


M E M O R A N D U M

TO: Council, AP and SSC Members

FROM: Clarence G. Pautzke 
Executive Director

DATE: November 29, 1989

SUBJECT: Gulf of Alaska Groundfish Fishery Management Plan

ACTION REQUIRED

- (a) Review final Stock Assessment and Fishery Evaluation (SAFE) report and set ABCs.
- (b) Set TACs, apportionments to DAP and JVP, and groundfish PSCs for 1990.

BACKGROUND

- (a) Review final SAFE report and set ABCs.

In September 1989 you received a draft SAFE report which provided preliminary information on the status of groundfish stocks in the Gulf of Alaska, information on halibut bycatch in Gulf groundfish fisheries, and a review of the economic condition of these fisheries. You also received the Plan Team, SSC, and AP's preliminary 1990 recommendations for ABC and TAC for each managed fish stock in the Gulf. This fall the Plan Team reviewed additional information on groundfish stocks and prepared a final SAFE report for the 1990 Gulf groundfish fisheries which was mailed to you November 22. A summary of the final SAFE report is attached as item D-2(a-b)(1). A table illustrating the preliminary and final ABC recommendations by the team is provided in item D-2(a-b)(2).

The team continues to be concerned over the decline in pollock stocks in the Gulf. However, the magnitude of this decline differs between the two models used in the analysis. The team believes that using the projections based on a stock synthesis model tuned to the bottom trawl surveys and assuming a poor 1987 year class is the most appropriate approach for projecting yield for 1990. The preliminary results from the 1989 bottom trawl surveys conducted in the Kodiak area tend to support the team's approach. The team recommends an ABC of 70,000 mt, with 7,000 mt of this amount apportioned to the Shelikof District and 63,000 mt to the Western/Central Regulatory Area. The team also recommends that the 63,000 mt be allocated to the first and second halves of the year in the amounts of 28,000 mt and 35,000 mt, respectively. This would ensure that data collection from this fishery can occur throughout the year and that a portion of the quota would be reserved until after the Gulf-wide hydroacoustic survey is conducted next spring. The team's recommended semi-annual apportionment of pollock differs from Council guidance for equal quarterly allocations in 1990. The issue of inseason pollock management is probably best taken

up under agenda item D-4(c) after the Council considers the roe-stripping issue.

A 3,400 mt ABC for pollock is recommended for the Eastern Regulatory area. The team also supports a 10,000 mt exploratory TAC for the Central Regulatory area between January 1 and April 15, 1990, east of 151°30'W only.

The team reviewed new data on sablefish from the 1989 longline surveys. These surveys indicate a decline in Gulf sablefish relative abundance and the team is concerned over the potential lack of recruitment to this population in the near future. The team recommends an ABC of 26,200 mt for sablefish.

The slope rockfish assemblage is considered to be at low levels, but may be increasing. Of concern to the team is the potential disproportionate harvest of the higher value shortraker and rougeye rockfish species in this complex. Until a comprehensive observer program is under way, the team recommends an ABC of 17,600 mt for this group of rockfish in order to maintain an appropriate exploitation rate on the individual species in this complex.

(b) Set TACs, apportionments to DAP and JVP, and groundfish PSCs for 1990.

During the September meeting you set preliminary 1990 ABCs, TACs, and apportionments to DAP [item D-2(a-b)(3)]. There were no apportionments made to JVP. On October 16, 1989 the Council released preliminary ABC and TAC estimates for a 30-day public review. No comments were received during this review period.

After setting final 1990 ABCs, the Council must set initial total allowable catch (TAC) levels for each species category. A computer spreadsheet which can be projected on a screen for easy viewing to keep track of all the numbers. You also may wish to use the attached worksheet [item D-2(a-b)(4)]. Initial TACs are necessary as a first step in determining fish apportionments. Since the September meeting, NMFS has completed its industry survey of DAP needs for 1990 and it is provided in your Supplemental folder. Estimates of DAP were obtained from a questionnaire supplied to U.S. processors. JVP estimates were calculated following a review of actual joint venture permit applications and are provided under Agenda C-6.

From the review of industry survey results it should be clear as to which groundfish resources are insufficient to fulfill domestic and joint venture requests. Gulf groundfish in this category will certainly include pollock, rockfish, and sablefish. Other species may fall into this category as a result of your decisions on TAC, DAP, and JVP values.

You may also wish to consider the halibut bycatch implications of various groundfish TACs when setting final quotas for 1990. A review of the halibut bycatch issue is provided in the next section of your notebook [agenda D-2(c)].

Item D-2(a-b)(5) is a letter from John Harville conveying concerns voiced in Pelican that sufficient rockfish bycatch needs to be set aside for the halibut openings. This can be accomplished by the Regional Director under the single-species rule.

PART A. STATUS OF STOCKS AND DETERMINATION OF 1990 ABCs

Pollock - Results from the stock assessment indicate a continued decline in the abundance of pollock compared to peak years in the early 1980s. The magnitude of the decline differs between the two models used in the analysis. Results from the model tuned to bottom trawl survey data show lower abundance of pollock prior to 1984, and higher abundance of pollock in recent years, compared to the model tuned to hydroacoustic surveys. Estimates of the 1989 biomass for ages 3 to 10+ for the models tuned to bottom trawl and hydroacoustic data are 891,000 and 413,000 mt, respectively.

Projections utilizing the model tuned to the bottom trawl survey and assuming a poor 1987 year class showed a yield of 70,000 mt which would keep the biomass stable through 1992. Given the uncertainty in the current condition of the stock, the Team set the ABC at 70,000 mt. The Team recommends that a portion of the TAC in the amount of 7,000 mt be allocated to the Shelikof Strait District to provide for a fishery for the collection of data. The Team further recommends that the remaining portion of the TAC (63,000 mt) be allocated to the first and second half of the year in the amounts of 28,000 and 35,000 mt, respectively. This will insure a fishery for the collection of data in the second half of the year, and would reserve a portion of the quota to be taken after the spring 1990 Gulf-wide hydroacoustic survey is conducted.

Lacking new information for the eastern Gulf pollock population, the Team again set the ABC for the Eastern Area at 3,400 mt.

Pacific cod - Pacific cod stock in the Gulf of Alaska are currently healthy. The best estimate of exploitable biomass is 498,044 mt. Although this value is about 11% less than the estimate of last year (558,700 mt), it is primarily due to changes made in stock reduction analysis and a new set of parameters, which in fact produce a better fit to the survey biomass estimates. The recommended ABC, which is calculated as the product of current exploitable biomass and exploitation rate (0.1015, corresponding to $F_{msy} = 0.124$), is 60,500 mt.

Flatfish - The Plan Team believes that the flatfish stocks in the Gulf exist in a virtually unexploited state and are in excellent condition. Biomass levels estimated in the 1984 and 1987 bottom trawl surveys indicate relative stability in the population. ABCs for flatfish stocks were estimated by applying F_{max} levels to the 1987 biomass estimates. The Team believes that in the short term, fisheries at the F_{max} level pose no risk to the flatfish populations.

The 1989 ABC recommendation at the F_{max} level is 778,000 mt for all flatfish.

The Plan Team recommends that the flatfish complex be separated into three groups with separate ABCs: deep water flatfish at 228,000 mt; shallow water flatfish at 207,000 mt; and arrowtooth

flounder at 343,000 mt. The Plan Team recommends that the ABC be apportioned to the individual management areas as the biomass is distributed.

Sablefish - The 1989 sablefish longline surveys indicate a reduction of sablefish stocks in the Gulf of Alaska region, with most of the reduction occurring in the Shumagin and Chirikof areas. While the population is still at a relatively high level, no strong recruitment is predicted for the near future. The Team recommends an ABC of 26,200 mt, determined from a fishing rate that will maintain the population, when projected under conservative biomass and recruitment assumptions, above the all time measured low level until after 1993.

Slope rockfish - This complex is considered to be at low levels and believed to be increasing. The Team felt that if an observer program were in place for the 1990 fishery, separate ABC's for assemblage subgroups would be appropriate as follows: 5,000 mt for the shortraker and roughey subgroup; 15,700 mt for the Pacific ocean perch subgroup; and 14,400 mt for the remaining species of the assemblage. However, because of concern that the observer program will not be in place before a significant fishery takes place, the Team recommends a total assemblage ABC of 17,600 mt, which is calculated to maintain the exploitation rate on shortraker and roughey populations to their intended rates.

Pelagic shelf rockfish - The fishing rate ($F=M$) derived from the Pacific ocean perch analysis is applied to estimates of the pelagic shelf rockfish biomass to obtain an ABC of 8,200 mt.

Demersal shelf rockfish - No new information exists to estimate total biomass, exploitable biomass, or ABC for demersal shelf rockfish in the Southeast Outside District. The State of Alaska has adopted a rockfish management plan which establishes directed fishing harvest levels for each of the five management areas used by the State of Alaska. These harvest levels are based primarily on performance data from the directed longline fishery. The plan also provides for some retention of demersal shelf rockfish in fisheries for other species after the closure of the directed fishery.

A combined quota of 370 mt has been established for the directed fishery in the three State of Alaska management areas that make up the Southeast Outside District. Based on past harvest records, bycatch needs in other fisheries may be as high as 100 mt. Therefore a TAC of 470 mt (370 mt directed fishery + 100 mt bycatch) is recommended for the Southeast Outside District in 1990.

Thornyhead rockfish - Longline and trawl surveys show somewhat conflicting information in thornyhead stock trends. Longline surveys suggest a decline while trawl survey data suggest an increase. However, the 1987 trawl survey provides the best estimate of current exploitable biomass - 98,700 mt. DAP catches continue to increase, with 1989 catches through October 28 being

the highest recorded. An ABC of 3,800 mt equal to the lower end of the MSY range is recommended. However, a decline in the longline indices coupled with annual catches below the indicated ABC suggest that the current ABC value may not be sustainable.

Other species - No recommendations were made by the Plan Team for this group. FMP procedures define the reasonable quota for this category to be set at 5% of the sum of the TACs established for the other species categories.

Table 1. Maximum sustainable yields (MSYs), comparisons of acceptable biological catches (ABCs) for 1989 and 1990 (rounded to nearest 100 mt), and catches through October 28, 1989 for groundfish.

Species	MSY (mt)	ABC (mt)		1989 Catch	1989 TAC	
		1989	1990			
Pollock	Unknown	W/C	72,000	63,000	65,831	65,750
		Shelikof*		7,000	6,425	6,250
		E	3,375	3,400	63	200
		Total	75,375	73,400	72,319	72,200
Pollock experimental fishery	(151°30'-147)		10,000	(TAC recommendation)		
Pacific cod	34,200	W	13,500	11,500	13,824	13,500
		C	52,000	44,200	26,929	52,700
		E	5,700	4,800	61	5,700
		Total	71,200	60,500	40,814	71,200
Flatfish** (deep water)	30,300	W	20,400	38,000	822	3,200
		C	96,000	158,700	9,615	31,800
		E	17,900	31,300	970	1,000
		Total	134,300	228,000	11,408	36,000
Flatfish*** (shallow water)	28,300	W	53,000	73,200		
		C	89,200	128,800		
		E	3,500	5,100		
		Total	145,700	207,100		
Arrowtooth flounder	63,000	W	38,100	47,600		
		C	199,100	248,800		
		E	37,500	46,900		
		Total	274,600	343,300		
Sablefish	29,600- 33,200	W	4,900	2,100	4,154	3,770
		C	13,900	11,800	12,236	11,700
		WYK	5,300	5,200	5,325	4,550
		SE/EYK	6,800	7,100	6,048	5,980
		Total	30,900	26,200	27,763	26,000

(continued on next page)

Table 1 (cont.) Maximum sustainable yields (MSYs), comparisons of acceptable biological catches (ABCs) for 1989 and 1990 (rounded to nearest 100 mt), and catches through October 28, 1989 for groundfish.

Species	MSY (mt)	ABC (mt)		1989 Catch	1989 TAC	
		1989	1990			
Slope rockfish	14,100- 28,700	W	5,774	4,300	4,336	5,774
		C	8,452	7,700	8,312	8,452
		E	5,774	5,700	6,325	5,774
		Total	20,000	17,700	18,973	20,000
Pelagic shelf rockfish	Unknown	W	1,000	1,400	113	500
		C	4,800	5,800	876	2,400
		E	800	1,000	739	400
		Total	6,600	8,200	1,729	3,300
Demersal shelf rockfish (SE Outside District)	Unknown	Unknown	Unknown	391	420	
Thornyhead rockfish	3,453- 4,934	Gulfwide	3,800	3,800	3,053	3,800
Other species	NA	NA	NA	1,654	11,046	

1,077,585! 968,200! 178,102 231,966

- * Shelikof Strait pollock is included within the W/C ABC range.
- ** "Deep water flatfish" means flathead sole, rex sole, and Dover sole.
- *** "Shallow water flatfish" means rock sole, yellowfin sole, butter sole, starry flounder, and other flatfish not specifically defined.
- ! Summed, using high-end values in the ranges.

Table 2. Exploitable biomasses, 1990 ABCs, and estimated trends and abundances of groundfish.

Species	Exploitable Biomass (mt)		1990 ABC	Abundance, trend
Pollock	891,000	W/C	63,000	Depressed, uncertain
		Shelikof	7,000	
		E	3,400	
		Total	73,400	
Pacific cod	498,044	W	11,500	High, declining
		C	44,200	
		E	4,800	
		Total	60,500	
Flatfish (deep water) (all flatfish)	2,110,900	W	38,000	High, stable
		C	158,700	
		E	31,300	
		Total	228,000	
Flatfish (shallow water)		W	73,200	High, stable
		C	128,800	
		E	5,100	
		Total	207,100	
Arrowtooth flounder		W	47,600	High, stable
		C	248,800	
		E	46,900	
		Total	343,300	
Sablefish	213,000- 312,000	W	2,100	High, decreasing
		C	11,800	
		WYK	5,200	
		SE/EYK	7,100	
		Total	26,200	
Slope rockfish	702,200	W	4,300	Low, increasing
		C	7,700	
		E	5,700	
		Total	17,700	
Pelagic shelf rockfish	164,000	W	1,400	Relative abundance and trend unknown
		C	5,800	
		E	1,000	
		Total	8,200	
Demersal shelf rockfish (SE Outside district)	Unknown		Unknown	Depressed, stable
Thornyhead rockfish	98,700	Gulfwide	3,800	Good, decreasing
Other species	NA	Gulfwide	NA	

968,200*

* Summed, using the high-end of the ABC ranges.

$\Sigma = 4,776,844$

Preliminary and final ABC recommendations (mt) of the Gulf of Alaska Groundfish Plan Team
for Gulf of Alaska groundfish fisheries in 1990.

Species	Preliminary Recommendation (Sept)		Final Team Recommendation (Nov)
Pollock	W/C	10,000-37,500	63,000
	Shelikof	6,250	7,000
	E	3,400	3,400
	Total	13,400-40,900	73,400
	Exp. TAC	10,000	10,000
Pacific cod	W	11,500	11,500
	C	44,200	44,200
	E	4,800	4,800
	Total	60,500	60,500
Deep water flatfish	W	26,200	38,000
	C	122,100	158,700
	E	22,900	31,300
	Total	171,300	228,000
Shallow water flatfish	W	73,200	73,200
	C	128,800	128,800
	E	5,100	5,100
	Total	207,100	207,100
Arrowtooth flounder	W	47,600	47,600
	C	248,800	248,800
	E	46,900	46,900
	Total	343,300	343,300
	Flatfish Total	721,700	778,400
Sablefish	W	3,600-5,300	2,100
	C	11,200-16,300	11,800
	WYK	4,400-6,400	5,200
	SE/EYK	5,800-8,300	7,100
	Total	24,900-36,300	26,200
Slope rockfish	W	1,500-4,300	4,300
	C	2,600-7,700	7,700
	E	1,900-5,700	5,700
	Total	6,000-17,600	17,700
Pelagic shelf rockfish	W	600-1,400	1,400
	C	2,700-5,800	5,800
	E	500-1,000	1,000
	Total	3,800-8,200	8,200
Dermersal shelf rockfish	SEO TAC	470	470
Thornyhead	GW	3,800	3,800

Species	Area	1989				1990 Council Recommendations			ABC	TAC 7/	DAP	JVP
		ABC	TAC	DAP	JVP	PT ABC 2/	SSC ABC 2/	AP TAC 2/				
Pollock	W/C	72000	65750	65750	0	10000-37500	58000	58000	10000-58000	58000	58000	0
	Shelikof 1/		6250	6250	0	6250	6250	6250	(6250)	(6250)	(6250)	0
	E	3375	200	200	0	3400	3400	3400	3400	3400	3400	0
	Total Experm'tl	75375	72200	72200	0	13400-40900	61400	61400	13400-61400	61400	61400	0
						10000	10000	10000	(10000)	10000	10000	0
Pacific cod	W	13500	13500	13500	0	11500	22800	22800	11500-22800	13500	13500	0
	C	52000	52000	52000	0	44200	87600	87600	44200-87600	52000	52000	0
	E	5700	5700	5700	0	4800	9600	9600	4800-9600	5700	5700	0
	Total	71200	71200	71200	0	60500	120000	120000	60500-120000	71200	71200	0
Flatfish/deep 3/	W	111500	3200	3200	0	26200	21500	21500	21500	21500	21500	0
	C	384300	31800	21800	10000	122100	89900	89900	89900	89900	89900	0
	E	58900	1000	1000	0	22900	17800	17800	17800	17800	17800	0
	Total	554700	36000	26000	10000	171200	129200	129200	129200	129200	129200	0
Flatfish/shallow 4/	W					73200	30200	30200	30200	30200	30200	0
	C					128800	52200	52200	52200	52200	52200	0
	E					5100	2100	2100	2100	2100	2100	0
	Total					207100	84500	84500	84500	84500	84500	0
Arrowtooth flounder	W					47600	27000	27000	27000	27000	27000	0
	C					248800	141000	141000	141000	141000	141000	0
	E					46900	26600	26600	26600	26600	26600	0
	Total					343300	194600	194600	194600	194600	194600	0
Sablefish	W	4900	3770	3770	0	3600-5300	3600-5300	3600-5300	3600-5300	3770	3770	0
	C	13900	11700	11700	0	11200-16300	11200-16300	11200-16300	11200-16300	11700	11700	0
	W. Yakutat	5300	4550	4550	0	4400-6400	4400-6400	4400-6400	4400-6400	4550	4550	0
	E. Yak/SE Out	6800	5980	5980	0	5800-8300	5800-8300	5800-8300	5800-8300	5980	5980	0
	Total	30900	26000	26000	0	25000-36300	25000-36300	25000-36300	25000-36300	26000	26000	0
Slope rockfish	W	5774	5774	5774	0	1500-4300	6797	6797	1500-6797	3750	3750	0
	C	8452	8452	8452	0	2600-7700	9983	9983	2600-9983	6500	6500	0
	E	5774	5774	5774	0	1900-5700	6820	6820	1900-6820	4750	4750	0
	Total	20000	20000	20000	0	6000-17600	23600	23600	6000-23600	15000	15000	0
Pel.shelf rkfsh	W	1000	500	500	0	600-1400	1000	1000	1000	1000	1000	0
	C	4800	2400	2400	0	2700-5800	4800	4800	4800	4800	4800	0
	E	800	400	400	0	500-1000	800	800	800	800	800	0
	Total	6600	3300	3300	0	3800-8200	6600	6600	6600	6600	6600	0
Dem.shelf rkfsh	SE Outside	n/a	420	420	0	Unknown		470	470	470	470	0
Thornyheads	GW	3800	3800	3800	0	3800	3800	3800	3800	3800	3800	0
Other species	GW	n/a	11646	11146	0	N/A			33524	30138	30138	0
GULF OF ALASKA TOTAL		762575	244566	234066	10000	899000 5/	660470 5/	660470 5/	703994	632908	632908	0

1/ Shelikof Strait pollock is included within the W/C ABC and TAC range.

2/ Pollock TAC for experimental fishery between 151 30 and 147 degrees, January 15-April 15, 1990 only.

3/ Deep water flatfish are flathead, rex, and Dover sole.

4/ Shallow water flatfish include rock sole, yellowfin sole, butter sole, starry flounder, and other flatfish not specifically defined.

5/ Using high end values in the ranges.

6/ All preliminary ABCs, TACs, and DAPs are subject to change during December when halibut bycatch constraints are evaluated.

7/ The Council's intent is for W/C pollock TAC to be available on a quarterly basis.

MEMBER STATES

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NOV 21 1989

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November 17, 1989

Dr. Clarence Pautzke, Executive Director
North Pacific Fishery Management Council
P.O. Box 103136, Anchorage, AK 99501

Dear Clarence:

At the Nov. 3-4 workshop in Pelican on IFQ's as an option for managing the demersal shelf rockfish longline fishery, I was advised of a recent instance of serious waste of the rockfish resource which could be avoided by action of the North Pacific Fishery Management Council. I promised the Pelican fishermen to call this problem to the attention of the Council and to request appropriate remedial action.

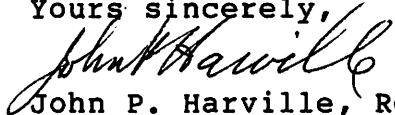
What appears to be needed is a division of the allocation of rockfish in the Gulf of Alaska to provide a portion of that allocation to the Southeast Alaska longline fleet, particularly to allow for a rockfish by-catch, and to avoid needless wastage of that resource during the halibut fishery.

As I understand the problem, during the September halibut opening in area 2C, longliners fishing just west of 137 degrees could not retain rockfish, since the allowable harvest had already been taken in more westerly areas of the Gulf. The only recourse was either to discard rockfish, or to land them by reporting a fraudulent area of catch in inside waters, where a rockfish by-catch was legal.

Pelican fishermen described a band of dead floating rockfish trailing after some longliners fishing west of 137, which they viewed as wanton waste of a limited resource. They also described instances of transfer of rockfish to vessels able to land product ascribed to inside waters, of course an illegal action, but also contaminating the accuracy of our landings data base. We were advised that these were not minor or limited problems--that both discards and fraudulent landings were of significant extent this past September.

The problem appears to arise because the State sets aside a portion of the rockfish allowable catch to provide for a by-catch in other longline fisheries; thus rockfish by-catch landings remain legal throughout the year, to avoid both waste of fish and undue constraints on halibut and sablefish fisheries. It would seem highly desirable for the Council to take similar action in the interests of conservation and wise use of the resource, and to prevent misrepresentation of catch areas as outgrowth of differences between State and Federal management of a shared resource.

Yours sincerely,



John P. Harville, Rockfish Workshop Coordinator

REQUESTS FLOATING PROCESSORS

	BERING SEA	ALUTIAN	WEST GULF	CENT GULF	EAST GULF	BSA	GOA	ALASKA
FLUO	15,290	1,090	1,168	2,365	135	16,380	3,668	20,048
GTNS	22,364	9,363	930	400	0	31,927	1,330	33,257
PCOD	177,346	16,285	7,654	16,948	365	193,631	24,967	218,598
PLCK	1,465,204	20,232	42,120	11,482	110	1,485,436	53,712	1,539,148
NSOL	51,676	357	375	352	23	52,231	752	52,983
YBOL	45,340	0	0	0	0	45,340	0	45,340
TOTAL	1,777,618	47,527	52,247	31,547	635	1,829,145	84,428	1,909,573

REQUESTS NEW FLOATERS (NOT CURRENTLY OPERATIONAL)

	BERING SEA	ALUTIAN	WEST GULF	CENT GULF	EAST GULF	BSA	GOA	ALASKA
FLUO	1,285	935	300	200	0	2,240	500	2,740
GTNS	3,090	3,330	350	100	0	8,640	450	9,090
PCOD	69,230	2,430	2,430	400	0	72,200	2,850	75,050
PLCK	813,422	11,000	0	0	0	826,622	0	826,622
NSOL	3,130	230	0	0	0	3,400	0	3,400
YBOL	300	0	0	0	0	300	0	300
TOTAL	892,897	18,705	3,100	700	0	911,602	3,600	915,402

REQUESTS SHORISIDE PROCESSORS

	BERING SEA	ALUTIAN	WEST GULF	CENT GULF	EAST GULF	BSA	GOA	ALASKA
FLUO	370	0	0	9,434	25	370	9,459	9,829
GTNS	200	241	0	0	100	441	100	541
PCOD	75,591	1,730	40,428	69,425	70	77,341	109,923	187,264
PLCK	625,783	0	11,340	84,970	300	625,783	96,810	722,593
NSOL	0	0	0	4,200	100	0	4,300	4,300
TOTAL	701,946	1,991	31,768	149,029	795	703,937	220,592	924,329

REQUESTS ALL PROCESSORS

	BERING SEA	ALUTIAN	WEST GULF	CENT GULF	EAST GULF	BSA	GOA	ALASKA
FLUO	16,945	2,045	1,468	11,999	160	18,990	13,627	32,617
GTNS	27,854	13,134	1,280	300	100	41,008	1,880	42,888
PCOD	322,187	20,985	30,532	86,773	435	343,172	137,740	480,912
PLCK	2,904,611	31,232	33,460	96,452	610	2,935,643	150,322	3,086,365
NSOL	54,824	807	375	4,352	125	55,631	3,032	60,663
YBOL	46,040	0	0	0	0	46,040	0	46,040
TOTAL	3,372,461	68,223	107,113	200,276	1,430	3,440,684	308,820	3,749,304

NMFS PROJECTIONS FLOATING PROCESSORS

	BERING SEA	ALEUTIANS	WEST GULF	CENT GULF	EAST GULF	BSA	GOA	ALASKA
FLOU	8,947	598	543	1,518	82	9,545	2,143	11,488
GTRB	13,487	6,291	306	132	0	19,778	438	20,216
PCOD	116,599	8,509	4,930	9,243	199	129,108	14,372	139,480
PLCK	1,121,370	17,121	32,909	5,124	22	1,138,491	38,054	1,176,545
RSOL	33,878	399	161	216	5	34,277	382	34,659
YSOL	25,837	0	0	0	0	25,837	0	25,837
TOTAL	1,320,118	32,918	38,848	16,232	308	1,353,036	55,389	1,408,425

NMFS PROJECTIONS NEW FLOATERS (NOT CURRENTLY OPERATIONAL)

	BERING SEA	ALEUTIANS	WEST GULF	CENT GULF	EAST GULF	BSA	GOA	ALASKA
FLOU	1,135	905	300	200	0	2,040	500	2,540
GTRB	4,239	2,228	175	50	0	6,467	225	6,692
PCOD	25,925	2,600	1,225	200	0	28,525	1,425	29,950
PLCK	376,322	8,500	0	0	0	384,822	0	384,822
RSOL	1,700	250	0	0	0	1,950	0	1,950
YSOL	375	0	0	0	0	375	0	375
TOTAL	409,696	14,483	1,700	450	0	424,179	2,150	426,329

NMFS PROJECTIONS SHORESIDE PROCESSORS

	BERING SEA	ALEUTIANS	WEST GULF	CENT GULF	EAST GULF	BSA	GOA	ALASKA
FLOU	196	0	0	6,034	25	196	6,059	6,259
GTRB	200	241	0	0	100	441	100	541
PCOD	37,844	875	20,994	41,188	58	58,741	62,239	100,981
PLCK	338,224	0	11,340	72,843	250	338,224	84,435	422,659
RSOL	0	0	0	2,825	100	0	2,925	2,925
TOTAL	376,464	1,116	32,334	122,890	533	377,602	159,758	533,361

NMFS PROJECTIONS ALL PROCESSORS

	BERING SEA	ALEUTIANS	WEST GULF	CENT GULF	EAST GULF	BSA	GOA	ALASKA
FLOU	10,278	1,503	843	7,752	107	11,781	8,702	20,483
GTRB	17,926	8,760	481	182	100	26,686	763	27,449
PCOD	180,391	11,984	27,149	50,630	257	198,375	78,036	270,411
PLCK	1,833,916	25,621	44,249	77,969	272	1,841,537	122,489	1,964,026
RSOL	35,578	649	161	3,041	105	36,227	3,307	39,534
YSOL	26,212	0	0	0	0	26,212	0	26,212
TOTAL	2,106,300	48,517	72,882	139,574	841	2,154,817	213,297	2,368,115

Tue 3 Am

Worksheet for Gulf of Alaska Groundfish: Final Council recommendations for 1990 ABC, TAC, OAP, and JVP (mt).

Species	Area	1989				PT ABC 1/	SSC ABC 1/	BP TAC 1/	1990 Council Recommendations				
		ABC	TAC	OAP	JVP				ABC	TAC 1/	OAP	JVP	
Pollock	H/C	72000	65750	65750	0	63000	63750	63750					
	Shelikof		6250	6250	0	7000	6250	6250					
	E	3375	200	200	0	3400	3400	3400					
	Total	75375	72200	72200	0	73400	73400	73400	0	0	0	0	0
	Experm ¹¹							20000					
Pacific cod	H	13500	13500	13500	0	11500	22300	29500					
	C	52000	52000	52000	0	44200	87500	59500					
	E	5700	5700	5700	0	4800	9500	1000					
	Total	71200	71200	71200	0	60500	120000	50000	0	0	0	0	0
Flatfish/deep 2/	H	111500	3200	3200	0	38000	16300	3650					
	C	384300	31800	21800	10000	158700	77700	15300					
	E	58900	1000	1000	0	31300	14400	3050					
	Total	554700	36000	26000	10000	228000	108400	22000	0	0	0	0	0
Flatfish/shallow 3/	H					73200	30200	3570					
	C					128800	52200	6180					
	E					5100	2100	250					
	Total					207100	84500	10000	0	0	0	0	0
Arrowtooth flounder	H					47600	27000	4450					
	C					248600	141000	23170					
	E					46900	26500	4380					
	Total					343300	194500	32000	0	0	0	0	0
Sablefish	H	4900	3770	3770	0	2100	3300	3770					
	C	13900	11700	11700	0	11800	11300	11700					
	H. Yakutat	5300	4550	4550	0	5200	4500	4550					
	E. Yak/SE Gut.	6800	5980	5980	0	7100	6000	5980					
	Total	30900	26000	26000	0	26200	26200	26000	0	0	0	0	0
Slope rockfish	H	5774	5774	5774	0	4300	4300	5770					
	C	8452	8452	8452	0	7700	7700	8460					
	E	5774	5774	5774	0	5700	5700	5770					
	Total	20000	20000	20000	0	17700	17700	20000	0	0	0	0	0
Pel. shelf r/fsh	H	1000	500	500	0	1400	1400	1400					
	C	4800	2400	2400	0	5800	5300	5800					
	E	800	400	400	0	1000	1000	1000					
	Total	6600	3300	3300	0	8200	8200	8200	0	0	0	0	0
Dem. shelf r/fsh	SE Outside	Unknown	420	420	0	Unknown	Unknown	470	0	0	0	0	0
Thornyheads	GH	3800	3800	3800	0	3800	3900	3800	0	0	0	0	0
Other species	GH	n/a	11646	11146	0	N/A	31340	15293.5	0	0	0	0	0
GULF OF ALASKA TOTAL		762575	244565	234066	10000	968200	668640	321163.5	0	0	0	0	0

245
59.5
90

5
77
20

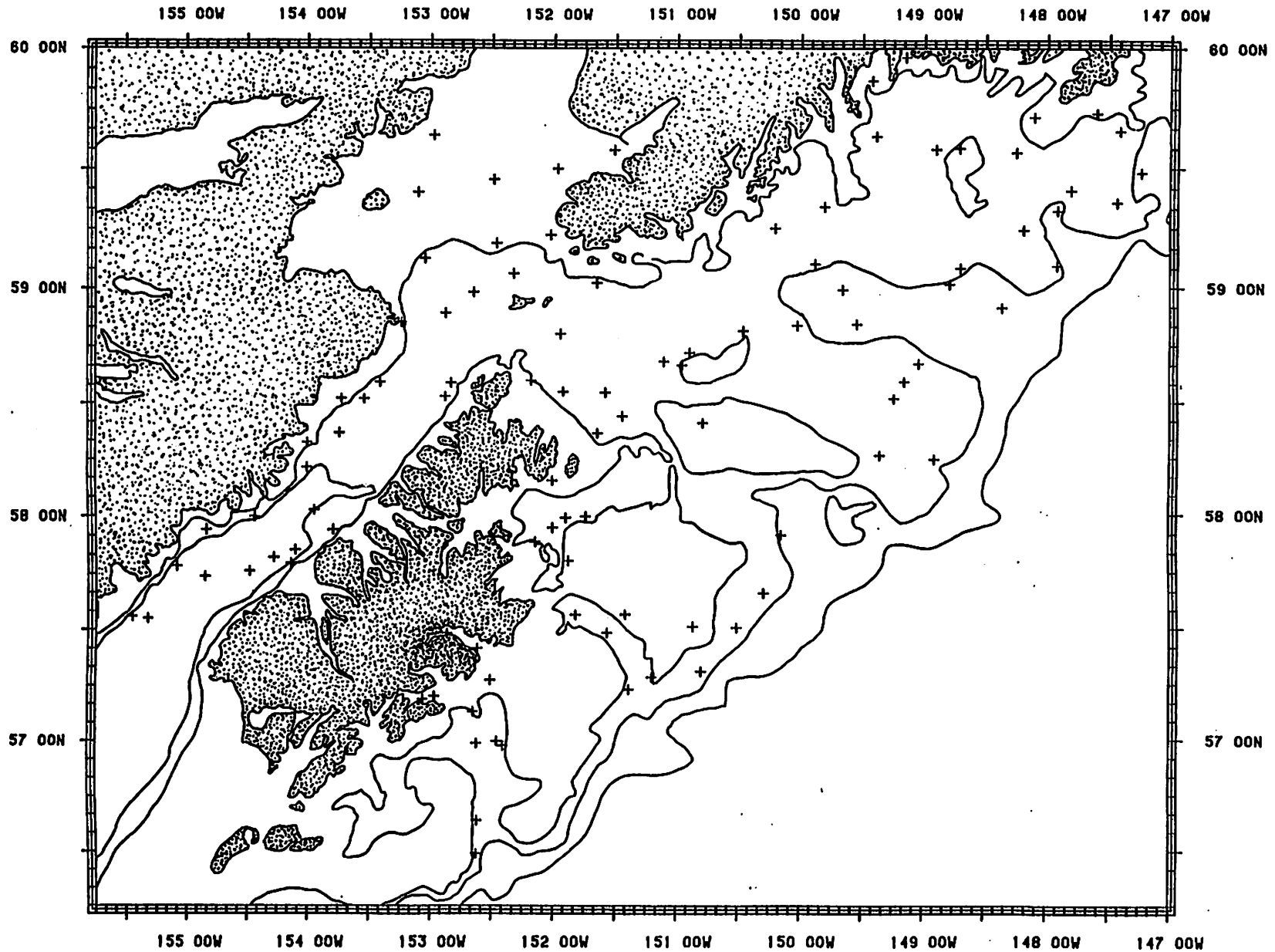
BAC moved to adopt. 12/8
11: 39 am
12/7/89 9:30 p.m.

Worksheet for Gulf of Alaska Groundfish: Final Council recommendations for 1990 ABC, TAC, DAP, and JVP (mt). **DRAFT**

Species	Area	1989				PT ABC	SSC ABC	AP TAC	1990 Council Recommendations			
		ABC	TAC	DAP	JVP				ABC	TAC	DAP	JVP
Pollock 1/	W/C	72,000	65,750	65,750	0	63,000	63,750	63,750	63,750	63,750	63,750	
	Shelikof		6,250	6,250	0	7,000	6,250	6,250	6,250	6,250	6,250	
	E	3,375	200	200	0	3,400	3,400	3,400	3,400	3,400	3,400	
	Total	75,375	72,200	72,200	0	73,400	73,400	73,400	73,400	73,400	73,400	0
Exploratory /2							20,000					
Pacific cod	W	13,500	13,500	13,500	0	11,500	22,800	29,500	29,500	29,500	29,500	
	C	52,000	52,000	52,000	0	44,200	87,600	59,500	59,500	59,500	59,500	
	E	5,700	5,700	5,700	0	4,800	9,600	1,000	1,000	1,000	1,000	
	Total	71,200	71,200	71,200	0	60,500	120,000	90,000	90,000	90,000	90,000	0
Flatfish/ deep 3/	W	111,500	3,200	3,200	0	38,000	16,300	3,650	16,300	3,650	3,650	
	C	384,300	31,800	21,800	10,000	158,700	77,700	15,300	77,700	15,300	15,300	
	E	58,900	1,000	1,000	0	31,300	14,400	3,050	14,400	3,050	3,050	
	Total	554,700	36,000	26,000	10,000	228,000	108,400	22,000	108,400	22,000	22,000	0
Flatfish/ shallow 4/	W					73,200	30,200	3,570	30,200	3,570	3,570	
	C					128,800	52,200	6,180	52,200	6,180	6,180	
	E					5,100	2,100	250	2,100	250	250	
	Total					207,100	84,500	10,000	84,500	10,000	10,000	0
Arrowtooth flounder	W					47,600	27,000	4,450	27,000	4,450	4,450	
	C					248,800	141,000	23,170	141,000	23,170	23,170	
	E					46,900	26,600	4,380	26,600	4,380	4,380	
	Total					343,300	194,600	32,000	194,600	32,000	32,000	0
Sablefish	W	4,900	3,770	3,770	0	2,100	3,800	3,770	3,800	3,770	3,770	
	C	13,900	11,700	11,700	0	11,800	11,800	11,700	11,800	11,700	11,700	
	W. Yakutat	5,300	4,550	4,550	0	5,200	4,600	4,550	4,600	4,550	4,550	
	E. Yak/SE Out	6,800	5,980	5,980	0	7,100	6,000	5,980	6,000	5,980	5,980	
	Total	30,900	26,000	26,000	0	26,200	26,200	26,000	26,200	26,000	26,000	0
Slope rockfish 5/	W	5,774	5,774	5,774	0	4,300	4,300	5,770	4,300	4,300	4,300	
	C	8,452	8,452	8,452	0	7,700	7,700	8,460	7,700	7,700	7,700	
	E	5,774	5,774	5,774	0	5,700	5,700	5,770	5,700	5,700	5,700	
	Total	20,000	20,000	20,000	0	17,700	17,700	20,000	17,700	17,700	17,700	0
Pel.shelf rkfish	W	1,000	500	500	0	1,400	1,400	1,400	1,400	1,400	1,400	
	C	4,800	2,400	2,400	0	5,800	5,800	5,800	5,800	5,800	5,800	
	E	800	400	400	0	1,000	1,000	1,000	1,000	1,000	1,000	
	Total	6,600	3,300	3,300	0	8,200	8,200	8,200	8,200	8,200	8,200	0
Dem.shelf rkfish	SE Outside	Unknown	420	420	0	Unknown	Unknown	470	Unknown	470	470	0
Thornyheads	GW	3,800	3,800	3,800	0	3,800	3,800	3,800	3,800	3,800	3,800	0
Other species	GW	n/a	11,646	11,146	0	N/A	31,840	15,294	30,340	14,179	14,179	0
GULF OF ALASKA TOTAL		762,575	244,566	234,066	10,000	968,200	668,640	321,164	637,140	297,749	297,749	0

1/ Council's intent is quarterly apportionment of W/C pollock TAC, January-June 1990, with Shelikof TAC part of first quarter.
 2/ Plan team: 10,000 mt in 151 30-147; SSC: no more than 10,000 mt in either/both 151 30-147 or w of 159; AP: 10,000 mt both areas. Season: 1/15-4/15.
 3/ Deep water flatfish are flathead, rex, and Dover sole.
 4/ Shallow water flatfish include rock sole, yellowfin sole, butter sole, starry flounder, and other flatfish not specifically defined.
 5/ Plan Team and SSC note that 1990 ABC would be 35,100 mt if apportioned as rougheye and shorttraker rockfish at 5,000 mt, POP at 15,700 mt, and 14,400 mt, and only with *observers.*
 Council notes a comprehensive observer/data reporting program is necessary to fully manage the slope rockfish complex.

**Some Summary Results of the 1989 Bottom Trawl Survey
in the INPFC Kodiak Area**



TRAWL STATIONS OF THE 1989 GOA GROUND FISH SURVEY.

PLANNED VS ACTUAL SURVEY EFFORT

STRATUM TYPE	NUMBER OF PLANNED TOWS	NUMBER OF COMPLETED TOWS
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0-100 M NEARSHORE AND BAYS	53	13
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101-200 M GULLIES	29	13
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101-200 M SLOPE	15	6
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201-300 M GULLIES AND SHELKOF DEEP	19	15
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101-200 M SHELF	24	40
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0-100 M SHELF	13	13
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201-300 M SLOPE	5	0
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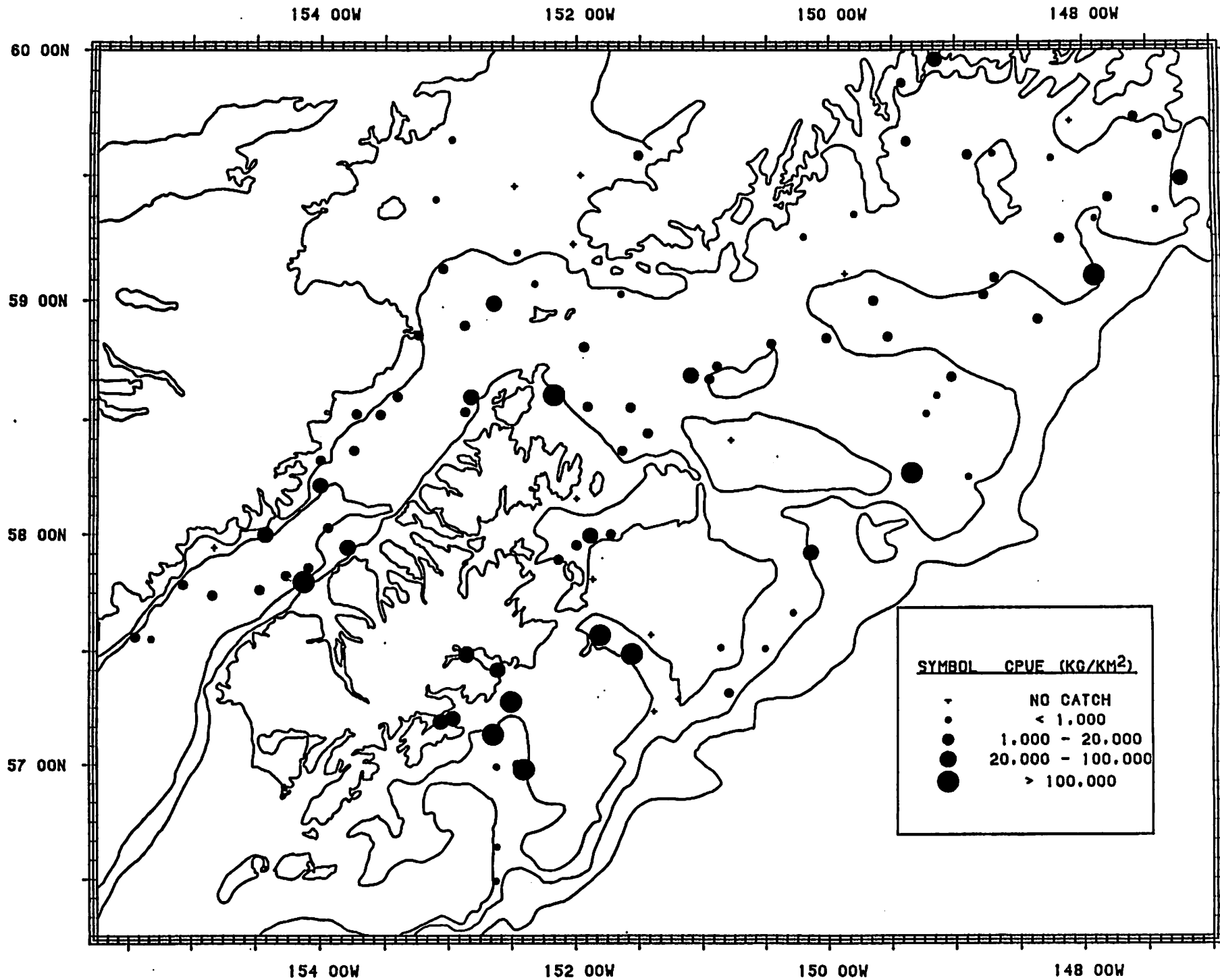
GREATER THAN 300 M	0	0
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TOTAL	158	100
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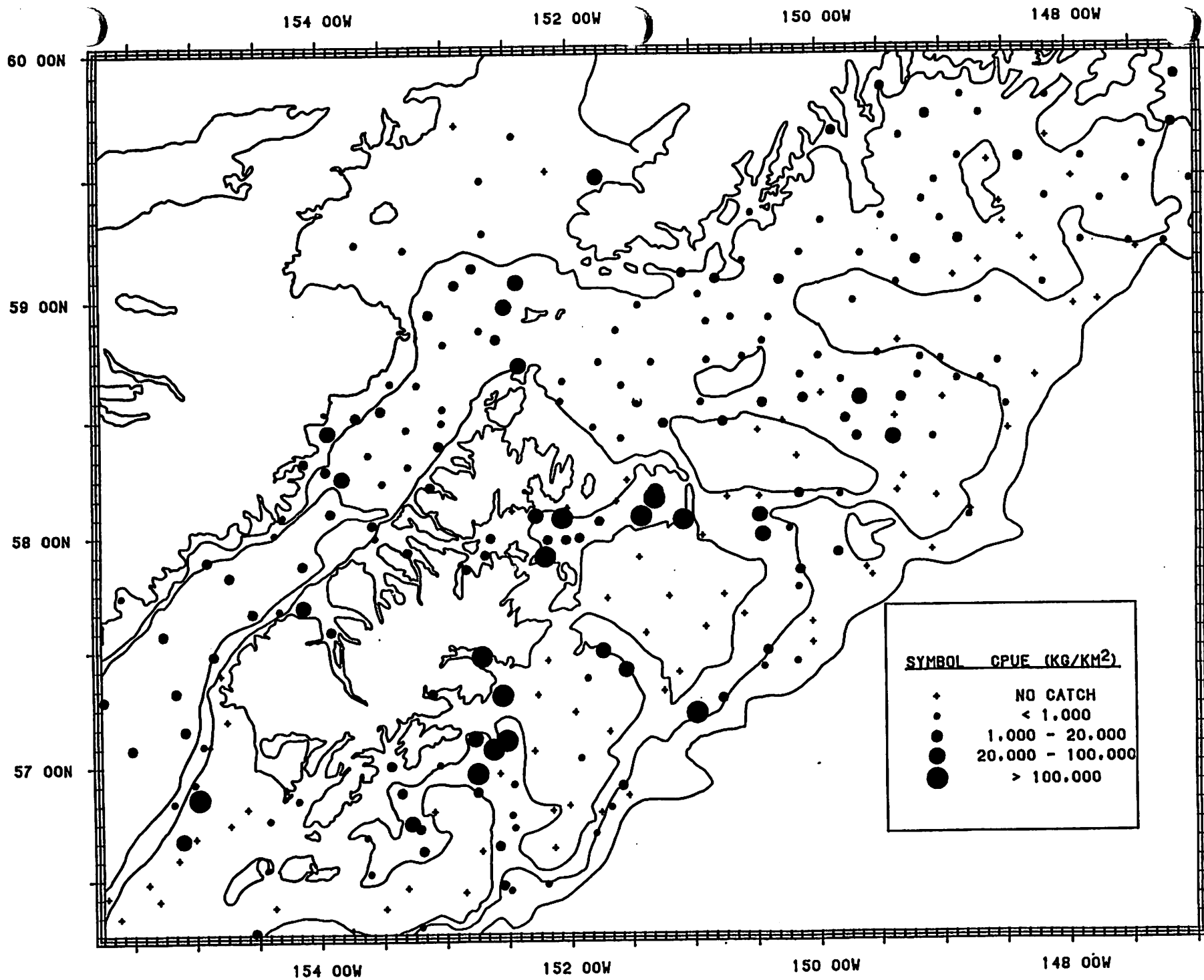
PRINCIPLE SPECIES TAKEN DURING THE 1989 BOTTOM TRAWL SURVEY
OF THE CENTRAL GULF OF ALASKA

SPECIES	BIOMASS (T)	LOWER 95% CONFIDENCE BOUND	CONFIDENCE INTERVAL %
ARROWTOOTH FLOUNDER	839,527	541,188	36
WALLEYE POLLOCK	825,904	497,586	40
PACIFIC HALIBUT	309,569	85,737	72
FLATHEAD SOLE	164,586	78,396	52
PACIFIC COD	138,514	84,362	39
SABLEFISH	103,607	37,267	64
ROCK SOLE	46,356	6,644	86
DOVER SOLE	44,843	29,296	35
REX SOLE	40,922	21,223	48

3



1989 KODIAK SURVEY CPUE KG/KM SQ. POLLOCK.



1987 KODIAK SURVEY CPUE KG/KM SQ. POLLOCK.

BIOMASS ESTIMATES FOR WALLEYE POLLOCK BASED ON THE SEPT-OCT 1989
BOTTOM TRAWL SURVEY OF THE CENTRAL GULF OF ALASKA

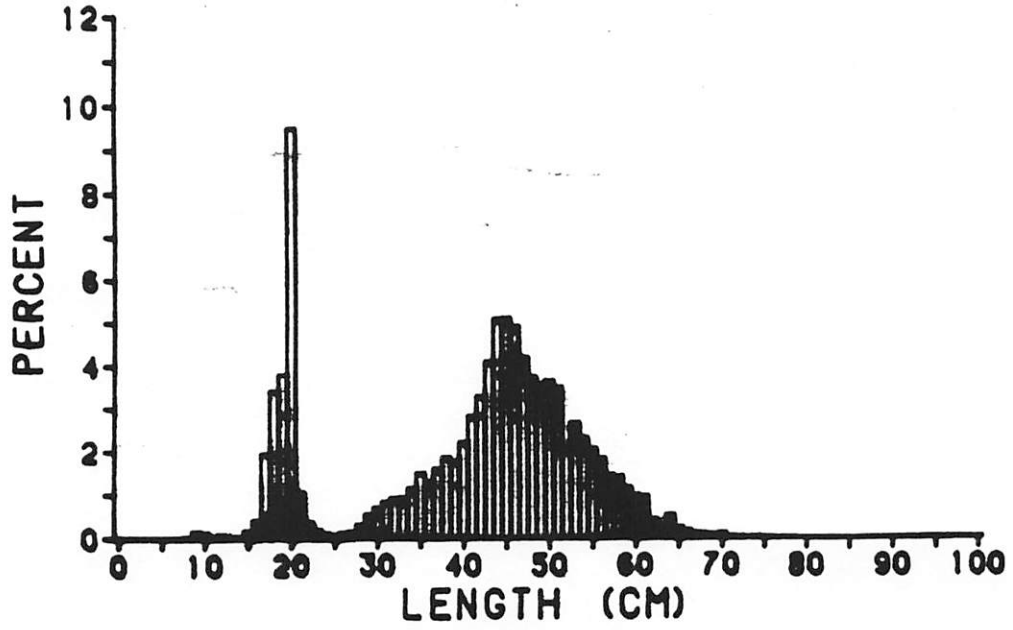
	<u>1989</u>	<u>1987</u>	<u>1984</u>
<u>1-100 m Subareas</u>			
Nearshore Kodiak	105,099	68,625	28,341
Albatross Banks	12,587	12,507	13,285
Lower Cook Inlet	22,752	28,034	12,022
Kenai Peninsula	29,651	6,134	6,416
Subtotal	170,099	115,300	60,064
<u>101-200 m Subareas</u>			
Albatross Gullies	301,079	118,124	169,167
Portlock Flats	75,525	10,046	22,228
Barren Islands	166,584	28,853	62,471
Kenai Flats	16,478	6,025	3,794
Kodiak Slope	32,491	64,731	310
Subtotal	592,157	227,779	257,971
<u>201-300 m Subareas</u>			
North Shelikof Deep	16,643	10,344	6,083
Deep Gullies	47,005	3,374	2,636
Subtotal	63,648	13,719	8,719
All Subareas	825,904	356,797	326,754
Number of Tows	100	224	225

1989 95% C.I. 497,586- 1,154,222 t (+/- 40%)

1987 95% C.I. 198,574- 515,021 t (+/- 44%)

1984 95% C.I. 218,473- 435,034 t (+/- 33%)

CENTRAL GULF POLLOCK - 1989 - BOTTOM
TRAWL SURVEY -
MEAN LENGTH = 40.6 TOTAL



FALL FISHERY 1989

