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COOK INLET AREA GROUND FISH REPORT
TO THE
ALASKA BOARD OF FISHERIES
1998



by

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INTRODUCTION

This report covers the commercial groundfish fisheries managed by the Alaska Department of Fish and Game (ADF&G) in the Cook Inlet Area through September 1998. State managed fisheries for sablefish, rockfish, lingcod, and Pacific cod will be discussed. Lingcod and black rockfish fisheries are reported for both state and federal waters because the state manages these species in the adjacent federal waters of the exclusive economic zone (EEZ).

The geographic boundaries of the Cook Inlet Area were changed substantially by regulations adopted at the October 1996 meeting of the Alaska Board of Fisheries. The Cook Inlet Area is divided into two districts (Figure 1). The Cook Inlet District comprises all waters of Cook Inlet enclosed by a line from Cape Douglas to Point Adam. The North Gulf District includes all territorial waters of the Gulf of Alaska north of Cape Douglas and west of Cape Fairfield, excluding the Cook Inlet District. All reported harvest figures correspond to the new definition of the management area; therefore, values may differ from those in previous reports. Table 1 summarizes 1998 harvests and estimated ex-vessel values by major fishery. Table 2 lists emergency orders issued during 1998.

Some significant groundfish fisheries occurring in state waters are managed based on actions taken by the National Marine Fisheries Service (NMFS) in federal waters. This management is established annually under a global emergency order that provides for state management to coincide with federal management actions in the adjacent federal waters. Specifically, a fishery is managed to open and close concurrent with the fishing season in the adjacent federal waters of the EEZ. The Pacific cod fishery and the pollock fishery will be reported here as examples of this type of management.

The legal gear types for groundfish fishing in the Cook Inlet Area are longline, pelagic trawl, hand troll, mechanical jigging machine, or pots. Groundfish fishermen must obtain a Cook Inlet Area groundfish registration prior to fishing.

Some regulations adopted by the BOF since 1995 and implemented during 1996 and 1997 pertain to all Cook Inlet groundfish fisheries. These include a 24 h delivery time requirement after the closure of a directed fishery, a prohibition to non-pelagic trawl gear, and an area registration requirement for groundfish tenders.

SABLEFISH

Proposal # 62

Proposal #62 seeks to change the sablefish open season date to July 15.

Since implementation of the federal Individual Fishing Quota (IFQ) program in 1995, the Cook Inlet sablefish fishery was maintained as an open access fishery that opened concurrent with the

IFQ fishery. It is one of only two sablefish fisheries in the state that does not fall under an entry limitation program. The season GHL of 72,000 lb was first set in 1997. It was calculated using the recent 5 year average harvest of 104,000 lb adjusted to reflect the percentage change in the sablefish total allowable catch (TAC) set by the North Pacific Fishery Management Council (NPFMC) for the Central Gulf of Alaska Regulatory Area. The TAC set by the NPFMC was based upon biomass estimates generated from annual surveys in the Gulf of Alaska. Sablefish in the Cook Inlet Area are believed to be part of the Gulf of Alaska stock; therefore, adjusting the GHL based upon changes in the TAC was both reasonable and conservative.

The districts of the Cook Inlet Area are managed as a single unit for the sablefish fishery. Harvests since 1987 ranged from 2,983 lb in 1989 to 136,052 lb in 1998 (Table 3). The North Gulf District provided the majority of the harvest since 1987 with Cook Inlet District catches for the same period ranging from 0 in 1987 to 67,000 lb in 1988. However, total harvest from the Cook Inlet District has not exceeded 2,000 lb in six of the past nine years. Effort in the fishery has ranged from 4 to 79 vessels. Since 1995, when the IFQ program was implemented, the pace of the Cook Inlet Area sablefish fishery increased with seasons closing earlier each year. For example, season closure dates for 1996 to 1998 were September 1, July 27, and April 19.

Federal and state regulations permit a sablefish IFQ holder to participate in the state managed sablefish fishery but only if he has IFQ shares remaining and only during the open season. Similarly, individuals with halibut IFQ may participate in the state managed sablefish fishery or retain sablefish as bycatch during the open sablefish season. Retention of sablefish is not permitted after the state managed fishery has closed.

Historic sablefish catch in the North Gulf District has been erratic, leading the department to believe that either sablefish distribution is seasonal and may be affected by events elsewhere, or that the catch has been misreported. Since 1987, the majority of the harvest occurred during the months of May and June.

1998 Season Summary

The 1998 Cook Inlet Area sablefish fishery harvested a total of 67,366 lb from 50 landings by 24 vessels. The season opened by regulation on March 15 and closed by emergency order on June 27 when the reported harvest reached 63,000 lb. Sablefish could not be retained as bycatch after the closure. No sablefish were landed from the Cook Inlet District in 1998.

1998 Management Outlook

The 1998 Cook Inlet Area sablefish fishery will open March 15 with a season GHL of 72,000 lb. The department will monitor the sablefish fishery for bycatch levels of lingcod and rockfish. The fishery could close early if the GHL's for these species are attained.

The department does not conduct any sampling or stock assessment of Cook Inlet Area sablefish.

ROCKFISH

Proposal # 61

Proposal 61 notices the Cook Inlet Rockfish Management Plan and is intended to initiate a discussion with the BOF on rockfish harvests and season dates.

Within the Cook Inlet Area, the North Gulf District has historically yielded $\geq 95\%$ of the rockfish catch during any year. The North Gulf District also supports active sport fisheries for rockfish. The rocky sloped habitat of the North Gulf District is more suitable to nearshore rockfish than the glacial-mud substrate of the Cook Inlet District. Since 1987, catch and effort have ranged from 22,771 lb by 11 vessels in 1989 to 337,247 lb by 120 vessels in 1992 (Table 4). Black rockfish, taken primarily by jig gear, have comprised greater than 50% of the total harvest in most years. Yelloweye rockfish primarily harvested by longline gear have been the second most dominant species and averaged 22% of the total annual catch since 1992.

Rockfish are managed via the Cook Inlet Rockfish Management Plan (5 AAC 28.365). During the 1996 meeting, the BOF set a 150,000 lb harvest cap for the plan. Components of the plan include:

1. a five day trip limit of 1,000 lb for Cook Inlet District, and 4,000 lb for the North Gulf District,
2. a 150,000 lb harvest level for the fishery, and
3. a 20% bycatch limit once the directed fishery is closed, however, the above trip limits may not be exceeded.

In 1998, the department accepted management authority for black and blue rockfish in both state and the adjacent federal waters. Although blue rockfish have not been reported in the Cook Inlet Area, black rockfish is a pelagic species that typically occurs in the nearshore, high relief habitat found in the North Gulf District.

The rockfish fishery opens January 1 and closes by emergency order.

1998 Season Summary

The 1998 rockfish harvest from the Cook Inlet Area through September is 72,811 lb from 255 landings by 95 vessels. Black rockfish from state and federal waters and taken primarily by directed jig effort comprised the majority (60%) of the harvest. Yelloweye, taken mostly as bycatch to directed sablefish and halibut longline fisheries, was the second most prominent species in the catch. Other species comprising the balance of the rockfish harvest included roughey, shortraker, quillback, and dusky. The season opened January 1 and directed fishing for rockfish closed by emergency order at 12:00 noon April 7 when the harvest reached 50,000 lb. After the closure, rockfish could only be retained in bycatch amounts not to exceed 10% of the total delivery.

1999 Management Outlook

The 1999 fishery will open by regulation on January 1. The department will manage for a total harvest, including bycatch, of 150,000 lb. To provide for anticipated rockfish bycatch from other directed fisheries, the department plans to close the directed rockfish fishery when the total catch is between 50,000 lb and 100,000 lb. Outstanding fish tickets from the directed fishery and bycatch from other fisheries will account for the remainder of the GHL.

The commercial rockfish catch is sampled sporadically. The department does not conduct any stock assessment surveys.

POLLOCK

Proposal # 64

Proposal 64 seeks to make seine a legal gear for pollock in Kachemak Bay.

Pollock seasons in the Cook Inlet Area are managed in concert with NMFS actions in the adjacent waters of the federal EEZ. The cumulative pollock harvest from the area between 1987 and 1995 was 470,642 lb (Table 5). During the 1996 season, a directed pollock fishery developed in the North Gulf District. The 1996 Cook Inlet Area pollock harvest totaled 1,940,512 lb with all but 2,024 lb coming from the directed trawl fishery. The 1997 pollock harvest increased to 3,870,097 lb with >99% of the total harvest coming from the directed pelagic trawl fishery.

1998 Season Summary

The pollock fishery in the North Gulf District occurred for the third year in 1998. Total catch was 9,684,030 lb. Similar to the previous two years, harvest from the directed trawl fishery accounted for >99% of the harvest total with 9,680,959 lb coming from 66 landings by 13 vessels. Other directed jig, longline, and pot fisheries landed 3,071 lb of pollock as bycatch. Season dates specified by NMFS were January 20 to February 2. The 1998 harvest was primarily taken from the Resurrection Bay and Day Harbor areas. No trawl effort occurred in the Cook Inlet District.

The department sampled the commercial trawl harvest from the North Gulf District. Pollock average size from the sample data was 564 mm (n=435) and 2,250 g (n=108).

1999 Management Outlook

Pollock management for the Cook Inlet Area in 1999 will again coincide with NMFS management actions in adjacent federal waters. The department conducts limited commercial catch sampling and no pollock stock assessment in the North Gulf District.

LINGCOD

Proposal # 59 & 63

Proposal 59 seeks to prohibit commercial fishing for lingcod in the Cook Inlet Area.

Proposal 63 would limit lingcod fishing gear to hand or mechanical jigging.

Since 1986, Cook Inlet Area lingcod harvests ranged from 2,736 lb in 1989 to 87,343 lb in 1993 (Table 6). Effort ranged from 9 vessels in 1989 to 83 vessels in 1992. The North Gulf District, which supports active commercial and recreational fisheries, has historically accounted for virtually all of the harvest. Lingcod harvest from the Cook Inlet District has been negligible (806 lb since 1986). Harvest differences between districts likely reflect the relative amounts of suitable habitat.

Historically, 78% of the lingcod harvest came as directed catch and as bycatch from jig gear, 22% came from longline gear, and <1% from trawl and pot gear. During the years 1987-1990 and 1992, lingcod harvests came primarily from longline gear. However, around 1991 fishing effort shifted to jig and hand troll gear which took greater than 90% of the total catch for the years 1991 and 1993-1997. Beginning in 1993, an increasing proportion of the reported lingcod effort and harvest shifted from state waters to adjacent federal waters. It is unknown whether this change in the geographic distribution of effort, which coincided with implementation of the minimum legal size, indicated a low or declining abundance of legal sized fish in state waters.

The department has management authority for lingcod fishery in both state waters and the adjacent federal waters of the EEZ. Regulatory open season dates for the fishery are July 1 to December 31. There is a minimum size requirement of 35 inches overall or 28 inches measured from the front of the dorsal fin to the tip of the tail. The closure during the first half of the year protects lingcod during spawning and nest guarding. The minimum legal size is intended to allow sexually mature lingcod to spawn in at least two successive years. Because survival of released fish is typically high lingcod may not be retained as bycatch during closed seasons. Resurrection Bay was closed by regulation to lingcod fishing in 1997. Similar area closures, seasons, and size restrictions exist for recreational lingcod fisheries.

1998 Season Summary

The 1998 Cook Inlet Area lingcod harvest totaled 38,500 lb from 49 landings by 30 vessels. Similar to recent years, jig gear in the North Gulf District accounted for >50% of the harvest with longline gear taking most of the balance. The department set a preseason GHL of 35,000 lb, a value that was approximately 50% of the recent five year harvest. The reduction was designed in part to address concerns for an apparent lack of lingcod recruitment in the Resurrection Bay portion of the management area. The 1998 lingcod fishery closed by emergency order on October 12.

During October 1998 the department sampled the commercial harvest for size and age. Average lingcod size was 1,111 mm (n = 248).

1999 Management Outlook

The combination of the season dates, minimum size restriction and the reduced GHL may result in a decrease in directed lingcod fishing effort in 1999. The department plans to again manage for a 35,000 lb GHL. The 1998 lingcod fishery will be monitored for indication of a conservation problem and may close earlier by emergency order.

The department conducts sporadic commercial catch sampling of lingcod. In 1993, ADF&G's Sportfish Division completed a fishery-independent stock assessment of lingcod in the North Gulf District.

PACIFIC COD

Proposal # 65

This proposal seeks to reduce the seven-day closure period between parallel and state managed seasons, extend the state managed open season for pot gear, and remove the pot storage requirement.

Pacific cod fisheries in the Cook Inlet Area are managed under the Cook Inlet Pacific Cod Management Plan (5 AAC 28.367). Regulations define two seasons. The “parallel” seasons are adopted by the annual “global” emergency order and coincide with seasons set by NMFS for the adjacent federal waters of the EEZ. The state managed season, developed by the BOF at the October 1996 meeting and implemented in April 1997, was designed to provide additional fishing opportunities for local vessels fishing with pot or jig gear.

Elements of the state managed fishery include:

1. season opens by emergency order seven days after the closure of the Central Gulf of Alaska area by NMFS with a pot gear closure from April 7 to June 15,
2. GHL calculated based upon 2.25% of the Central Gulf of Alaska allowable biological catch (ABC) and allocated equally between pot and jig gear,
3. exclusive area registration; regulations stipulate that a vessel may not take Pacific cod in more than one exclusive registration area during a state managed season,
4. gear limits of 5 jigs or 60 pots with a pot buoy tag requirement,
5. pot gear must be put in storage areas during the seven day closure between the parallel and state managed fisheries, and
6. full retention of pollock.

Another feature of the plan provided for both the limit restrictions on gear and the exclusive area registration requirements to be relaxed after October 30 if it appeared that the GHL would not be achieved.

Statewide regulations for a groundfish pots include gear tunnel eye perimeter of 36 inches or less, a biodegradable escape panel in the pot wall, and a tag on each pot with a label displaying the word “groundfish”.

Area regulations specify partial area closures to fishing with groundfish pot gear in the Kamishak Bay and Kachemak Bay portions of the area to protect depressed king crab stocks and rebuilding Tanner crab stocks.

Since 1987 annual catch and effort in the Cook Inlet parallel Pacific cod fishery have ranged from 36,832 lb taken by 11 vessels in 1989 to 5.4 million pounds taken by 203 vessels in 1992 (Table 7). Since 1992 the total harvest has averaged 3.7 million lb annually. Historically the majority of the catch was harvested from the North Gulf District by longline gear. Since 1991,

when the pot fishery for Pacific cod developed, harvests in the Cook Inlet District increased and pot gear has taken 25% to 50% of the harvest total in any given year.

1997 Season Summary

The Cook Inlet Area state managed Pacific cod fishery began in 1997. The fishery opened with a guideline harvest level of 2.1 million pounds divided equally between pot and jig gear. Delay in the approval of new regulations establishing the fishery resulted in the season opening 9 days later than specified by the management plan. The season opened by emergency order on April 4, 1997. Fishing with pot gear closed by regulation on April 7 following a harvest of approximately 60,000 pounds during 3 days of fishing. Harvest by jig gear was relatively strong early in the season and totaled 530,000 pounds during the April through June period. Fishing with pot gear reopened by regulation on June 15 with little effect on harvests. In late September effort with pot gear increased.

The National Marine Fisheries Service (NMFS) opened directed fishing for Pacific cod in the Central Gulf Area on October 1. State regulations require parallel seasons during all open fishing periods in adjacent federal waters. The federally managed season closed October 26 with a total harvest by pot and jig gear of 29,000 pounds of Pacific cod. The department lifted limits on the numbers of pots and jigs that could be legally fished and the exclusive area registration by emergency order on October 31. The action resulted in no significant increase in the harvest. Additionally, the Cook Inlet Area guideline harvest level was reduced to 1.2 million pounds when 0.9 million pounds were released to NMFS in late October. Late season harvest, primarily by pot gear, continued to the end of the year. Catch and effort for the season totaled 273,105 pounds by 11 vessels fishing pot gear and 559,164 pounds by 57 vessels fishing jig gear. The state managed Pacific cod fishery took approximately 40% of the preseason guideline.

The department made seven observer trips aboard vessels fishing pot gear and sampled the catch during November and December. Among 650 observed pot pulls, a total of 2,233 Pacific cod, 47 Tanner crabs, 44 octopus, and 70 halibut were captured. A total of 2,480 Pacific cod were measured ranging in length from 30 cm to 90 cm. Early season fishing occurred throughout the area while late season fishing occurred primarily in the protected waters of Kachemak Bay.

1998 Season Summary

Total Pacific cod catch during the parallel season, including both directed catch and bycatch, was 2,472,474 lb from 545 landings by 110 vessels. The proportion of harvest by gear type was 76% longline, 21% pot, 2% jig, and 1% trawl. The North Gulf District contributed 78% (1,917,275 lb) of the total catch. The 1998 Cook Inlet parallel season for Pacific cod was open to directed fishing during two periods, January 1 to March 10 and October 7 to October 9. During the

closures, Pacific cod could be retained up to the 20% bycatch limit by vessels that were not participating in the state managed season.

The Cook Inlet Management Area state managed Pacific cod season opened with a guideline harvest level of 2.4 million pounds. Catch and effort for the state managed season totaled 408,879 lb. Pot gear, primarily in the Cook Inlet District prior to the April 7 closure, harvested 57% of the total with 232,081 lb coming from 100 landings by 9 vessels. Jig gear, primarily in the North Gulf District, harvested 43% of the total with 176,798 lb from 129 landings by 32 vessels.

The state managed season opened by emergency order on March 17, 1998. Fishing with pot gear closed by regulation on April 7. Harvest by jig gear was low relative to early season harvests in 1997. Fishing with pot gear reopened by regulation on June 15, however, no effort developed. Reduced effort by both gear types resulted in low harvest during July through mid September.

1999 Management Outlook

The Cook Inlet Area parallel season for Pacific cod will open January 1 and coincide with inseason adjustments by NMFS for adjacent federal waters. The state managed season will begin seven days after NMFS closes directed fishing for Pacific cod in the Central Gulf Area. When the ABC for the Central Gulf Area is finalized the department will calculate the GHL and issue a news release outlining the upcoming season. The department plans to continue commercial catch sampling of Pacific cod. Ancillary information on Pacific cod size and distribution is collected during the annual trawl surveys in Kachemak and Kamishak Bays. Results of these surveys are reported under separate titles.

OTHER GROUND FISH

Proposal # 60

This proposal would establish a permit requirement for Miscellaneous Groundfish.

Thus far during 1998, various species of flatfish, skates, sharks, and other groundfish came from both directed fisheries and as bycatch. Management of flatfish and other groundfish is set by emergency order to coincide with NMFS management actions in adjacent federal waters. Based upon BOF actions in 1997, sharks are closed to directed fishing and skates may be taken in a directed fishery only by department permit. However, either sharks or skates may be retained as bycatch to other open directed fisheries. Octopus, which falls under Miscellaneous Shellfish in state regulation is considered a groundfish species in federal regulation. While directed fishing for octopus has never developed in the Central Region, the bycatch of octopus, particularly from the pot fishery for Pacific cod has increased in recent years and is reported here. Squid, taken as

bycatch to the pollock trawl fishery, are also considered a Miscellaneous Shellfish under state regulation but are reported here as a significant groundfish fishery bycatch component.

Total harvest of other groundfish in the Cook Inlet Area was 232,456 lb from 157 landings by 41 vessels (Table 8). The majority, 164,544 lb (71%) of the harvest in this category came from the pollock trawl fishery in the North Gulf District. Although non-pelagic trawls are prohibited in the Cook Inlet Area, it is possible to operate a pelagic trawl so that it tends bottom. Flatfish bycatch, primarily arrowtooth flounder (91,298 lb), comprised most of the pollock trawl fishery bycatch however, other significant components included 28,808 lb of squid, and 5,255 lb of sharks. Skate, taken primarily as bycatch to other directed longline fisheries totaled 68,434 lb. Finally, octopus landed as bycatch to the pot fisheries for Pacific cod totaled 5,862 lb.

Table 1. Landings and exvessel value of Cook Inlet Area groundfish harvests during 1994 to 1998.

Year	Rockfish	Sablefish	Pacific Cod	Other	Lingcod	Total
1994 Harvest						
Round Weight (lb)	319,054	385,833	4,587,373	63,059	103,358	5,139,623
Price (\$/lb)	\$0.36	\$1.28	\$0.19	\$0.00	\$0.36	
Value	\$125,465	\$449,702	\$864,816	\$87	\$33,955	\$1,348,560
1995 Harvest						
Round Weight (lb)	462,636	599,501	5,999,003	69,332	161,820	6,829,656
Price (\$/lb)	\$0.49	\$2.07	\$0.24	\$0.00	\$0.41	
Value	\$281,811	\$1,325,276	\$1,426,365	\$112	\$55,165	\$2,806,918
1996 Harvest						
Round Weight (lb)	247,629	372,193	5,483,398	279,258	97,715	6,232,564
Price (\$/lb)	\$0.52	\$1.98	\$0.22	\$0.14	\$0.45	
Value	\$145,604	\$694,148	\$1,294,823	\$22,271	\$35,918	\$2,047,160
1997 Harvest						
Round Weight (lb)	342,005	333,309	5,631,978	105,218	88,320	6,158,825
Price (\$/lb)	\$0.55	\$2.33	\$0.22	\$0.15	\$0.45	
Value	\$191,873	\$773,138	\$1,412,286	\$9,214	\$26,808	\$2,221,446
*1998 Harvest						
Round Weight (lb)	171,609	300,378	3,765,456	232,456	38,500	4,336,790
Price (\$/lb)	\$0.62	\$1.66	\$0.23	\$0.15	\$0.48	
Value	\$106,398	\$498,627	\$866,055	\$34,868	\$18,480	\$1,418,031

*these numbers from Ticket 8.4

Table 2. Numeric listing of commercial groundfish emergency orders, issued for the Cook Inlet Management Area for the 1998 seasons.

Emergency Order Number	Effective Date	Explanation
2-GF-HQ-01-98	1/1/98	Closes state waters within 3 nautical miles of Stellar sea lion rookeries to all commercial fishing.
2-GF-H-01-98	1/1/98	Sets open and closed seasons for unregulated groundfish in the Cook Inlet & Prince William Sound Areas to coincide with federal inseason adjustments for groundfish in the Exclusive Economic Zone (EEZ).
2-GF-H-02-98	3/17/98	Opens the state managed season for Pacific cod by pot and jig gear in both Cook Inlet and PWS Mgmt. Areas.
2-GF-H-03-98	4/7/98	Closes directed rockfish fishery in the Cook Inlet Mgmt. Area and sets a 10% maximum bycatch limit.
2-GF-H-04-98	4/19/98	Closes the commercial fishing season for sablefish in the entire Cook Inlet Mgmt. Area. After the closure bycatch will not be permitted.
2-GF-H-05-98	10/12/98	Closes the commercial fishing season for lingcod in the entire Cook Inlet Area and sets bycatch retention at zero.

Table 3. Annual effort and harvest (lb) from the commercial sablefish fishery in the Cook Inlet Area 1987 - 1998.^a

Year	Vessels	Landings	Pounds	Pounds Per Landing
1987	8	8	36,671	4,584
1988	37	87	136,052	1,564
1989	4	5	2,983	597
1990	22	25	8,449	338
1991	25	33	103,561	3,138
1992	79	105	126,759	1,207
1993	36	52	94,948	1,826
1994	39	57	44,938	788
1995	33	45	22,490	500
1996	25	80	80,852	1,011
1997	38	95	125,127	1,317
1998	24	50	67,366	1,347

^aAll harvest data derived based upon management units redefined in 1997.

Table 4. Annual effort and harvest (lb) by district from the commercial rockfish fisheries, in the Cook Inlet Area, including black rockfish from federal waters, 1987-1998.^a

Year	Vessels	Landings	Cook Inlet District	North Gulf District	Federal waters	Total
1987	66	195	11,301	167,547	177	179,025
1988	41	94	2,884	149,877	65,321	218,082
1989	11	28	0	22,771	61,213	83,984
1990	31	44	399	29,794	390	30,583
1991	60	157	266	222,904	555	223,725
1992	120	369	328	337,247	23,684	361,259
1993	76	201	2,637	68,026	118,536	189,199
1994	68	202	109	205,148	196,469	401,726
1995	109	302	4,183	268,189	227,463	499,835
1996	118	306	696	115,194	75,135	191,025
1997	122	340	3,263	179,669	34,335	217,267
1998	95	255	10	62,959	9,842	72,811

^aAll harvest data derived based upon management units redefined in 1997.

Table 5. Annual effort and harvest (lb) from the commercial pollock fishery in the Cook Inlet Area 1987-1998.^a

Year	Vessels	Landings	Pounds	Pounds Per Landing
1987	7	28	11,309	404
1988	6	14	2,377	85
1989	--	3	249	83
1990	18	35	61,804	1,766
1991	3	3	5,698	1,899
1992	34	43	977	23
1993	33	47	149,871	3,189
1994	24	39	237,429	6,088
1995	22	33	1,449	44
1996	16	33	1,940,512	58,803
1997	24	57	3,870,097	67,896
1998	17	70	9,684,030	138,343

^a All harvest data derived based upon management units redefined in 1997.

Table 6. Annual effort and harvest (lb) by gear type from the commercial lingcod fishery, in the Cook Inlet Area and adjacent federal waters during 1987 - 1998.^a

Year	Vessels	Landings	Jig	Cook Inlet Area		Total Lb
				Longline	Other	
1987	28	64	10,173	16,652	0	26,825
1988	15	36	6,507	16,161	1,585	24,253
1989	9	19	396	2,340	1	2,736
1990	18	20	1,303	4,073	235	5,611
1991	31	96	57,657	1,657	2,739	62,053
1992	83	191	6,991	33,916	1,148	42,055
1993	17	64	86,698	562	83	87,343
1994	14	33	56,491	331	0	56,822
1995	44	76	72,464	4,091	586	77,141
1996	40	60	47,973	9,816	3	57,792
1997	35	50	17,564	14,357	199	32,120
1998 ^b	13	31	25,500	12,500	500	38,500

^a All harvest data derived based upon management units redefined in 1997.

^b Estimate for 1998.

Table 7. Annual effort and harvest (lb) in the commercial Pacific cod fishery from Cook Inlet and North Gulf Districts, 1987 - 1997.^a

Year	Parallel Season			Parallel Season			Total All Areas
	<u>North Gulf District</u>			<u>Cook Inlet District</u>			
	Vessels	Landings	Parallel	Vessels	Landings	Parallel	
1987	103	254	854,850	122	548	699,472	1,554,322
1988	28	81	303,675	38	138	213,612	517,287
1989	7	19	29,244	4	4	7,588	36,832
1990	19	27	158,648	34	102	220,106	378,754
1991	78	158	979,880	77	340	936,300	1,916,180
1992	153	617	4,650,583	50	269	784,833	5,435,416
1993	87	263	2,745,620	29	178	909,010	3,654,630
1994	51	159	1,482,366	30	246	1,202,863	2,685,229
1995	111	257	3,009,181	50	456	1,394,191	4,403,372
1996	92	302	3,792,410	24	286	837,063	4,629,473
1997	122	372	2,049,848	66	631	1,226,981	3,276,829
1998	84	285	1,917,275	26	260	555,199	2,472,474

Year	State Managed Season			State Managed Season			All Areas
	<u>North Gulf District</u>			<u>Cook Inlet District</u>			
	Vessels	Landings	State	Vessels	Landings	State	
1997	106	377	291,543	35	397	543,558	835,101
1998	26	92	152,813	15	137	256,066	408,879

^a All harvest data derived based upon management units redefined in 1997.

Table 8. Annual effort and harvest (lb) of other commercial groundfish species from the Cook Inlet Area during 1987 - 1998.

Year	Vessels	Landing s	Other ^a	Flatfish ^b	Sharks ^c	Skates	Octopus	Squid	Totals
1987	35	128	33,031	135,842	1,060	12,652			182,585
1988	5	5	15	2,418	101	344			2,878
1989	3	3	66	0	234				300
1990	12	19	1,177	4,252	20				5,449
1991	7	9	1,650	31,925	0	2,721	422		36,718
1992	25	35	548	20,280	8,935	71,151	712		101,626
1993	15	41	1,482	18,006	10,704	47,534	5,048	2	82,776
1994	15	75	207	8,955	1,997	39,898	12,002		63,059
1995	11	37	19	5,060	19,631	37,666	6,956		69,332
1996	46	129	5,761	198,238	408	67,244	7,572	35	279,258
1997	38	188	679	51,925	894	23,041	24,707	3,972	105,218
1998	41	157	4,368	119,729	5,255	68,434	5,862	28,808	232,456

^aOther includes general groundfish, sculpins, greenlings, and eels.

^bFlatfish includes general flatfish, flounders, and soles.

^cSharks includes general, spiny dogfish, and salmon.

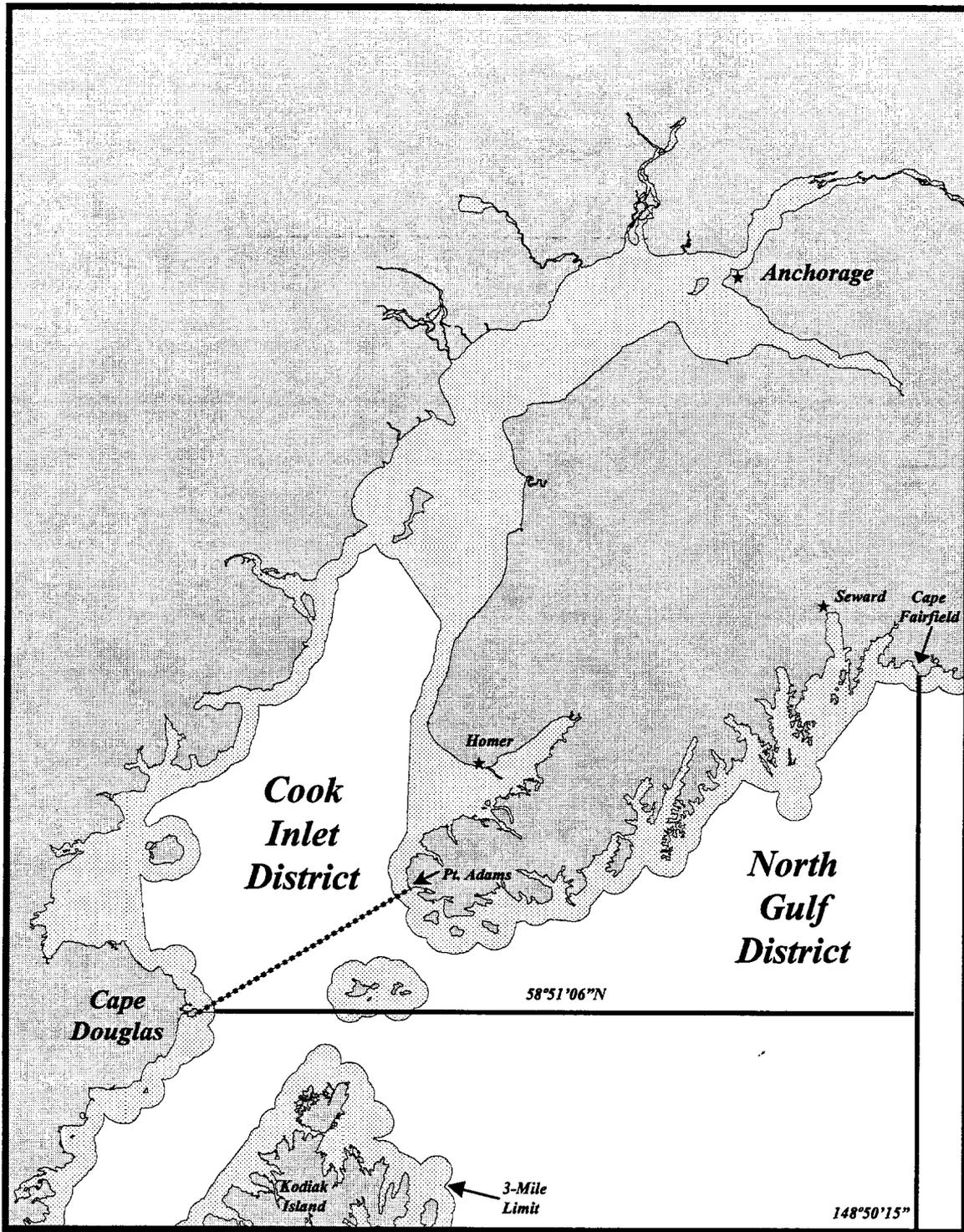


Figure 1. Cook Inlet Area commercial groundfish districts, 1998.

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