Columbia	Washington	Oregon	California	Total
1970	74,256	1,538	926	12,481.7	4,172.2	93,374
71	94,801	735	678	9,213.2	2,728.2	108,155
72	82,098	794	1,582	19,165.3	2,621.3	106,261
73	116,719	1,735	5,271	22,752.7	1,206.4	147,685
74	102,298	2,650	9,325	13,022.1	2,382.9	129,678
75	98,535	1,729	10,167	23,893	4,993	139,317
76	129,011	7,722	9,261	25,392	3,400	174,786
77	116,011	6,176	11,803	48,580	15,633	198,203
78	73,293	1,569	12,298	56,997	13,167	157,324
79	50,916	716	12,135	29,579	4,992	98,338
1980	52,568	1,500	12,629	30,152	5,050	101,899
81	28,029	2,070	10,055	25,918	3,670	69,742
82	16,987	1,515	5,000	18,462	4,550	46,514
83	7,458	1,636	5,656	6,547	1,132	22,429
84	9,539	2,013	3,423	4,844	1,485	21,304
85	4,204	2,628	9,118	14,848	3,293	34,091
86	4,064	2,901	17,400	33,798	6,800	64,963
87	2,457	7,196	15,900	44,800	7,800	78,153



88	2,773	7,233	18,300	41,484	11,100	80,890
89	2,000	6,876	15,870	49,083	13,314	87,143
1990	3,197	5,955	13,504	31,883	8,684	63,223
91	3,794	9,317	9,949	21,720	10,358	55,138
92	3,073	8,490	12,012	48,033	18,516	90,124
93	2,838	9,916	15,456	26,923	7,800	62,933
94	3,826	9,253	5,429	16,379	11,212	45,924
10-Year Mean	3,223	6,976	13,294	32,895	9,888	66,258
1995	4,949	17,550	7,256	12,105	5,759	47,619

Table 3. Oregon landings (pounds) of pink shrimp and effort (hours) during 1994 and 1995, by PSMFC area of harvest.

PSMFC Geographic Boundaries		1995	
1994			
Area		Pounds	Hours
Pounds	Hours		
72 Cape Flattery to Cape Elizabeth		1,138,747	4,296
1,029,378	1,244		
74 Cape Elizabeth to Willapa Bay		974,328	4,284
449,500	2,100		
75 Willapa Bay to Columbia River		14,068	42
3	7		
82 Columbia River to Cape Falcon		2,020,058	8,412
1,603,713	6,462		
84 Cape Falcon to Cape Perpetua		1,254,159	5,020
1,585,217	7,044		
86 Cape Perpetua to Cape Blanco		4,626,401	16,387
3,854,568	13,632		
88 Cape Blanco to California border		1,826,760	5,181
4,137,631	11,393		
92 California border to Cape Mendocino		250,318	908
3,244,322	6,651		
Total		12,104,839	44,530
16,378,846	48,533		

## Alaska

Commercial landings of shrimp totaled 4.9 million pounds in 1995, an increase of 54% over the previous year and 29% greater than the previous 10-year average. Landings of trawl-caught shrimp totaled 3.5 million pounds; 1.4 million pounds of shrimp were caught by pot.

Southeastern Alaska shrimp landings accounted for 98% of the Alaska total, with 3.4 million pounds of trawl-caught, and all 1.4 million pounds of pot-caught shrimp. Prince William Sound accounted for 2% of the Alaska total with 97,900 pounds of trawl-caught shrimp. The remaining less than one percent of Alaska landings occurred in Cook Inlet.

### **British Columbia**

Total shrimp landings for 1995 were 17,550,412 pounds, representing a total value of \$30.64 million (Canadian). The trap and trawl fisheries for shrimp in British Columbia are, however, two distinct fisheries.

Total shrimp by trawl landings were 14,752,375 pounds, for a total landed value of \$12.93 million. The shrimp trawl fishery is dominated by landings from the west coast of Vancouver Island, which were over double those for 1994 due to extremely high landings from the shrimp stock at the entrance to Barkley Sound. Landed value of that fishery alone was \$11.3 million. Landings from the Strait of Georgia and Chatham Sound, the other two major shrimp trawl areas contributed an additional one million pounds, for a value of \$1.6 million. The higher price per pound for the inshore fisheries is due to landings of sidestripe shrimp, *Pandalopsis dispar*, which compete with higher value prawns, especially when the latter fishery is closed. The west coast of Vancouver Island fishery lands mostly *Pandalus jordani*, which is at the northern limit of its geographical range and is in direct competition with more extensive stocks off Washington, Oregon, and California. The northern pink shrimp, *Pandalus borealis*, is landed primarily on the north coast. The fishery is open year-round, but may be closed by variation order. Logbooks are mandatory and saleslip data are monitored. In addition, biological data are collected by offshore research cruises. Entry to this fishery is limited to 249 licenses.

The trap fishery for the spot prawn, *Pandalus platyceros*, is mainly from south coast areas, which account for approximately 60% of the landings. Central and north coast landings have increased as a percentage since 1979, however the fishery is now considered to be fully exploited. The total landed value of the product in 1995 was \$17.7 million, representing a catch of 2.8 million pounds. The South Coast accounted for 1.7 million pounds, the west coast of Vancouver Island 0.2 million, and the north coast 0.9 million pounds. Size of prawns landed is maintained with a minimum mesh size and minimum size of retention of 30 mm carapace length. Licenses are limited to 259, and a maximum limit of 300 traps per license was instituted in 1995. A standard closure from January 1 to March 31 is in place. In-season monitoring of heavily fished areas via an industry-funded program instituted in 1995 is designed to prevent recruitment overfishing. Areas are closed when a minimum spawner index is achieved.

### **Washington**

Coastal pink shrimp landings in 1995 totaled 7,256,448 pounds, an increase of 34% over 1994 but 41% below the average of the last ten seasons. Landings peaked in June at 1,514,545 pounds. The primary fleet consisted of 40 vessels; 63 vessels made at least one

landing. Landings averaged 11,742 pounds for the season, led by the April average of 16,310 pounds per landing.

## **Oregon**

The total 1995 pink shrimp (*Pandalus jordani*) harvest in Oregon was approximately 12.1 million pounds, about 4.3 million pounds less than in 1994 and well below the previous 10-year average of 32.9 million pounds. It was the third consecutive landing decline, and the lowest total since 1984. A total of 154 vessels made 1,290 deliveries of pink shrimp into Oregon ports during 1995, compared with 150 vessels and 1,481 deliveries in 1994.

The total effort (hours) expended to harvest the landed catch was 44,530 hours, about 4,000 hours less than in 1994. Total CPUE was 272 lb/hr in 1995, sharply less than the 337 lb/hr seen in 1994. Most shrimp production occurred in areas 82 and 86, and most of the effort focused there as well. Monthly catches peaked in April, declining progressively through the season to very low levels from August through October. The catch-weighted count per pound of shrimp landed in Oregon was about 93 shrimp/lb, sharply lower than the 15-year average of 115 shrimp/lb. The low count in 1995 was a result of poor recruitment of age-1 shrimp.

## **California**

Pacific Ocean shrimp landings for the 1995 season totaled 5.8 million pounds statewide, a decrease of 48% from the 1994 season. Production off the Santa Barbara area was 1.2 million pounds, an increase of 127% over the previous season. The season opened April 1, and fishing commenced on April 7 after a price settlement of \$0.65 per pound.

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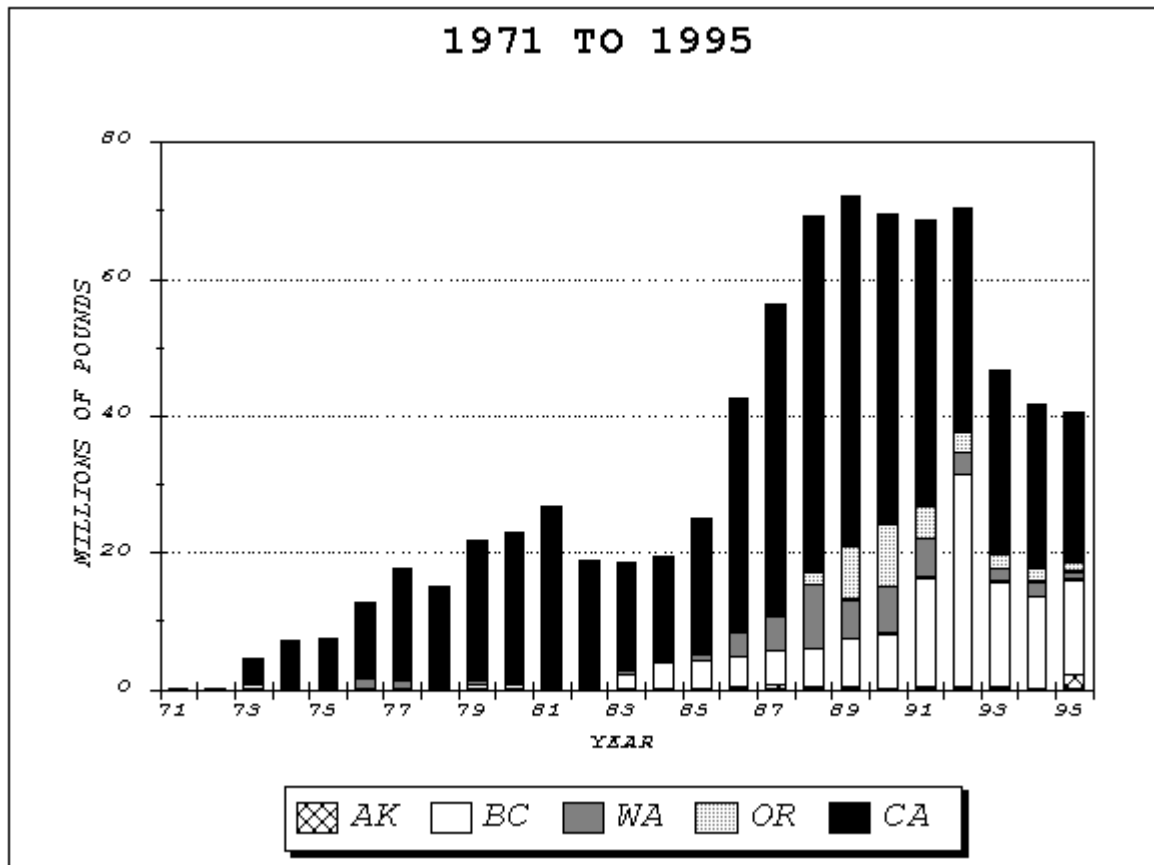
Leslie Barton, Department of Fisheries and Oceans, Canada

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# SEA URCHIN FISHERY IN 1995



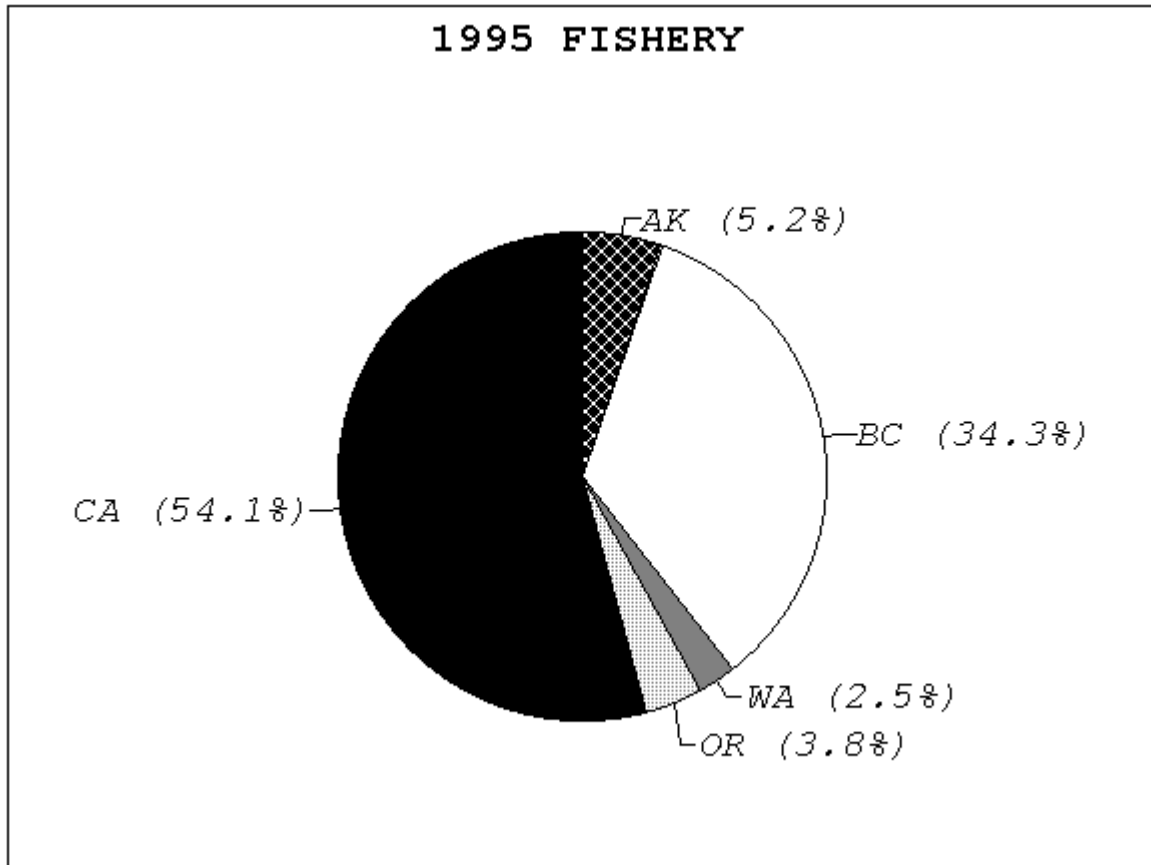


Table 4. Annual landings of sea urchins (in thousands of pounds) by state or province. All 1995 data are preliminary.

	Alaska	British Columbia	Washington	Oregon	California	Total
1971		**	1.8		0.2	2.0
72		**	2.5		76.5	79.0
73		802.5	14.7		3,594.7	4,411.9
74		†	57.4		7,107.8	7,165.2
75		†	31.0		7,567.2	7,598.2
76		†	1,544.4		11,106.4	12,650.8
77		154.5	1,045.6		16,536.3	17,736.4
78		165.3	471.4		14,424.3	15,061.0
79		701.5	697.0		20,544.2	21,942.7
1980	*	733.7	132.9		22,167.1	23,033.7
81	*	254.2	304.2		26,333.7	26,892.1
82	*	351.2	40.6		18,403.9	18,795.7
83	*	2,173.3	497.2		15,809.4	18,479.9
84	107.4	3,890.1	604.5		14,746.5	19,348.5
85	126.0	4,001.2	878.8		19,994.9	25,000.9
86	282.4	4,556.7	3,501.2	55.8	34,130.7	42,526.8
87	757.1	4,935.0	4,908.3	202.8	45,636.8	56,440.0
88	244.9	5,644.5	9,357.9	1,947.3	51,988.0	69,182.6

89	187.0	7,201.2	5,739.7	7,842.6	51,187.3	72,157.8
1990	100.3	8,008.5	6,839.2	9,320.9	45,269.7	69,538.6
91	225.1	16,105.2	5,686.4	4,736.9	41,926.7	68,680.3
92	454.1	30,917.8	3,298.2	2,954.2	32,681.4	70,305.7
93	368.9	15,378.9	1,867.6	2,217.3	27,012.4	46,845.1
94	23.4	13,582.0	2,037.9	1,986.7	23,985.0	41,573.8
5-year Mean	234.4	16,798.5	3,945.9	4,243.2	34,175.0	59,388.7
1995	2,118.2	13,950.3	1,036.2	1,546.2	22,025.4	40,676.4

\* Confidential information: fewer than four fishermen with landings.

\*\* Data from 1971-73 combined.

† Data from 1974-77 combined.

## Alaska

In the Kodiak area the green urchin harvest occurred primarily in late November and December, with divers targeting sea cucumbers during the first of the regular season opening (October). During 1995, eight divers landed 38,437 pounds of green sea urchins. The season closed February 15, 1996, and there is some harvest during January and February that is not included in the 1995 annual harvest.

Green urchins are also the only species harvested in the Cook Inlet and Prince William Sound regions. Total harvest for 1995 was 3,295 pounds taken by nine divers during December only. The season was managed via permit that restricted open areas, set a size limit, established open periods, and required a logbook. The regions' entire catch came from Kachemak Bay near Homer, where the majority of urchins found were under 2.0 inches. Because of illegal harvest and lack of large urchins, permits were terminated at the end of December. Limited exploratory diving occurred outside of Kachemak Bay with negative results.

Red urchins were the only species harvested in Southeast Alaska during 1995. There was no regular commercial fishery, however, and the entire catch was taken as part of an Alaska Department of Fish and Game-sponsored test fishery. This test fishery project was designed to evaluate the marketability of the red urchin resource, provide some life history information concerning the red sea urchin in Southeast Alaska, and fund population assessment surveys. The test fishery occurred in the Dixon Entrance area south of Ketchikan with landings totaling 2,076,500 pounds between March and December 1995. The test fishery continued into April of 1996, with total landings of 2,985,652 pounds for the project. Information gained as a result of the test fishery will be used in 1996 to plan additional population assessment surveys and draft a management plan for a future commercial fishery.

## British Columbia

Red sea urchin landings during 1995 totaled 13.78 million pounds. The voluntary individual quota program was maintained in the 1995 red sea urchin fishery with quotas similar to 1994, resulting in increased landed value for the fishers. Once again in 1995, the bulk of the red sea urchin landings were from the north coast.

The 1995 green sea urchin landings were 167,526 pounds. The 1995 green sea urchin fishery for the southern coast was postponed until the fall following a review/stock assessment process. As a result of this assessment, quotas were significantly reduced to 382,276 pounds in the south. A sanctioned IVQ system was adopted and the license year/fishing season was altered to run from November 1995 through the end of May 1996. Total green sea urchin landings for the 1995/96 season were 346,225 pounds. Quota remained from two areas at the end of the season, hindered by poor visibility and reported poor quality. Although there was an additional quota of 200,000 pounds allotted to the north coast, less than 10,000 pounds were landed from the north. The last green sea urchin landing of the season was made in the south coast on March 1.

## **Washington**

Sea urchin landings during the 1995 season totaled 1.04 million pounds (0.68 million pounds of red urchins and 0.36 million pounds of green urchins). These are preliminary figures which may be adjusted upward once all landings are accounted for. The combined total quota for non-Indian and tribal divers was 1.440 million pounds, but Indian tribes did not take their allotted share. This was the first year that Treaty tribes have fished sea urchins under cooperative state/tribal harvest plans. The quota for green urchins remained the same as in previous season (600,000 pounds), but the red urchin quota was reduced this season to 1.440 million pounds from the previous season quota of roughly 2.0 million pounds for two main reasons: One district was closed following a sea otter invasion which drastically reduced urchin biomass; and federal court decisions required that management change this season from a rotational fishery to one in which all fishing districts are fished on an annual basis, resulting in reduced quotas in those districts which had been fished on a rotational basis the year before.

## **Oregon**

Red sea urchin landings and total effort were 1.504 million pounds and 11,648 deliveries, which reflect a 5-year downward trend in both statistics. Purple sea urchin harvest was an additional 42,249 pounds. Ex-vessel price averaged \$0.80 per pound for the year, with a peak monthly average of \$1.19 in January. Once again, the ports of Port Orford and Gold Beach received the bulk of the catch with 696,000 pounds and 498,000 pounds, respectively. Thirty-nine diver permits were issued in 1995. Thirty-one permittees harvested urchins, plus seven temporary divers with limited permit transfers.

A permit review process culminated in several changes to the permit system, effective in 1996. Annual permit renewal poundage will drop from 20,000 to 5,000 pounds, and "medical transfer" poundage limits will be more restrictive. A plan to collapse permit

numbers to a new target of 30 transferable permits allows divers to purchase three existing permits, creating one new permit while retiring two others.

## **California**

Preliminary estimates of 1995 red sea urchin landings in California totaled 22,025,400 pounds, down 1,735,400 pounds (7.3 percent) from 1994. Purple sea urchin landings were only 81,400 pounds, down 56,200 pounds from 1994. The average ex-vessel price for red sea urchins remained steady at about \$1.00 per pound. The same harvest restrictions were in place this year, with no regulation changes made between 1994 and 1995. Factors contributing to the decline in landings include: fewer permits issued (566 in 1994 versus 526 in 1995); a decline in kelp abundance as a result of El Niño warm water conditions; areas containing large numbers of sub-legal and/or low quality legal-size sea urchins throughout the fishing grounds; bad weather, especially in northern California; and some effort shift from California to Alaska.

### Contributors

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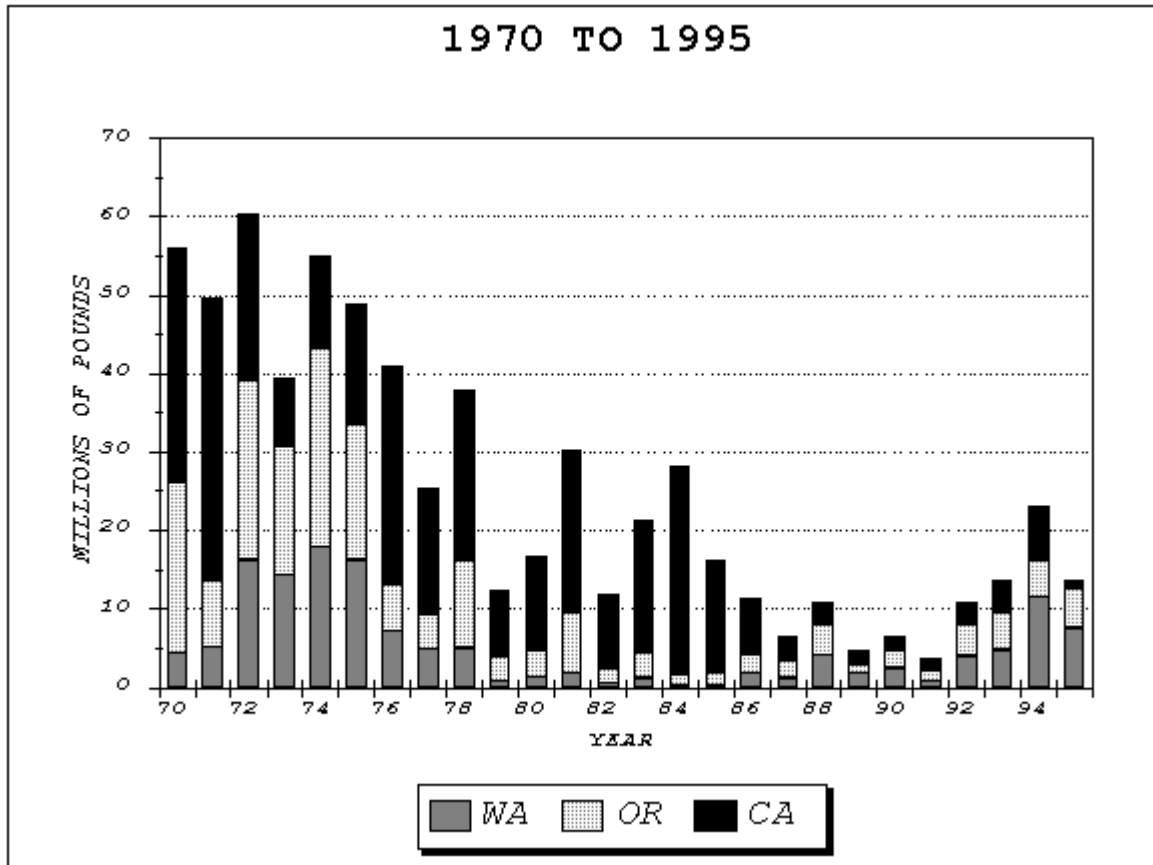
Alex Bradbury, Washington Department of Fish and Wildlife

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# ALBACORE FISHERY IN 1995



## 1995 FISHERY

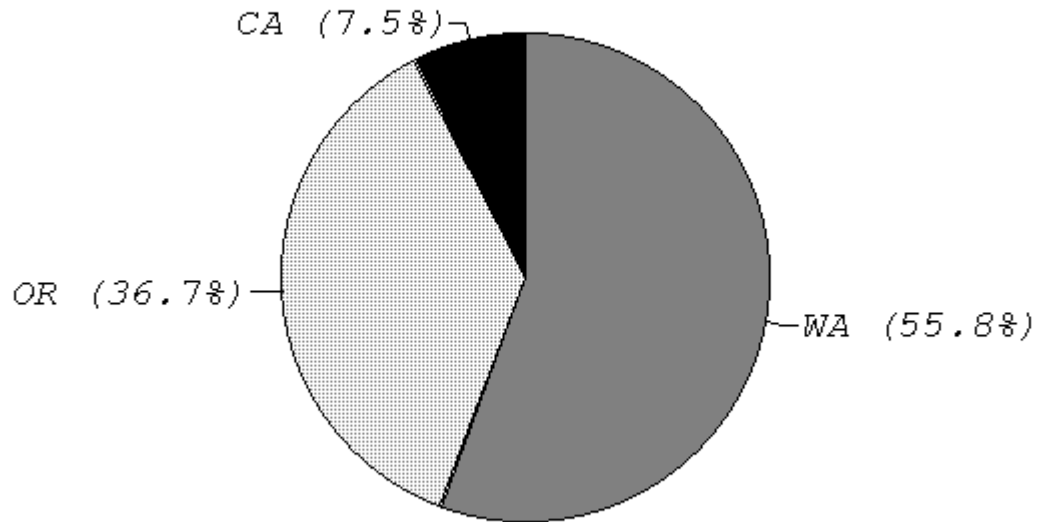


Table 5. Albacore landings in Washington, Oregon, and California (in thousands of pounds).

	Washington	Oregon	California	Total
1970	4,390	21,782	29,932	56,104
71	5,250	8,420	36,117	49,787
72	16,238	23,056	21,001	60,295
73	14,446	16,350	8,641	39,437
74	17,983	25,225	11,806	55,014
75	16,297	17,166	15,413	48,876
76	7,202	5,934	27,754	40,890
77	4,948	4,420	15,905	25,273
78	5,008	11,285	21,549	37,842
79	830	3,107	8,508	12,445
1980	1,299	3,505	11,958	16,762
81	1,928	7,727	20,584	30,239
82	586	1,913	9,439	11,938
83	1,168	3,410	16,732	21,310
84	147	1,631	26,520	28,298
85	379	1,525	14,410	16,314
86	1,862	2,461	7,018	11,341
87	1,167	2,288	3,090	6,545

88	4,197	3,967	2,665	10,829
89	1,882	1,080	1,819	4,781
1990	2,542	2,079	1,942	6,563
91	943	1,259	1,494	3,696
92	4,095	3,889	2,772	10,756
93	4,813	4,754	4,028	13,595
94	11,553	4,695	6,939	23,187
10-Year Mean	3,343	2,800	4,618	10,761
1995*	7,664	5,036	1,035	13,735

\* Preliminary

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## Washington

Albacore landings in Washington during 1995 totaled 7,663,721 pounds, a decrease from 1994 but still well above recent years' average landings. Washington landings of albacore began in mid-July, and dropped off significantly after September, continuing through early November. Total landings by month were: 163,897 pounds in July, 4,409,328 pounds in August; 2,874,964 pounds in September; 209,672 pounds in October; and 5,860 pounds in November. The Washington ports of Ilwaco and Westport received the majority of the deliveries, with Ilwaco accounting for 51% of the total and Westport accounting for 45% of the total.

## Oregon

The preliminary total for commercial albacore landings in Oregon during 1995 is 5,036,306 pounds, the highest in the last decade. The commercial albacore season in Oregon essentially began in July when a few landings of fish caught near Midway Island occurred (one isolated landing took place in June). By late July, an offshore fishery developed, resulting in the delivery of some fairly large catches of fish to coastal processors. Total landings in Oregon for July were approximately 405,016 pounds. The months of August and September showed the largest landings for the season with 2,575,946 pounds and 1,934,536 pounds delivered, respectively. The fishery slowed during October and was basically over by the middle of the month. Only 114,371 pounds were landed into Oregon during October, 1,786 pounds were landed during November, and 34 pounds were landed during December.

Albacore fishermen reported good fishing offshore in the area about 42 to 46 N latitude and 142 to 152 W longitude until late September when catches declined along with deteriorating weather. The usual nearshore commercial fishery off Oregon never really developed in 1995. Although fish were available 50 to 150 miles off the coast, schools were scattered, and catch and effort were low.

The average weight of individual albacore landed in Oregon during 1995 was quite variable. In general, tuna from the offshore fishery averaged 15 to 20 pounds, and those fish caught closer inshore averaged 10 to 15 pounds. An abundance of small fish below nine pounds was also reported. In 1995, Newport received 55% of the Oregon deliveries; Astoria was second with 36%, and Charleston was third with about 4%. Several other port also received deliveries. Ex-vessel prices paid during 1995 ranged from \$1,520 to \$1,600 per ton for frozen albacore and \$1,300 to \$1,400 per ton for fresh fish.

## **California**

Commercial albacore landings in California decreased considerably from the nearly seven million pounds of 1994, to slightly more than one million pounds. Although the entire Pacific coast season was not as robust as in 1994, the greatest impact to California landings was the lack of a cannery to buy the fish. Additionally, albacore were not as available to the nearshore fleet in northern California. This was reflected in the number of vessels landing albacore; from a high of 321 in 1994 to 152 in 1995.

Hook and line and troll gears accounted for roughly 91% of the albacore catch, while drift gill nets (8.5%) and longlines (0.5%) comprised the remainder. The number of vessel trips (landings) declined from 761 in 1994 to 267 in 1995. The majority of the fish landed in California were unloaded in northern ports; Moss Landing, Eureka, and Crescent City accounted for 84% of the total. In the past, when canneries were operating and the fish were further south, the majority of the albacore were offloaded in the southern port of Terminal Island.

The lack of a cannery to buy and process albacore in 1995 resulted in a significant change in the landing figures for California. Because of the cannery situation, some fish caught by California boats were landed in Oregon or trans-shipped at sea, and thus were not counted as California landings. Many vessels also cited the lower fuel costs in Oregon as an incentive to fish and land there. The overall price per ton remained comparable to 1994. The likelihood of having a cannery buying station in California for the 1996 season is still uncertain.

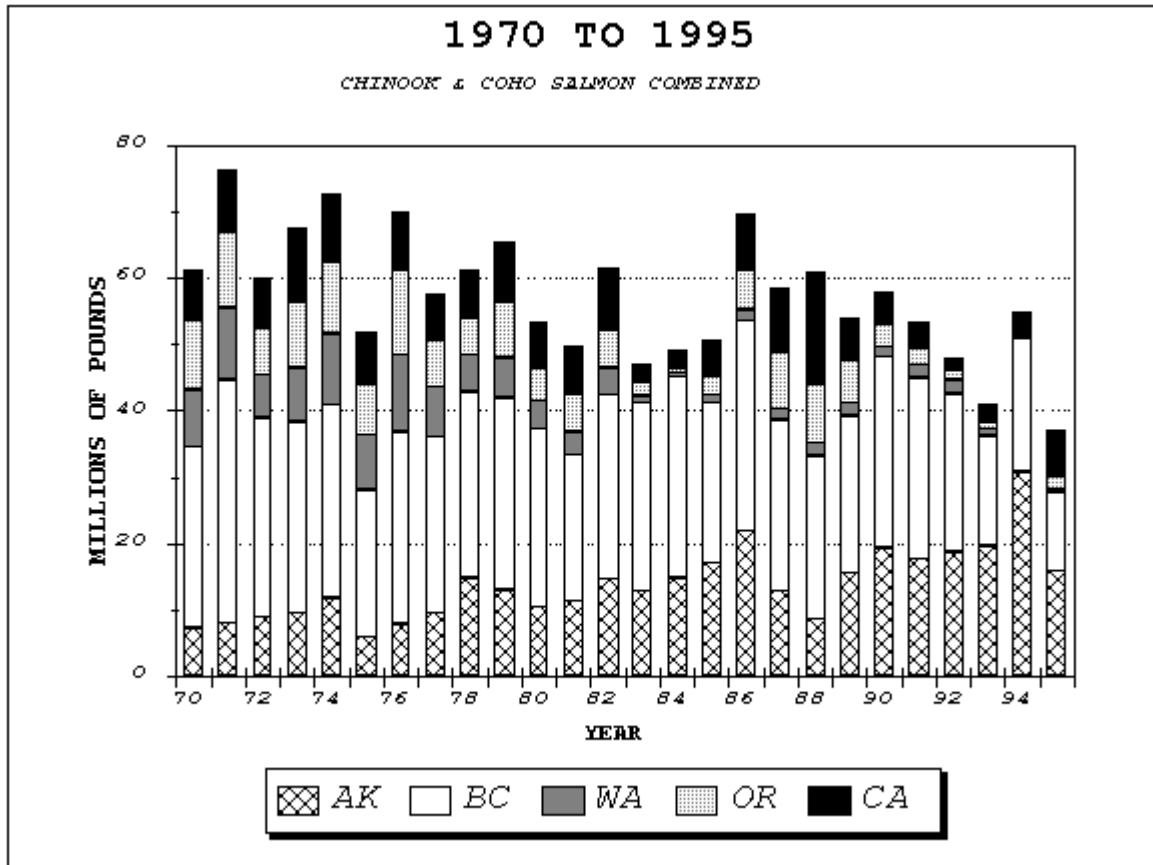
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# TROLL SALMON FISHERY IN 1995



## 1995 FISHERY

*CHINOOK & COHO SALMON COMBINED*

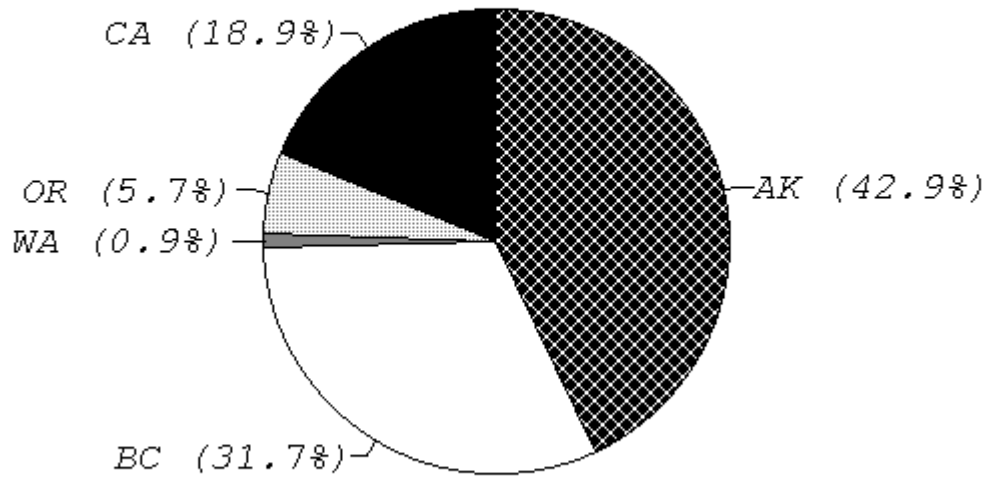


Table 6. Pacific Coast commercial troll chinook salmon landings in millions of pounds round weight.\*

Year	Alaska	British Columbia	Washington	Oregon	California	Total
1970	5.1	9.9	2.5	1.9	6.1	25.5
71	4.9	15.2	3.1	1.2	5.7	30.1
72	3.3	14.1	2.6	1.5	6.2	27.7
73	5.0	12.7	3.8	4.0	8.7	34.2
74	5.1	13.5	4.3	2.6	5.8	31.3
75	4.4	12.6	3.3	3.0	6.6	29.9
76	3.5	13.8	4.4	2.2	5.7	29.6
77	4.7	12.1	3.3	4.0	6.6	30.7
78	6.8	13.2	2.4	2.2	6.0	30.6
79	6.0	11.1	2.0	3.0	7.9	30.0
1980	5.5	11.6	1.9	2.5	6.4	27.9
81	4.7	9.9	1.4	1.8	6.8	24.6
82	4.5	11.9	1.9	2.7	8.5	29.5
83	4.3	9.5	0.8	0.8	2.4	17.8
84	4.4	11.1	0.2	0.6	2.3	18.7
85	4.0	9.3	0.6	2.3	5.2	21.4
86	4.7	8.6	0.7	3.9	7.6	25.5
87	5.3	10.2	1.1	6.0	9.5	32.1

88	4.3	11.3	1.5	5.0	16.5	38.6
89	5.2	8.6	1.2	4.1	6.2	25.3
1990	5.6	9.2	0.6	2.5	4.7	22.6
91	5.2	8.3	0.8	0.8	3.7	18.8
92	3.3	10.1	1.0	1.2	1.9	17.5
93	4.4	8.7	0.6	0.9	2.9	17.5
94	3.4	6.6	0.1	0.3	3.6	14.0
10-Year Mean	4.5	9.1	0.8	2.7	6.2	23.3
1995†	2.6	2.6	0.1	2.1	7.0	14.3

\* Troll-caught salmon are landed dressed.

Round weights are projected.

† All 1995 data are preliminary.

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Table 7. Pacific Coast commercial troll  
coho salmon landings in millions of pounds  
round weight.\*

Year	Alaska	British Columbia	Washington	Oregon	California	Total
1970	2.2	17.3	6.1	8.7	1.5	35.8
71	3.1	21.4	7.9	10.1	3.7	46.2
72	5.7	15.9	3.9	5.6	1.2	32.3
73	4.5	16.2	4.3	5.9	2.3	33.2
74	6.7	15.6	6.4	8.3	4.3	41.3
75	1.5	9.5	5.1	4.7	1.3	22.1
76	4.3	15.3	7.2	10.4	3.3	40.5
77	4.9	14.4	4.3	3.0	0.2	26.8
78	8.0	14.9	3.2	3.2	1.5	30.8
79	7.1	17.7	4.2	5.3	1.2	35.5
1980	5.0	15.3	2.3	2.5	0.3	25.4
81	6.7	12.2	2.0	3.8	0.5	25.2
82	10.2	15.8	2.2	3.1	0.6	31.9
83	8.5	18.9	0.3	1.3	0.3	29.3
84	10.4	19.2	0.3	0.1	0.4	30.5
85	13.2	14.8	0.6	0.6	0.1	29.3
86	17.3	23.1	0.7	2.2	0.8	44.1
87	7.7	15.5	0.7	2.2	0.3	26.4
88	4.4	13.3	0.3	3.8	0.4	22.2
89	10.4	15.1	0.7	2.3	0.3	28.8
1990	13.8	19.5	1.0	0.7	0.4	35.4
91	12.5	19.1	1.1	1.6	0.5	34.7
92	15.5	13.8	1.0	0.2	0.0	30.5
93	15.3	8.0	0.4	0.0	0.0	23.6
94	27.3	13.8	0.0	0.0	0.0	41.0
10-Year Mean	13.7	15.6	0.6	1.4	0.3	31.6

1995†      13.3            9.2            0.3            0.0            0.0            22.8

\* Troll-caught salmon are landed dressed.

Round weights are projected.

† All 1995 data are preliminary.

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## Alaska

A total of 2,907,400 salmon of all species were harvested in 1995 by the troll fleet. Hand troll vessels harvested 245,600 fish and power troll vessels harvested 2,661,800 fish. This catch represents the lowest catch of chinook salmon (138,100 fish; 2,578,000 pounds round weight) and largest catch of sockeye salmon (27,300 fish) since 1960 (statehood). The coho catch, although below the record years of 1993 and 1994, remained strong at 1,750,200 fish (the fifth highest), with continued strong catches of pink salmon (714,300 fish) and chum salmon (277,500 fish).

The 1995 troll chinook fishery was managed to (1) comply with provisions of the Pacific Salmon Treaty (PST) regarding chinook catch ceilings and minimization of incidental mortalities, (2) continue the SE Alaska natural chinook rebuilding program, (3) harvest a total of 170,100 Treaty chinook salmon, and (4) provide maximum harvest of Alaska hatchery-produced chinook salmon. The department initially set the season all-gear catch quota of treaty fish at 230,000, based on a fixed harvest rate index and the Chinook Technical Committee pre-season index of abundance. The fishery was managed to comply with previous PST protocol as follows: (1) the base catch was calculated by subtracting the "add-on" (Alaskan hatchery produced chinook minus pre-Treaty production and a risk factor), and (2) beginning in 1987 a management range of  $\pm 7.5\%$  was provided for accumulation of overages and underages.

The 1995 winter troll season began October 11, 1994, and continued through April 14, 1995. The open area during the 1994-1995 winter season was restricted to those areas of SE Alaska lying east of the surflines and the waters of Yakutat Bay. All outer coastal areas, including the EEZ, were closed during the winter fishery. The winter fishery remains open until either a catch ceiling of 45,000 chinook salmon is harvested, or until April 14. Only 17,900 chinook salmon (13% of the 1995 troll chinook catch) were harvested during the 1994-1995 winter season. This catch was the lowest since 1982. The low catch was a result of decreased effort due to poor weather and a lower catch per unit effort than in previous years.

The 1995, experimental troll fisheries started in late May, and all areas were open by the second week in June. These fisheries target Alaska-origin hatchery chinook salmon, except for the Cross Sound fishery which targets chum and pink salmon. The areas are adjacent to the Little Port Walter Hatchery (NMFS), Whitman Lake Hatchery and Carroll Inlet release site (Southern Southeast Regional Aquaculture Association, SSRAA), Crystal Lake Hatchery (ADFG), Earl West Cove Release Site (SSRAA/ADFG), and Medvejie and Hidden Falls hatcheries (Northern Southeast Aquaculture Association, NSRAA). Fishing areas generally start with two open days per week (Monday-Tuesday).



Fish deliveries are examined by department personnel, and the heads of adipose fin-clipped fish are immediately shipped to the state tag lab in Juneau. Coded-wire-tag data provided by the tag lab is then used in-season to estimate the percentage of the harvest that is Alaska-hatchery origin. Fishing time for the following week is then determined based on the Alaska-hatchery contribution and historic catch timing data in each area. Fishing time may also be extended during the week as more tag data and catch information becomes available from both the current and previous weeks.

Between 72 and 266 boats participated each week in the 1995 experimental fisheries, and harvested an experimental fishery record 21,700 chinook salmon. The highest catches were in the Silver Bay area (9,400 fish), followed by the Hidden Falls area (5,200 fish) and the newly established Middle Island area (2,500 fish). The record catch was primarily the result of record chinook returns to the Hidden Falls and Medvejie hatcheries. In the Cross Sound pink and chum salmon experimental fishery area (District 114), 18,900 pink and 14,900 chum salmon were harvested, along with 410 chinook salmon.

The first opening of the general summer troll fishery occurred from July 1 - July 10, and harvested 75,800 chinook salmon. Although the abundance as measured by troll catches delivered during the first 5 days of the opening indicated that a more liberal quota was warranted, Alaska Governor Tony Knowles agreed not to exceed the pre-season quota of 230,000 fish as a conservation measure after concerns were raised by the Canadian government. Because the troll fleet harvested less than the 70% of the remaining chinook quota after the initial opening, a second opening occurred from July 30 through August 5, where 21,300 chinook salmon were harvested.

Following this second fishery, approximately 55,000 chinook remained for harvest under the 170,100 treaty fish troll target. On August 4, the Confederated Tribes and Bands of the Yakima Nation et al. (tribes) sued the State of Alaska in District 9 Federal Court. The tribes claimed that the proposed harvest by Alaska was not negotiated properly under the provisions of the Pacific Salmon Commission, and that the harvest level proposed by Alaska was too high. The tribes motioned for a temporary restraining order on the Southeast Alaska chinook fishery. Judge Barbara Rothstein granted the tribes' request and issued a temporary restraining order of further chinook fishing on August 11, 1995, pending further review of the case. After a second court hearing on Sept. 7, Judge Rothstein extended the tribes' motion for a preliminary injunction and the chinook fishing ban was extended through the end of the season, September 30. Judge Rothstein did allow a 2,000 chinook salmon allowance for the recreational harvest from August 11-September 30.

Consequently, the 1995 chinook salmon all-gear fishery harvested totaled 231,000 fish. The commercial catch was 186,000 fish (80.5%), and the recreational harvest 45,000 fish (19.5%). The Alaskan hatchery chinook contribution was estimated at 65,700 fish (56,700 fish add-on). The total commercial harvest of chinook salmon included a troll harvest of 138,100 fish, a purse seine harvest of 25,100 fish greater than 5 pounds, a drift gillnet harvest of 13,300 fish, a set gillnet harvest of 9,400 fish, and a commercial all-gear catch of 133 fish in the Annette Island Reserve.

General regulatory dates for the troll coho salmon season are June 15 through September 20, with an extension through September 30 if coho abundance is surplus to escapement requirements. The major portion of the coho catch normally occurs from mid-July through early September. Coho troll catches generally peak between late July and mid-August, while catches in inside gillnet fisheries peak approximately one month later. Migrations into spawning streams generally peak in late September. Southeast Alaska coho fisheries are managed on assessed in-season run strength and are regulated to achieve conservation objectives and allocation policies established by the Board of Fish. There are no harvest ceilings for Southeast Alaska coho fisheries. The management plan calls for fishing closures to maintain historical allocation balance to inside fisheries and to ensure adequate escapements. The current coho salmon management plan provides a 7-day conservation closure in late July if an assessment of run strength indicates a total all-gear harvest of less than 1,120,000 fish (80% of the 1980 to 1988 average catch). Furthermore, a 10-day closure can occur if escapements to inside areas are projected to be inadequate, or if the proportional share of coho harvest by the troll fishery is larger than that of inside gillnet and recreational fisheries compared to average 1971-80 levels (base average).

Retention of coho salmon began by regulation on June 15 during chinook experimental and terminal fishery openings. An assessment completed on July 22 projected a total commercial coho harvest of 2.7 to 3.2 fish, and no closure of the troll fishery was necessary for conservation. In early August, the proportional share of the coho harvest was larger for the troll fishery than for inside (District 1, 5, 11, and 15) gillnet and recreational fisheries compared to the base average. The troll fishery was closed for 10 days (August 13 - 22) to provide allocation opportunity to the inside fisheries. A mid-September assessment of the coho fishery showed that gear sharing projections were within Board of Fish guidelines, and all indicator streams were expected to meet or exceed escapement goals. The coho salmon season was therefore extended for 10 days, and closed on September 30.

The 1995 troll coho salmon harvest of 1,750,200 fish (preliminary) was the fifth highest since statehood, and follows the record harvest of 3,461,665 fish in 1994. Since 1989, the troll share of the commercial coho harvest has averaged 62%.

A total of 27,300 sockeye, 714,300 pink, and 277,500 chum salmon were also harvested during the 1995 troll season. These catches of sockeye, chum, and pink ranked 1st, 6th, and 3rd, respectively, since statehood. Catches in the experimental fishery totaled 1,400 sockeye, 3,700 coho, 18,900 pink, and 14,900 chum salmon.

## **Washington**

Due to low pre-season projections for many Columbia River chinook salmon stocks, the Pacific Fishery Management Council voted to close the non-treaty commercial and recreational ocean fisheries in the area north of Cape Falcon to the retention of chinook salmon. The total allowable catch of coho salmon was set in April at 75,000 fish, to be allocated between commercial and recreational gears, but was raised by NMFS to

100,000 in July when Canada announced that it would limit the west coast Vancouver Island troll fishery to a harvest of 1.2 million coho salmon. This resulted in an allocation of 25,000 coho salmon to the non-Treaty troll fishery.

The non-Treaty troll fishery was limited to the area between the U.S.-Canada border and Carroll Island and opened on August 5, on a four-days-on/three-days-off schedule, with a quota of 25,000 coho salmon and a guideline of 160,000 pink salmon. All salmon except chinook could be legally retained, with a landing and possession limit of 80 coho salmon per open period. Gear was restricted to flashers with barbless bare blued hooks or flashers with barbless hooks and pink hootchies of three inches or less.

After the first four-day opener, the coho salmon landing and possession limit was increased to 200 fish per open period to take advantage of good availability of pink salmon. It was increased to 375 coho salmon per open period for the last three openers. The fishery was open August 5-8, August 12-15, August 19-22, August 26-29, and September 2-3 for a total of 18 fishing days.

Landings from the non-Treaty troll fishery in the area north of Cape Falcon totaled 25,400 coho salmon and 30,900 pink salmon. These catches represent 102% of the coho salmon quota and 19% of the pink salmon guideline. A total of 0.126 million round pounds of coho and 0.115 million round pounds of pink salmon were landed.

The 1995 Treaty Indian salmon troll fisheries were constrained by concerns for impacts on Columbia River chinook salmon and low abundance of several naturally spawning coho salmon stocks. The 1995 season consisted of a directed chinook salmon season conducted between May 1 and May 31, and an all-species season from August 1 to August 24. The season totaled 55 days in length, a reduction of 6 days from the 1994 season. A total of 9,447 chinook salmon and 30,618 coho salmon were landed. These catches represent 78.7% of the chinook salmon quota and 102% of the coho salmon quota. A total of 71,805 pounds of chinook salmon and 139,869 pounds of coho salmon were landed.

## **Oregon**

The area north of Cape Falcon was closed to troll salmon fishing in 1995. All Oregon fisheries were closed to the harvest of coho salmon, and were limited to four spreads per wire to reduce interceptions of coho salmon.

The area from Cape Falcon to Humbug Mountain was open from May 1 through June 30, was closed to all salmon trolling in July, but reopened from Cape Falcon to Cape Arago from August 1 through October 31. The area from Cape Arago to Humbug Mountain remained closed through the month of August, but reopened from September 1 through October 31. A fishery off Tillamook Bay (Twin Rocks to Pyramid Rock) from September 1 through September 30 was limited to state waters (0-3 miles) to reduce coho salmon interceptions. South of Humbug Mountain, from Sisters Rocks to House Rock (0-6 miles) the fishery was open on May 1-2, 5-6, 10-11, 14-15, and 18-31.

The area from Sisters Rocks to Mack Arch (0-6 miles) was open July 24-25. This fishery was designed to target returning Rogue River fall chinook salmon in conjunction with a Genetic Stock Identification (GSI) study. Additional terminal state waters (0-3 miles) fall chinook salmon target fisheries occurred off the Elk River (Cape Blanco to Humbug Mountain) from November 1-7, and off the Chetco River (Goat Island to 42°01'20") from October 10-20.

Oregon troll chinook salmon landings in 1995 totaled 2.1 million pounds (round weight). The 1995 landings were seven times greater than the 1994 landings of 0.3 million pounds, but were 22% below the 1985-94 average of 2.7 million pounds.

### **California**

In 1995, the troll season north of Horse Mountain was closed the entire season. Between Horse Mountain and Point Arena there was a fishery for all salmon except coho during the month of September. South of Point Arena, fishing for all salmon except coho occurred May 1 through June 15 and July 19 through September 30 from Point San Pedro (approximately 15 miles south of the Golden Gate) to the Mexican Border; from May 24 through July 4 and July 19 through September 30 between Point Reyes (approximately 20 miles north of the Golden Gate) and Point San Pedro; and July 5 through September 30 from Point Arena to Point Reyes. Statewide, the minimum size limit for chinook was 26 inches total length, and barbless hooks were required.

California's preliminary troll chinook landings were 7.0 million pounds round weight, approximately 113% of the previous 10-year average of 6.2 million pounds. Commercial fishing for coho salmon was closed for the entire season.

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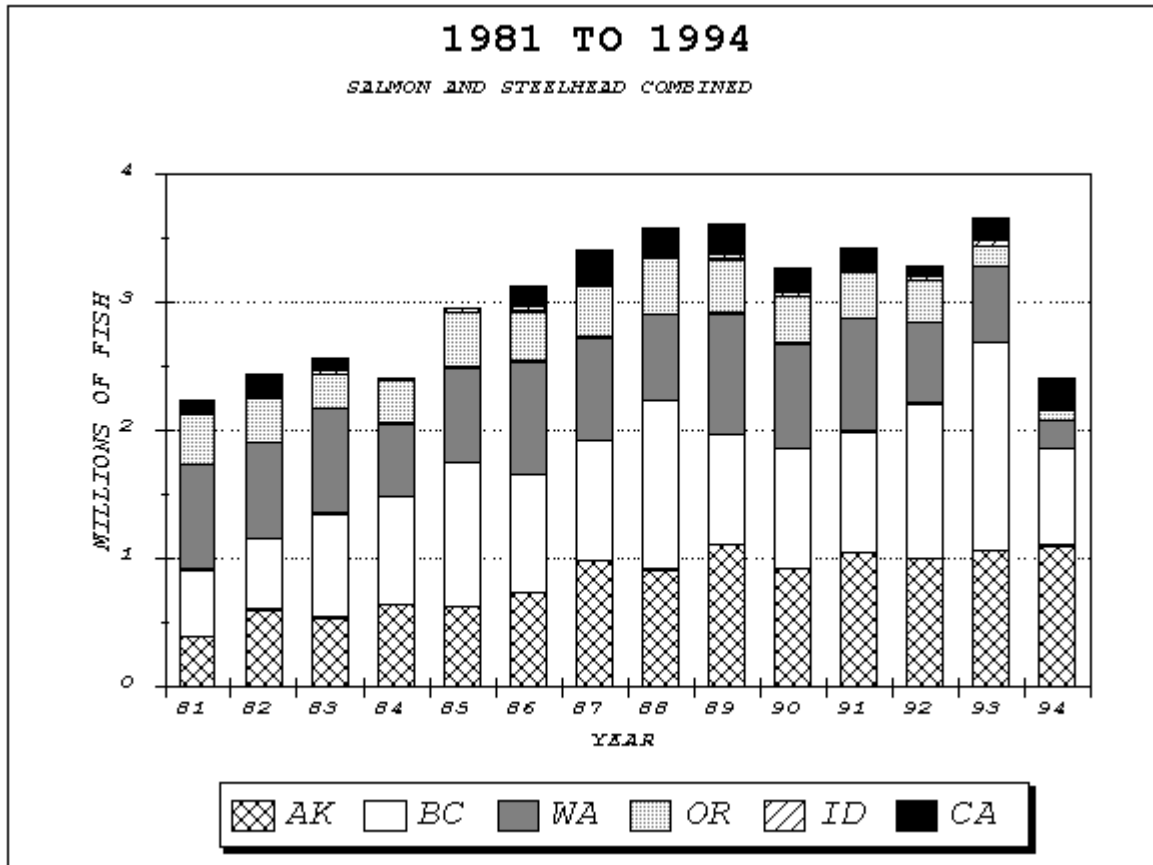
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# SALMON AND STEELHEAD SPORT HARVESTS IN 1994



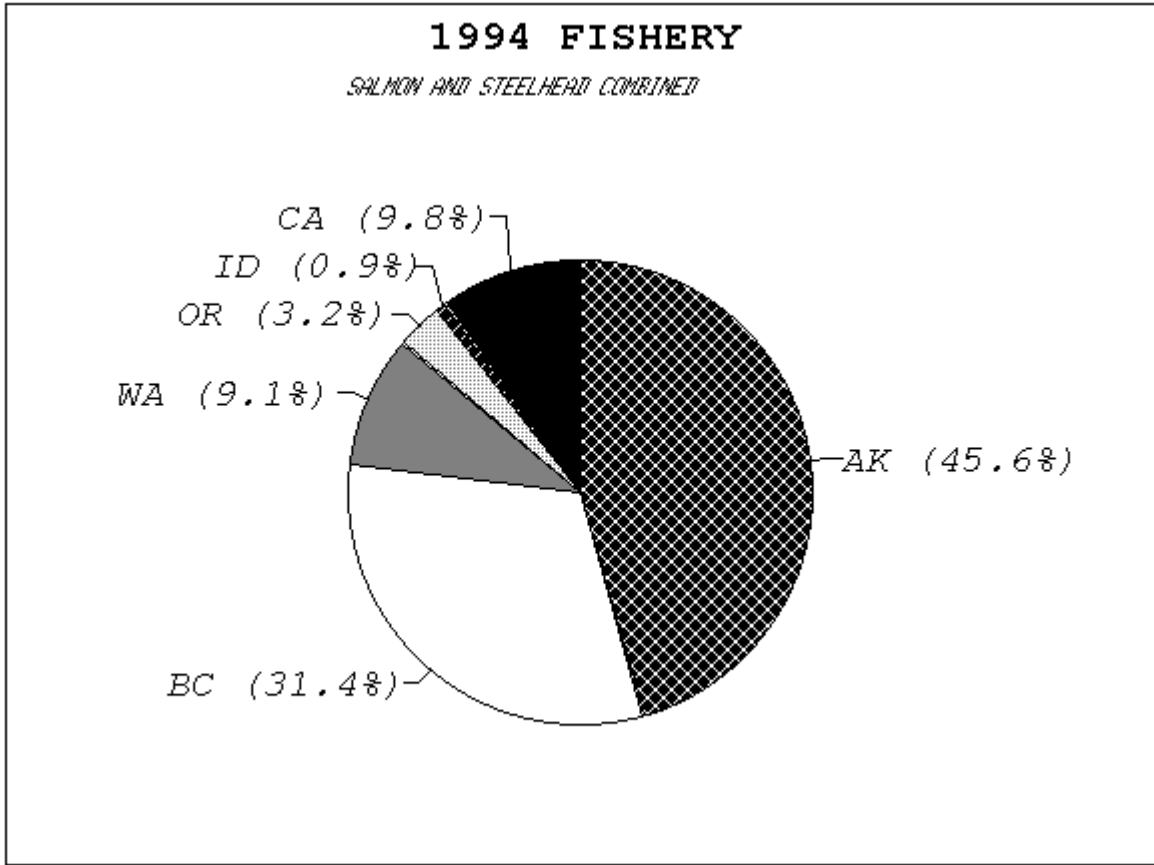


Table 8. Salmon and steelhead sport harvest in 1994.

State/Province	Chinook	Coho	Pink	Other
Steelhead	Total			Salmon*
Alaska	176,870	502,127	144,140	273,482
2,346	1,098,965			
British	216,586	433,653	45,542	54,098
7,831	757,710			
Columbia†				
Washington†	49,710	35,883	5	9,977
124,209	219,784			
Oregon†	6,000	50		
71,000	77,050			
Idaho	0			
21,435	21,435			
California†	183,200	500		
52,826	236,526			
Total	632,366	972,213	189,687	337,557
279,647	2,411,470			

\* Sockeye and chum salmon

† Marine salmon fishery harvests only



1994	1,096.6	2.3	749.9	7.8	95.6	124.2	6.1
71.0	closed	21.4	183.7	52.8	2,131.8	279.6	

† Marine salmon fishery harvests only  
 NA Not Available

## Alaska

The statewide harvest of anadromous salmon was the second highest on record, exceeded only by the 1989 harvest. It was up 4% from 1993 and was 30% above the 1984-1993 mean. These increases were primarily due to a record coho salmon harvest that exceeded last year's previous record by 22% and was 66% above the previous 10-year mean. The southeast Alaska coho harvest exceeded the previous 1991 record by 55% and was up 136% from the previous 10-year mean. The Southcentral coho harvest was also a record high, up 6% from the 1993 record and up 41% from the previous 10-year mean. The steelhead harvest of was the lowest in 20 years, down by half or more from the peak harvests of the 1980's. An estimated 22,972 steelhead (93% of total estimated catch) were caught and released by anglers.

## British Columbia

Recreational salmon harvest in British Columbia tidal waters were sharply lower than in 1993. The harvest estimate of 749,900 salmon is considered preliminary, and may be subject to minor revision. Salmon harvests were the lowest since 1983; 54% lower than the record 1993 levels, and 29% lower than the previous 10-year mean.

Anglers in British Columbia harvested an estimated 7,831 steelhead during the April 1994 through March 1995 season, 10% more than in the 1993-94 season, but 46% less than the previous 10-year average. An estimated 95,013 steelhead were caught and released. The proportion of the total steelhead catch which is released by anglers has increased steadily in British Columbia, from 38% in 1970-71 to 92% in 1994-95.

## Washington

Due to record low pre-season projections for many Washington coho and chinook stocks, recreational and commercial fisheries in 1994 were severely restricted. Marine recreational anglers harvested a total of 49,710 chinook salmon, 35,883 coho salmon, 5 pink salmon, 9,936 chum salmon, and 41 sockeye salmon in Washington marine waters. The total of 95,575 salmon harvested in marine Catch Record Card Areas 1 - 13 in 1994 was 80% below 1993 and 84% below the previous ten-year mean.

For the 1994 calendar year (Jan. - Dec.), the Washington state sport harvest of steelhead was 61,889 summer run and 62,320 winter run fish, for a total of 124,209 steelhead. The 1994 total was only 0.081% less than the 1993 harvest, but 16% below the previous 10-year mean of 147,600 fish.



## **Oregon**

The most restrictive ocean salmon fishery regulations in Oregon history were implemented in 1994 to increase escapement of coho salmon. These limited the harvest to a total of 6,100 salmon of all species in 1994, down 91% from an already very limited 1993 season. Chinook salmon harvest by the ocean sport fishery was the lowest on record at 6,000 fish in 1994, compared to 6,400 in 1993. This was 79% below the 1984-93 mean of 28,600 chinook salmon. The ocean recreational harvest of coho salmon was also the lowest on record due to a total statewide closure. Less than 50 coho salmon were landed (illegal) in 1994, compared to 59,300 in 1993. Anglers harvested an additional 80,300 chinook salmon and 5,400 coho salmon from Oregon estuaries and freshwater sites in 1994.

The steelhead harvest of 71,000 fish was 25% below the 1993 take of 95,000 fish and 51% below the 1984-93 average of 144,000 fish. Only a minor portion (<0.1%) of the steelhead harvest occurs in ocean waters.

## **Idaho**

Steelhead anglers in Idaho harvested a total of 21,435 fish in 1993; 11,703 from the 1993-94 run (spring season) and 9,732 from the 1994-95 run (fall season). The 1993 harvest was 38% less than the 1993 harvest, and 33% less than the 10-year average. An estimated 48,227 (22,934 spring season and 25,293 fall season) hatchery and wild steelhead were caught and released by anglers. There was no sport season for chinook salmon in Idaho during 1994.

## **California**

Ocean recreational anglers harvested an estimated 183,200 chinook salmon in 1994, a 67% increase over 1993 and 35% greater than the recent 10-year average (1984-1993). Due to concerns for naturally-spawning coho salmon stocks, there were no opportunities to retain coho salmon in the recreational fishery after May 1, so coho salmon landings were the lowest on record. The estimated 500 coho salmon landed were 98% below landings of the previous year, and 99% below the 10-year average. The combined recreational harvest of 183,700 salmon was, however, 31% greater than the previous year and 8% greater than the recent 10-year average.

An estimated 52,826 steelhead were harvested by California anglers in 1994; another 124,371 steelhead were caught and released. The steelhead harvest is about 30% greater than in 1993, even though the total catch (harvest plus release) is approximately the same.

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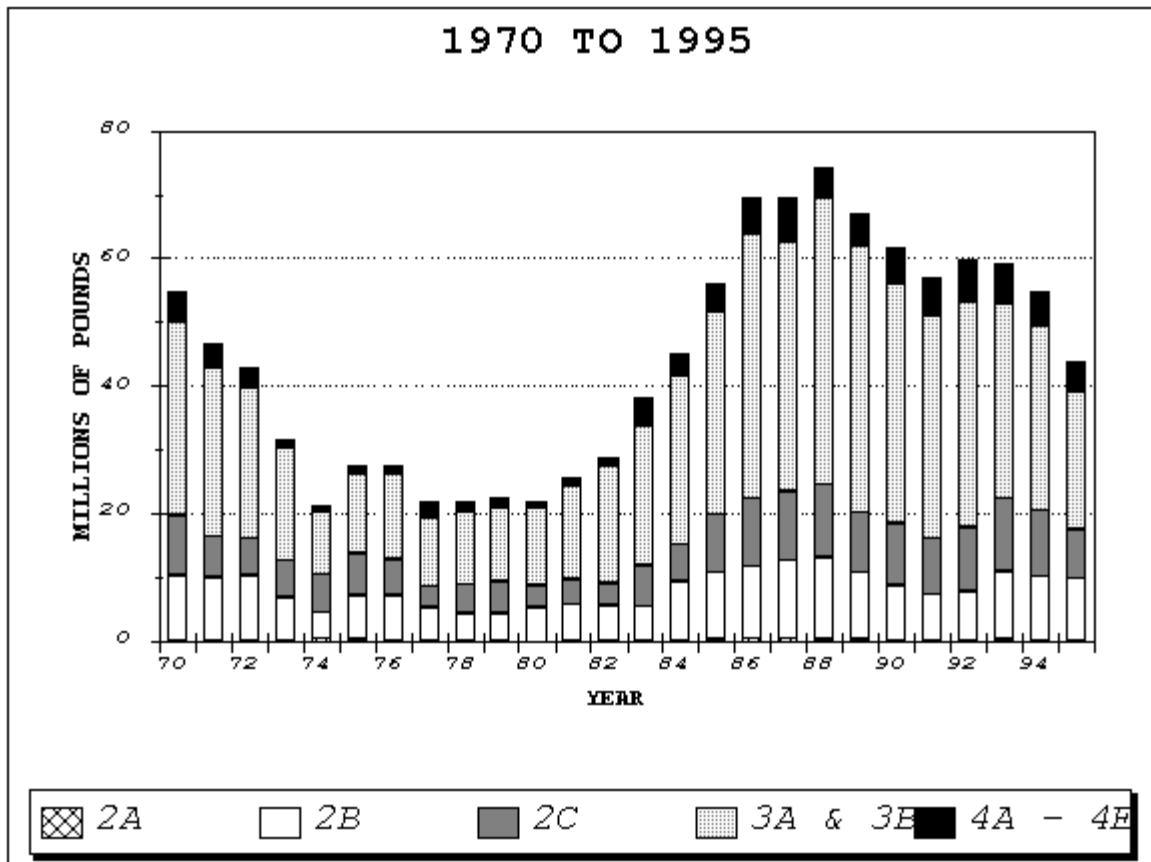
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### ***PACIFIC HALIBUT FISHERY IN 1995***



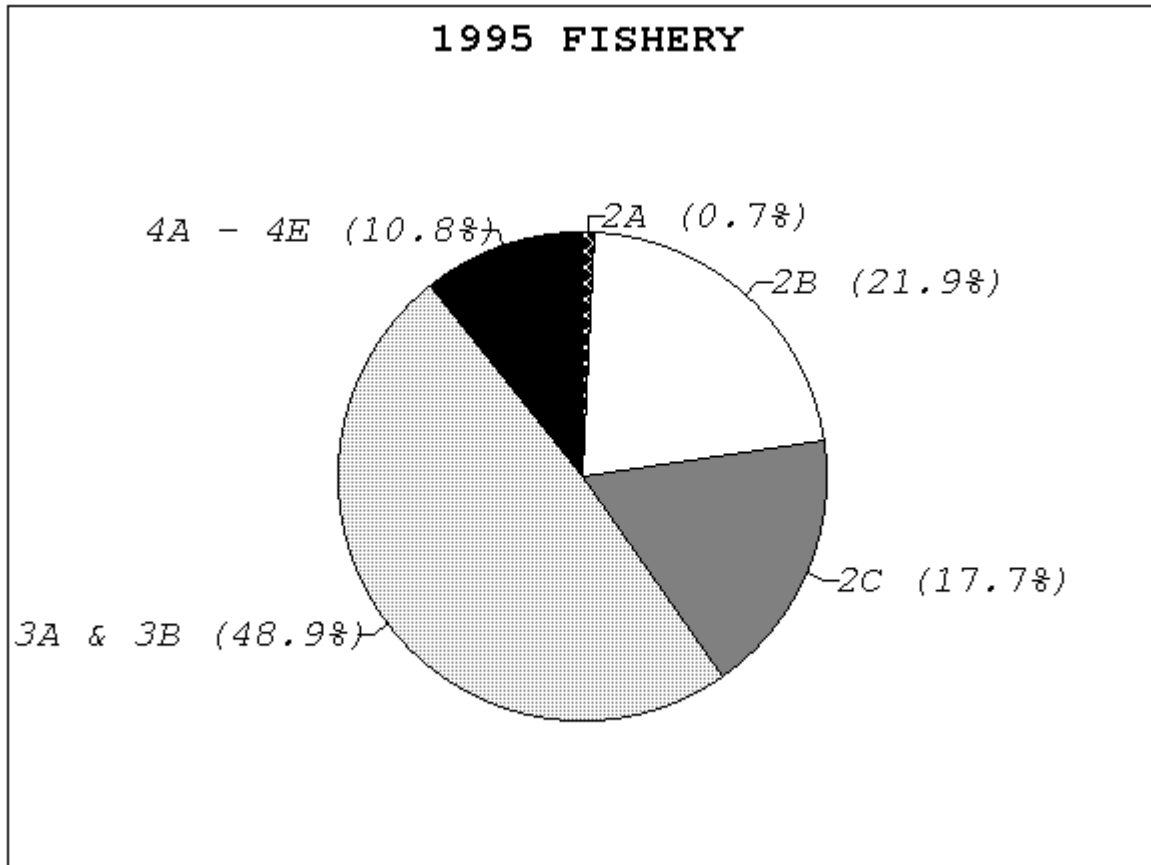


Table 10. Preliminary catch summary of the 1995 Pacific halibut fishery (in thousands of pounds).

	Regulatory Area	Catch	Fishing Limit	Days	Catch
2A	CA/OR/WAa,b	107	2.92		121
2A	2A Treaty Indian	171	7		176
2B	British Columbiac	9,520	245		9,625
2C	Southeast Alaskad	9,000	245		7,766
3A	Central Gulf of AK	20,000	245		18,332
3B	Western Gulf of AK	3,700	245		3,127
4A	Eastern Aleutian Is.	1,950	245		1,617
4B	Western Aleutian Is.	2,310	245		1,680
4C	Pribilof Is.	770	245		668
4D	Western Bering Sea	770	245		643
4E	Eastern Bering	120	245		127

Sea		
Total	48,418	43,882

a Includes 2,000 pounds incidental catch.

b Fishing period limits by vessel class.

c An additional 131,000 pounds available as carryover from 1994.

d Includes 51,000 pounds taken by Metlakatla Indians during additional fishing within reservation waters.

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Table 11. Pacific Coast landings of the United States and Canada (in millions of pounds).

<u>Year</u>	<u>Canada</u>	<u>U.S.</u>	<u>Total</u>
1970	29.2	25.8	54.9
71	25.5	21.2	46.7
72	22.5	20.4	42.9
73	14.5	17.3	31.7
74	7.4	13.9	21.3
75	11.4	16.3	27.6
76	12.0	15.5	27.5
77	8.8	13.1	21.9
78	8.6	13.4	22.0
79	6.7	15.9	22.5
1980	7.6	14.3	21.9
81	5.7	20.1	25.7
82	5.5	23.5	29.0
83	5.4	32.9	38.4
84	9.1	35.9	45.0
85	10.4	45.7	56.1
86	11.2	58.4	69.6
87	12.2	57.2	69.5
88	12.9	61.5	74.3
89	10.4	56.5	66.9
1990	8.6	53.0	61.6
91	7.2	49.9	57.1
92	7.6	52.3	59.9
93	10.6	48.6	59.3
94	9.9	44.8	54.7
95	9.6	34.3	43.9

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In 1995, approximately 43,882,000 pounds of Pacific halibut were landed from the waters of the northeastern Pacific Ocean. This year's harvest was the smallest since 1983.

Generally, the decrease is attributed to a diminishing halibut biomass and the presence of smaller individuals emerging in the younger year-classes.

Area 2A is managed under a catch sharing plan to provide for a complex community of users. The total allowable take in the area was set at 520,000 pounds, with 230,880 pounds of that assigned to the sport fishery. The Treaty Indian fisheries off the Pacific coast harvested 11,000 pounds of halibut for subsistence and ceremonial use. The total commercial catch limit of 292,000 pounds allocated 171,000 pounds of commercial halibut to the Treaty Indian fisheries, 91,052 pounds to the directed commercial fishery, and 16,068 pounds to incidental catch by salmon trollers. Trollers caught only 2,000 pounds, so the remaining 14,068 pounds were rolled into the directed commercial fishery when chinook trolling ended in June. Openings were scheduled in a series of seven 10-hour fishing periods, each with fishing period limits. Conflicts with sablefish openings, meetings between fishermen and processors over salmon prices, and bad weather kept some of the grounds nearly empty during a few of the fishing periods.

British Columbia produced 9.51 million pounds of commercially caught halibut in 1995. Fishermen continue to operate within the Individual Vessel Quota (IVQ) program established in 1991, and could fish any time between March 15 and November 15. Each of the 435 qualifying vessels were allowed to catch a predetermined portion of the Area 2B catch limit. Transferability of quota shares has effectively shrunk the fleet in recent years. When the IVQ program began in 1991, quota shares were non-transferable and all 435 qualifying vessels participated in the fishery. In 1992, 431 boats participated. The fleet shrank to 313 vessels in 1994 when quota shares became transferable, and only 296 vessels participated in 1995. To help differentiate Canadian and U.S. halibut on the market after the U.S. quota program began, Canadian fishermen initiated a dockside tagging program which tagged all halibut caught in Canadian waters with a blue, coded marker. The program was initiated to aid in both enforcement and marketing.

More than 87 percent of the Pacific halibut harvested off the west coast of North America are landed in Alaska. This portion of the fishery underwent a major transformation in 1995 when the new Individual Fishing Quota (IFQ) program took effect in the halibut and sablefish fisheries. Quota shares were issued to individuals who owned vessels that participated in the 1988 through 1990 seasons, based on their landings during the best five seasons of an historical base period. Allocations were also made to coastal communities for economic development (CDQ - Community Development Quota). The program was many years in development, and some aspects remain controversial. Some program regulations are still being reviewed, defined, and revised by the North Pacific Fishery Management Council.

One of the most obvious changes as a result of the IFQ fishery was an increase in ex-vessel prices, from about \$1.50 per pound in 1994 to \$2.00 per pound in 1995. Only 151 of the quota shares applied for and denied in the initial allocation were appealed, fewer than expected. Many of those who received smaller quota shares chose not to fish them, and as a result the total catch fell below the overall quota. There was no indication of significant violations, and most that did arise occurred because of confusion. An



## 1995 FISHERY

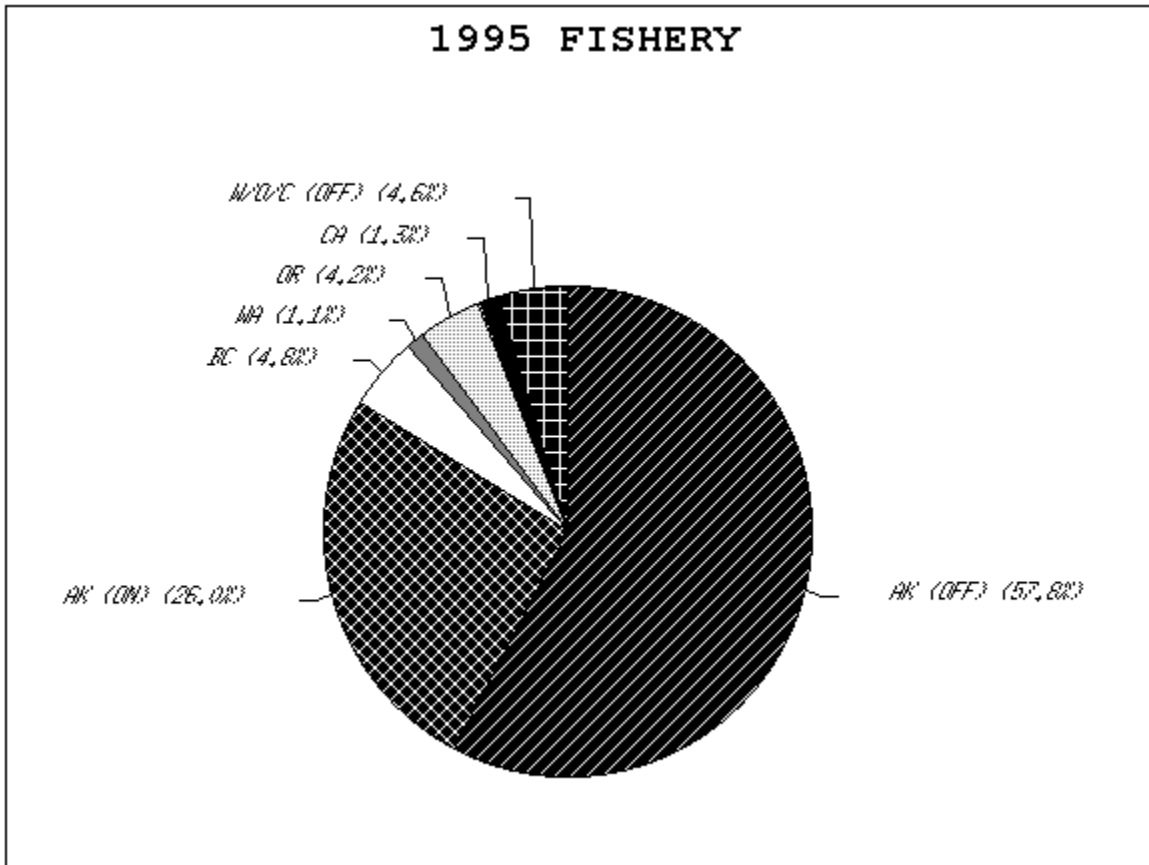


Table 12. Total commercial groundfish landings in metric tons (mt) by port of landing with percent change.

Region	1994 (mt)	1995 (mt)	Percent Change
Alaska	621,424	562,232	-10%
Alaska At-Sea	1,233,506	1,247,505	1%
Washington	29,048	24,800	-15%
Oregon	94,226	91,679	-3%
California	24,742	28,390	15%
WOC At-Sea	175,205	99,803	-43%
Total U.S.	2,178,150	2,054,409	-6%
Canada (B.C.)	80,249	104,449	30%
Canada Joint Venture	85,798	26,771	-69%
Total Canada	166,047	131,220	-21%
Total U.S.-Canada	2,344,197	2,185,628	-7%

Table 13. Domestic groundfish landings in metric tons by gear and first port of landing.

Region		Trawl		Hook & Line		Pots	
Other Gear*		Total					
1994	1995	1994	1995	1994	1995	1994	1995
Alaska		578,867	503,809	26,405	26,652	16,111	31,686
41	86	621,424	562,232				
Alaska		1,134,883	1,131,453	96,434	110,649	2,189	5,403
0	0	1,233,506	1,247,505				
At-Sea							
Washington		24,832	20,152	3,583	4,026	14	113
618	510	29,048	24,800				
Oregon		91,122	89,553	1,593	1,202	1,197	667
314	258	94,226	91,679				
California		20,025	23,722	2,928	3,035	187	348
1,602	1,284	24,742	28,390				
WOC At-Sea		175,205	99,803				
175,205	99,803						
Total U.S.		2,024,933	1,868,491	130,943	145,563	19,698	38,217
2,575	2,137	2,178,150	2,054,409				
Canada		70,943	94,718	4,563	5,772	4,155	3,371
587	587	80,249	104,449				
(B.C.)							
Total U.S.		2,095,877	1,963,209	135,507	151,336	23,853	41,588
3,163	2,724	2,258,399	2,158,857				
& Canada							

\* Other Gear includes the following PSMFC Gear groupings: Nets, Trolls, Shrimp Trawls, and Other.

The estimated 1995 groundfish landings by North American fishermen from the North Pacific Ocean are 2,185,628 metric tons (mt), a 7% decrease from 1994. The Canadian domestic fishery increased 30%, California landings increased 15%, and Alaska at-sea landings increased 1%; all other sectors recorded decreased landings. Trawl fisheries accounted for 91% (1,963,209 mt) of the aggregate domestic catch, followed by hook and line at 7% (151,336 mt), pot gear at 2% (41,588 mt), and other gears at less than 1% (2,724 mt).

Statistics by state or province presented in this report are from the Pacific Fisheries Information Network (PacFIN), and reflect first port of landing. Catches by geographic area are different, and those statistics are also available from PacFIN. All 1995 data are preliminary.

## Alaska

The 1995 total Alaska groundfish harvest from at-sea processors and Alaskan ports combined was down 2% from 1994 levels. Of the 1,809,737 mt catch, 31 % was landed



at Alaska ports, down from 36% in 1994 and 33% in 1993. The remaining 69% was delivered to at-sea processors.

Landings to Alaskan ports decreased 10% from 1994 levels. Trawl landings were down 13%, offsetting increases of 1% for hook and line gears, 97% for pot gears, and 109% for other gears.

Landings to at-sea processors were relatively unchanged from 1993 (up 1%). Trawl landings were virtually the same as in 1994 (down less than 1%), outweighing high percentage increases in landings by hook and line and pot gears (15% and 147% respectively).

### **British Columbia**

Landings of groundfish (excluding halibut) to Canadian ports were 104,449 mt in 1995, an increase of 30% from 1994 levels. Trawlers landed 94,718 mt, 91% of the total catch and 34% above 1994 levels. Major species in the trawl landings were Pacific whiting (58%) and Pacific ocean perch (6%). Almost all of the Pacific whiting (99%) was caught by midwater trawl gear.

Landings to Canadian ports of groundfish caught by gear other than trawl totaled 9,730 mt. Sablefish traps accounted for 3,371 mt (99.9% sablefish). Longline gear accounted for 5,772 mt (43% rockfish, 40% dogfish, 10% lingcod, and 5% sablefish). Miscellaneous gears, including troll, handline, and nets, accounted for 587 mt (77% lingcod, 10% rockfish, and 10% dogfish).

Each year, Fisheries Branch (DFO) conducts creel surveys of the recreational angling fishery in the Strait of Georgia (Area 4B). Principal target species are chinook and coho salmon. In 1995 these surveys covered only the months of March to October. Provisional estimates of 1995 catches for this 8-month period were 5,134 lingcod, 110,775 rockfish of all species, and 1,862 dogfish. There were also an estimated 32,014 "other fin fish" taken, which include greenlings, sculpins, and other species such as herring.

In 1995 only one foreign nation, Russia, was involved in the joint-venture fishery for Pacific whiting off the southwest coast of Vancouver Island (Area 3C). Forty-three Canadian catcher vessels delivered Pacific whiting and incidental species to three Russian processing vessels, where a total of 26,580 mt of Pacific whiting was processed. There were no national or supplemental fisheries for Pacific whiting off southwest Vancouver Island (Area 3C) in 1995.

### **Washington**

The estimated groundfish landings in Washington totaled 24,800 mt in 1995. This represents a 15% decline in groundfish landings since 1994, and a 40% decline since 1992. Catch from Canadian waters continues to represent a significant portion (36-47%

since 1990) of total groundfish landings. In 1995, 41 % of the groundfish landed in Washington were reported from Canadian catch areas.

The trawl fishery continues to land the majority of the catch which has ranged between 81-85% over the previous three years and represented 81% of the landings in 1995. Total trawl landings decreased 4,680 mt (19%) since 1994 and 8,337 mt (29%) since 1993. In order of importance, major species in the trawl fishery include Pacific whiting (27%), arrowtooth flounder (12%), dover sole (7%), POP (7%), yellowtail rockfish (7%) and widow rockfish (5%) contributing nearly 65% to total trawl catch. Shore-side Pacific whiting landings increased a modest 10% over 1994 while flatfish, rockfish and Pacific cod landings in the trawl fishery decreased 20-24%. Total hook-and-line landings increased approximately 12% in 1995 which can be attributed to a 530 mt increase in tribal hook-and-line sablefish landings.

Landings of groundfish by all gears from Puget Sound catch areas increased 217 mt (12%) in 1995, 6% of total Washington groundfish landings. Most of this increase can be attributed to greater landings of Pacific cod.

### **WOC At-Sea**

A three-year allocation plan for Pacific whiting was established for 1994-1996 which reserved 40 percent of the annual harvest guideline for shore-based processing after the first 60 percent was taken in open competition (first come, first served) by both the at-sea and shore-based processing sectors. A provision was included for making surplus whiting available for at-sea processing on August 15, or a later date, if the shore-based industry does not need the remainder of the harvest guideline.

A license limitation program has been in effect in the Pacific groundfish fishery since 1994. Trawl vessels targeting on groundfish are required to possess a limited entry permit to operate in the fishery. This changed the composition of the at-sea processing fleet considerably since 1993, increasing the number of motherships because permits are not required of vessels that only process. By 1995, eight vessels operated as motherships in the whiting fishery. No catcher/processors initially qualified for a permit, but nine purchased permits and operated in 1995.

At-sea processing started on April 15, 1995, and could occur only north of 42° N. latitude. At-sea processing was prohibited 20 days later, on May 4, when 60 percent of the harvest guideline was projected to be reached. Because the entire harvest guideline was almost taken, no additional amounts were made available for at-sea processing later in the year.

In 1995, 103,595 mt of fish were delivered to at-sea processors. About 102,159 mt (99%) were whiting, of which 99,661 mt (98%) were retained; the remainder were discarded. The remaining 1,436 mt (1%) were bycatch of other species, predominantly rockfish, most of which were discarded. About 73,950 mt of whiting were delivered shoreside in 1995. A total of 176,107 mt of whiting were caught in 1995 by at-sea and shore-based

sectors combined, about 99% of the 178,400 mt harvest guideline. The 176,107 mt catch in 1995 was significantly lower than the 252,729 mt catch in 1994 due to a substantial decline in the harvest guideline between these two years.

## **Oregon**

Total commercial groundfish landings in 1995 were 91,679 mt, with an ex-vessel value of approximately \$38 million. Although the landings were down nearly 3% from 1994, the ex-vessel value increased by about 15%. This was primarily due to a higher price paid for Pacific whiting in that high-volume fishery in 1995. Pacific whiting made up 73% of the total groundfish landed into Oregon. This was a slight increase in both the amount landed as well as the percentage of Oregon's total landings. Landings of traditional flatfish and rockfish groups were down 7% and 16%, respectively. Within the rockfish category, the only positive trends were for yelloweye rockfish (a 34% increase) and roughey (a 3% increase). The only flatfish to show an increasing trend were Petrale sole (an 8% increase). The declines in overall flatfish and rockfish landings reflect several changes, including management restrictions and fishing strategies. Pot landings and hook-and-line landings decreased 44% and 25%, respectively.

## **California**

The California commercial groundfish harvest for 1994 was 28,390 mt, with an ex-vessel value of approximately \$34 million. Total 1995 landings increased nearly 15% or 3,650 mt from 1994. The ex-vessel value increased by 29%. In 1995 the downward trend in total harvest evident since 1990 reversed in spite of more restrictive management measures. Significant increases in harvest were noted for most categories. Reasons for the increase include higher ex-vessel prices for species such as sablefish and thornyheads, and a general increase in market demand for all groundfish.

The distribution of 1995 landings by gear showed the same trend evident during recent years. The bottom and midwater trawl component rose to 84%, up from 82% in 1994, 78% in 1993, and 75% in 1992. The line portion of the catch continued to drop, from 18% in 1992, to 16% in 1993, 14% in 1994, and 11% in 1995. The trap component rose slightly to 1.3% in 1995, up from 1.0% in 1994. Setnet landings dropped from 6% in 1992, to 5% in 1993, 3% in 1994, and less than 3% in 1995.

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Table 14. Landings (metric tons) into Alaska ports during 1995 by gear and by species.

SPECIES			HOOK & LINE	POT & TRAP	TRAWLS
TROLLS	NETS	TOTAL			
ARROWTOOTH FLOUNDER			89	2	4,498
0		4,589			
ALASKA PLAICE				0	857
857					
DOVER SOLE			0		1,091
1,092					
ENGLISH SOLE			0		13
13					
GREENLAND TURBOT			216	0	621
837					
OTHER FLATFISH			0	0	1,832
0		1,833			
PETRALE SOLE					0
0					
REX SOLE			0	0	619
619					
ROCK SOLE			1	0	5,346
5,346					
STARRY FLOUNDER			0	0	203
203					
UNSPECIFIED FLATFISH			1	1	323
324					
YELLOWFIN SOLE			0	6	7,527
7,533					
THORNYHEADS (MIXED)			399	0	111
0		510			
BLACK ROCKFISH			448	0	4
65		517			
BOCACCIO			1		
1					
CANARY ROCKFISH			6		
0		6			
DARKBLOTCHED ROCKFISH			0		0
0					
DUSKY ROCKFISH			46	0	110
4		160			
OTHER ROCKFISH			15	0	544
0		559			
QUILLBACK ROCKFISH			20	0	1
0		22			
REDBANDED ROCKFISH			26		0
0		26			
REDSTRIPE ROCKFISH			1		3
0		4			
ROSETHORN ROCKFISH			2		
0		2			
ROUGHEYE ROCKFISH			208	0	38
0		247			

SHORTRAKER ROCKFISH		136		69
0	205			
SILVERGREY ROCKFISH		15	0	0
1	16			
YELLOWEYE ROCKFISH		334	0	1
2	337			
YELLOWMOUTH ROCKFISH		0		1
1				
YELLOWTAIL ROCKFISH		5	0	0
0	5			
PACIFIC OCEAN PERCH		2	0	248
250				
UNSPECIFIED ROCKFISH		15	0	5
20				
WIDOW ROCKFISH		2		
0	2			
ATKA MACKEREL		3	10	327
340				
LINGCOD		500	1	1
11	512			
OTHER ROUND FISH		0		0
0				
PACIFIC COD		6,464	31,493	65,190
2	103,149			
SABLEFISH		17,409	12	385
17,805				
WALLEYE POLLOCK		21	3	412,438
0	412,462			
1				
SPINY DOGFISH		12		
12				
OTHER GROUND FISH			1	34
34				
UNSPECIFIED		256	156	1,373
0	1,785			
GROUND FISH				
ALL GROUND FISH		26,652	31,686	503,809
85	1	562,232		

NOTE: 0 = landed catch less than 0.5 metric tons

Table 15. Landings (metric tons) to domestic at-sea processors during 1995 by area, gear, and species.

		ALASKA			
WASHINGTON	TOTAL				
OREGON	DOMESTIC				
SPECIES		HOOK &	POT &	TRAWLS	TOTAL
CALIFORNIA	AT-SEA	LINE	TRAP		
AT-SEA	PROCESSING				
ARROWTOOTH FLOUNDER		213	0	1,453	1,666
1	1,668				

UNSPECIFIED TURBOTS	2,264		2,852	5,116
5,116				
FLATHEAD SOLE	10	0	8,880	8,890
8,890				
OTHER FLATFISH	0		8,589	8,590
8,590				
ROCK SOLE	7		23,607	23,613
23,613				
YELLOWFIN SOLE	0	1	90,257	90,258
90,258				
THORNYHEADS (MIXED)	98		375	473
0 473				
BOCACCIO				
0 0				
CANARY ROCKFISH				
0 0				
CHILIPEPPER				
0 0				
YELLOWTAIL ROCKFISH				
90 90				
OTHER ROCKFISH	25		2,059	2,084
12 2,096				
PACIFIC OCEAN PERCH	0		13,994	13,994
2 13,997				
SHORTRAKER+ROUGHEYE	157		1,479	1,635
1,635				
SRKR+REYE+NRCK+SHRP	21		1,453	1,474
1,474				
WIDOW ROCKFISH				
33 33				
UNSPECIFIED	1		16	17
17				
DEMERSAL-91				
UNSPECIFIED ROCKFISH	95	0	68	163
163				
UNSPECIFIED SLOPE-93	11		249	259
259				
ATKA MACKEREL	1	3	67,153	67,157
67,157				
LINGCOD				
0 0				
PACIFIC COD	102,781	5,377	59,833	167,991
167,991				
PACIFIC WHITING				
99,661 99,661				
SABLEFISH	2,947		1,468	4,415
1 4,416				
WALLEYE POLLOCK	411	0	846,891	847,302
847,302				
UNSPECIFIED GROUND FISH	1,608	22	777	2,406
2,406				
OTHER GROUND FISH				
1 1				
ALL GROUND FISH	110,649	5,403	1,131,453	1,247,505
99,803 1,347,308				

NOTE: 0 = landed catch less than 0.5 metric tons

Table 16. Landings (metric tons) into British Columbia ports during 1995 by gear and by species.

SPECIES	NETS	TOTAL	HOOK & LINE	POT & TRAP	TROLLS	TRAWLS
SHRIMP						
TRAWLS						
ARROWTOOTH FLOUNDER			0			1,990
1,990						
DOVER SOLE			0			3,729
3,729						
ENGLISH SOLE			0			1,410
1,410						
OTHER FLATFISH						289
289						
PETRALE SOLE			0			582
582						
REX SOLE						339
339						
ROCK SOLE			0			1,878
1,878						
STARRY FLOUNDER			0			77
77						
UNSPECIFIED FLATFISH			1			
1						
THORNYHEADS (MIXED)			26	0	4	1,055
1,086						
BLACK ROCKFISH						6
6						
BOCACCIO						436
436						
CANARY ROCKFISH						763
763						
DARKBLOTCHED ROCKFISH						78
78						
DUSKY ROCKFISH						0
0						
OTHER ROCKFISH			2,491		59	56
0	2,607					
QUILLBACK ROCKFISH						31
31						
REDBANDED ROCKFISH						384
384						
REDSTRIPE ROCKFISH						1,163
1,163						
ROSETHORN ROCKFISH						5
5						
ROUGHEYE ROCKFISH				2		1,029
1,031						
SHARPCHIN ROCKFISH						194
194						

SHORTRAKER ROCKFISH		0		312
312				
SILVERGREY ROCKFISH				1,867
1,867				
SPLITNOSE ROCKFISH				74
74				
VERMILION ROCKFISH				0
0				
YELLOWEYE ROCKFISH				41
41				
YELLOWMOUTH ROCKFISH	13		0	1,200
1,214				
YELLOWTAIL ROCKFISH	42		4	3,490
3,536				
PACIFIC OCEAN PERCH	2			5,283
5,285				
WIDOW ROCKFISH				1,892
1,892				
LINGCOD	602	0	449	2,816
2	0	3,869		
PACIFIC COD	4		0	2,195
2,199				
PACIFIC WHITING			0	55,398
55,398				
SABLEFISH	282	3,369	5	380
4,035				
WALLEYE POLLOCK				3,895
3,895				
SPINY DOGFISH	2,296		57	305
1	2,659			
OTHER GROUND FISH				78
78				
UNSPECIFIED GROUND FISH	14			
5	19			
ALL GROUND FISH	5,772	3,371	579	94,718
3	5	104,449		

Table 17. Landings (metric tons) by British Columbia joint-venture fisheries during 1995.

<u>SPECIES</u>	<u>LANDINGS</u>
PACIFIC WHITING	26,580
WALLEYE POLLOCK	0
ROCKFISH	191
TOTAL	26,771

NOTE: 0 = landed catch less than 0.5 metric tons

Table 18. Landings (metric tons) into Washington ports during 1995 by gear and by species.

SPECIES		HOOK &	POT &	TROLLS	TRAWLS
SHRIMP	NETS	TOTAL			



		LINE	TRAP	
TRAWLS				
ARROWTOOTH FLOUNDER		2		2,418
11	2,430			
DOVER SOLE		2	0	1,384
50	1,437			
ENGLISH SOLE		0		577
2	579			
OTHER FLATFISH		0		50
0	0			51
PETRALE SOLE		0		364
1	365			
REX SOLE				28
1	29			
ROCK SOLE		0		149
0	149			
STARRY FLOUNDER		0		173
0	173			
UNSPECIFIED FLATFISH				8
1	8			
THORNYHEADS (MIXED)		24	0	555
2	581			
BLACK ROCKFISH				7
7				
BOCACCIO				423
423				
CANARY ROCKFISH		3	0	199
3	204			
DARKBLOTCHED ROCKFISH				66
66				
OTHER ROCKFISH				123
123				
REDBANDED ROCKFISH				50
50				
REDSTRIPE ROCKFISH				560
560				
ROSETHORN ROCKFISH				2
2				
ROUGHEYE ROCKFISH				440
440				
SHARPCHIN ROCKFISH				163
163				
SHORTRAKER ROCKFISH				65
65				
SILVERGREY ROCKFISH				430
430				
SPLITNOSE ROCKFISH				21
21				
YELLOWEYE ROCKFISH				89
89				
YELLOWMOUTH ROCKFISH				30
30				
YELLOWTAIL ROCKFISH		9	0	1,345
143	1,498			
PACIFIC OCEAN PERCH		0		1,351
0	1,351			

SHORTBELLY ROCKFISH						0
0						
UNSPECIFIED ROCKFISH			557	0	1	31
36	0	625				
WIDOW ROCKFISH			0			1,078
4		1,082				
LINGCOD			25		9	497
28	0	560				
PACIFIC COD			5		0	831
7		843				
PACIFIC WHITING						5,407
5,407						
SABLEFISH			1,927	113	0	393
29		2,461				
WALLEYE POLLOCK						289
289						
SPINY DOGFISH			1,471			559
0	180	2,210				
OTHER GROUND FISH			0			0
0		0				
ALL GROUND FISH			4,026	113	11	20,152
318	181	24,800				

NOTE: 0 = landed catch less than 0.5 metric tons

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Table 19. Landings (metric tons) into Oregon ports during 1995 by gear and by species.

SPECIES			HOOK &	POT &	TROLLS	TRAWLS
SHRIMP	NETS	TOTAL	LINE	TRAP		
TRAWLS						
ARROWTOOTH FLOUNDER			1	0		1,406
7		1,413				
DOVER SOLE			0	0		3,506
29		3,535				
ENGLISH SOLE						311
2		313				
FLATHEAD SOLE						2
1		3				
OTHER FLATFISH			0		0	760
3	0	763				
PETRALE SOLE			0			794
3		797				
REX SOLE						212
2		213				
ROCK SOLE						1
0		1				
STARRY FLOUNDER			0			37
0	0	37				
THORNYHEADS (MIXED)			5	0		3,328
2		3,336				
BLACK ROCKFISH			92	0	1	4
97						

BOCACCIO		5			118
2	125				
CANARY ROCKFISH		92		2	447
5	546				
CHILIPEPPER					11
11					
DARKBLOTCHED ROCKFISH		1			362
2	365				
OTHER ROCKFISH		23	0		131
2	156				
QUILLBACK ROCKFISH		1			
1					
REDBANDED ROCKFISH		10			25
1	35				
REDSTRIPE ROCKFISH		0			182
182					
ROSETHORN ROCKFISH		0			15
15					
ROUGHEYE ROCKFISH		122			99
0	221				
SHARPCHIN ROCKFISH					141
141					
SHORTRAKER ROCKFISH		1	0		17
17					
SILVERGREY ROCKFISH		2			29
32					
SPLITNOSE ROCKFISH		0			96
0	96				
VERMILION ROCKFISH		4			
4					
YELLOWEYE ROCKFISH		23			118
141					
YELLOWMOUTH ROCKFISH		4			90
94					
YELLOWTAIL ROCKFISH		50		4	2,958
75	3,087				
PACIFIC OCEAN PERCH		6	0		577
4	587				
SHORTBELLY ROCKFISH		0			24
24					
UNSPECIFIED ROCKFISH		33	2	5	55
66	162				
WIDOW ROCKFISH		7	0	0	3,854
3	3,864				
CABEZON		5	0		0
0	6				
LINGCOD		68	0	4	560
17	650				
PACIFIC COD		0	0		79
1	80				
PACIFIC WHITING					66,839
66,839					
SABLEFISH		646	663	0	1,841
14	3,164				
WALLEYE POLLOCK					0
0					

SPINY DOGFISH			0		50
50					
OTHER GROUND FISH		0	0	0	477
0	478				
ALL GROUND FISH		1,202	667	17	89,553
242	0	91,679			

NOTE: 0 = landed catch less than 0.5 metric tons

Table 20. Landings (metric tons) into California ports during 1995 by gear and by species.

SPECIES			HOOK &	POT &	TROLLS	TRAWLS	SHRIMP
NETS	OTHER	TOTAL	LINE	TRAP			TRAWLS
GEARS							
ARROWTOOTH FLOUNDER			0	0		116	1
3	119						
UNSPECIFIED TURBOTS			0			7	0
0	7						
DOVER SOLE			6	0	0	5,988	20
0	28	6,043					
ENGLISH SOLE			0		0	492	5
2	1	499					
OTHER FLATFISH			4	0	1	697	10
1	1	714					
PETRALE SOLE			3	0	1	573	9
6	2	593					
REX SOLE			0			685	4
0	2	691					
ROCK SOLE			0			7	
7							
STARRY FLOUNDER			0	0	0	11	0
0	0	12					
UNSPECIFIED FLATFISH			0	0	0	8	33
1	1	43					
THORNYHEADS (MIXED)			179	1	1	3,390	18
1	21	3,609					
BLACK ROCKFISH			107	0	0	3	
1	2	113					
BOCACCIO			115	1	10	372	7
278	3	785					
CANARY ROCKFISH			62	1	1	104	4
2	1	174					
CHILIPEPPER			165	0	134	1,450	10
93	6	1,858					
DARKBLOTCHED ROCKFISH						298	
2		300					
OTHER ROCKFISH			786	16	6	714	25
94	14	1,654					
QUILLBACK ROCKFISH			6		0	0	
1	0	7					
REDBANDED ROCKFISH			4		0	11	
0		15					

REDSTRIPE ROCKFISH					4	
4						
ROSETHORN ROCKFISH		1			4	
5						
ROUGHEYE ROCKFISH		1			9	
0	10					
SHARPCHIN ROCKFISH		0		1	72	
0	73					
SILVERGREY ROCKFISH				0.3		
0.3						
SPLITNOSE ROCKFISH		0			257	
8	265					
VERMILION ROCKFISH		30	0	0	3	0
9	0	42				
YELLOWEYE ROCKFISH		33	0	0	3	0
0	0	37				
YELLOWTAIL ROCKFISH		112	1	3	142	1
21	2	282				
PACIFIC OCEAN PERCH					8	
0	8					
SHORTBELLY ROCKFISH					8	
8						
UNSPECIFIED ROCKFISH		195	10	3	315	22
66	17	628				
WIDOW ROCKFISH		18	0	15	1,597	3
73	6	1,712				
CABEZON		42	14	0	0	
0	1	57				
LINGCOD		154	4	9	298	7
57	9	538				
OTHER ROUND FISH		37	0	0	0	
0	0	37				
PACIFIC COD					0	
0						
PACIFIC WHITING		1			4,089	
0	0	4,091				
SABLEFISH		862	297	3	1,592	6
13	20	2,793				
SPINY DOGFISH		0			0	
1	1					
OTHER GROUND FISH		103	2	0	376	1
37	6	526				
ALL GROUND FISH		3,035	348	189	23,722	184
767	144	28,390				

NOTE: 0 = landed catch less than 0.5 metric tons

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## PERSONNEL

### COMMISSIONERS IN 1995

Three commissioners represent each member state:

**Alaska**

Dale Kelley, Juneau  
Loren Leman, Anchorage  
David Benton, Juneau

**California**

Al Petrovich, Sacramento  
David Ptak, San Diego  
Nao Takasugi, Sacramento

**Idaho**

Jerry Conley, Boise  
Richard Meiers, Eagle  
Bruce Sweeney, Lewiston

**Oregon**

Paul Heikkila, Coquille  
Bob Montgomery, Cascade Locks  
Rudolph Rosen, Portland

**Washington**

Ed Manary, Olympia  
Harriet Spanel, Bellingham  
Dean Sutherland, Vancouver

**ADVISORS IN 1995**

The Advisory Committee members represent major user groups in each State.

**Alaska**

Chris Blackburn, Kodiak  
Loren Croxton, Petersburg  
Paul Gronholdt, Sand Point  
Henry Mitchell, Anchorage  
Doug Ogden, Anchorage  
Harold Thompson, Sitka  
Bruce Wallace, Ketchikan

## **California**

Robert Fletcher, San Diego  
Zeke Grader, Sausalito  
Harold Olsen, Torrance  
Charles Platt, Fort Bragg  
Robert Ross, Sacramento  
Roger Thomas, Sausalito  
Tony West, San Pedro

## **Idaho**

Jack Brown, Soda Springs  
Keith Carlson, Lewiston  
Wesley Rose, Jerome

## **Oregon**

Don Christenson, Newport  
Joe Easley, Astoria  
Harriet Engblom, Astoria  
Herb Goblirsch, Otter Rock  
John Marincovich, Astoria  
Ron Sparks, Monmouth  
Frank Warrens, Portland

## **Washington**

Donald Bevan, Seattle  
Joe Blum, Seattle  
Fred Felleman, Seattle  
Rudy Peterson, Seattle  
John Thomas, White Salmon  
Terry Wright, Olympia  
Robert Zuanich, Seattle

## **COORDINATORS IN 1995**

PSMFC Coordinators facilitate all aspects of PSMFC programs within their State.

Alaska: Phil Rigby, Alaska Dept. Fish & Game

California: L.B. Boydston, California Dept. Fish & Game

Idaho: Steve Huffaker, Idaho Dept. Fish & Game

Oregon: Kay Brown, Oregon Dept. Fish & Wildlife

Washington: Deborah Belcher, Washington Dept. Fish & Wildlife

### **PSMFC EXECUTIVE STAFF IN 1995**

Randy Fisher, Executive Director  
David Hanson, Deputy Director  
Russell Porter, Field Programs Administrator  
Al Didier, Program Manager  
Fran Recht, Habitat Education Program Manager  
Stephen Phillips, Habitat Specialist  
Pam Kahut, Fiscal Manager/Treasurer  
Lori Johnson, Grants/Contracts Specialist  
Sherry Holley, Personnel/Payroll Manager  
Matt Robertson, Personnel/Payroll Assistant  
Melinda Higlen, Payroll/Fiscal Clerk  
Rick Masters, Accounting Supervisor  
Renee Barrett, Accounting Assistant  
Sharon Hittle, Executive Assistant  
Liza Bauman, Clerical Specialist  
Teresa Fairchild, Clerical Specialist  
Stan Allen, IMS Chief  
Willy Kelly, PC/LAN Systems Administrator  
Todd Kaehler, UNIX Systems Administrator  
J. Kenneth Johnson, RMPC Manager  
James Longwill, RMPC Computer Specialist  
Will Daspit, PacFIN Data Manager  
Ed Heyman, PacFIN Computer Programmer  
Mana Hung, PacFIN Analyst/Programmer  
Brad Stenberg, PacFIN Data Systems Operator  
Carter Stein, PTAGIS Database Administrator  
Jennifer Mead, PTAGIS Computer Programmer  
Don Warf, PTAGIS Field Systems Engineer  
Scott Livingston, PTAGIS Engineering Technician  
Duane Anderson, StreamNet Database Manager  
Gary Christofferson, StreamNet Data Technician  
Craig Miller, Field Programs Data Technician  
Wade Van Buskirk, RecFIN Programmer/Analyst