

MEMORANDUM

TO: Council and Board Members

FROM: Jane DiCosimo  
Fishery Biologist

DATE: January 29, 1998

SUBJECT: Groundfish Management Issues

- (a) State of Alaska Pacific cod fishery and area allocation discussion.
- (b) Crab pot and trawl gear fisheries interactions.
- (c) State progress with improved retention and improved utilization (IR/IU).
- (d) Facilitating exchange of proposals.
- (e) Public testimony.

**BACKGROUND**State Pacific cod fishery

At its February meeting, the Board of Fisheries is scheduled to review a number of proposals affecting the State water Pacific cod fisheries (Attachment 1). The joint committee reviewed catch summaries for the State Pacific cod fishery. The GHL was not reached in Prince William Sound, Cook Inlet/N. Gulf Coast, or Chignik. The GHL was reached in the Alaska Peninsula (9.33 of 9.40 million pounds). In early January, it was still undecided for Kodiak. An updated report from ADF&G indicates the Kodiak area did not reach its GHL and should not have its 1998 allocation adjusted upwards (Attachment 2). The Kodiak preliminary catch estimate of 7.6 M lb was only 89.4% of the 8.5 M lb GHL. The Federal TAC set in December was modified downward to reflect the belief that Kodiak had reached its GHL. The Federal TAC will need to be respecified by NMFS to reflect this new information from ADF&G. The revised 1998 Central area P. Cod TAC would be 41,720 mt and the State water GHL would be 7,360 mt. The committee also discussed the October 1 release date for unused State quota to the Federal fishery. ADF&G stated that it will attempt to decide on releases by that date, but catch reporting delays may result in some slippage each year.

Gear conflicts

Earl Krygier reported on a November 1997 industry meeting coordinated by ADF&G to discuss gear conflict issues (Attachment 3). The committee identified gear conflicts in: (1) the opilio fishery during the pollock A season, particularly northeast of the Pribilof Islands; (2) the State water Pacific cod pot fishery; and (3) the pot storage area after the end of Pribilof/St. Mathew's blue and red king crab fishery. The industry committee suggested resolution of conflict through: (1) communication; (2) reevaluate the existing pot storage area; (3) increase gear visibility; and (4) send a letter from ADF&G and the Council jointly suggesting industry resolution. The joint committee recommended that the Board and Council send a joint letter encouraging the various industry components to resolve their difficulties. A draft letter is available for your review as Attachment 4.

State progress with IR/IU

Earl Krygier will provide an update of the State's progress with implementing complementary regulations for State waters conforming to the Federal IR/IU program.

Proposals

Due to the timing of proposal cycles and opportunity for discussion and review at Council and Board meetings, both the agencies will rely on their respective staffs to keep them apprised of proposals of mutual interest.

**THIRD SUPPLEMENTAL NOTICE OF PROPOSED CHANGES IN THE  
REGULATIONS OF THE ALASKA BOARD OF FISHERIES**

This third supplemental notice to the September 12, 1997, November 6, 1997 (inadvertently dated October 6, but published in November) and December 6, 1997 Notices that the Alaska Board of Fisheries, under authority vested by AS 16.05--AS 16.10, proposes to adopt, amend, or repeal regulations contained in Title 5 of the Alaska Administrative Code, which implement, interpret, or make specific the provisions of Title 16, Alaska Statutes.

Regulations to be the subject of board action concern subsistence, personal use, sport, guided sport, and commercial fishing.

The Board of Fisheries may adopt, amend, repeal, or take no action on the subject matter listed in the following informative summary:

Scheduled for February 1998 Statewide Finfish Meeting - Anchorage, Alaska

**IN THE COOK INLET AREA**

- A. Consider amending the Upper Cook Inlet Personal Use Salmon Management Plan to control dip net fishing below bluffs upstream of an unnamed confluence with the Kenai River to prevent trespass and erosion problems.
- \* B. Reconsider existing provisions to increase the guideline harvest level for Pacific cod for the Cook Inlet groundfish fisheries and consider allocation of the unharvested portion of the guideline harvest levels to the federally managed fishery in Cook Inlet.
- C. Reconsider the board's earlier finding of no customary and traditional use of salmon for subsistence in the Skwentna area and consider the establishment of seasons, open and closed areas, methods and means, marking requirements and harvest limits for salmon in that area, as a result of a court remand (Payton, et al. v. State of Alaska and Frank Rue, Commissioner of Fish and Game).
- D. Consider establishing open and closed subsistence fishing seasons in the waters of Seldovia Bay for salmon.

**IN THE PRINCE WILLIAM SOUND AREA**

- E. Consider exceptions to regulations that closed Prince William Sound to bottom trawling for groundfish to allow retaining groundfish bycatch in shrimp trawl fishery.
- F. In the Copper River personal use salmon fishery only, consider adjustments to the seasonal limits for salmon based on above-normal run strength.

**IN THE CHIGNIK AREA (AREA L)**

- \* G. Consider changing the annual Pacific cod commercial season in state waters to begin two weeks after the federal season closes in the spring and to remain open until the quota is caught or until December 31.
- \* H. Reconsider existing provisions to increase the guideline harvest level for Pacific cod for the Chignik groundfish fisheries and consider allocation of the unharvested portion of the guideline harvest levels to the federally managed fishery in the Chignik area.

**IN THE BRISTOL BAY AREA**

- I. Consider establishing a redfish subsistence harvest fishery in Katmai National Park.

**IN THE WESTWARD AREA**

- J. Consider exempting Pacific cod fishermen from the 14-day preseason prohibition for the Dungeness crab fishery.
- \* K. Reconsider existing provisions to increase the guideline harvest level for Pacific cod for the Kodiak groundfish fisheries and consider allocation of the unharvested portion of the guideline harvest levels to the federally managed fishery in the Kodiak area.
- L. Consider a proposal to divide bottomfish harvest between pot and jig gear in Registration Area M.

#### IN THE SOUTH ALASKA PENINSULA AREA

- \* M. Consider a proposal to reconsider the state's decision to take the state-water bottomfish quota from the existing federal bottomfish quota as part of the South Alaska Peninsula Pacific Cod Management Plan.
- \* N. Consider proposals Numbers 229 and 230 dealing with the South Alaska Peninsula Area Pacific Cod Management Plan, originally scheduled for the January, 1997 meeting but rescheduled for this February meeting.
- \* O. Reconsider existing provisions to increase the guideline harvest level for Pacific cod for the South Alaska Peninsula groundfish fisheries and consider allocation of the unharvested portion of the guideline harvest levels to the federally managed fishery in the South Alaska Peninsula area.

#### IN THE SOUTHEAST AREA

- P. To consider restricting personal use king crab harvest in Section 11-A during summer to pot gear and during winter to dive gear and ring net gear pulled by hand.
- Q. Consider closing commercial, sport, subsistence, and personal use fishing for bottomfish in a defined area of marine waters off Cape Edgecumbe.

#### STATEWIDE FISHERIES ISSUES

- R. Consider extending state sport fish authority for black and blue rockfish to the exclusive economic zone (EEZ).
- S. Consider establishing a recreational salmon shark fishery management plan in state marine waters and the EEZ.
- T. Consider requiring a commissioner's permit to commercially fish directly for sharks, skates, or rays in Alaska waters.
- U. Consider specific definitions of non-commercial (subsistence, personal use, and sport) fishing pots.

In addition to the above regulatory issues, the board's established Hatchery Committee was recently given a charge to consider statewide salmon hatchery issues, including those issues raised in Proposal 421 of the 1996-97 board year. This committee will meet during the Statewide Finfish board meeting scheduled to begin February 4, 1998. This committee will be developing a plan of action based on the charge it received from the full board at its meeting on January 6, 1998. The committee will be accepting oral testimony from the public and advisory committee representatives on how the committee should proceed. The committee is planning on giving the full board an update during this meeting. No regulatory action will be taken by the Board of Fisheries at the meeting starting February 4 on issues under consideration by the committee.

This action is not expected to require an increased appropriation.

Copies of the proposed regulations may be obtained by writing to the Alaska Department of Fish and Game, Boards Support Section, PO Box 25526, Juneau, AK 99802-5526.

Notice is also given that anyone interested may present oral or written comments relevant to the subjects in this notice, including potential costs to the private persons any time before these proposals are taken up by the board in deliberations at the February 4, 1998 scheduled meeting (see the meeting schedule below). As a practical matter, written comments should be submitted to the Boards Support Section office, at the above address, at least three weeks before the scheduled meeting to ensure inclusion in the board workbooks.

These issues will be added to the February 4, 1998 meeting in Anchorage, Alaska.

Anyone interested in, or affected by, subsistence, personal use, sport, guided sport, or commercial fishing regulations, is hereby informed that, by publishing this legal notice, the Board of Fisheries may consider any or all of the subject areas covered by this notice. **THE BOARD IS NOT LIMITED BY THE SPECIFIC LANGUAGE OR CONFINES OF THE ACTUAL PROPOSALS THAT HAVE BEEN SUBMITTED BY THE PUBLIC OR STAFF.** Pursuant to AS 44.62.200(b), the board may review the full range of activities appropriate to any of the subjects listed in this notice. The board may make changes to the personal use, sport, guided sport, or commercial fishing regulations as may be required to ensure the subsistence priority in AS 16.05.258.

On its own motion, after public hearing, the board may adopt, amend, reject, supplement, or take no action on these subjects. In addition, the board may adopt other regulations necessary to implement, administer, or enforce the regulations adopted.

#### TENTATIVE MEETING SCHEDULE

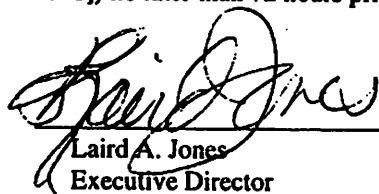
Anchorage(WestCoast International Inn), Alaska  
February 4, 1998  
**Statewide Finfish Issues  
and Supplementary Issues**

Any changes to meeting locations, dates or times, or rescheduling of topics or subject matter will be announced by news release. Please watch for these announcements in the news media or call (907) 465-4110.

Please carefully review the ROADMAP available for each meeting for specific proposal issues to be addressed by the board. Copies of the roadmap are in the proposal book or at the relevant meeting.

The State of Alaska, Department of Fish and Game, complies with Title II of the Americans with Disabilities Act of 1990. Individuals with disabilities who may need auxiliary aides, services, and/or special modifications to participate in this hearing and public meeting should contact Robert Speed at (907) 465-4110 (to correspond by text telephone (TDD), call 1-800-478-2028 [in Juneau call 465-2028]) no later than 72 hours prior to the respective meeting, to make any necessary arrangements.

Date: January 8, 1998



Laird A. Jones  
Executive Director  
Board of Fisheries  
Boards Support Section  
Alaska Department of Fish and Game

FORM FOR ADDITIONAL REGULATIONS NOTICE INFORMATION  
(AS 44.62.190(d))

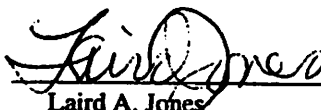
1. Adopting Agency: Alaska Board of Fisheries.
2. General subject of regulation: Issues relating to statewide subsistence, personal use, sport, guided sport, and commercial harvest of finfish in Alaska or offshore waters.
3. Citation of regulation: 5 AAC 01, 5 AAC 02, 5 AAC 28, 5 AAC 32, 5 AAC 47, 5 AAC 55, 5 AAC 58, 5 AAC 64, 5 AAC 65, 5 AAC 75, and 5 AAC 77.
4. Reason for proposed action: Accepted agenda change requests, proposed regulation changes, and remand from state superior court.
5. Program category and BRU affected: Natural Resources and all BRU's.
6. Costs of implementation to the state agency and available funding: It is not possible to estimate the costs. However, this action is not expected to require any additional costs.
7. The name of the contact person for the regulations:

Laird A. Jones  
Executive Director  
Board of Fisheries  
PO Box 25526  
Juneau, AK 99801-5526  
(907) 465-4110

8. The origin of the proposed action:

- staff or state agency
- federal government
- general public
- petition for regulation
- regularly scheduled topics for the Board of Fisheries
- other (Superior Court action)

Date: January 8, 1998



Laird A. Jones  
Executive Director  
Board of Fisheries  
Boards Support Section  
Alaska Department of Fish and Game

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WESTWARD REGION REPORT ON 1997  
STATE MANAGED PACIFIC COD FISHERY



Regional Information Report No. 4K98-2

Alaska Department of Fish and Game  
Commercial Fisheries Management and Development Division  
211 Mission Road  
Kodiak, Alaska 99615

January 1998

WESTWARD REGION REPORT ON 1997  
STATE MANAGED PACIFIC COD FISHERY

By  
David Jackson  
and  
Dan Urban

Regional Information Report<sup>1</sup> No. 4K98-2

Alaska Department of Fish and Game  
Commercial Fisheries Management and Development Division  
211 Mission Road  
Kodiak, Alaska 99615

January 1998

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<sup>1</sup> The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished division reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Commercial Fisheries Management and Development Division.

## **ACKNOWLEDGEMENTS**

The following staff from the Alaska Department of Fish and Game provided important assistance: Dockside samplers Carrie Worton, Tom Dinnocenzo, Dave Gilliland, and Pat Holmes gathered much of the basic information. Kim Phillips, Mary Forner and Carrie Worton helped prepare figures and tables. Bonnie Jones provided word processing and Lucinda Neel provided final formating and publication support.



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## INTRODUCTION

Groundfish harvest in the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) are primarily managed by the National Marine Fisheries Service (NMFS) under guidelines developed by the North Pacific Fishery Management Council (NPFMC). The council establishes the groundfish Acceptable Biological Catch (ABC) specifications. The ABC may be reduced somewhat due to biological considerations to the level available for directed fishing, the Total Allowable Catch (TAC).

Authorization for federal control of resources from 3-200 miles (EEZ) came from the Magnuson Act passed by the United States Congress in 1976. The State of Alaska has management authority for groundfish resources within territorial waters from zero to three miles, but for most groundfish fisheries the Alaska Department of Fish and Game (ADF&G) issues a global emergency order (EO) at the beginning of each year, making state management coincide with the federal inseason management decisions. This establishes parallel state and federal groundfish seasons.

Some exceptions to the parallel seasons occur where the state has established separate harvest quotas and seasons for state waters. In the Westward Region these include the nearshore rockfishes, sablefish, lingcod and the new state water Pacific cod fisheries. The state has also established registration areas which differ from the federal management areas. These are designated as the Eastern Gulf of Alaska, Prince William Sound, Cook Inlet, Kodiak, Chignik, South Alaska Peninsula, Bering Sea-Aleutian Islands and Chukchi-Beaufort (Figure 1). The latter five registration areas are within the Alaska Department of Fish and Games' (ADF&G) Westward Region. The federal management areas are shown in Figure 2.

## PACIFIC COD

### *Biology and Distribution*

The Pacific cod *Gadus macrocephalus* occurs on the continental shelf and upper slope waters throughout the Gulf of Alaska, Aleutian Islands and Bering Sea to the northern parts of the Yellow Sea (Hart 1973). Grant et al. (1987) found no genetic differences in any of their North American samples, but a genetically distinct stock was detected in the Asian cod. This genetic homogeneity over large areas of the North Pacific may be due to the large scale migrations found in cod. Cod tagged in the Bering Sea have been found as far east as Kodiak, with substantial movement of fish from the Bering Sea to the Shumagin Islands and from the Aleutian Islands to the Bering Sea (Shimada and Kimura 1994). The council manages the Gulf of Alaska and Bering Sea/Aleutian Islands as separate stocks because so little is known of the magnitude and regularity of these long distance migrations (Thompson et al. 1996).

Besides large scale movements, Pacific cod also exhibit seasonal onshore/offshore migrations. At the high latitudes of the Bering Sea, the stimulus for offshore migration appears to be avoidance of the intense cooling of inshore waters that follow ice formation in favor of warmer waters at depth. The spring migration, shoreward, is most likely timed to the warming of the coastal shelf environment (Bakkala 1984). At lower latitudes, seasonal migrations are reversed. Pacific cod migrate to deep offshore waters during summer months to avoid excessively heated ( $>10^{\circ}$  C) coastal waters. A returning inshore spawning migration occurs each winter (Karp 1982, Mishima 1984).

Part of the seasonal migration includes the formation of spawning aggregates, usually during the first third of the calendar year. The spawning aggregates are densely congregated and typically cod are more dispersed during the remainder of the year. Females first mature at about 40 cm in length (16 inches) at age 2; 50% of females are mature at about 55 cm (22 inches). Fecundity varies with length; each female releases 200,000 to 3.0 million eggs. Juvenile cod are thought to occupy nearshore, coastal waters during the first year of life and grow to 8-13 cm (3-5 inches) by their first fall. Age 1 cod are about 25 cm (10 inches) and are found in slightly deeper water. Age 2 (about 40 cm; 16 inches) and age 3 (50cm; 20 inches), and older fish tend to winter in progressively deeper waters. Abundance of cohorts declines rapidly, and fish older than age 8 are relatively uncommon (Bechtol 1995). One of the oldest cod documented is a 19 year old whose otolith was aged by the the Alaska Fisheries Science Center of NMFS. Cod occasionally reach about 115 cm (45 inches). The NMFS assumes an annual natural mortality rate of 37% (Thompson et al. 1996). Cod begin to enter the fishery in large numbers by age three.

### *Historic Background*

Fishery statistics compiled by NMFS show landings from the Gulf of Alaska beginning in 1964 with the highest harvests occurring during the early 1990's. The average catch since 1977 has been approximately 83.8 million pounds (38,000 mt)<sup>1</sup>. Preliminary 1997 harvest figures show a Gulf of Alaska catch of 151.7 million pounds (68,825 mt) with nearly two-thirds coming from the Central Gulf and one-third from the Western Gulf (Figure 3). Since 1989, the harvest of Pacific cod from GOA state waters has ranged from 12.1 million pounds (5500 mt) in 1989 to 35.5 million pounds (16,100 mt) in 1997 (Table 1).

The Alaska Board of Fisheries in 1996 adopted state water Pacific Cod Management Plans for fisheries in 5 groundfish areas, Prince William Sound, Cook Inlet, Kodiak, Chignik and South Alaska Peninsula (Figure 4). Fishing would not be restricted to vessels qualified under the federal moratorium program. Included within the plans were season, gear and harvest specifications. The fishing seasons were subsequent to the parallel federal season which generally closed in the spring. Exclusive registration areas

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<sup>1</sup> All poundages are in round weight.

were established and the fishery was limited to pots or jig gear. No more than 60 pots or 5 jig machines could be used. The harvest level was based on the estimate of allowable biological catch (ABC) of Pacific cod as established by the NPFMC. The initial harvest levels were set at 15% of the Western Gulf ABC to be reserved for the South Alaska Peninsula Area, 15% of the Central Gulf ABC to be apportioned between the Kodiak, Chignik and Cook Inlet Areas and 25% of the Eastern Gulf ABC for the Prince William Sound Area. Harvest levels from the Central and Western Gulf are scheduled to step up to 20% and 25% of the area ABC's if production levels can be achieved.

Additional regulations included a 58' vessel size limit in the Chignik and South Alaska Peninsula Areas and allocations between gear types in Kodiak, Cook Inlet and Prince William Sound. The fishery management plans also provided for removal of restrictions on exclusive area registrations, vessel size and gear limits after October 31 to increase late season production.

The first year of fishing under the state water Pacific Cod Management Plan was 1997. Two hundred ten vessels caught over 18 million pounds (8,200 mt) worth approximately \$3.6 million. Highest catches came from Sanak Island, the area just south of Sand Point, Chignik Bay, and from the west side of Kodiak Island (Figure 5).

### *Harvest Monitoring*

ADF&G in the Westward Region actively monitored the 1997 state waters cod harvest. Dockside samplers were in place at Kodiak, Chignik, Sand Point, and King Cove during most of the season. Samplers interviewed skippers, measured cod lengths, determined average weights, assessed the reproductive state of the fish, and collected otoliths of cod from the commercial catch.

Preliminary results of the length measurements show that the Kodiak average length is significantly larger than that of the Chignik fish, which in turn was larger than the South Alaska Peninsula average (Figure 6, z test,  $p < .0002$ , Devore and Peck 1993). These length differences are also reflected in the average weights of the fish from the three areas. Kodiak fish were heaviest, averaging 9.0 lbs., Chignik fish averaged 7.4 lbs. and South Alaska Peninsula fish 7.0 lbs. These length and weight differences may mirror actual differences in the cod of these areas, but could also be associated with seasonal differences in the fisheries and sampling in the different areas. The average size of the jig caught fish was larger than pot caught fish (Figure 7, z test,  $p < .0002$ , Devore and Peck 1993).

### *Research Projects*

In addition to monitoring the harvest, ADF&G has initiated several research projects relating to Pacific cod. A comparative gear study conducted with NMFS in October 1997

was designed to assess the differences between the nets and catch sampling procedures used by each of the agencies when they survey in the Gulf of Alaska. The ADF&G trawl surveys are designed primarily to assess crab stocks while the NMFS surveys focus on groundfish. It is hoped this study will allow the integration of results from the past and in the future allowing more overall accuracy in groundfish assessment.

Little is known of cod migrations in the Gulf of Alaska. A cod tagging study was begun in the Gulf with the goal of complementing the Shimada study (Shimada and Kimura 1994) which did most of its tagging in the Bering Sea. Nearly 1,000 fish were tagged during the summer and fall of 1997 in the area from False Pass to Kodiak Island. Tagging is scheduled to continue at least for two more years. Several tags have already been returned but too few to reach any conclusions.

The cod pot fishery has been one of the major sources of Tanner crab bycatch in the Gulf of Alaska. ADF&G has a study underway looking at pot modifications which will best exclude Tanner crabs without decreasing the cod catch. Industry was invited to submit designs which were subjected to initial testing on the grounds in November 1997. Further testing is scheduled for March 1998.

An additional cooperative study is planned between ADF&G and NMFS which will trawl the same area off Kodiak Island every third month for one year, starting in June 1998. While this study is still in the planning stages, some of the tentative goals for relating to Pacific cod include investigation of the seasonal distribution of stocks, timing of spawning, size of maturity, and seasonal changes in food habits.

## **KODIAK AREA**

A preseason guideline harvest level of 8.5 million pounds of Pacific cod was set for the Kodiak area and announced by news release on January 28, 1997. The catch was to be equally divided between pot gear and jig gear. A delay in regulatory approval caused the season opening to be delayed from March 25 to April 4. Fishing with pot gear was successful during the first month with landings of up to 1.4 million pounds per week. By May 4, the fleet had taken the 4.25 million pound harvest allocated to pot gear and the harvest was then restricted to jig gear only. Interest in fishing with jig gear increased steadily throughout the spring with the peak in landings during late May and June. There were over 200,000 pounds per week landed during the last part of June (Figure 8).

The jig fleet had landed approximately 2.0 million pounds of Pacific cod by the end of August. Success with jig gear was dwindling as the fish moved into deeper water and very little production was achieved thereafter. In accordance with the management plan the fishery was reopened to pot gear on September 1. Fewer fishermen participated than during the spring and landings averaged only 86,000 pounds per week throughout the fall.



Restrictions on exclusive registration areas and gear limits were removed beginning October 31 but this did noticeably increase the low harvest rate.

The fishing season continued to the regulatory closure date of December 31. The 1997 harvest of Pacific cod in the state managed fishery was 7.60 million pounds taken by 105 vessels. There were 5.6 million pounds taken by 36 pot vessels and 2.0 million pounds taken by 71 jig vessels (Table 1). Two vessels fished both gear types. Forty-one separate statistical areas were fished with biggest poundage coming from off the capes on the west side of the island and from Chiniak Bay near the city of Kodiak (Table 2, Appendix A).

Since the 1997 harvest did not achieve the preseason guideline harvest level of 8.5 million lbs., the step up provisions will not be in effect for the 1998 fishery. The guideline harvest level for the Kodiak Area in 1998 will remain 7.5% of the Central Gulf ABC. With the reduction of the Federal ABC to 49,080 mt, the resulting Kodiak 1998 state waters guideline harvest level will be 8.1 million pounds.

### CHIGNIK AREA

A preseason guideline harvest level (GHL) of 5.9 million pounds of Pacific cod was set for the Chignik Area and announced by news release on January 28, 1997. The fishery opened by regulation on April 15, 1997; however, there were no landings until the week ending May 18 (Figure 8). Registrations for the season included 12 vessels using pot gear and 6 vessels fishing jig gear. By the regulatory summer closure of June 15, the small fleet had landed nearly 1.0 million pounds of Pacific cod (Table 2). Only six of the 12 registered pot vessels made landings. Four statistical areas were fished with most poundage coming from Chignik Bay (Table 5, Appendix B).

Interest in the fishery was low after the season reopened on August 1. Through the months of August and September there were approximately 160,000 pounds taken in 15 landings. Most of this harvest was processed at locations outside of the area.

There was no activity in the state water Pacific cod fishery after October. The emergency order eliminating the restrictions on exclusive registration, vessel size and gear limits did not have any effect increasing production from this area. As the 1997 fishery did not achieve preseason harvest levels, the step up provisions will not be in effect for 1998. The guideline harvest level for the Chignik Area in 1998 will remain 5.25% of the Central Gulf ABC for Pacific cod, resulting in a GHL of 5.7 million pounds.

## **SOUTH ALASKA PENINSULA AREA**

The GHL of 9.4 million pounds for the South Alaska Peninsula area was announced by news release on January 28th. The fishery began April 4, 1997. Catches were good at the start of the season with the fleet landing over 1.0 million pounds per week (Figure 8). Effort declined with the onset of salmon season and landings were generally less than 100,000 pounds per week throughout the summer. By mid October the catch was 7.2 million pounds. On October 31, the Department removed restrictions on exclusive registration, vessel size limit and gear limits. The harvest pace increased with landings exceeding 200,000 pounds per week as larger vessels participated during November and December. The majority of this late season production came from the south side of the Aleutians and was landed in Dutch Harbor.

By December 14, the Department estimated 9.1 million pounds had been landed from the state water fishery. A closure was announced for 12:00 noon on December 22, 1997. The season harvest of 9.37 million pounds was taken by 53 vessels using pot gear and 40 vessels using jig gear. The jig fishermen landed 350,000 pounds or 3.7% of the catch. Forty-nine statistical areas were fished with major catches in the Sanak Island area, and in the Shumagin Islands near Sand Point (Table 6, Table 7, Appendix C).

Since the 1997 production achieved the preseason GHL, the step up provisions of the Pacific Cod Management Plan will be effective for 1998 fishery. The guideline harvest for the South Alaska Peninsula Area will be 20% of the Western Gulf ABC for Pacific cod which equates to a 12.0 million pound allocation.

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Table 1. Pacific Cod harvest from the Central and Western Gulf, 1989-1997.

YEAR	NMFS AREA	VESSELS	LANDINGS	POUNDS <sup>a</sup>	STATE WATERS	
					POUNDS <sup>a</sup>	%
1989	CENTRAL	236	1460	60.4	4.4	7%
	WESTERN	137	598	31.1	7.8	25%
1990	CENTRAL	595	3222	92.4	11.8	13%
	WESTERN	165	985	85.7	13.1	15%
1991	CENTRAL	908	4389	101.2	19.4	19%
	WESTERN	280	1380	76.5	4.8	6%
1992	CENTRAL	1093	5115	89.9	16.3	18%
	WESTERN	296	1452	73.7	13.2	18%
1993	CENTRAL	727	3347	72.1	11.5	16%
	WESTERN	166	987	39.8	1.9	5%
1994	CENTRAL	632	2825	63.5	12.9	20%
	WESTERN	208	1150	32.4	7.4	23%
1995	CENTRAL	907	4369	97.1	21.7	22%
	WESTERN	266	1115	42.3	9.0	21%
1996	CENTRAL	655	3916	91.7	16.9	18%
	WESTERN	231	1336	46.2	12.9	28%
1997 <sup>b</sup>	CENTRAL	799	4310	84.3	19.8	23%
	WESTERN	211	1223	55.3	15.6	28%

<sup>a</sup> Total round weight catch in millions of pounds for all gear types. Source: ADF&G fish ticket database.

<sup>b</sup> Database through 11/13/97.

Table 2. Catch and effort, Kodiak Area state water Pacific cod fishery, 1997.

Gear	Vessels	Landings	Pounds	Price/ pound	Avg. Weight (lbs)
Pot	36	229	5,608,326	0.23	8.99
Jig	71	481	1,992,245	0.23	10.78
Total	105 <sup>a</sup>	710	7,600,571	0.23	9.13

<sup>a</sup>Two vessels fished both gear types.

Table 3. Catch by statistical area from the 1997 state water Pacific cod fishery in the Kodiak area.

Stat-area	Pounds	Vessels	Landings <sup>a</sup>
515801	10,867	4	4
525701	560,643	29	114
525703	186,742	11	26
525731	326,147	22	70
525732	76,107	5	7
525733	648,385	47	186
525802	252,486	3	7
525803	147,591	10	15
525805	33,759	3	5
525806	37,358	7	13
525834	385,642	3	6
535631	377,620	24	58
535633	40,212	4	7
535634	331,528	21	48
535705	44,310	5	9
535732	997,944	11	36
535733	138,488	6	16
535734	73,326	7	9
535803	393,103	8	19
545632	106,744	7	15
545633	55,619	4	7
545701	410,644	4	11
545703	336,162	3	9
545733	757,020	6	21
545802	174,795	5	9
545803	272,020	3	10
Other <sup>b</sup>	425,308	17	28
	7,600,571	105	710

<sup>a</sup>Partial landings from a statistical area are counted as one.

<sup>b</sup>Total of 14 statistical areas.

Table 4. Catch and effort, Chignik Area state water Pacific cod fishery, 1997.

Gear	Vessels	Landings	Pounds	Price/ pound	Avg. Weight (lbs)
Pot	6	56	1,106,042	0.18	7.48
Jig	6	18	37,219	0.18	(not available)
Total	12	74	1,143,261	0.18	7.48

Table 5. Catch by statistical area from the 1997 state water Pacific cod fishery in the Chignik area.

Stat-area	Pounds	Vessels	Landings
595531	142,293	3	13
585601	946,766	9	57
Other <sup>a</sup>	54,202	3	5
	1,143,261	12	74 <sup>b</sup>

<sup>a</sup> Total of two statistical areas.

<sup>b</sup> Partial landings from a statistical area are counted as one.

Table 6. Catch and effort statistics, South Alaska Peninsula Area state water Pacific cod fishery, 1997.

Gear	Vessels	Landings	Pounds	Price/ pound	Avg. Weight (lbs)
Pot	53	469	9,022,346	0.19	7.02
Jig	40	173	348,152	0.18	7.25
Total	88 <sup>a</sup>	642	9,370,498	0.18	7.02

<sup>a</sup>Five vessels fished both gear types.

Table 7. Catch by statistical area from the 1997 state water Pacific cod fishery in the South Alaska Peninsula area.

Stat-area	Pounds	Vessels	Landings
595533	116,898	3	7
605501	129,668	14	36
605502	893,580	9	34
605504	1,117,078	41	195
605505	21,060	3	3
605506	415,447	7	41
605507	341,443	11	54
605531	10,465	5	8
605532	24,292	5	13
615508	587,306	6	35
615531	97,699	3	6
625401	1,714,926	7	44
625431	233,725	7	25
625437	123,163	4	8
625501	161,152	7	21
625502	12,309	4	5
635432	467,984	5	26
665332	745,119	10	54
665333	259,062	7	8
other <sup>a</sup>	1,898,121	20	85
	9,370,498	88	642 <sup>b</sup>

<sup>a</sup> Total of 30 other statistical areas.

<sup>b</sup> Partial landings from a statistical area are counted as one.

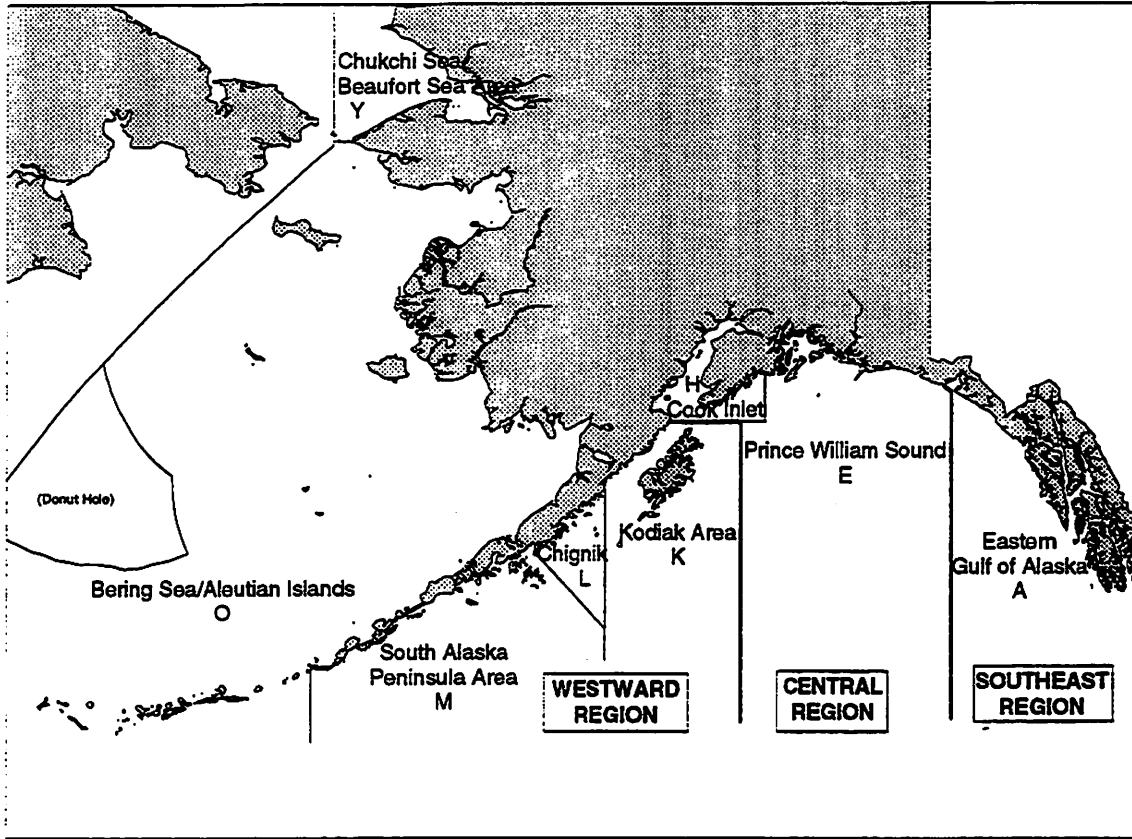


Figure 1. State of Alaska groundfish registration areas and regions.

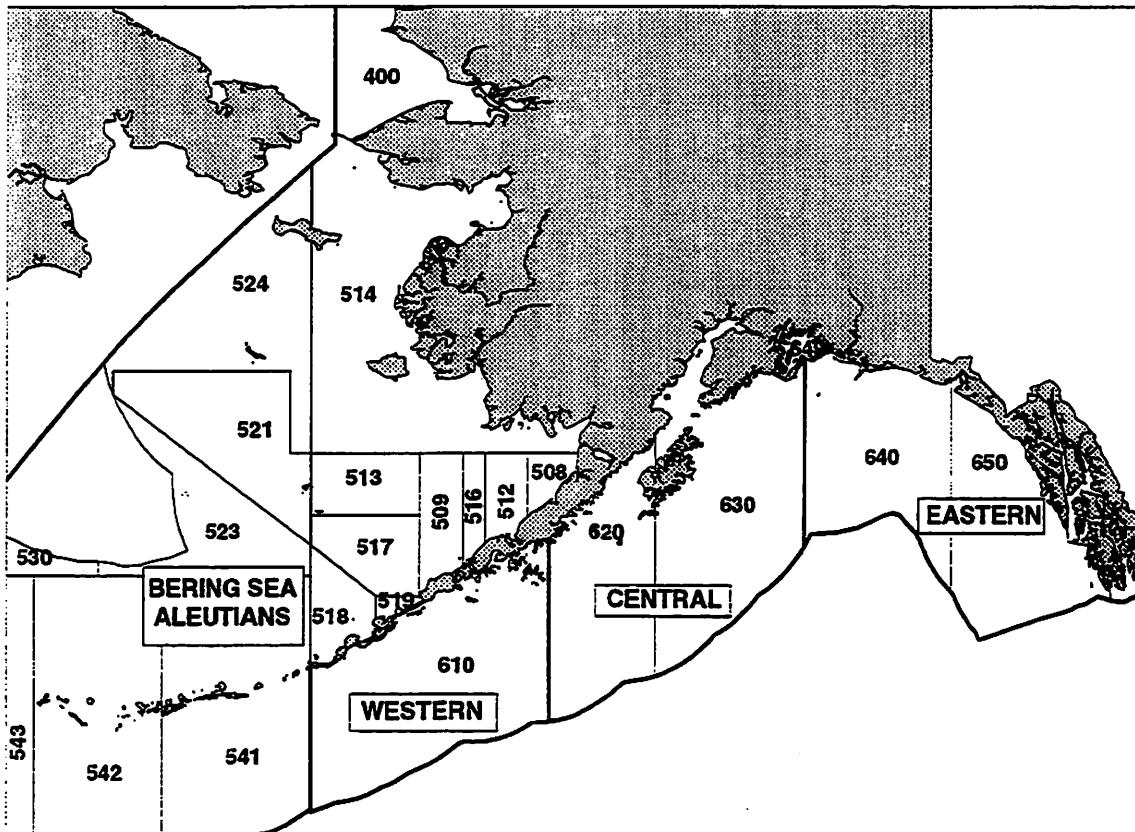


Figure 2. Federal groundfish management areas.



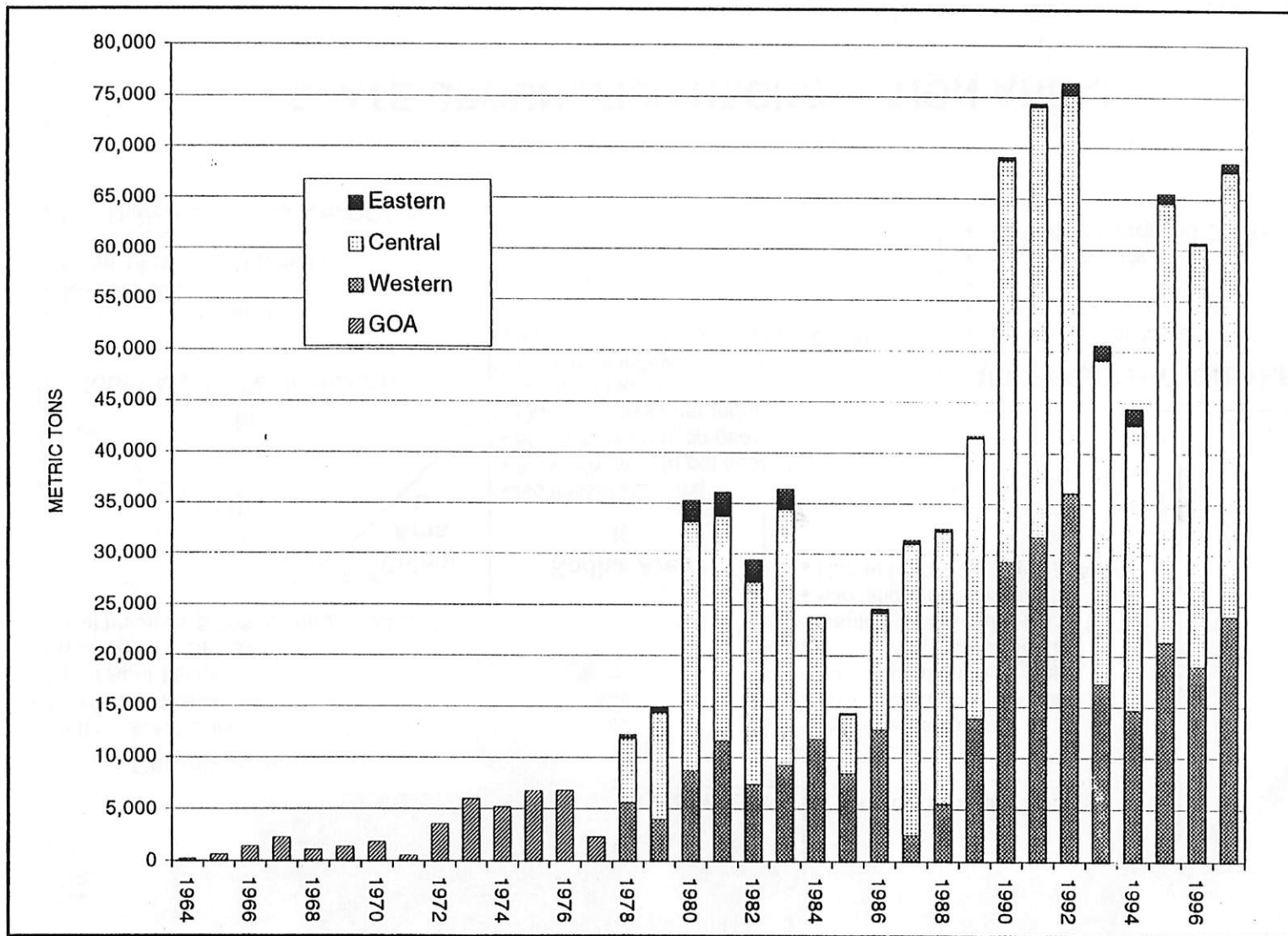


Figure 3. Pacific Cod landings in the GOA 1964-1997. Source: NPFMC SAFE report, Nov. 1997.

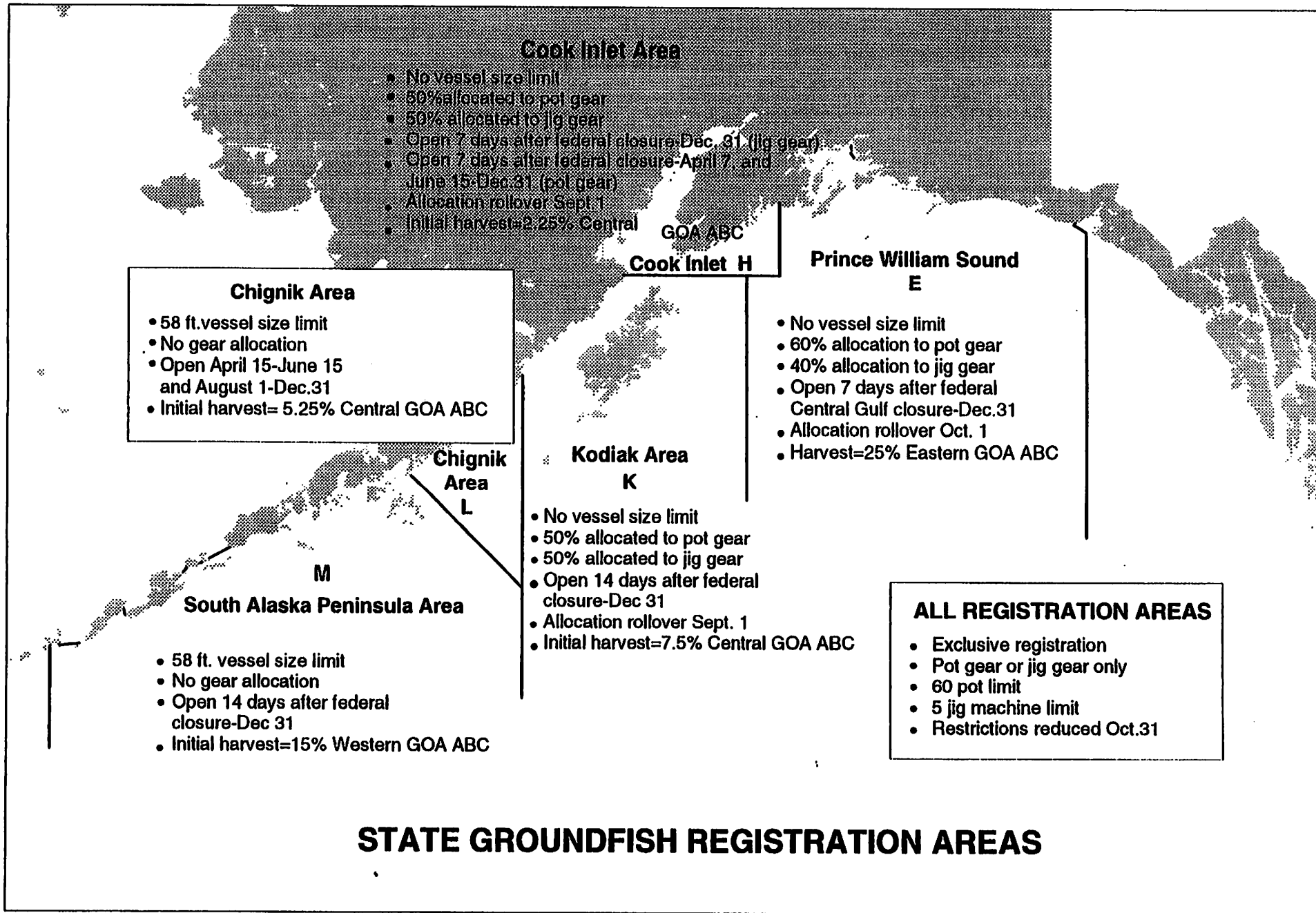


Figure 4. Elements of State Water Pacific Cod Management Plans

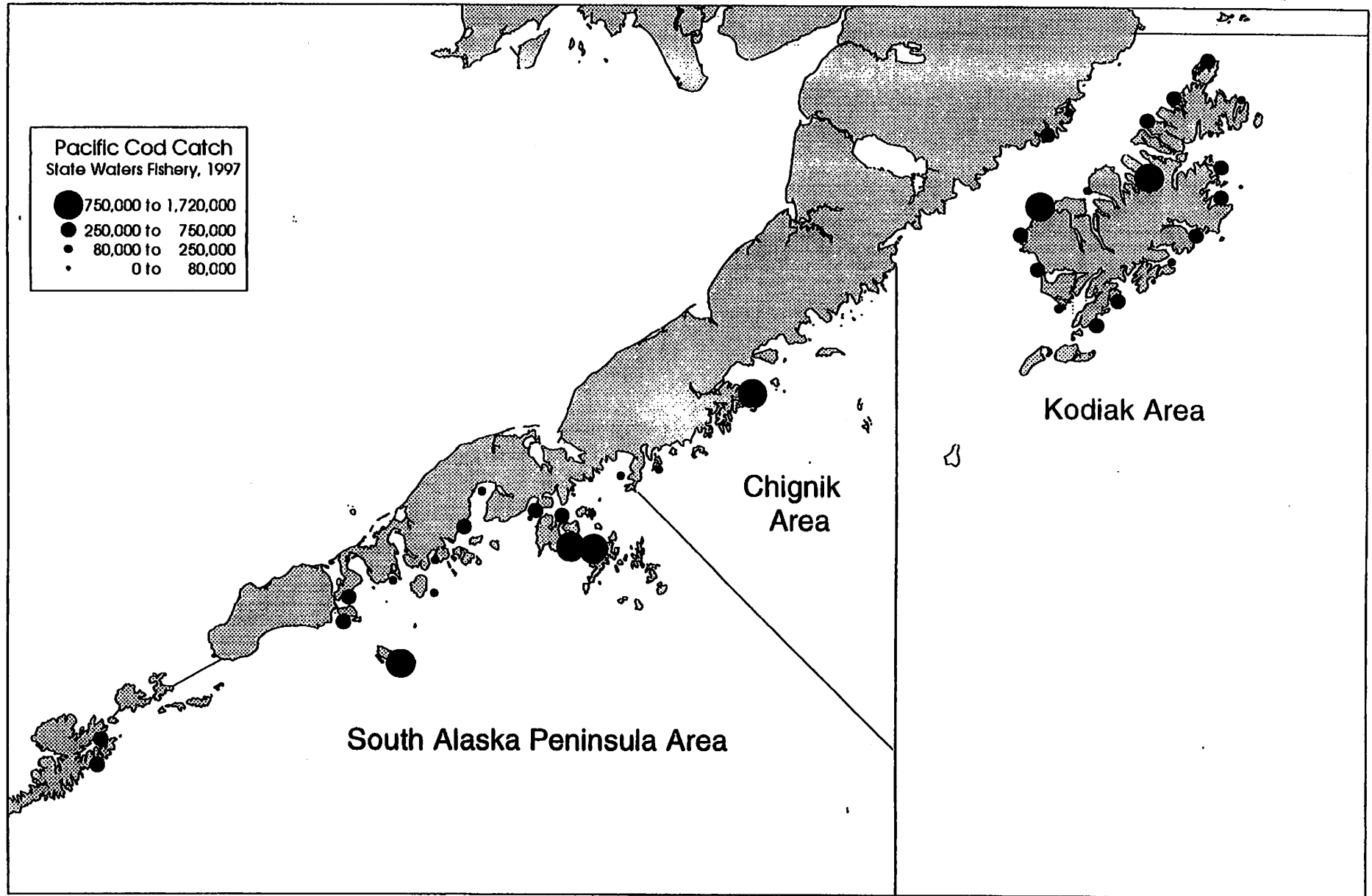


Figure 5. Westward Region state water Pacific cod catches by statistical area. Confidential catches are not shown.

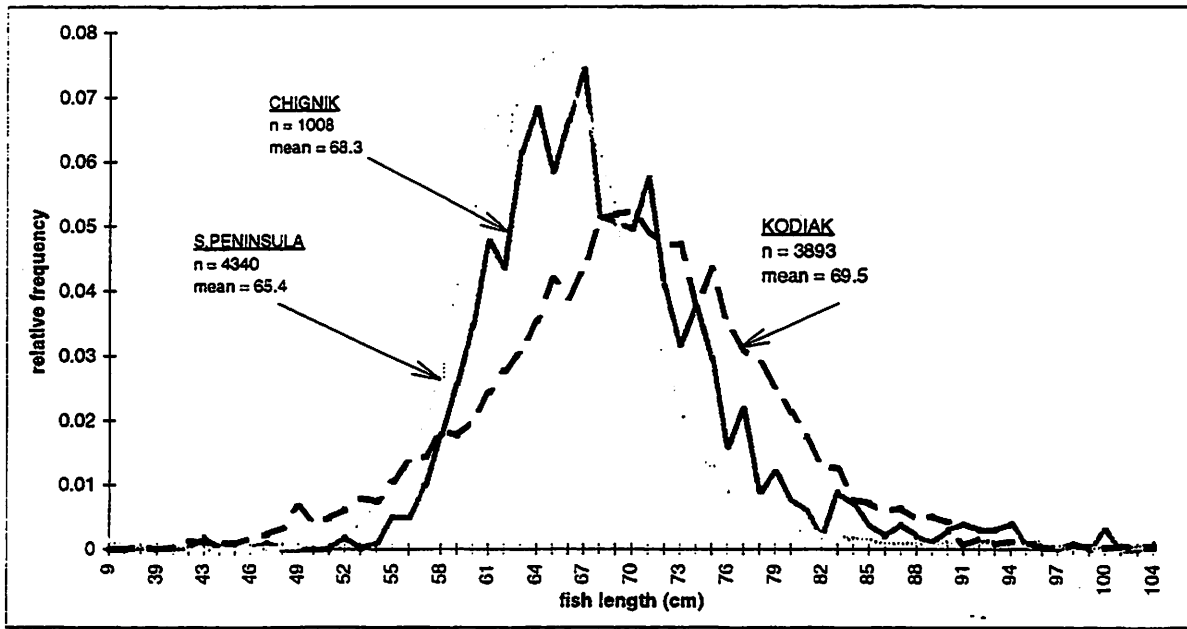


Figure 6. Pacific cod lengths by area collected from the 1997 state water fishery in the Westward Region.

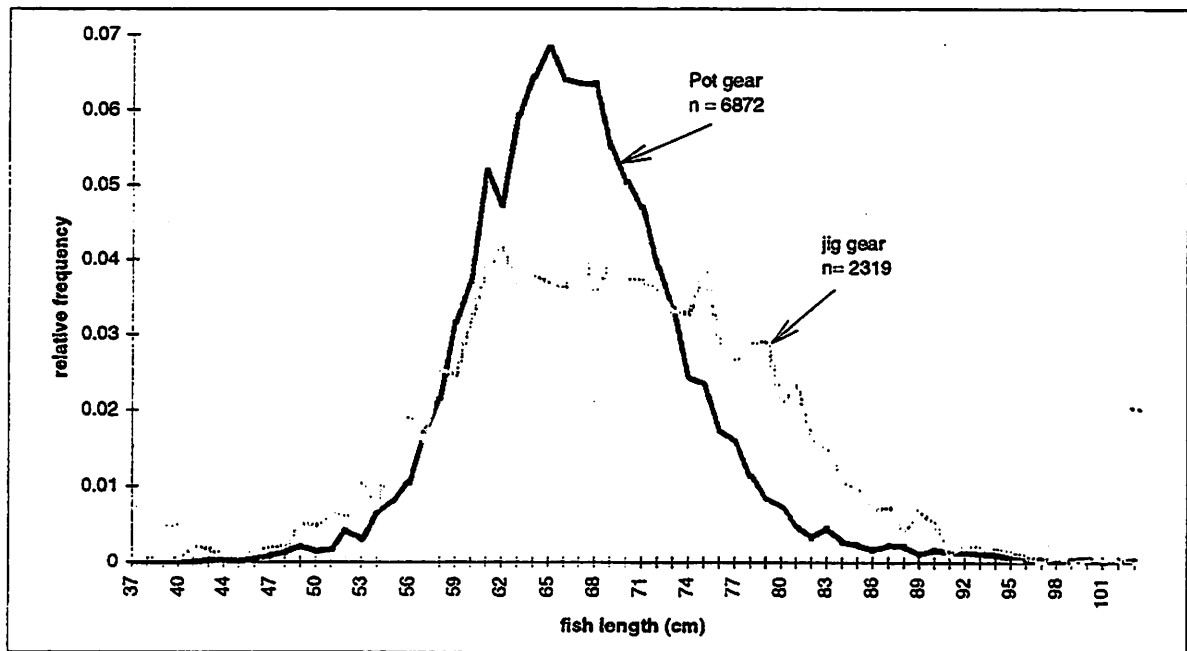


Figure 7. Pacific cod lengths by gear type taken from the 1997 state water fishery in the Westward Region.

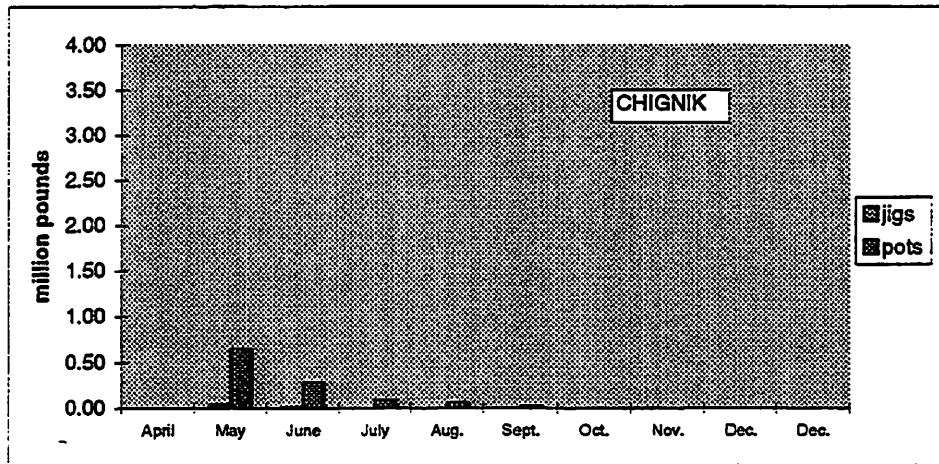
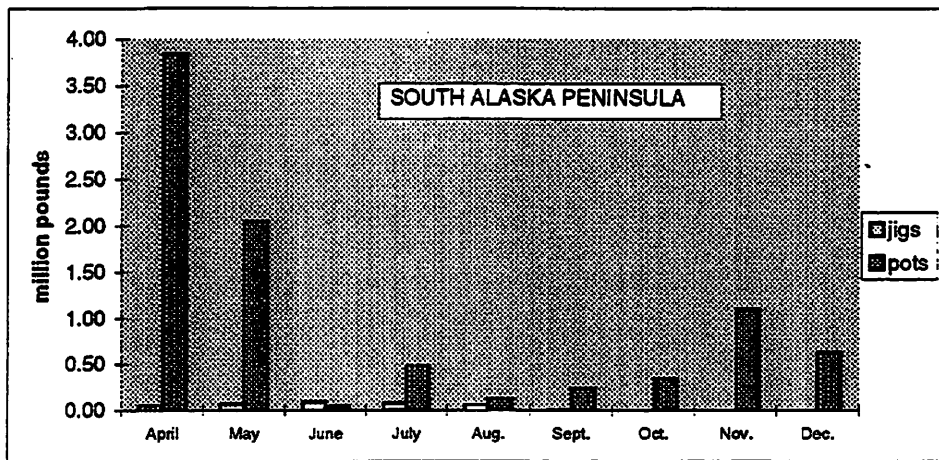
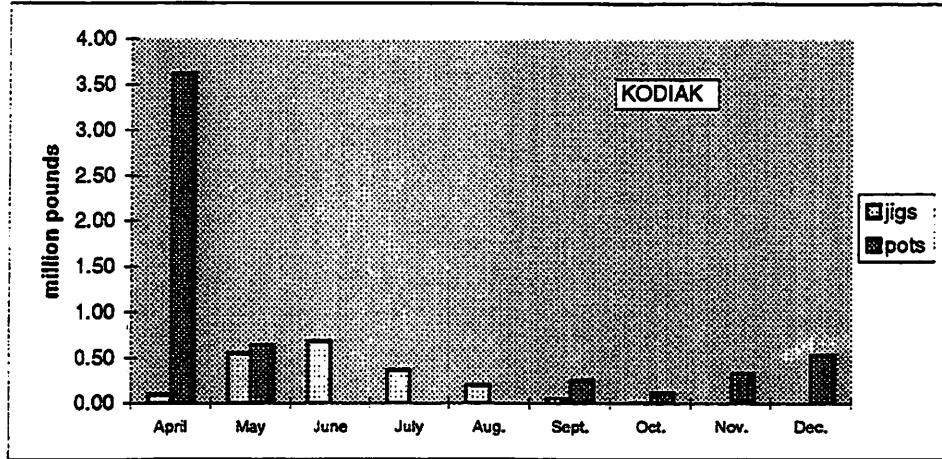
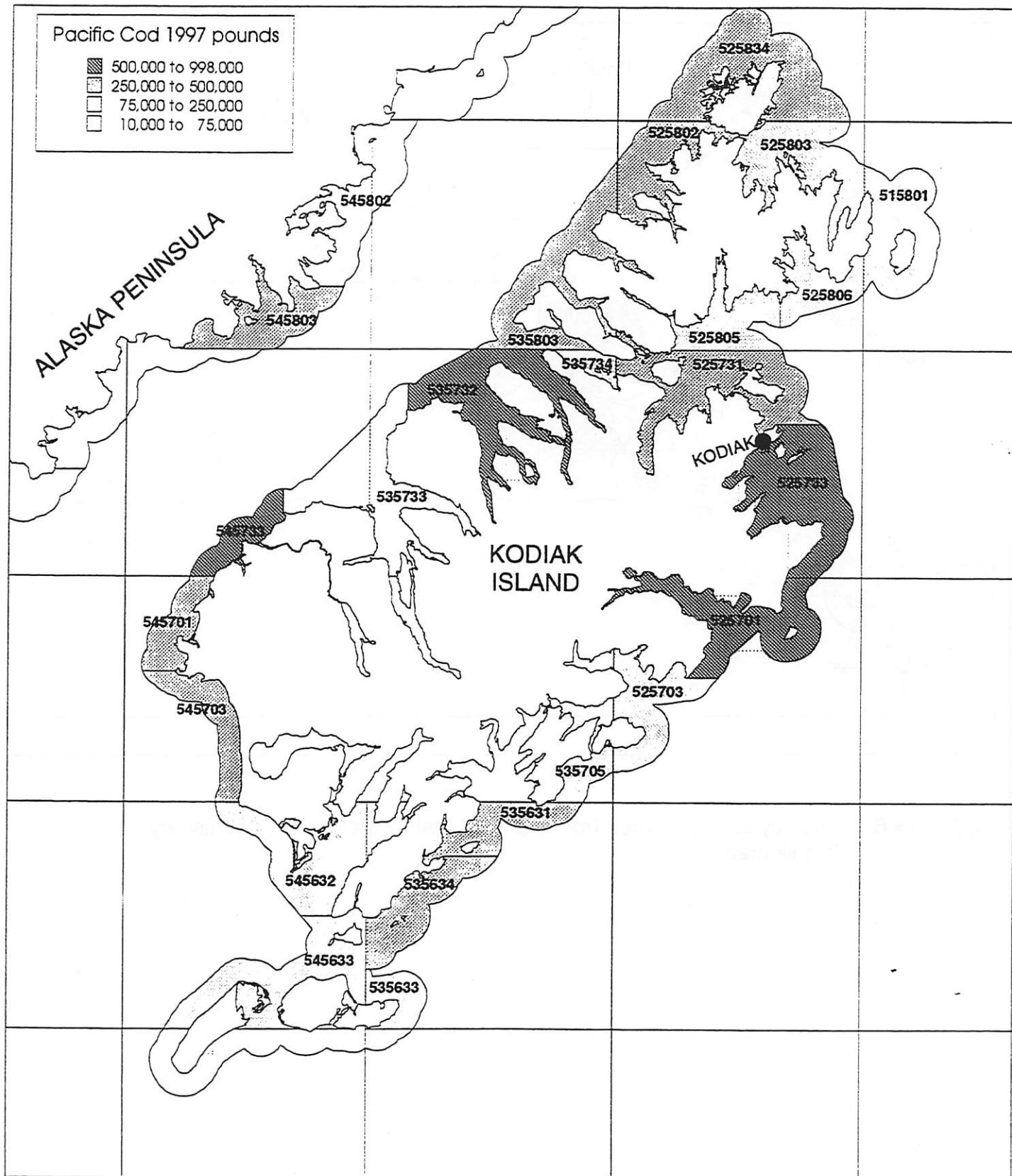
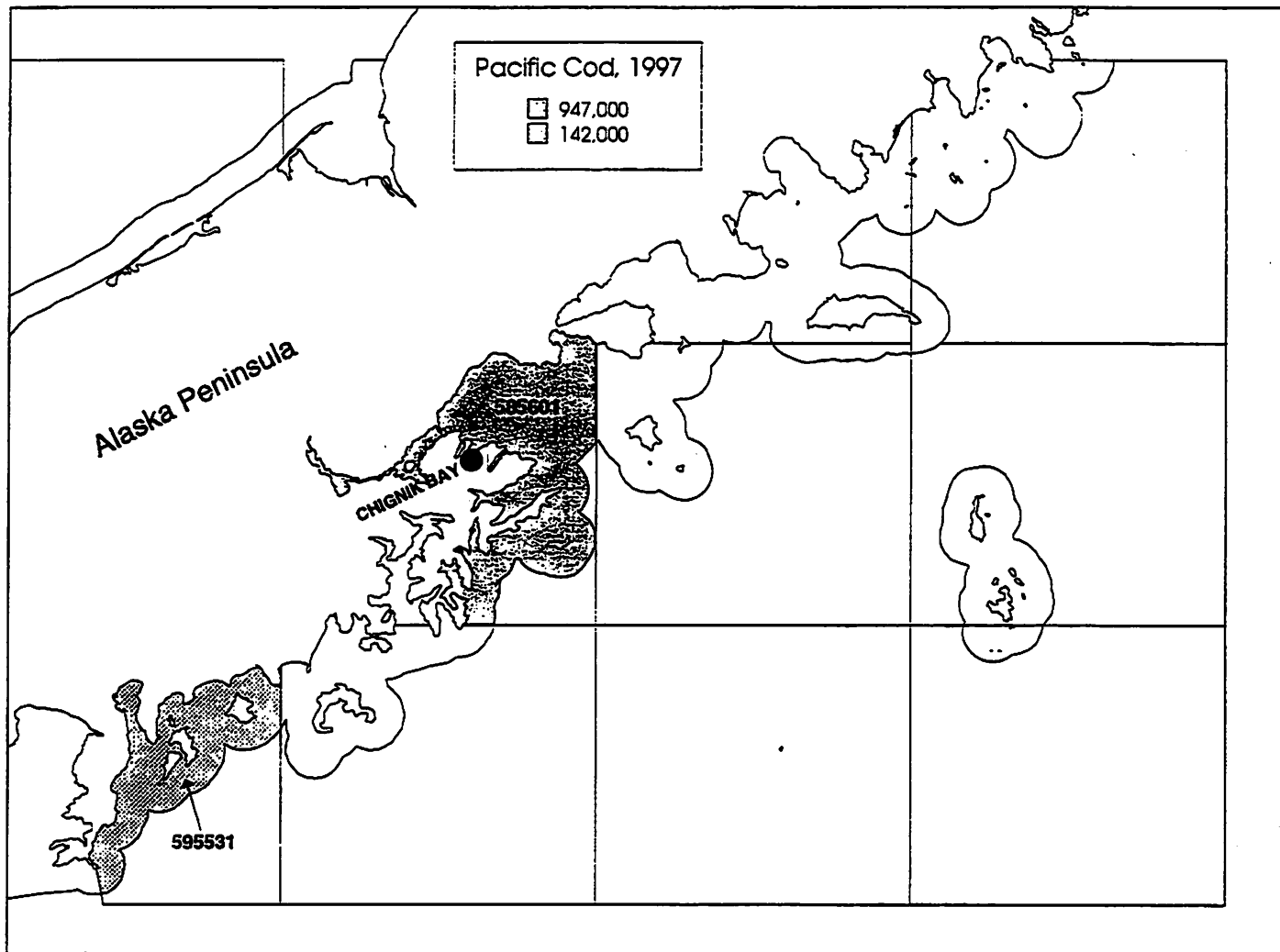


Figure 8. The 1997 Pacific cod catch by month by gear type for the Kodiak, Chignik, and South Alaska Peninsula areas.

**APPENDIX**

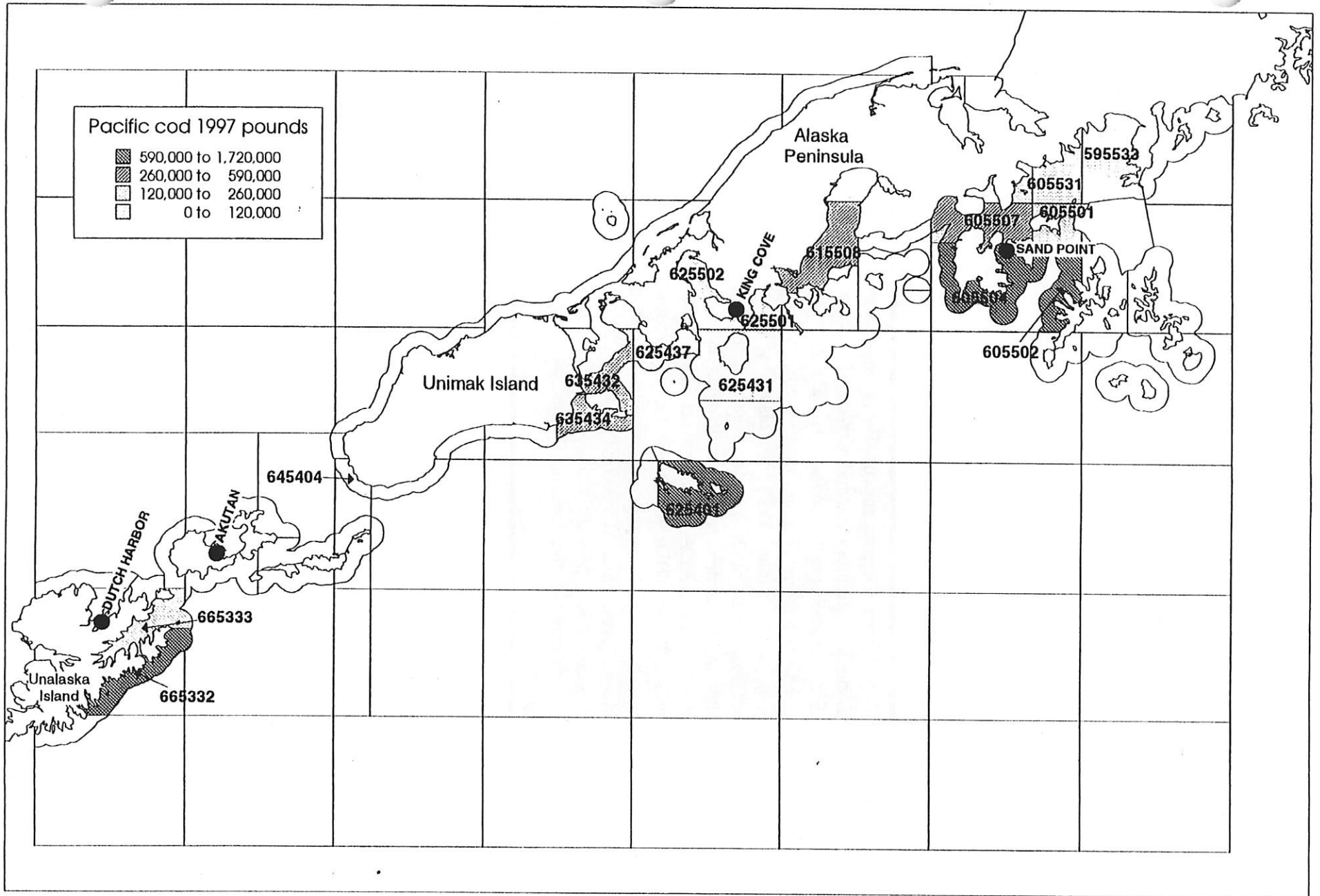


Appendix A. Catch by statistical area from the 1997 state water Pacific cod fishery in the Kodiak area.



Appendix B. Catch by statistical area from the 1997 state water Pacific cod fishery in the Chignik area.





Appendix C. Catch by statistical area from the 1997 state water cod fishery in the South Alaska Peninsula area.

The Alaska Department of Fish and Game administers all programs and activities free from discrimination on the basis of sex, color, race, religion, national origin, age, marital status, pregnancy, parenthood, or disability. For information on alternative formats available for this and other department publications, contact the department ADA Coordinator at (voice) 907-465-4120, or (TDD) 907-465-3646. Any person who believes s/he has been discriminated against should write to: ADF&G, PO Box 25526, Juneau, AK 99802-5526; or O.E.O., U.S. Department of the Interior, Washington, DC 20240.

**Minutes From The North Pacific Management Council  
Gear Conflict Committee Meeting at U.C.B.  
November 25, 1997**

**Attending**

Earl Krygier	Alaska Department of Fish and Game
Frank Vargas	American Seafoods
Arnie Thomson	A.C.C.
Jim McManus	Trident Seafoods
Ed Richardson	At-Sea Processors Association
Larry Hendricks	F/V Sea Star
John Gauvin	Groundfish Forum, Inc.
Dave Benson	Tyson Seafood Group

**Gear Conflict**

Conflict occurs when trawl nets sometimes catch crab or groundfish pots while fishing groundfish. Pot loss occurs both to pots being actively fished and to pots which are being stored on the grounds. Sometimes just the buoy lines are cut off by the trawl warps and sometimes the whole pot is captured in the trawl. The cost to crab fisherman of losing pots is both in the cost of the gear (15 pots may cost upwards of \$15,000) and lost fishing time or efficiency. With the State pot limit/pot tag program, extra pots can not be carried and a crab vessel must return to Dutch Harbor to replace lost tags and pick up extra pots. The cost to trawlers is also high. First, the trawler must try to safely deal with a pot stuck in their net, extract it and keep it from sliding across the deck in rough seas, and tie it down for later disposal. Second, they suffer lost fishing time to repair torn-up gear, and have high net replacement/repair costs. Trawlers not only pick up actively fished pots, but may catch derelict or lost pots also. The gear loss/fishing time loss and the operational and safety problems of dealing with this conflict has significant costs to both groups. It was agreed that the resolution of this issue was advantagous to both fleets.

Members of the committee present believed that much of the conflict may occur when the opilio fishery and the "A-season" overlap, and when the factory trawlers or catcher boats are fishing pollock N.E. of the Pribilof Islands. The group noted that conflict with active crab fisheries is not always an annual event, because the overlap of crab or groundfish distributions may change annually or fisherman may be fishing target concentrations elsewhere. The new Pacific cod pot fishery is also expected to present conditions where similar gear conflicts could occur.

Another conflict has occurred in the current legal Pot Storage area (57-58 degrees Lat./164-165 degrees Long.) after the conclusion of the Pribilof/St. Matthew's Blue/Red king crab fishery. Crab fisherman who fished in September may want to store their pots until the opening of the Bristol Bay red king crab fishery in November. The problem is that "Zone 1" ends at 165 degrees Long. and after yellowfin sole fisherman reach their Zone 1 bycatch limit they can only trawl west of 165

degrees Long., so they often fish right along the 165 degree longitude. Because the pot storage area overlaps the edge of the Zone 1/Zone 2 grounds, gear conflict can unwittingly occur.

The committee discussed these issues and both sides agree that it would be best for industry to find a solution rather than looking toward the Council to draw new lines, change opening/closing dates or close various areas to each gear type. A number of possible solutions were discussed :

1.) Good communication.

a.) First it was discussed that it might help to educate the fleets as to the various constraints the other gear type was working under. It was noted that perhaps an ADF&G news release could try to incorporate information to crabbers about possible groundfish activities. The NMFS web site was mentioned as another media for education. How ADF&G or NMFS staff might enter this loop was not discussed. Education must also occur through associations newsletters.

b.) It was noted that because of the restrictive bycatch caps and area closures, groundfish groups had already started to actively communicate; but that the crab fleet has little between-group communication. As someone noted, there are three crab association groups plus a whole lot of independent crabbers. A strategy needs to be developed on inter-fleet communication for crab vessels. It was discussed that possibly using "Key vessels/skippers" on the grounds who talk to the fleet & try to find some grounds agreement.

c.) Because Sea-State has been so successful for bycatch avoidance, the group wonders if there were a way to use Sea-State to track the crab fleet so as to know where possible impacts may occur. Trawl representatives present felt that if trawl companies knew where the crab fleet was fishing they would be less likely to fish on top of them. But is it possible to get crab fleet position information (which the agency knows from inseason observer reports) without losing data credibility and confidentiality. Maybe the use of 6 to 12 "point vessels" reporting on crab fleet position could resolve the issue of agency reporting fleet position from observer data. There may be an electronic method using "Standard C".

d.) Trawlers indicated that if they knew who the pot belonged to, it would be possible to either return the pot to the appropriate crab vessel or provide them the GPS coordinates so they could grapple for the pot. This issue may resolve itself with better communication, particularly if trawlers had a list of the crab vessel CFEC numbers which are on pot buoys. It was suggested that perhaps ADF&G could get a disk copy of this information to the trawl association/groups to facilitate this communication.

2) For the pot storage area conflict two possible ideas to be pursued were: (1) have the BOF and the crab industry re-evaluate the existing pot storage areas; or (2) have crabbers voluntarily place all of their stored pots east of 165 degrees.

3) Gear visibility. A big part of the trawlers problem is "seeing" the crab bags, particularly at night.

These float bags need better reflective tape\_ or some other way to make bags highly visible. Maybe the crab fleet should go to the makers of crab bags and demand, as a fleet, that the molding/manufacturing process include a more reflective coating.

4) The group felt that a letter (joint ADFG/Council) to crab and groundfish fleets indicating that the State and the Council believe this is an industry problem and needs to be solved with better inseason industry communication, or other alternative solutions.

The group agreed to meet again after they had an opportunity to discuss some of these concepts within the fleets. At the Council meeting, it was noted that the gear conflict focus group should include a member of the U. S. Coast Guard. The next meeting will occur after the first of the year.

1/4/98

**DRAFT LETTER TO INDUSTRY REGARDING GEAR CONFLICT**

{Name}  
Crab and Trawl Gear Representatives  
Kodiak and Seattle

Dear {Name}:

At the February joint session of the Alaska Board of Fisheries (Board) and the North Pacific Fisheries Management Council (Council) the issue of gear conflict between groundfish trawl fisheries and crab and groundfish pot fisheries was discussed. The Board and Council were informed that gear conflicts between trawl and pot vessels sometimes occur when trawl nets catch crab or groundfish pots while fishing groundfish. Pot loss occurs both to pots being actively fished and to pots which are being stored on the grounds. Both gear types suffer gear damage and lost fishing opportunities in these interactions.

The Board and Council were apprised that an initial meeting of members of the two gear groups has occurred and that preliminary discussions were encouraging. The two management bodies are pleased that this inter-industry gear conflict may be resolved outside of the regulatory process. Industry is well aware that the elevation of conflicts to regulatory bodies often leads to unintended consequences which may not result in the anticipated benefits industry sought.

The Board and Council wish to take this opportunity to strongly encourage the two affected gear groups to continue striving to resolve this matter. We are tasking a staff member from the United States Coast Guard and the Alaska Department of Fish and Game to help facilitate your meetings. We suggest that you set a goal of resolution prior to the fall 1998 B-season.

Again, we compliment you on your intent to resolve this issue and applaud your efforts. Staff will be contacting you to schedule the next meeting.

Sincerely,

Rick Lauber, Chairman  
North Pacific Fisheries Management Council  
Fisheries

John White, Chairman  
Alaska Board of

TO: RICK LAUBER, CHAIRMAN  
NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

RE: CENTRAL GULF PACIFIC COD FISHERY  
AND STATE WATER PACIFIC COD FISHERY

DATE: JANUARY 27, 1998

SENT BY FAX: 2 PP

**RECEIVED**

JAN 29 1998

**N.P.F.M.C**

**COMMENTS FOR THE JOINT BOARD OF FISH/NORTH PACIFIC FISHERY  
MANAGEMENT COUNCIL MEETING REGARDING PACIFIC COD MANAGEMENT IN  
THE CENTRAL GULF OF ALASKA**

Submitted by Chris Blackburn, Director, Alaska Groundfish Data Bank  
and  
Al Burch, Executive of Alaska Druggers Association.

**THANKS TO NMFS**

The members of Alaska Groundfish Data Bank wish to publicly thank National Marine Fisheries Service managers for the excellent job done in 1997 managing the Central Gulf Federal Pacific cod fishery.

In order insure that the State Water Pacific cod fishery was not jeopardized by any overages in the Federal Fishery, NMFS held 20% of the federal quota in reserve. The first quarter Federal Pacific cod fishery was closed very close to the TAC leaving enough quota vessels could retain the Pacific cod taken as bycatch 2nd and 3rd quaters.

The reserve was then released October 1 which allowed the local trawl fleet to pursue a mixed cod/flatfish fishery and retain all the cod and flatfish taken. For the vessels participating in this fourth quarter trawl fishery retaining cod instead of discarding it as they have had to do too often was both personally and financially gratifying. The flesh quality in the fall is quite good with a high recovery rate and processors were also pleased with the fish.

We hope NMFS will follow the same management regime in 1998 that was followed in 1997.

**THANKS TO ADF&G**

ADF&G managers also did an excellent job managing the State Water Pacific cod fishery. AGDB members especially appreciated the weekly catch reports faxed out by ADF&G Kodiak every Monday.

**COMMENT FOR THE BOARD OF FISH**

The members of AGDB appreciate the Board's willingness to meet with the North Pacific Fishery Management Council and we also appreciate the Board of Fish's reviewing the State Water Pacific cod provisions. We note that close to 2,000 MT of State Water Pacific cod allocated to Chignik was not taken, nor were the total quotas allocated to Kodiak and Cook Inlet taken.

AGDB COMMENTS FOR JOINT BOF/NMFPC MEETING - JANUARY 27, 1998 -- PAGE 2 OF 2

We feel it is important that the communities in the Central Gulf able to process fish in the fall have access to State Water quota fish that are not expected to be used within a State Water quota area. We request that the Board of Fish consider providing for the release of State Water Pacific cod quota to the federal quota October 1 if it is clear there will not be any processing facility available in the quota area after October 1 -- the start of the 4th quarter which would allow both trawlers and longliners access to the unused fish.

We do not suggest that State Water Pacific cod quotas in communities such as Kodiak which process year round be released to the Federal quota.

Thank you for your consideration of our comments.



Chris Blackburn, Director  
Alaska Groundfish Data Bank

Al Burch, Executive Director  
Alaska Druggers Association





NPAFC  
Doc 244  
Rev \_\_\_\_

**GENETIC STOCK IDENTIFICATION OF CHUM SALMON HARVESTED INCIDENTALLY  
IN THE 1994 AND 1995 BERING SEA TRAWL FISHERY**

by

**Richard L. Wilmot, Christine M. Kondzela,  
Charles M. Guthrie, and Michele M. Masuda**

**AUKE BAY LABORATORY  
Alaska Fisheries Science Center  
National Marine Fisheries Service  
National Oceanic and Atmospheric Administration  
11305 Glacier Highway  
Juneau, Alaska 99801-8626, U.S.A.**

**Submitted to the  
NORTH PACIFIC ANADROMOUS FISH COMMISSION  
by the  
UNITED STATES PARTY**

**December 1996**

**THIS DOCUMENT MAY BE CITED IN THE FOLLOWING MANNER**

**Wilmot, R. L., C. M. Kondzela, C. M. Guthrie, and M. M. Masuda. 1996. Genetic stock identification of chum salmon harvested incidentally in the 1994 and 1995 Bering Sea trawl fishery. (NPAFC Doc. 244) 22pp. Auke Bay Laboratory, Alaska Fisheries Science Center, National Marine Fisheries Service, NOAA, 11305 Glacier Highway, Juneau, AK 99801-8626, U.S.A.**

## ABSTRACT

In some years, the Bering Sea trawl fishery incidentally harvests (bycatch) large numbers of chum salmon. Because chum salmon spawners are declining in some western Alaska areas, the origins of the chum salmon bycatch are important. Tagging studies have shown that chum salmon originating in Asia and North America migrate through the eastern Bering Sea. Genetic stock identification (GSI), a method for estimating stock composition in mixed-stock fisheries, has helped in evaluating stock contributions to salmon fisheries on the western coast of North America. Through cooperative efforts between state and federal agencies, a comprehensive genetic baseline for Pacific Rim chum salmon stocks has been developed, which enables GSI in fisheries such as the Bering Sea trawl fishery.

In 1994, the National Marine Fisheries Service, Auke Bay Laboratory, initiated a feasibility study of GSI in determining the origins of the chum salmon bycatch in the Bering Sea trawl fishery. The first objective of this study was to determine whether the existing observer program could provide tissue samples from the bycatch of sufficient quantity and quality for genetic analysis. The 1994 study was not designed to provide a valid sample size of the total chum salmon bycatch. However, sampling in 1995 was intensified and resulted in samples covering the entire fishing season, representing nearly 11% of the total chum salmon bycatch.

The 1994 results showed that, with proper sampling design, the observer program could provide enough samples to represent the total chum salmon bycatch. Estimates for our 1994 fishery samples over the three time period were 39-55% Asian stocks, 20-35% western Alaska stocks, and 21-29% southeastern Alaska, British Columbia, or Washington stocks. One small sample ( $N = 47$ ) of maturing fish showed a surprisingly large contribution of British Columbia stocks (53%).

Estimates for our 1995 samples over seven time periods were 13-51% Asian stocks, 33-53% western Alaska stocks, and 9-46% southeastern Alaska, British Columbia, or Washington stocks. As in 1994, the sample of maturing fish ( $N = 277$ ) showed a large contribution of British Columbia stocks (49%) and Washington stocks (25%).



**UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration**

**NATIONAL MARINE FISHERIES SERVICE  
ALASKA FISHERIES SCIENCE CENTER  
AUKE BAY LABORATORY**

11305 Glacier Hwy, Juneau, AK 99801-8626  
(907) 789-6000

24 hour FAX (907) 789-6094

October 7, 1996

David Ackley  
Alaska Dept. of Fish and Game  
P.O. Box 25526  
Juneau, Alaska 99802

Dear David:

Per your request, I have enclosed a report for the 1996 recoveries in the Bering Sea and the Gulf of Alaska. If you have any questions concerning the data please call me at 907-789-6030.

Sincerely,

A handwritten signature in cursive script that reads "Susan Fowler".

Susan Fowler  
Computer Specialist

Enclosure



Release and recovery information for coded-wire tagged salmon recovered from the North Pacific Ocean and Bering Sea.

RELEASE										RECOVERY											
A D D D D R B G A A A A E R E T T T T P O N A A A A O C C D Y 1 2 3 4 D YR SITE										S T P A R T O E V AGENCY TOTAL NO. TAGGED DATE DATE LAT LONG TSFT BODY WT GONAD S D M D M (mm) (g) (g) X GEAR SPECIES											
Bering Sea recoveries, 1996																					
021043	91	BABINE R.	UPR	HC	ODFW	15861	0593	960208	55	46	N	163	41	W	700	5400				M TRAWL	CHINOOK
070420	92	SALMON R.	OR COAST	OR	ODFW	28386	0893	960130	54	43	N	165	46	W	630	3670				M TRAWL	CHINOOK
070740	93	TRASK R		OR	ODFW	27579	0894	960206	54	48	N	165	21	W	520	2150				F TRAWL	CHINOOK
071419	91	ELK R		OR	ODFW	18886	1192	960831	54	55	N	167	15	W	670	4600				M TRAWL	CHINOOK
076121	92	MCKENZIE R	1	OR	ODFW	169400	0394	960206	54	48	N	165	21	W	620	3400				F TRAWL	CHINOOK
180248	90	KENNEDY LAKE		BC	CDFO	26258	0591	960406	55	1	N	164	38	W	740	5700				M TRAWL	CHINOOK
180852	92	NYCINA R		BC	CDFO	75062	0493	960910	54	55	N	165	38	W	490	1500				F TRAWL	CHINOOK
181225	92	COLDWATER R		HC	ODFW	47561	0494	960224	54	46	N	165	59	W	570	2270				F TRAWL	CHINOOK
182125	94	STAVE R		DC	CDFO	24708	0595	960207	54	46	N	165	21	W	590	2600				F TRAWL	CHINOOK

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center. Total count for this report ..... 9

Release and recovery information for coded-wire tagged salmon recovered from the North Pacific Ocean and Bering Sea.

RELEASE										RECOVERY											
A D D D D R B G A A A A E R E T T T T P O N A A A A O C C D Y 1 2 3 4 D YR SITE										S T P A R T O E V AGENCY TOTAL NO. TAGGED DATE DATE LAT LONG TSFT BODY WT GONAD S D M D M (mm) (g) (g) X GEAR SPECIES											
Gulf of Alaska recoveries, 1996																					
032238	92	L PORT WALTER	109-10	AK	NMFS	10118	0594	960202	57	59	N	152	2	W	520	2100				M TRAWL	CHINOOK
044030	90	FISH CR	111-50	AK	ADFG	29562	0693	960123	57	56	N	152	4	W	800	7300				M TRAWL	CHINOOK
044062	92	HAKAR COVE	113-41	AK	NSRA	9544	0594	960130	57	58	N	152	16	W	620	3200				F TRAWL	CHINOOK
044105	92	BEAR COVE	113-41	AK	NSRA	9371	0594	960131	58	2	N	153	35	W	570	2800				F TRAWL	CHINOOK
044111	92	BEAR COVE	113-41	AK	NMRA	8106	0694	960200	57	58	N	152	6	W	490	1500				F TRAWL	CHINOOK
044128	92	TAYYA INLET	115-34	AK	NSRA	11745	0594	960130	58	2	N	153	34	W	580	2400				F TRAWL	CHINOOK
044143	92	HERRING COVE	101-45	AK	SSRA	52542	0594	960309	56	10	N	154	6	W	600	2100				F TRAWL	CHINOOK
070421	92	SALMON R.	OR COAST	OR	ODFW	40339	0893	960315	54	55	N	158	12	W	750	5500				F TRAWL	CHINOOK
076323	92	WILLAMETTE R.	M FK 2	OR	ODFW	26020	0294	960312	59	58	N	144	39	W	670	3400				F TRAWL	CHINOOK
180325	91	ATNARKO R.	LWR	BC	CDFO	29568	0493	960128	57	38	N	154	28	W	810	8320				F TRAWL	CHINOOK
180610	92	BABINE R.	LWR	BC	CDFO	10202	0494	960124	57	5	N	152	23	W	540	1900				M TRAWL	CHINOOK
180633	93	CONUMA ESTUARY		BC	CDFO	29026	0594	960326	58	0	N	154	31	W	510	1500				M TRAWL	CHINOOK
180837	91	SALLOOMEY R		BC	CDFO	59876	0792	960706	56	45	N	154	22	W	820	7600				F TRAWL	CHINOOK
180908	92	ATNARKO R.	LWR	BC	CDFO	22560	0494	960200	57	58	N	152	6	W	590	2700				F TRAWL	CHINOOK
181363	93	CONUMA ESTUARY		BC	CDFO	25529	0494	960308	59	7	N	150	52	W	480	1000				M TRAWL	CHINOOK
181539	93	ROBERTSON CR		BC	CDFO	25235	0594	960131	58	0	N	153	40	W	900					M TRAWL	CHINOOK
635154	92	SIMILKAMUK R.	R49.0325	WA	WDFW	133923	0494	960318	59	45	N	148	11	W	630	3800				M TRAWL	CHINOOK

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center. Total count for this report ..... 17

**SUMMARY OF 1997 STATE WATER PACIFIC COD**

UPDATED: February 2, 1998

	PWS	COOK INLET/ N. GULF	KODIAK	CHIGNIK	AK. PENINSULA
<b><u>Jig Fishery</u></b>					
No. vessels making landings	4	57	71	6	44
No. of landings	7	241	481	18	174
Accum. Harvest (million lbs.)	0.0084	0.56	1.99	0.04	0.35
GHL (million lbs.)	0.32	1.05	4.25		
Status	Closed 12/31	Closed 12/31	Closed 12/31	Closed 12/31	Closed 12/22
<b><u>Pot Fishery</u></b>					
No. vessels making landings	6	11	36	6	54
No. of landings	29	149	229	56	467
Accum. Harvest (million lbs.)	0.19	0.27	5.61	1.11	8.98
GHL (million lbs.)	0.48	1.05	4.25		
Status	Closed 12/31	Closed 12/31	Closed 12/31	Closed 12/31	Closed 12/22
<b><u>TOTALS</u></b>					
No. vessels making landings	10	68	105	12	98
No. of landings	36	390	710	74	641
Accum. Harvest (million lbs.)	0.20	0.83	7.60	1.15	9.33
GHL (million lbs.)	0.80	2.10	8.50	5.90	9.40

# THE IMPACT OF THE PACIFIC COD FISHERY IN THE COOK INLET STATE MANAGEMENT AREA.

MILLENNIUM SEAFOOD SOLUTIONS  
MICHAEL G. BROOKS CONSULTING  
15 JANUARY 1998

In response to request from several sectors of industry I have made a preliminary assessment of the impact of the state managed Pacific Cod fishery in the cook Inlet management area. Attached demographics have been compiled from landing statistics available from the Alaska Department of Fish and Game, surveys of fishing vessel owners participating in the State managed fishery, and interviews with private enterprise directly effected by the State managed fishery .

Although this study is only a preliminary investigation and should not be taken as a definitive work it clearly illustrates the direct effect of a state managed fishery upon two small coastal communities. The communities of Homer and Seward were the ports of landing involved in this preliminary work.

## LBS.FISH CAUGHT IN COOK INLET STATE MANAGEMENT AREA DURING FEDERAL SEASON..

ALL GEAR TYPES-----	3,195,233
NUMBER OF BOATS-----	151
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NUMBER OF LANDINGS-----	608
LONG LINE CAUGHT-----	2,043,352
POT CAUGHT-----	1,110,034
JIG CAUGHT-----	40,143
TRAWL CAUGHT -----	1,704

## LBS. FISH CAUGHT COOK INLET STATE MANAGEMENT AREA AFTER FEDERAL CLOSURE.

ALL GEAR TYPES -----	832,269
NUMBER OF BOATS-----	68
NUMBER OF LANDINGS-----	390
NUMBER OF BOATS-----	68
JIG CAUGHT-----	556,717
POT CAUGHT-----	273,015
TROLL CAUGHT-----	2,447

## COOK INLET STATE MANAGEMENT AREA DEMOGRAPHICS

DIRECT EFFECT OF PACIFIC COD CAUGHT IN COOK INLET STATE MANAGEMENT AREA DURING STATE MANAGEMENT SEASONS.

### FISHING VESSELS

NUMBER OF FISHING JOBS .....	186
PERCENTAGE LOCAL HIRE.....	90%
AVG EX-VESSEL PRICE PER LB.....	\$.25
BASE INCOME DIRECTLY INTO THE COMMUNITY.....	\$208,067.25

### PROCESSING AND LOGISTICS

NUMBER OF INDUSTRY RELATED JOBS.....	100
PERCENTAGE OF LOCAL HIRE.....	86%
DOLLARS DIRECTLY INTO THE COMMUNITY.....	\$1,000,000.00

The above figures were extrapolated from interviews with participants in the state managed fishery, local business, and Alaska Department of Fish and Game data bases. The majority of the money generated by this fishery remained in the local community. The majority of the individuals employed as a direct effect of this fishery were from the local communities. Some individual fishers by direct marketing their product realized much more income from their percentage of the catch than that illustrated by the ex-vessel price entry. This money also stayed within the communities. The overall effect of slowing down the harvest of this species and spreading it over a much longer window of opportunity was a stabilization of what had once been a seasonal harvest profile with the resulting creation of jobs and income during periods when there had been none.