



REGIONAL INFORMATION REPORT NO. 5J89-03

1988 Preliminary Alaska Commercial Fisheries Harvests and Values

Prepared by:

Herman Savikko

February 1989

**1988 PRELIMINARY ALASKA COMMERCIAL FISHERIES HARVESTS
AND VALUES**

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**Alaska Department of Fish and Game
Division of Commercial Fisheries
Juneau, Alaska**

February 1989

¹The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate needs for up-to-date information, reports in this series may contain preliminary data.

DIVISION OF COMMERCIAL FISHERIES FACT SHEET

COMMERCIAL HARVESTS - 1988 SEASON (Preliminary figures)

	<u>Salmon</u>	<u>Herring</u>	<u>Halibut</u>	<u>Groundfish*</u>	<u>Shellfish**</u>	<u>Total</u>
Catch	528.5	113.6	60.4	4624.6	189.8	5,516.9
(mill on lbs)						
Value	741.5	55.9	74.5	673.9	244.1	1,789.9
(million \$)						

* DAP, JV, In and Out of Alaska landings
DAP was 1749.4 thousand pounds, worth \$254.9 million (source: NPFMC & NMFS)

** Shellfish figures based on 1987-88 season, not calendar year.

INDUSTRY

	<u>1986</u>	<u>1987</u>	<u>1988</u>
Major commercial fishing permits (issued for all fisheries)	29,144	32,540	32,196
Permit Owners:			
Resident	14,282	14,660	14,529
Nonresident	3,356	3,705	3,772

Source: Commercial Fisheries Entry Commission

Crew Members:

Resident	19,887	20,504	22,260*
Nonresident	10,017	10,655	12,379*

* through November 1988

Vessel Licenses	15,836	16,262	16,574
Processors and Fish Buyers (Intents to Operate, excluding catcher/sellers)	518	501	525

REVENUES (millions of dollars)

Fisheries Business Tax	26.5	16.3*	22.5
Salmon Enhancement Tax	4.4	5.2	5.8
Marine Motor Fuel Tax	5.4	5.0	5.3

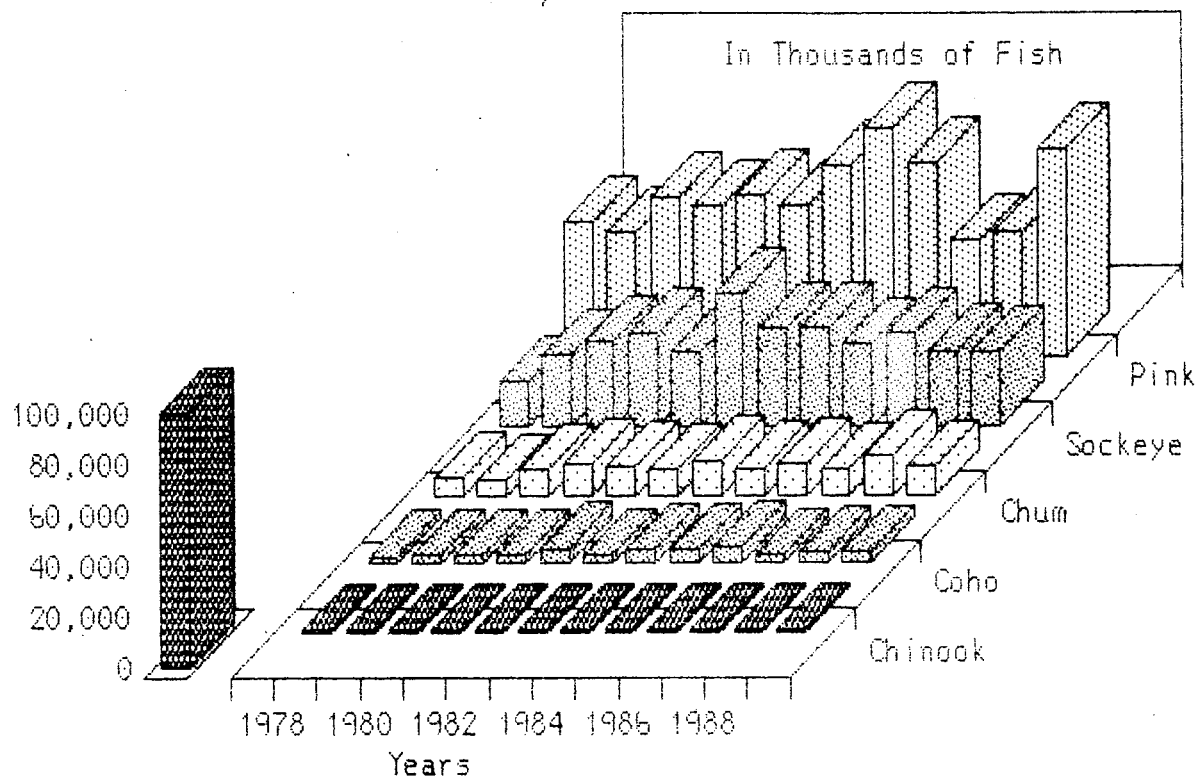
(includes pleasure craft)
Source: Department of Revenue

<u>REVENUES</u> (millions of dollars)	<u>1986</u>	<u>1987</u>	<u>1988</u>
Crew Member Licenses (does not include revenue that went to Fishermen's Fund Insurance)	0.4	0.4	0.5
Commercial Fishing Permit Fees (estimated)	2.9	3.0	3.0
Seafood Marketing Assessment (estimated)	1.1	1.4	2.7
Source: Alaska Seafood Marketing Institute			
* Tax credit for shorebased processors in effect.			

compiled March 14, 1989

SALMON

1978-88 Commercial Salmon Catch by Species with Preliminary 1989 Harvest Projections



Preliminary 1988 Southeastern Alaska commercial salmon harvest by species and management area.

Management Area	SPECIES					Total
	Chinook	Sockeye	Coho	Pink	Chum	
Southern Southeastern						
Portland Canal gill net	2	116	17	230	500	864
Annette Island gill net	1	27	7	364	115	514
Annette Island trap	0	2	0	34	0	37
Neets Bay	0	0	0	0	9	10
Lower Clarence	0	0	0	21	2	23
Prince of Wales gill net	1	93	13	69	70	246
Stikine River gill net	0	1	0	0	3	5
Wrangell Narrows	2	0	1	0	0	3
Blind Slough	1	0	0	0	0	1
Southern hatcheries	10	2	12	118	528	670
Southern districts seine	11	642	131	7,974	817	9,575
Southern Southeastern total	27	883	181	8,811	2,045	11,947
Northern Southeastern						
Taku-Snettisham gill net	2	39	45	157	140	383
Lynn Canal gill net	1	352	81	208	378	1,020
Yakutat gill net	1	162	206	120	29	518
Northern hatcheries	0	0	1	41	194	237
Northern districts seine	1	13	25	1,296	654	1,990
Northern Southeastern total	5	566	358	1,824	1,395	4,148
Southeast Troll 1/	231	9	500	520	88	1,349
Miscellaneous 2/	1	2	3	47	7	60
SOUTHEASTERN REGION TOTAL	265	1,460	1,043	11,202	3,535	17,505

1/ Includes catch from Winter Troll Fishery (October 1, 1987 - April 14, 1988).

2/ Test Fishery, Salmon Derby, Public Safety, Etc.

Compiled 13 January 1989, catches in thousands of fish.

Preliminary 1988 Central Region Alaska commercial salmon harvest by species and management area.

	SPECIES					
	Chinook	Sockeye	Coho	Pink	Chum	Total

Management Area						

Cordova Area						
Bering River	0	7	87	0	0	94
Copper River	31	577	316	3	11	937
Prince William Sound						
Hatcheries	0	0	6	2,104	39	2,150
Coghill District	1	82	41	1,314	346	1,785
Unakwik District	0	9	0	0	2	10
Eshamy District	0	69	1	529	300	899
General purse seine	0	23	27	7,785	1,143	8,979

Prince William Sound total	1	184	76	11,734	1,830	13,824

Cordova Area total	32	768	478	11,736	1,841	14,855

Cook Inlet Area						
Lower Cook Inlet						
Outer District	0	10	0	6	71	87
Southern District	2	105	3	852	8	970
Kamishak District	0	184	4	61	218	468
Eastern District	0	20	0	2	25	47

Lower Cook Inlet total	2	319	8	921	322	1,572

Upper Cook Inlet						
Central District	16	6,675	409	416	631	8,147
Northern District	13	130	150	54	76	422

Upper Cook Inlet total	29	6,805	559	470	707	8,570

Cook Inlet Area total	31	7,124	567	1,391	1,028	10,141

Bristol Bay						
Egegik District	3	6,400	46	4	245	6,698
Ugashik District	3	1,532	40	0	92	1,667
Naknek-Kvichak District	7	3,549	28	612	299	4,495
Nushagak District	16	1,713	54	249	368	2,400
Togiak District	16	817	19	57	471	1,379

Bristol Bay total	45	14,010	187	922	1,475	16,639
=====						
CENTRAL REGION TOTAL	108	21,902	1,232	14,050	4,344	41,635

Compiled 13 January 1989, catches in thousands of fish.

Preliminary 1988 Westward Region Alaska commercial salmon harvest
by species and management area.

	SPECIES					Total
	Chinook	Sockeye	Coho	Pink	Chum	
Management Area						
Kodiak Area	22	2,700	303	14,600	1,400	19,025
Chignik Area	7	796	370	3,000	267	4,441
Alaska Peninsula and Aleutians						
South Peninsula	11	1,465	480	6,310	1,889	10,156
North Peninsula	17	1,443	221	63	384	2,128
Aleutian Islands	0	5	0	188	1	194
Alaska Penin. Aleut. total	28	2,913	701	6,562	2,274	12,478
WESTWARD REGION TOTAL	58	6,409	1,374	24,162	3,941	35,944

Compiled 13 January 1989, catches in thousands of fish.

Preliminary 1988 Arctic-Yukon-Kuskokwim Region Alaska commercial salmon harvest by species and management area.

	SPECIES					
	Chinook	Sockeye	Coho	Pink	Chum	Total

Management Area						

Kuskokwim Area						
Kuskokwim River	56	92	524	11	1,382	2,065
Kuskokwim Bay	19	58	99	27	62	265

Kuskokwim Area total	75	150	624	38	1,444	2,330
Yukon River						
Lower Yukon River	94	0	65	1	1,116	1,276
Upper Yukon River	6	0	2	0	96	104

Yukon River total	100	0	67	1	1,212	1,380
Norton Sound	4	1	37	75	108	225
Kotzebue Area	0	0	0	0	353	353
=====						
ARCTIC-YUKON-KUSKOKWIM REGION TOTAL	178	151	728	113	3,117	4,288

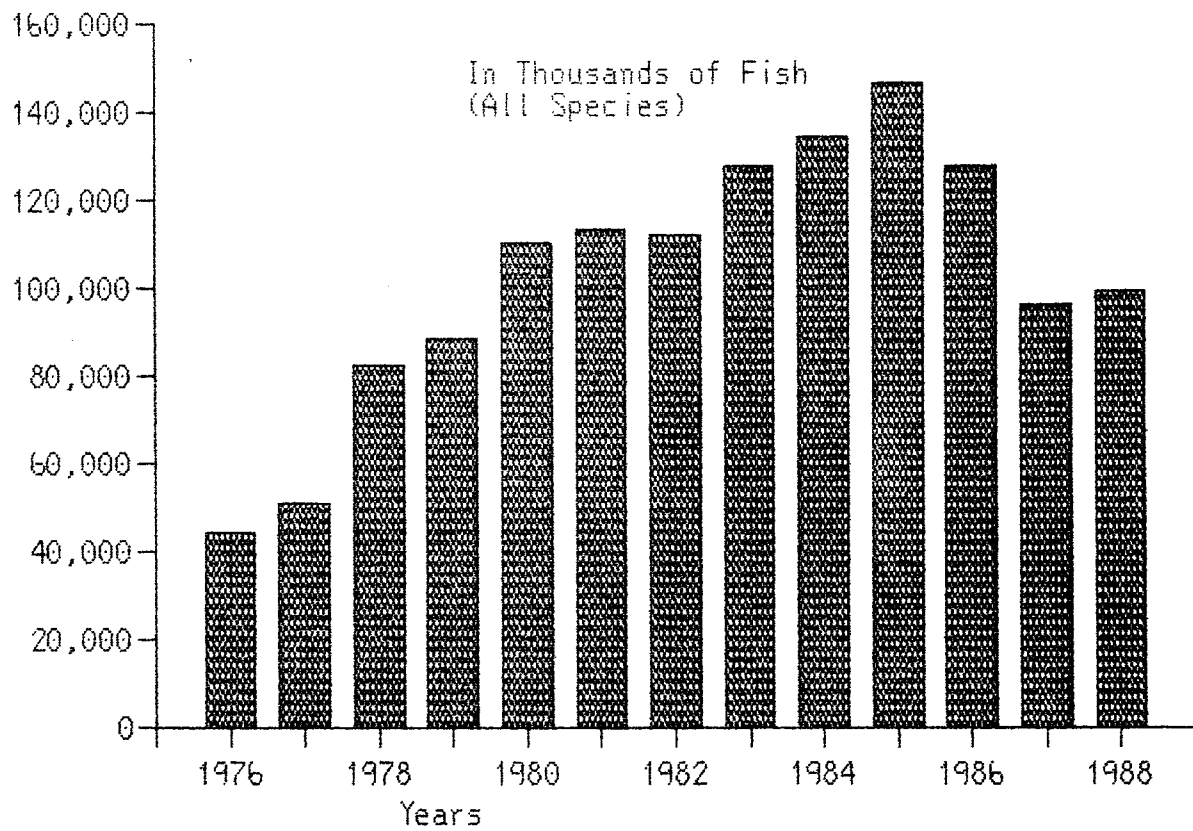
Compiled 13 January 1989, catches in thousands of fish.

ALASKA COMMERCIAL SALMON CATCH IN THOUSANDS OF FISH

YEAR	SPECIES					
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
1976	532	11,783	1,432	24,750	5,924	44,423
1977	621	12,460	1,815	28,586	7,328	50,811
1978	836	18,138	2,820	53,814	6,679	82,288
1979	830	28,722	3,244	50,135	5,828	88,762
1980	675	33,308	3,135	63,282	9,611	110,043
1981	828	37,360	3,557	59,976	11,550	113,296
1982	877	28,954	6,049	64,849	11,090	111,823
1983	828	52,874	3,652	60,342	10,221	127,921
1984	668	38,411	5,389	76,274	13,105	134,732
1985	721	38,960	5,730	90,351	10,565	146,849
1986	612	32,193	6,250	76,531	12,277	127,864
1987	681	36,278	3,516	46,330	9,627	96,432
1988*	609	29,922	4,377	49,526	14,937	99,371

* Preliminary; totals may not add up due to rounding.
(chum percentage not calculated for sockeye figures)

1976-88 Commercial Salmon Catches



1986-1988 Salmon Season Ex-Vessel Value Estimate
(in thousands of dollars)

	<u>1986</u>	<u>1987</u>	<u>1988</u> <u>1/</u>
Southeast Region	80,000	70,000	129,000
Central Region			
Prince William Sound	29,400	67,500	76,000
Upper Cook Inlet	44,900	100,000	119,000
Lower Cook Inlet	2,735	2,690	7,700
Bristol Bay	144,200	135,000	178,800
A-Y-K Region			
Upper Yukon	1,114	419	800
Lower Yukon	5,135	6,743	11,700
Kuskokwim	4,475	6,398	12,360
Norton Sound	538	505	755
Kotzebue	933	515	2,810
Westward Region			
Kodiak	39,500	26,000	94,400
Chignik	18,448	26,600	30,040
Alaska Peninsula and Aleutians	42,000	35,658	78,150
<hr/>			
Alaska Total	413,648	478,028	741,515
Figures are rounded	\$414.0	\$478.0	\$742.0

1/ preliminary data
(Values are subject to change as data is updated.)

Date 01/04/89

1989 SALMON FORECAST

PRELIMINARY FORECASTS OF 1989 SALMON RETURNS TO
SELECTED ALASKA FISHERIES

The Alaska Department of Fish and Game's management program includes a number of salmon return forecast projects. Forecast fisheries are selected using several criteria, including economic importance, feasibility, compatibility with existing programs, and management needs. For the 1989 fishing year, forecast fisheries are:

Southern Southeast	-	pink salmon
Northern Southeast	-	pink salmon
Prince William Sound	-	pink, chum and Coghill District sockeye
Prince William Sound/ Copper River	-	sockeye and chinook salmon
Upper Cook Inlet	-	sockeye salmon
Kodiak	-	pink and sockeye salmon
Chignik	-	sockeye salmon
Bristol Bay	-	sockeye and chinook salmon

A variety of information was used to make salmon return forecasts, including escapement magnitudes and distribution, egg deposition, survival to intermediate life stages, high seas abundance, environmental conditions, and population age composition. A range of return possibilities are predicted for each forecast fishery. In general, based on past experience, the actual return can be expected to fall within the range (between the lower and upper limits) somewhat less than half the time.

Forecast abstracts are given below:

Southeast Alaska Pink Salmon

The total Southeast pink salmon return is expected to be 31.4 million fish, with a harvest forecast to be 19.5 million salmon. A return of 19.8 million pink salmon is expected in southern areas of Southeast Alaska. The harvest in the southern areas is expected to be 13.8 million pink salmon, yet 3 million salmon over the escapement goal of 6.0 million are expected to be needed to assure a good distribution of spawners in all systems. The northern areas of Southeast Alaska are forecast to produce a run of 11.6 million pink salmon with a harvest of 7.0 million salmon. Hatchery

production is expected to be less than 2 million in all of the Southeast area.

Prince William Sound Pink, Chum, and Coghill River Sockeye Salmon

The 1989 pink salmon run in the Sound is forecast to be 48.2 million fish, with a projected common property harvest of 41.1 million salmon. This is approximately 1.6 times the largest harvest in the historical record. That historical high was in 1987 when the hatchery cost recovery, and common property harvest was slightly over 29 million pink salmon. The 1989 projection is held up by the projection of a combined hatchery return of 28.1 million pink salmon, and a forecast of a near record wild stock harvest. The chum salmon run is forecast to be 1.49 million fish, with an expected harvest of 1.15 million. The Coghill District sockeye salmon run is expected to be 154 thousand fish, with an expected common property harvest of 82 thousand fish.

Upper Cook Inlet Sockeye Salmon

A harvest of 2.5 million sockeye salmon is forecast from fish of Upper Cook Inlet origin. The total run is forecast to be 4.0 million. This forecast is down considerably from the high catches of the previous two years.

Kodiak Pink and Sockeye Salmon

The forecast for Kodiak pink salmon is a return of 12.75 million fish in 1989, with a projected harvest of 10.60 million fish. This is down slightly from the 1988 catch of 14.6 million pink salmon. The Upper Station lakes are forecast to produce an early run of 134 thousand sockeye salmon, with an expected harvest of 71.5 thousand fish, and a late run of 929 thousand sockeye salmon with a harvest of 779 thousand fish. Frazer Lake is forecast to produce a run of 537 thousand sockeye salmon, with an expected harvest of 367 thousand fish.

Chignik Sockeye Salmon

The return of sockeye salmon to the Chignik system is forecast to be 2.10 million sockeye salmon, with a harvest forecast to be 1.45 million. This figure represents sockeye near Chignik as well as interceptions elsewhere.

Bristol Bay Sockeye and Chinook Salmon

The return of sockeye salmon in Bristol Bay is expected to be 30.3 million fish, with an expected total harvest of 17.6 million fish, and an inshore harvest of 16.1 million fish. This forecast, if realized would mean 1989 would see a decline in harvest from recent average levels, but up slightly from the 1988 harvest. The return of Nushagak chinook salmon is forecast to

be 128.6 thousand fish, with an expected harvest of 53.6 thousand fish. This is below historical levels.

Preliminary forecasts of salmon returns and commercial and hatchery cost recovery harvests of some Alaskan fisheries in 1989.¹

Area	Species	----- (millions of fish) -----			
		Forecast Return	Escapement Goal	Forecast Harvest	Forecast Return Range
Southern Southeast	pinks	19.8	6.0	13.8	11.8 - 32.9
Northern Southeast	pinks	11.6	4.6	7.0	7.3 - 13.7
Southeast Total		31.4	10.6	20.8	22.7 - 39.8
Prince William Sound	pinks	48.2	2.24	46.0	34.98 - 66.79
	chums	1.49	0.35	1.14	0.81 - 2.169
PWS Coghill District	sockeye	0.398	0.054	0.344	0.173 - 0.623
Copper River	sockeye	1.730	0.762	0.968	1.512 - 1.956
	chinook	0.057	0.015	0.042	0.047 - 0.067
Upper Cook Inlet	sockeye	4.0	1.5	2.5	3.0 - 5.0
Kodiak	pinks	12.75	2.15	10.60	10.80 - 17.10
Upper Station, Early	sockeye	0.134	0.062	0.072	0.080 - 0.189
Upper Station, Late	sockeye	0.929	0.150	0.779	0.366 - 1.492
Kodiak, Frazer	sockeye	0.537	0.170	0.367	0.302 - 0.910
Chignik ²	sockeye	2.10	0.65	1.45	1.68 - 2.52
Bristol Bay ³	sockeye	30.3	12.7	16.1	20.7 - 40.1
Bristol Bay, Nushagak District	chinook	0.1286	0.075	0.0536	0.058 - 0.199
TOTAL		134	31	101	

¹ Compiled January 1989. Based on past experience, less than half of the salmon returns and harvests will fall within their production and harvest ranges.

² Includes estimated interception of Chignik bound sockeye salmon.

³ Bristol Bay harvest forecast is for inshore harvest only. An additional 1.5 million sockeye salmon are forecast to be harvested in the South Peninsula.

OUTLOOK FOR THE 1989 ALASKA COMMERCIAL SALMON HARVESTS

The Alaska Department of Fish and Game does not produce formal forecasts for all salmon runs in the state, although local managers do prepare harvest outlooks, or catch projections, for all areas. The catch projections are based on formal forecasts, when available; otherwise historical catches and local knowledge of recent events are used to develop the harvest outlooks. Below are outlook projections for the 1989 Alaska commercial salmon harvest by species.

The harvest outlooks for the Arctic-Yukon-Kuskokwim Region are developed as ranges. Coho salmon returns are not forecast in any region. Forecasts of chum salmon returns are available only for Prince William Sound. Several smaller pink salmon returns are not forecast. Major sockeye salmon runs in the Central and Western statistical regions are forecast. Despite these gaps, 75% of the 1988 salmon harvest came from fisheries where formal forecasts have been developed for the 1989 fishery.

The 1989 total commercial harvest projection is for 127.0 million salmon: 710 thousand chinook salmon, 29.0 million sockeye salmon, 3.97 million coho salmon, 81.9 million pink salmon, and 11.4 million chum salmon.

Species Outlook

Chinook Salmon. Production of chinook salmon is expected to increase in 1989. The expected harvest is 701 thousand chinooks, which would be the largest harvest since 805 thousand chinook salmon were harvested in 1983 -- prior to the U.S./Canada Treaty. Bristol Bay and Southeast Alaska are two areas expecting increases over the 1988 harvest; although the Bristol Bay harvest is expected to be lower than chinook salmon harvests in this area in the early and mid 1980's. Much of the projected increase in Southeast Alaska is from increased hatchery cost recovery harvest -- not chinook available to the common property commercial fleet.

Sockeye Salmon. The 1989 harvest of sockeye salmon is expected to total 29.0 million fish. the harvest in Bristol Bay makes up nearly 60% of this projection. Bristol Bay is projected to total 16.1 million sockeye in the inshore fisheries. This is up from the 1988 harvest in Bristol Bay of 14.0 million, and down slightly from the 1984-1988 average harvest of 19.0 million sockeye salmon in Bristol Bay.

Coho Salmon. The 1989 harvest projection for coho salmon is 3.97 million fish. This number represents 3% of the projected statewide salmon harvest of all species. if realized, this will be a 6% decline from 1988 levels.

Pink Salmon. The 1989 harvest projection for pink salmon is 81.9

million fish. This number represents 65% of the total number of all salmon projected to be harvested in 1989. If realized, this will be a 65% increase over the number of pink salmon harvested in 1988. This projection reflects an enormous increase in pink salmon expected to come from hatchery production in Prince William Sound. In southern Southeast Alaska the pink salmon harvest is projected to be 13.8 million pink salmon. The southern Southeast pink salmon forecast failed to predict a tremendous downturn in pink salmon production in this area for the last two years, and no reasonable explanation for the error has been discovered. Perhaps the same phenomena will occur in 1989, causing the forecast to be substantially higher than the actual catch in southern Southeast areas.

Chum Salmon. The 1989 harvest projection for chum salmon is 11.4 million fish. This number represents 9% of the projected statewide harvest of all species. If realized, this will be a 20% decline in harvest from the 1988 level.

Preliminary projections of 1989 Alaska commercial salmon harvests by fishing area and species in thousands of fish.

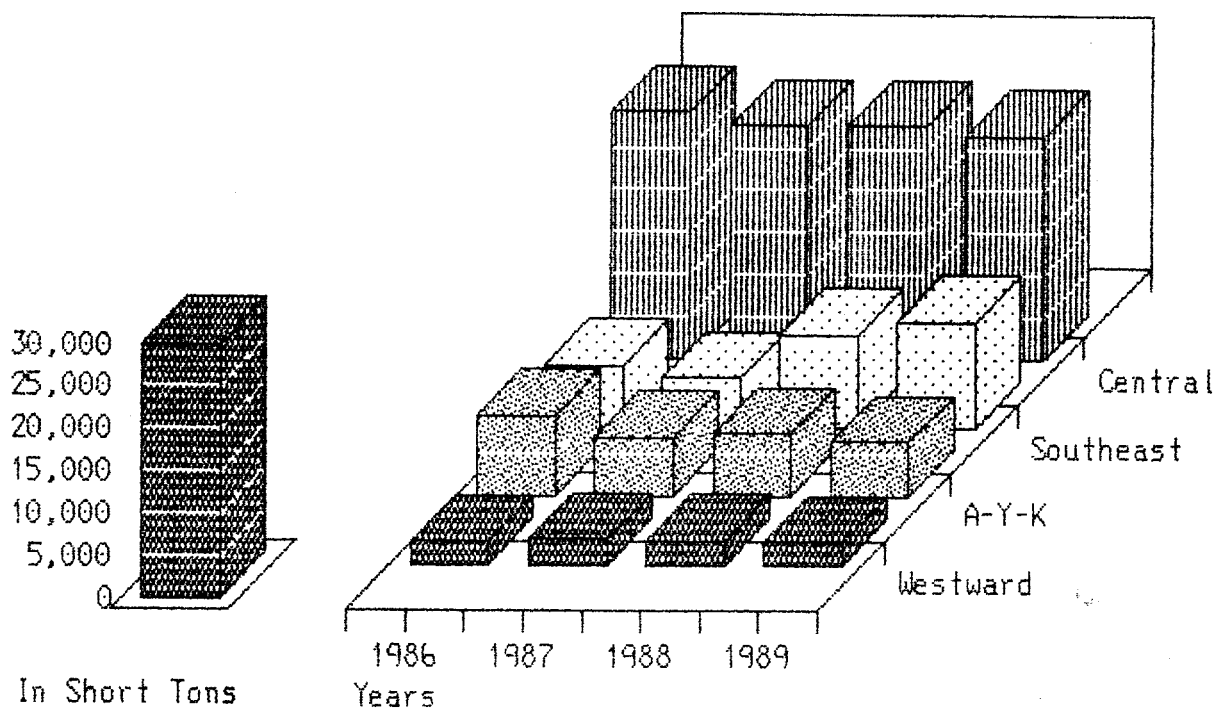
	SPECIES					
	Chinook	Sockeye	Coho	Pink	Chum	Total
Fishing Area						
Southeastern	319 ¹	1,500	1,700	20,800	3,500	27,819
Cordova Area	42	1,314	440	46,000	1,149	48,945
Upper Cook Inlet	30	2,500	400	100	800	3,830
Lower Cook Inlet	1	425	10	900	130	1,466
Bristol Bay Area	90	16,100	237	0	1,440	17,867
Central Region	163	20,339	1,087	47,000	3,519	72,108
Kodiak Area	5	2,500	200	10,600	800	14,105
Chignik	3	1,150	100	448	120	1,821
South Peninsula	10	1,500	200	3,000	800	5,510
North Peninsula	20	1,900	200	5	500	2,625
Aleutian Islands	0	5	0	50	0	55
Westward Region	38	7,055	700	14,103	2,220	24,116
A.Y.K. Region	181	129	487	3	2,121	2,921
TOTAL ALASKA	701	29,023	3,974	81,906	11,360	126,964

¹ Includes 275 thousand in general common property harvest, and 44 thousand in cost recovery and special terminal area harvest.

Compiled 17 January 1989, catches in thousands of fish. The projected 1989 harvests were obtained by summing harvest forecasts (Table 8) and harvest projections for remaining fisheries. The latter based on recent catches.

HERRING

1986-88 Herring Sac-Roe Harvests with 1989 Forecast Projections



1987/88 HERRING SEASON CATCH SUMMARY^{1/}

STATEWIDE

The total commercial harvest of herring throughout Alaska from July 1, 1987 through June 30, 1988 was 57,603 short tons amounting to an approximate ex-vessel value of \$55,930,790 to the fishermen. The value this season was about 14 million dollars greater than last season. The overall harvest was about 7,553 tons more, an approximate 13 percent increase from last season. This increase, in addition to generally higher prices, increased the value of the fishery by over 25 percent. Statewide harvests for the 1987/88 season are summarized in Table 1 for each region. Table 2 presents comparisons of herring sac-roë harvests for 1985 through 1988.

The 1987 food and bait fisheries started with Cook Inlet on April 15. Dutch Harbor (July 16), Kodiak (Aug. 1), and Prince William Sound (Sept. 1) followed. In Southeast Alaska, the opening was delayed until January 4, 1988. The Southeast and Westward Regions accounted for a majority of the food/bait harvest, 4,147 and 2,198 tons respectively, out of a total statewide food/bait harvest of 8,080 short tons, a slight increase from last season's harvest. The estimated ex-vessel value of the 1987/88 food and bait fisheries was \$2,111,327, a 21 percent increase over last season's value.

The herring sac-roë fishery was worth \$53,819,463 to the fishermen and produced a harvest of 49,523 tons. The fisheries started on March 25 at Kah Shakes in Southeast Alaska. The Westward Region fisheries followed the Southeast fisheries with regulatory openings on April 15, and Cook Inlet opened April 20. Significant harvests did not occur until late April and May. The Prince William Sound sac-roë harvest occurred between April 12 and April 30. In the Bering Sea, Bristol Bay led off the sac-roë harvests with the fishery occurring between May 17 and May 21. Openings proceeded northward through Goodnews Bay and Security Cove, Nelson Island, Cape Romanzof, concluding on June 13 in Port Clarence. Fisheries in the Westward Region were the last to close on June 30, although effort throughout June was very limited. Once again, the largest and most valuable sac-roë fishery was Bristol Bay, where 14,231 tons (including 69 tons food/bait) were taken with an ex-vessel value of \$14,746,000 with Lower Cook Inlet a distant second at \$9,300,000 for a harvest of 5,545 tons.

The spawn-on-kelp fisheries harvested 466 tons of product in Prince William Sound and Bristol Bay, providing about \$5,078,000 to the fishermen. Of this value, the majority (\$4.5 million) came from the Prince William Sound pound fishery.

1/ All figures are preliminary

SOUTHEAST REGION

The total Southeast Region 1987/1988 herring season harvest was 15,269 tons, up from 8,333 tons taken in 1986/1987. This was the highest regional harvest since 1964. The sac-roe harvest contributed approximately 11,121 tons to this harvest with an estimated ex-vessel value of \$7.7 Million. The catch of 4,147 tons in the bait fishery was worth an estimated \$1.1 million.

Food and Bait Fishery

Estimated Harvest = 4,147 tons

Price Paid Fishermen = \$260/ton

Total Estimated Value to Fishermen = \$1,078,220

Number of Participating vessels = 33

Notes: This year's harvest was 43% larger than last year's. The harvest includes 16.7 tons taken in the fresh bait pound fishery. The Southeastern fishery opened by emergency order on January 4, 1988.

Kah Shakes Gillnet Sac-Roe

Estimated Harvest = 1,145.4 tons

Avg. Roe Percentage = 13.5%

Price Paid Fishermen = \$1,800/ton

Total Estimated Value to Fishermen = \$2,061,720

Number of Participating Permittees = 119

Notes: Set gill net sac roe fisheries have occurred in the Kah Shakes area since 1976. Seasonal landings have ranged from 171 tons (1978) to 3,250 tons (1983). Kah Shakes was the first sac-roe fishery of the 1988 herring sac-roe season. The fishery occurred on March 25. Only one 50 fathom net for each permit holder was allowed during the fishery due to the relatively small harvest quota of 953 tons. This guideline harvest level was determined based on an exploitation rate of 11.35 percent, using a population estimate derived from the 1987 spawn of 16.8 million pounds of herring.

Seymour Canal Gillnet Sac-Roe

Estimated Harvest = 586.4 tons

Avg. Roe Percentage - 13%

Price Paid Fishermen = \$1,950/ton

Total Estimated Value to Fishermen = \$1,143,480

Number of Participating vessels = 92

Notes: This fishery was open from April 26 through May 1. Spawning ground egg deposition surveys conducted during the spring of 1987 indicated a mature herring spawning stock of approximately 9.55 million pounds. An estimated population level of this size allows for a harvest rate of 11.18 per cent, which represented a guideline harvest level of 534 tons of herring in 1988. The relatively low allowable harvest level necessitated limiting each permit holder to one 50 fathom net.

Sitka Sound Purse Seine Sac-Roe

Estimated Harvest = 9,390.0 tons

Avg. Roe Percentage = 9.0-9.5%

Price Paid Fishermen = \$480/ton

Total Estimated Value to Fishermen - \$4,507,200

Number of Participating vessels = 92

Notes: The fishery opened on April 4 and closed April 14 because of the large harvest available. The exploitation rate, based on spawn deposition surveys, was 20.0 percent. The harvest level was set at 9,200 tons, and the final harvest was the largest ever reported for the Sitka Sound herring roe fishery. Four-year-old herring accounted for the majority of the harvest. While the fishery was the largest ever, extremely low prices made it worth only 6 percent more than the 1987 harvest of 4,216 tons valued at \$4,216,000.

CENTRAL REGION

The Central Region 1987/1988 herring harvest totaled 29,033 tons, of which 1,250 tons were food/bait and the balance was sac roe. In addition, the herring spawn-on-kelp fishery produced 466 tons of product. The ex-vessel value of the Central Region herring fisheries this season totaled \$25,800,152, or an increase of 21 percent over last season. The sac roe fishery was valued at

\$30,894,000, with the food/bait fisheries worth \$393,000. The spawn-on-kelp fisheries produced harvests valued at \$5,078,000, largely because of the pound kelp fishery.

Prince William Sound Bait Fishery

Estimated Harvest = 1,190 tons

Price Paid Fishermen = \$300/ton

Total Estimated Value to Fishermen = \$357,000

Number of Participating Permittees = 7 seiners

Notes: The fishery opened by regulation on September 1, 1987 and at the request of processors and fishermen was closed by Emergency order on October 6, due to poor quality of the product. The season reopened by E.O. on November 9 and closed on November 12, 1987.

Prince William Sound Purse Seine Sac-Roe

Estimated Harvest = 7,856 tons

Price Paid Fishermen = \$840/ton

Total Estimated Value to Fishermen = \$6,600,000

Number of Participating Permittees = 105 seiners

Notes: The fishery opened on April 21 for a one-hour period in which 2,237 tons were harvested. On April 22 an additional one-hour period was opened in which 5,419 tons were

taken. Over 70 percent of the harvest were 4 year old fish from the 1984 brood year.

Prince William Sound Gillnet Sac-Roe

Estimated Harvest = 358 tons

Price Paid Fishermen = \$1,500/ton

Total Estimated Value to Fishermen = \$537,000

Number of Participating Permittees = 24 gillnetters

Notes: The fishery opened on April 23 for 5.5 hours. The harvest was within our preseason objectives and the roe recovery averaged 10 percent. The mean weight of the fish was reported at 170 grams.

Prince William Sound Pound Kelp

Estimated Harvest = 124 tons of spawn-on-kelp

Prices Paid Fishermen = \$18.00/lb.

Total Estimated Value to Fishermen = \$4,500,000

Number of Participating Permit Holders = 122

Notes: This season's harvest of 124 tons set a new record for this fishery. The fishery was open to seining of herring for introduction into the pounds on April 12 and closed on April 23. The quality of this season's harvest was far better than any previous year. The quota of 85 tons was exceeded by 46 percent.

Prince William Sound Wild Kelp

Estimated Harvest = 97 tons

Prices Paid Fishermen = \$0.84/lb.

Total Estimated Value to Fishermen = \$232,000

Number of Participating Divers = 158

Notes: The number of divers, for the second year in a row, more than doubled the previous years participation. The value of the fishery was similar to last year's. The season was opened for 4 hours on April 29 and for another 8 hours on April 30.

Cook Inlet Food and Bait

Estimated Harvest = 60 tons

Price Paid Fishermen = \$600/ton

Total Estimated Value to Fishermen = \$36,000

Number of Participating Permittees = 50

Notes: The Upper Cook Inlet food and bait fishery opened on April 15, 1988 and closed on May 31, 1988. Catches were below preseason expectations. Age composition was well distributed over all age classes. The Lower Cook Inlet food and bait fishery was closed by emergency order because all surplus herring were harvested in the sac roe fishery.

Upper Cook Inlet Sac-Roe

Estimated Harvest = 38 tons

Avg. Roe Percentage = 10.5%

Price Paid Fishermen = \$1,500/ton for 10%

Total Estimated Value to Fishermen = \$57,000

Number of Participating Permittees = 65 gillnetters

Notes: The sac-roë season opened on April 20, 1988. Catches in both Chinitna and Tuxedni Bays were down dramatically from prior years due to low stock abundance. Herring were 90 percent age 4 and 5. Catch is expected to be very poor again in 1989.

Lower Cook Inlet Sac-Roe

Estimated Harvest = 5,545 tons

Avg. Roe Percentage = 11.1%

Price Paid Fishermen = \$1,500/ton for 10%

Total Estimated Value to Fishermen = \$9,300,000

Number of participating Permittees = 74 seiners

Notes: The above reported harvest came from the Kamashak District. There was a total allowed fishing time of 31 hours between April 22 and April 30. The total estimated spawning biomass was 24,000 tons, but due to poor weather aerial surveys could not be flown after the fishery and this estimate is considered minimal.

Bristol Bay Gillnet Sac-Roe

Estimated Harvest = 3,615 tons (includes 69 tons sold
as food/bait)

Avg. Roe Percentage = 8.3%

Price Paid Fishermen = \$1030/ton

Total Estimated Value to Fishermen = \$3,700,000
(includes \$3,000 for food/bait)

Number of Participating Permittees = 300

Notes: One 4 hour gillnet opener was allowed on May 17.
In 1988 new regulations provided for purse seiners to fish west of
Anchor Point and gillnetters east of that line. The new
regulations also directed the Department to manage the harvest at
25 percent for the gillnetters and 75 percent for the seiners.
During the 4 hour period the gillnetters accounted for 26 percent
of the total harvest.

Bristol Bay Purse Seine Sac-Roe

Estimated Harvest = 10,371 tons

Avg. Roe Percentage = 11%

Price Paid Fishermen = \$1030/ton

Total Estimated Value to Fishermen = \$10,700,000

Number of Participating Permittees = 239 seiners

Notes: Only one fishing period was allowed for 1 hour on May 17. This one hour period provided seiners with 74 percent of the total harvest. Based on biomass estimates in season, the exploitation rate for all the Bristol Bay herring fisheries was 11.9%.

Bristol Bay Spawn-on-Kelp

Estimated Harvest = 244.7 tons of spawn-on-kelp

Prices Paid Fishermen = \$0.70/lb.

Total Estimated Value to Fishermen = \$346,000

Number of Participating Permittees = 200

Notes: This fishery occurred on May 20-21, during one six-hour period (10:00-4:00 am). Portions of two areas were open and the product was considered fair to good.

WESTWARD REGION

The total 1987/1988 herring harvest in the Westward Region was 5,035 tons worth over \$3.5 million. The sac-rope fisheries yielded 2,837 tons compared to a harvest of 2,198 tons in the food/bait fishery. The sac rope harvest was very close to the past ten year average, however the total value of the 1988 fishery exceeded all other fisheries since 1979. The number of permits fished regionwide continues to fluctuate from one year to the next, with a ten year average of 163 participants. In 1988 there were 173

permits active in these fisheries. The sac roe harvest was valued at \$3.4 million, while the food/bait harvest was worth \$598,000.

Westward Food/Bait

Estimated Harvest = 2,198 short tons

Price Paid Fishermen = \$400/ton

Total Estimated Value to Fishermen = \$598,000

Number of Participating Permittees = 12 (8 Dutch
Harbor, 4 Kodiak)

Notes: The Kodiak season ran from August 1, 1987 through its scheduled closure on February 28, 1988 and harvested only 216 tons. Four vessels participated in the fishery, making 9 landings to 5 processors. The Dutch Harbor season opened by regulation on July 16. Seven seiners, 1 gillnetter, and 6 companies were present when the fishery opened. The harvest occurred rapidly until July 22, averaging 250 tons per day. After July 22 the harvest rate decreased as markets failed and fishermen left to pursue salmon fisheries. Under a new management plan adopted by the Board of Fisheries in November 1987, the Dutch Harbor quota is set at 7 percent of the allowable spring herring harvest in Togiak (after 1,500 tons has been subtracted for the spawn on kelp fishery). Based on preseason projections, it was calculated that the Dutch Harbor quota would be 658 tons. Based on this projection, the industry imported bait herring from the East Coast. The actual Togiak biomass was much larger than expected and the total

allowable herring sac roe harvest was not taken, allowing the food and bait quota to be raised to 3,100 tons. However, since the industry had already imported substantial tonnages of bait, there was only a limited bait market. After the bait market was satisfied, only a food market remained. Unusually strict quality standards were placed on herring to be sold as food, requiring virtually no feed in the stomachs or intestines. These standards, along with the limited market, caused the fishing effort to drop to one gillnet and one seine vessel. The fishery is still in progress with only small catches. As of September 13, a total of 1,981.5 tons have been landed. Approximately 1,064 tons has been sold as food and 917 tons for bait. Prices ranged from \$200 to \$350 per ton, with the value of the harvest worth \$512,000.

Kodiak Sac-Roe Fishery

Estimated Harvest = 2,170.9 tons

Avg. Roe Percentage = 10%

Price Paid Fishermen = Variable, averaging \$1,300/ton

Total Estimated Value to Fishermen = \$2,822,170

Number of Participating Vessels = 33 seiners and
76 gillnetters

Notes: The Kodiak sac roe herring fishery opened at 12:00 Noon on April 15. Fishing periods ran 24 hour open, 24 hours closed for the remainder of the season (6/30). Sixty percent of the harvest was taken by the purse seine fleet. The number of

participating permittees reflects only the permit holders who made landings. Initial landings were made on April 15 with the last herring delivery recorded on June 12.

Chignik Sac-Roe Fishery

Estimated Harvest = *Confidential*

Avg. Roe Percentage = 9-11%

Price Paid Fishermen = \$750/ton

Total Estimated Value to Fishermen = *Confidential*

Number of Participating Vessels = *Less than four fishermen
participating*

Notes: The Chignik herring fishery was open April 15 through June 30 on odd days only. All harvests came from the Lake and Anchorage bays area. On May 23 fishermen reported large numbers of juvenile herring in Lake Bay catches, and on May 24 Lake Bay was closed by emergency order. Although the fishery was open until June 30 there were no reported deliveries after June 1. District wide aerial surveys revealed a biomass of 293 tons of herring. The majority, 99 percent, were observed in the Central, Chignik Bay, Western, and Perryville districts.

Alaska Peninsula Sac-Roe Fishery

Estimated Harvest = 607 tons

Avg. Roe Percentage = 8.2% North Peninsula, 8.6% South
Peninsula

Prices Paid Fishermen = \$1000/ton

Total Estimated Value to Fishermen = \$567,000

Number of Participating Vessels = 55 seiners (North), 6
seiners (South)

Notes: The North Peninsula sac roe herring harvest totaled 230 tons. Deliveries occurred from May 28 through June 17. As in the 1986 and 1987 seasons, large amount of effort moved to Port Moller after the Togiak herring fishery ended. There were 55 seine vessels present early in the fishery with 22 tenders representing 10 companies registered to buy fish. Only 9 fishermen actually made landings with 3 companies buying the catch. Eight tons were taken from Herendeen Bay with the remainder taken in Moller Bay. Department surveys documented a biomass of 1,600 tons, of which 780 tons was juvenile herring. Estimates should be considered minimum due to poor visibility and poor flying conditions. The South Peninsula sac roe herring was harvested by 6 vessels from May 14 through June 17. Three companies purchased fish. A total of 11 aerial surveys were flown on the South Peninsula, however the presence of capelin and other schooling fish made it very difficult to estimate herring biomass. A fair degree of recruitment is expected because during the 1987 season almost 20 percent of the catch was made up of 3 year old fish.

A-Y-K REGION

The A-Y-K Region total herring harvest for 1988 was approximately 7,800.8 tons with a total estimated value to the fishermen of \$4,979,000. The only food/bait fishery in this region occurs during the sac-roë fishery when the roë content is below the processors' acceptable minimums. A very small portion of the harvest is sold in this manner. The food/bait sales totaled 443.8 tons, while the sac roë harvest was 7,357 tons. Eight hundred and thirty-two permittees participated in AYK herring fisheries during the 1988 season. This represents a 30 percent decrease in fisherman participation from the record effort levels of the 1987 season. This reduction in effort was due in part to a limited entry moratorium which prohibited fishermen who had not participated in the fishery prior to the 1987 season from fishing in the Nelson Island, Cape Romanzof, and Norton Sound areas.

The Board of Fisheries adopted several new regulations for the 1988 season which affected herring fisheries and the AYK Region. Board actions included establishing regulations which restricted vessel and gear specifications and operations. In addition, the Board established the Cape Avinof District, a new superexclusive registration area herring fishery located along the middle Kuskokwim Delta.

Goodnews Bay Sac-Roe

Estimated Harvest = 482.7 tons

Avg. Roe Percentage = 8.0%

Price Paid Fishermen = \$900-\$1000/ton for 10%
roe content

Total Estimated Value to Fishermen = \$463,400

Number of Participating Permittees = 60 gillnetters

Notes: In the Goodnews Bay District 7 companies registered and 6 companies actually purchased herring during the 1988 herring season. The initial harvest guideline of 130 tons was increased to 240 tons on May 19 and then to 450 tons on May 21 as observed biomass during aerial surveys increased. The district was opened to the commercial harvest of herring on May 24 for 8 hours beginning at midnight on May 24. An estimated 152.1 tons were taken with a percent roe of 7.67. A second opening was held for an additional 8 hours on May 24. An estimated 71.1 tons were taken with a roe recovery of 8.55 percent. a third opening was announced for 8 hours on May 25. An estimated 121.9 tons were taken with a roe recovery of 7.48 percent. A fifth and final opening was allowed on May 26 for 8 hours. An estimated 9.38 tons of herring were harvested with a roe recovery of 8.9 percent. Age composition by scale analysis indicated 49 percent were 9+ year old herring.

Security Cove Sac-Roe

Estimated Harvest = 324.2 tons

Avg. Roe Percentage = 9.3%

Price Paid Fishermen = \$900-\$1000/ton for 10% roe content

Total Estimated Value to Fishermen = \$361,800

Number of Participating Permittees = 31 gillnetters

Notes: In the Security Cove District four companies registered and purchased herring during the 1988 herring season. The initial harvest guideline of 150 tons was increased to 200 tons on May 17 and then to 240 tons on May 19 as observed biomass during the aerial surveys increased. The district was opened to the commercial harvest of herring on May 19 for 8.5 hours. A 9 hour extension on May 20 was announced when a catch of only 90 tons was estimated. After the closure of the first period, verbal estimates from three purchasing companies indicated 129 tons of herring with an average roe recovery of 10.2 percent had been taken by approximately 10 fishermen. The district was reopened for 7 hours on May 20. At the close of the second commercial period, verbal estimates from four purchasing companies indicated 198.5 tons of herring with an average roe recovery of 9.7 percent had been taken. Estimated age composition was: Age 5, less than 1 percent; Age 6, 4 percent; Age 7, 15 percent; Age 8, 21 percent; Age 9+, 60 percent.

Cape Avinof Sac-Roe

Estimated Harvest = 347.7

Avg. Roe Percentage = 8.5%

Price Paid Fishermen = \$900-\$1000/ton for 10% roe content

Total Estimated Value to Fishermen = \$264,300

Number of Participating Permittees = 98 gillnetters

Notes: In the Cape Avinof District, three companies

registered and one company actually purchased herring during the 1988 herring season. The initial harvest guideline of 80 tons was increased to 115 tons on May 23, increased again to 235 tons on May 27, and then to 410 tons on May 29 as observed biomass during aerial surveys increased. The newly established district was opened to the commercial harvest of herring on May 29 for 3 hours. The commercial period was extended 4 hours on May 30. With only 16 tons landed the district was opened until further notice. The Cape Avinof District closed on June 3, when roe percentages began dropping and the purchasing company had to pull out due to prior commitments. The estimated harvest fell 85 tons short of the harvest guideline.

Nelson Island Sac-Roe

Estimated Harvest = 774.7 tons

Avg. Roe Percentage = 9.2%

Price Paid Fishermen = \$900-\$1000/ton for 10% roe content

Total Estimated Value to Fishermen = \$712,700

Number of Participating Permittees = 174 gillnetters

Notes: In the Nelson Island District 8 companies registered and 7 companies actually purchased herring during the 1988 herring season. The initial harvest guideline of 500 tons was increased to 7145 tons on May 25 as observed biomass during aerial surveys increased. The district was opened for commercial harvest of herring on May 26 for 4 hours. The first opening took an

estimated 447 tons of herring. A second opening was allowed on May 26 for 3.5 hours during which approximately 353 tons of herring were taken. The estimated age composition for the Nelson Island sac roe fishery was as follows: Age 5, 1 percent; Age 6, two percent; Age 7, 8 percent; Age 8, 10 percent; Age 9+, 79 percent.

Nunivak Island Sac-Roe

Notes: Seven companies registered to purchase herring in the Nunivak Island District in 1988. Commercial test fishing in the Nunivak Island failed to find any quantity of herring with marketable roe. This resulted in no commercial herring fishery.

Cape Romanzof Sac-Roe

Estimated Harvest = 1,119.4 tons

Avg. Roe Percentage = 9.1

Price Paid Fishermen = \$1000/ton for 10% roe content

Total Estimated Value to Fishermen = \$1,020,000

Number of Participating Permittees = 113 gillnetters

Notes: Commercial Pacific herring fishing was initiated on May 24 with a 6 hour period resulting in a harvest of 492.5 tons landed by 111 fishermen. A second and final period of 5 hours was held on May 26 during which 627 tons of herring were delivered by 111 fishermen.

Norton Sound Sac-Roe

Estimated Harvest = 4,672.1 tons (includes 416.2 tons
sold as food/bait herring)

Avg. Roe Percentage = 9.0%

Price Paid Fishermen = \$1000/ton for 10% roe content

Total Estimated Value to Fishermen = \$3,900,000

(includes \$38,707 food/bait)

Number of Participating Permittees = 6 beach seiners
and 343 gillnetters

Notes: There were 11 companies present on the grounds during the season to purchase herring. These 11 companies registered 12 processors and 53 tenders to operate in Norton Sound; a total of 12 processors and 49 tenders were reported by company representatives to have arrived on the grounds prior to the fishery closure on May 31. The 1988 Norton Sound herring fishery opened by emergency order on May 27. A total of 5 gillnet openings for 44 hours of fishing and 6 beach seine openings for 25 hours of fishing occurred during the season. The entire district closed by emergency order on May 31. Three hundred forty-three fishermen used gill nets, landing a total of 4473.7 tons; 6 fishermen participated in the beach seine fishery landing 198.4 tons of herring. The beach seine openings were conducted during separate times from the gill net openings to prevent gear conflicts. This amounted to the second highest effort on record since a large scale

domestic fishery began in 1980. Fishing effort during the 1980 to 1986 period averaged 276 fishermen. Effort levels in 1987 escalated to a record high of 564 fishermen. The fishing effort during 1988 was lower than in 1987 because of the moratorium on new effort, which allowed only fishermen who had participated prior to January 1, 1987 to participate in 1988, and the bulk of the tendering and non-local fleet was not present on the grounds when the fishery opened. The estimated inseason district biomass was 33,924 tons. the peak biomass was observed on May 25, and was the highest peak and single survey biomass estimate documented in the history of the Norton Sound herring fishery. However, due to the timing of the arrival for the peak biomass and the lack of processing and tendering capacity present on the grounds, it was not possible to fully harvest the available surplus. The commercial harvest of four thousand six hundred seventy-two tons represented an exploitation of 13.8 percent.

Port Clarence Sac-Roe

Estimated Harvest = 80 tons

Avg. Roe Percentage = 8.2%

Price Paid to Fishermen = \$1000/ton for 10% roe content

Total Estimated Value to Fishermen = \$57,500

Number of Participating Permittees = 2 purse seiners
and 6 gillnetters

Notes: The Port Clarence District commercial

herring fishery opens by regulation on April 15 and closes by regulation on November 15, providing the harvest guideline has not been met earlier. Existing regulations set a guideline harvest of 150 metric tons for the district. The guideline has not been published in regulation recently, but was assumed to still be in effect since the Board of Fisheries had not taken action on that topic since 1984. A tender, processor, and a japanese tramper traveled to Port Clarence on June 6. One purse seine vessel was observed inside Port Clarence during an aerial survey on June 6. The pruse seiner had traveled through the ice to Teller, followed by the other vessels on June 7. In addition to the seiner, six gillnet vessels composed the fishing fleet. The bulk of the gillnet catch was caught on the incoming tide on June 11 (approximately 18 tons). Catches soon dropped to almost nothing, and all gillnets were out of the water by June 12. The total gillnet harvest was estimated to be 23.6 short tons with an average roe content of 8.86 percent. A total of 56.4 tons of herring with and average roe percent of 7.57 was harvested in a purse seine set made on June 11 on the outside of the Port Clarence spit. Three unsuccessful attempts to seine herring were made on June 12. One seine set was made on June 13, which captured a small school of tom cod.

Table 1. Alaska herring harvest in tons for 1987/88 season.^{1/}

<u>Region/Area</u>	<u>Bait</u>	<u>Sac-Roe</u>	<u>Total</u>	<u>Roe-on-Kelp</u>
<u>Southeastern Region</u>				
Seymour Canal	--	586.4	586.4	--
Sitka Sound	--	9,390.0	9,390.0	--
Kah Shakes	--	1,145.4	1,145.4	--
Other locations	4,147.0	--	4,147.0	--
Totals	4,147.0	11,121.8	15,268.8	--
<u>Central Region</u>				
Prince William S.	1,190	8,214	9,404	221
Cook Inlet	60	5,583	5,643	--
Bristol Bay	69	13,917	14,124	244.7
Totals	1,319	27,714	29,171	465.7
<u>A-Y-K Region</u>				
Goodnews Bay	--	482.7	482.7	--
Security Cove	--	324.2	324.2	--
Cape Avinof	--	347.7	347.7	--
Nelson Island	--	774.7	774.7	--
Nunivak Island	NO COMMERCIAL HERRING FISHERY			--
Cape Romanzof	--	1,119.4	1,119.4	--
Norton Sound	416.2	4,255.9	4,672.1	--
Port Clarence	--	80	80	--
Totals	416.2	7,384.6	7,800.8	--
<u>Westward Region</u>				
Kodiak	216	2,170.9	2,386.9	--
Chignik	--	58.8	58.8	--
Alaska Peninsula	1,981.5	607.0	2,588.5	--
Totals	2,197.5	2,836.7	5,034.2	--
STATEWIDE TOTAL	8,079.7	49,057.1	57,136.8	465.7

^{1/} All figures are preliminary.

1986-88 Alaska Sac-Roe Herring Catch Comparisons (in tons)
and 1989 Harvest Projections

	<u>1986</u>	<u>1987</u>	<u>1988</u> ^{1/}	<u>1989</u>
<u>Southeast Region</u>				
Kah Shakes	1,537	1,439	1,145	647
Sitka Sound	5,443	4,216	9,390	11,700
Seymour Canal	339	302	586	332
Totals	<u>7,319</u>	<u>5,957</u>	<u>11,121</u>	<u>12,679</u>
<u>Central Region</u>				
Prince William S.	10,448	5,429	8,214	7,693
Upper Cook Inlet	308	210	38	75
Lower Cook Inlet	2,154	6,850	5,545	5,293
Bristol Bay	16,254	15,107	13,917	13,504
Totals	<u>29,164</u>	<u>27,596</u>	<u>27,714</u>	<u>26,565</u>
<u>A-Y-K Region</u>				
Security Cove	752	313	324	331
Goodnews Bay	544	179	483	308
Cape Avinof	---	---	348	278
Nunivak Island	511	274	---	97
Nelson Island	885	915	775	247
Cape Romanzof	1,865	1,382	1,119	798
Norton Sound	4,979	3,779	4,256	4,250
Port Clarence	---	146	80	136
Totals	<u>9,536</u>	<u>6,988</u>	<u>7,385</u>	<u>6,445</u>
<u>Westward Region</u>				
Kodiak	1,558	2,161	2,171	2,000
Chignik	9	78	59	60
South Peninsula	282	319	377	600 ^{2/}
North Peninsula	889	512	230	***
Totals	<u>2,738</u>	<u>3,070</u>	<u>2,837</u>	<u>2,660</u>
STATEWIDE TOTALS	<u>48,757</u>	<u>43,611</u>	<u>49,057</u>	<u>48,349</u>

^{1/} All harvest figures for 1988 are preliminary.

^{2/} South and North Peninsula harvest combined, Peninsula total is 600 tons

1989 HERRING FORECASTS

STATEWIDE 1989 HERRING HARVEST PROJECTIONS

Commercial herring sac roe and food and bait fisheries are conducted in over 20 locations in Alaska. Since the full development of sac roe fisheries in 1980, statewide commercial herring harvests in all herring fisheries have ranged between 40,000 and 55,000 tons. The large harvests which occurred between the 1920's and the mid 1960's occurred during herring reduction fisheries. Reduction plants had ceased production by the mid 1960's, and only relatively small amounts of herring were taken for food and bait products until the development of sac roe fisheries in the early 1970's. In recent years sac roe fisheries have accounted for about 85% of the total herring harvest.

Herring harvest projections are based on aerial surveys, spawn deposition surveys, hydroacoustical surveys, and age composition sampling of commercial and test fishing catches. All herring harvests and biomass estimates are reported in short tons (2000 lbs), and 1989 harvests refer to the January 1, 1989 to December 31, 1989 calendar year.

The total harvest for 1989 is projected to be about 57,160 tons of herring from sac roe and food and bait fisheries, and 410 tons of herring spawn-on-kelp. This is approximately the same as the total 1988 harvest of 57,149 tons of herring and 466 tons of spawn-on-kelp. The 1988 harvest had an estimated ex-vessel value of \$55,586,000. Herring sac roe fisheries are projected to harvest 48,348 tons in 1989, down slightly from the 1988 harvest of 49,350 tons which had an ex-vessel value of approximately \$48,727,000. Herring food and bait fisheries are projected to harvest 8,829 tons in 1989, up from the 1988 harvest of 7,799 tons which was valued at \$2,172,000. The 410 ton projected 1989 herring spawn-on-kelp harvest is down slightly from the 466 ton 1988 harvest which had an estimated value of \$5,056,000.

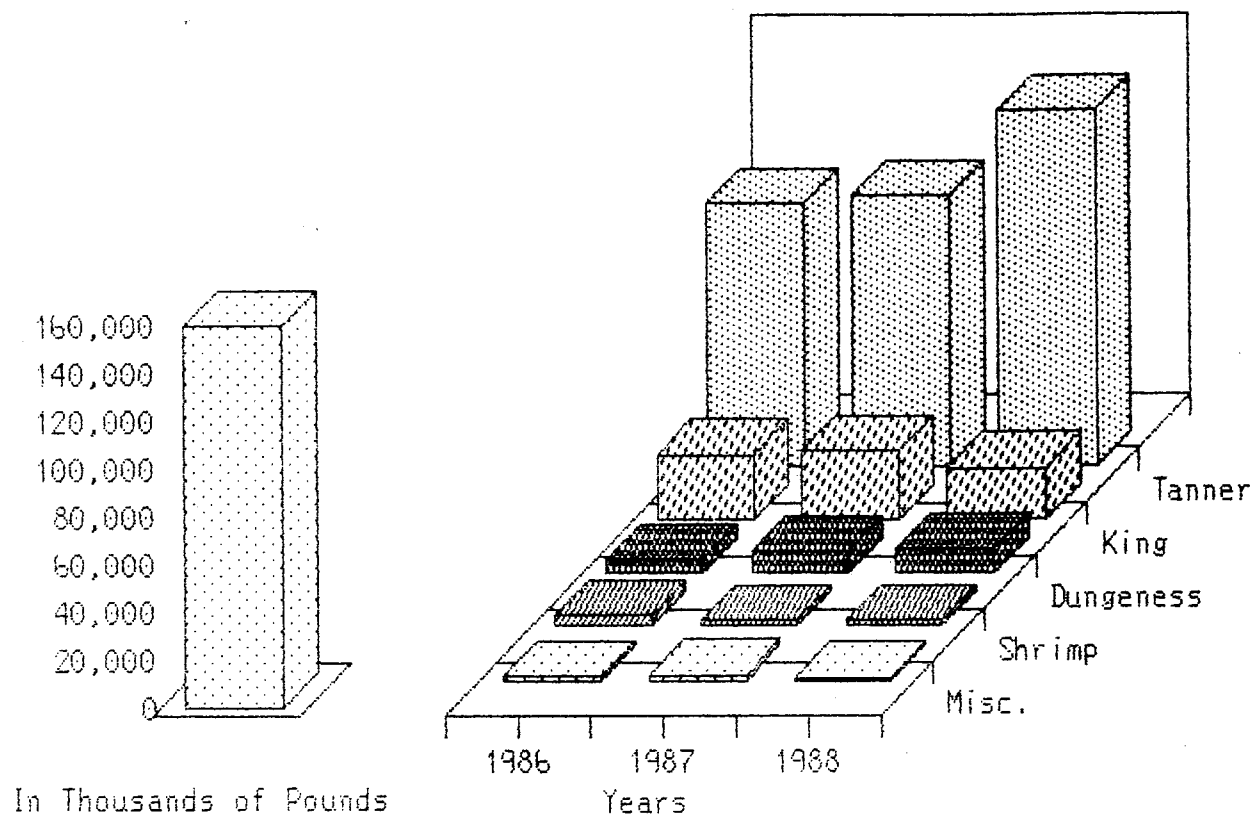
The strong 1984 year class will return as age 5 in 1989 and is expected to be the major component of the 1989 herring stocks in most areas of the Gulf of Alaska. Forecast biomass levels and harvests in most Gulf of Alaska areas will increase from the 1988 levels. The 1984 year class is not as strong in Bering Sea areas and is noticeably absent from the Togiak stock of Bristol Bay. No substantial recruitment has been observed in recent years to the important Togiak herring stock in Bristol Bay. The abundance of the Togiak stock is projected to decline rapidly as the previously strong 1977 and 1978 year classes increase in age.

For major herring stocks, the Alaska Department of Fish and Game (ADF&G) conducts detailed stock assessment programs and makes formal projections of the expected biomass and harvests for the upcoming year. For other stocks, detailed stock assessment programs are not conducted and informal harvest outlooks are based

on recent average harvest levels and other available information. While harvest projections and outlooks represent what is thought to be the best use of the available information, caution is advised in the interpretation of the results. Many of the projections are based on preliminary information, and harvests have on occasion been substantially different than initial projections.

SHELLFISH

1986-88 Shellfish Harvests



P R E L I M I N A R Y
1 9 8 7 - 8 8 R E G U L A T O R Y S E A S O N
S H E L L F I S H T O T A L S

KING CRAB

Southeast

Red (Paralithodes camtschatica) closed, no season.
Blue (P. platypus) 1,519 pounds @ 3.70/lb = \$5772.
Brown (P. brevipes) Catch is through early December and
includes exploratory catch also: 921,550
pounds @ \$3.60/lb = \$3,317,580.

Prince William Sound

Red Closed, no season.
Brown 48,422 pounds @ \$4.00/lb = \$193,688.

Cook Inlet

Red Closed, no season.
Brown no effort.

Kodiak (through January 1, 1989)

Red Closed, no season.
Brown 67,191 pounds @ \$3.44/lb = \$231,137.

South Peninsula (through January 1, 1989)

Closed, no season.

Dutch Harbor (through January 1, 1989)

Red Closed, no season.
Brown 1,383,198 pounds @ \$2.85/lb = \$3,942,114.

Adak (through January 1, 1989)

Red 1,213,933 pounds @ \$4.00/lb = \$4,855,732.
Brown 8,001,989 pounds @ \$3.00/lb = \$24,005,967.

Bering Sea (through January 1, 1989)

Pribilof District

Red Closed, no season.
Blue 701,337 pounds @ \$4.00/lb = \$2,805,348.
Brown confidential, less than four fishermen reporting.

Bering Sea (through January 1, 1989)

Northern District

Red Closed, no season.
Blue 1,075,179 pounds @ \$2.85/lb = \$3,064,260.
Brown 424,394 pounds @ \$2.60/lb = \$1,103,424.

KING CRAB *continued*

Bering Sea

Norton Sound Section

Confidential, less than four fishermen.

Bristol Bay

Red 12,289,067 pounds @ \$4.00/lb = \$49,156,268.

KING CRAB TOTALS: 26,390,779 POUNDS, \$93,230,690.

TANNER CRAB

Southeast

C. bairdi: 1,296,000 million pounds @ \$2.32/lb = \$3,008,600.

Yakutat

C. bairdi: *confidential, less than 4 fishermen reporting.*

Prince William Sound

C. bairdi 474,000 pounds @ \$2.25 = \$1,066,500.

Cook Inlet (87-88 through December 12, 1988)

C. bairdi: 2,447,700 pounds @ \$2.35/lb = \$5,752,095.

Kodiak

C. bairdi: 3,888,906 pounds @ \$2.40/lb = \$9,333,374.

Chignik

C. bairdi: 183,111 pounds @ \$2.33/lb = \$426,649.

South Peninsula

C. bairdi: 3,328,809 pounds @ \$2.20/lb = \$7,323,380.

Dutch Harbor

C. bairdi: 309,918 pounds @ \$2.10/lb = \$650,828.

Bering Sea

C. bairdi: 2,210,394 pounds @ \$2.17/lb = \$4,796,555.

C. opilio: 135,354,637 pounds @ \$0.77/lb = \$104,223,070.

Adak/Western Aleutians (through Mid-December 1988)

C. bairdi: 141,390 pounds @ \$2.10/lb = \$296,919.

C. bairdi totals, 14,280,228 pounds, \$32,654,900.

C. opilio totals, 135,354,637 pounds, \$104,226,058.

DUNGENESS CRAB

Southeast (through mid-December)

Seasons June 15-August 1 and October 1-February 28
3,240,225 pounds @ \$0.85-\$0.93/lb = \$2,872,100.

Yakutat (through mid-December)

Seasons May 15-July 15 and November 1-February 28
3,464,506 pounds @ \$1.02-\$1.05/lb = \$3,585,764.

Prince William Sound

603,000 pounds @ \$0.85/lb = \$512,550.

Cook Inlet (through December 10, 1988)

782,570 pounds @ \$1.10-\$1.30/lb = \$939,084.

WESTWARD (through November 1988)

Kodiak

2,125,032 pounds @ \$1.06/lb = \$2,252,534.

Chignik

Confidential.

South Peninsula

Confidential.

Dutch Harbor

22,634 pounds @ \$0.90/lb = \$20,371.

Bering Sea

No Fishery

Dungeness totals: 10,416,939 pounds, \$10,361,375.

SHRIMP

Southeast

Beam Trawl (Pink, Coonstripe, and Sidesripe shrimp) 1,640,533 pounds @ \$0.15-\$0.25/lb = \$321,300
Pot Gear (Spot shrimp) Through mid-December, 310,000 pounds @ \$2.00-\$6.50 = \$804,700.

Prince William Sound

Trawl (mostly sidesripe shrimp) 120,000 pounds @ \$1.25/lb = \$150,000.
Pot Gear (mostly spot shrimp) 157,761 pounds @ \$3.33 = \$525,344.

SHRIMP *continued*

Cook Inlet (through December 10, 1988)

Trawl *confidential, less than four fishermen reporting.*

Pot Gear (mostly coonstripe shrimp) 18,768 pounds @ \$1.50/lb
\$28,152.

Kodiak

Pot Gear *Confidential.*

Bering Sea

Pribilof *Confidential.*

South Peninsula

No. Fishery

Dutch Harbor

Confidential.

Trawl shrimp totals 1,761,064 pounds, \$471,300.

(Does not include confidential figures)

Pot shrimp totals: 486,529 pounds, \$1,358,196.

(Does not include confidential figures)

MISCELLANEOUS SHELLFISH

Southeast

Abalone 75,535 pounds @ \$5.11/lb = \$386,200.

Octopus 14,500 pounds @ \$1.23/lb = \$17,900.

Geoduck Clams 173,000 pounds @ \$0.30/lb = \$52,000.

Sea Urchins *Confidential, less than 4 fishermen reporting.*

Sea Cucumbers *Confidential*

Weathervane Scallops *Confidential*

The commercial value of SE Sea Urchins, Sea Cucumbers,
Weathervane Scallops, and Yakutat Tanner Crab = \$129,000.

Prince William Sound

Razor Clams 6,766 pounds @ \$1.10/lb = \$7,443.

Cook Inlet (through November 1988)

Razor Clams (1987-88 season) 311,668 pounds @ \$0.50 =
\$155,834.

Hardshell Clams *Confidential.*

Octopus 5,532 @ \$1.00/lb = \$5,532.

Miscellaneous Shellfish *continued*

Kodiak (through November 1988)

Razor Clams No fishery.

Scallops Confidential.

Sea Urchins 190,509 pounds @ 0.80/lb = \$152,407.

Octopus Confidential.

South Peninsula (through November 1988)

Octopus 42,282 pounds @ \$0.92/lb = \$39,819.

Dutch Harbor (through November 1988)

Scallops Confidential.

Korean Hair Crab No fishery.

Bering Sea

Pribilof

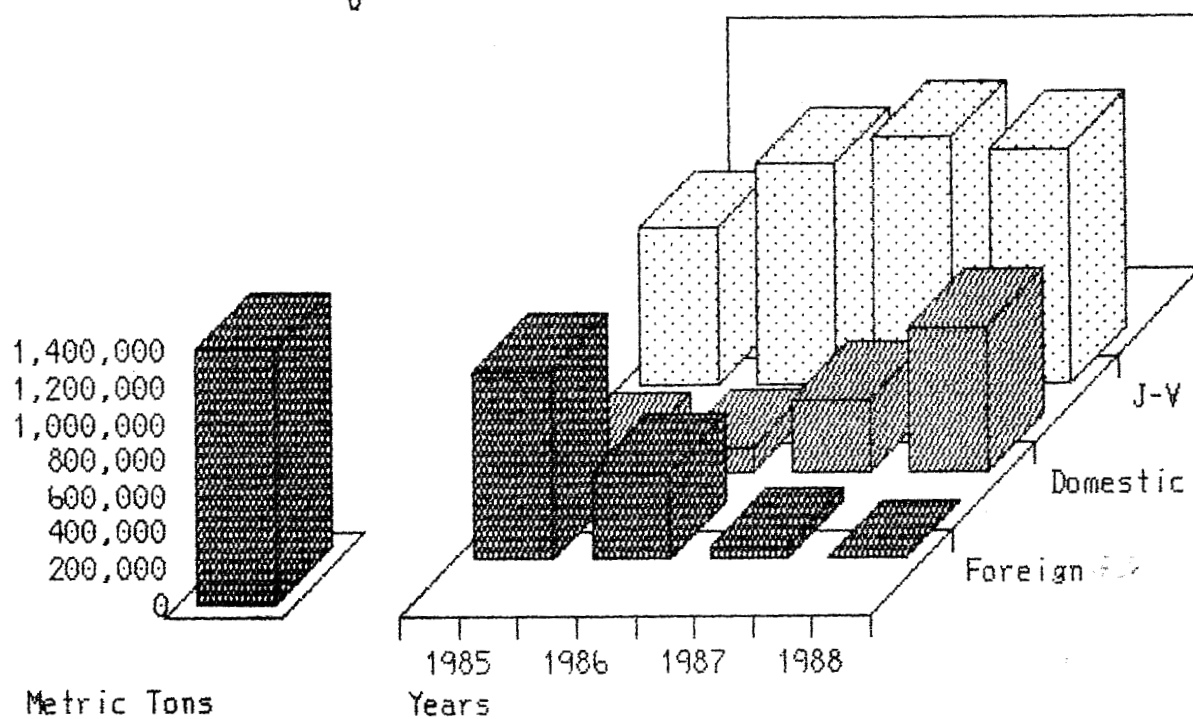
None fished.

Miscellaneous Shellfish totals: 1,069,215 pounds, \$1,802,411.

Compiled 3/14/89
Herman Savikko

GROUND FISH

1985-88 Groundfish Landings (Foreign, Joint Venture, and Domestic)



1985 - 1988 Groundfish Landings (metric tons)

HARVESTS:

	<u>FOREIGN</u>	<u>JOINT VENTURE</u>	<u>DOMESTIC</u>	<u>JV & DOMESTIC</u>
1985	1,037,385	870,756	122,501	993,257
1986	475,091	1,222,033	136,344	1,358,377
1987	68,169	1,370,000	401,503	1,771,503
1988	0	1,304,163	793,505	2,097,668

VALUE:

1985	No Estimate	98,570,000	38,516,000	137,086,000
1986	No Estimate	142,720,250	55,209,000	197,929,150
1987	No Estimate	188,000,000	142,520,000	330,520,000
1988	No Estimate	436,900,000	254,900,000	640,200,000

P R E L I M I N A R Y

NPFMC AREA REPORT: COMM. GROUNDFISH LANDED CATCH (MTONS) FOR 1988 FOR ALL GEARS

SPECIES	ALEUTIAN	BERING SEA	ALEUT&BS	W. GULF	C. GULF	YAKUTAT	SOUTHEAST	E. GULF	GULF	TOTAL
ARROWTOOTH FLOUNDER	108.8	2403.9	2512.7	377.0	4201.9	626.5	15.8	642.3	5221.3	7734.8
UNSPECIFIED TURBOTS	22.2	2512.7	2534.9	-	-	-	-	-	-	2534.9
___TURBOTS	131.0	4916.6	5047.6	377.0	4201.9	626.5	15.8	642.3	5221.3	10269.7
ALASKA PLAICE	-	-	-	-	2.1	-	-	-	2.1	2.1
DOVER SOLE	-	-	-	-	927.0	-	TR	TR	927.1	927.1
ENGLISH SOLE	-	-	-	-	5.6	-	5.5	5.5	11.1	11.1
GREENLAND TURBOT	777.8	6021.1	6798.9	82.3	106.4	1.3	-	1.3	190.0	6991.0
REX SOLE	-	2.3	2.3	0.1	661.3	0.1	0.1	0.2	661.7	663.9
ROCK SOLE	40.1	22405.0	22445.1	6.7	785.8	4.1	11.8	15.9	808.4	23253.5
STARRY FLOUNDER	-	-	-	-	91.8	-	267.8	267.8	359.5	359.5
YELLOWFIN SOLE	0.8	218055.2	218056.1	-	24.0	-	18.0	18.0	42.1	218098.1
OTHER FLATFISH	-	-	-	0.3	704.7	-	12.4	12.4	717.4	717.4
UNSP. FLATFISH	95.6	117211.6	117307.2	250.6	4261.5	177.4	12.0	189.4	4701.4	122008.6
___ALL FLATFISH	1045.4	368611.7	369657.1	717.1	11772.2	809.3	343.4	1152.7	13642.1	383302.1
BLACK ROCKFISH	-	-	-	-	112.0	38.7	25.9	64.5	176.5	176.8
BOCACCO	-	-	-	-	-	TR	TR	TR	TR	TR
CANARY ROCKFISH	-	-	-	-	TR	TR	3.9	3.9	3.9	3.9
DARKBLOTCHED ROCKFIS	-	-	-	-	0.1	TR	-	TR	0.1	0.1
DUSKY ROCKFISH	-	-	-	-	11.7	TR	2.2	2.3	14.0	14.0
OTHER DEMERSAL RKFISH	-	-	-	-	-	0.1	5.1	5.2	5.2	5.3
QUILLBACK ROCKFISH	-	-	-	-	0.1	1.0	151.5	152.5	152.5	153.6
REDBANDED ROCKFISH	-	-	-	-	0.1	2.7	5.4	8.0	8.1	8.1
ROSETHORN ROCKFISH	-	-	-	-	-	0.3	2.7	3.0	3.0	3.0
ROUGH-EYE ROCKFISH	1.8	0.1	1.9	2.4	13.7	20.7	46.4	67.1	83.3	86.3
SHORTRAKER ROCKFISH	14.6	-	14.6	6.0	22.5	6.2	0.9	7.1	35.4	51.4
SILVERGREY ROCKFISH	-	-	-	-	-	0.3	1.1	1.4	1.4	1.4
UNSP. DEMERSAL RKFISH	27.3	24.6	51.9	162.3	217.0	TR	3.6	3.6	382.9	434.9
UNSP. PELAGIC RKFISH	-	9.5	9.5	232.3	340.8	116.7	0.2	116.9	690.0	699.4
UNSP. SLOPE RKFISH	7.5	11.5	19.0	2266.8	6109.6	4043.6	440.4	4484.1	12860.5	12879.5
YELLOW-EYE ROCKFISH	6.3	2.2	8.5	5.3	86.0	56.1	516.0	572.1	663.4	674.5
YELLOWTAIL ROCKFISH	-	-	-	-	-	-	TR	TR	TR	TR
PACIFIC OCEAN PERCH	707.4	1459.4	2166.8	226.4	439.6	111.6	1.0	112.5	778.6	2945.4
UNSP. POP GROUP	1489.4	46.5	1535.8	-	3.8	-	-	-	3.8	1539.6
THORNYHEADS	149.4	186.3	335.7	751.9	1076.1	556.6	116.7	673.3	2501.3	2839.4
WIDOW ROCKFISH	-	-	-	-	-	-	TR	TR	TR	TR
UNSP. ROCKFISH	535.2	115.6	650.7	21.7	238.1	19.6	37.4	57.0	316.8	967.9
___ALL ROCKFISH	2938.8	1855.6	4794.4	3675.2	8671.2	4974.3	1360.4	6334.7	18681.2	23484.5
ATKA MACKEREL	21511.1	167.2	21678.3	67.5	0.2	-	-	-	67.8	21746.1
LINGCOD	-	-	-	-	11.0	32.7	242.1	274.8	285.8	286.6
PACIFIC COD	5220.0	188585.2	193805.3	5253.6	26585.7	39.5	246.5	286.0	32125.3	225936.1
SABLEFISH	3417.5	3191.6	6609.1	3471.7	13448.0	6759.9	7391.6	14151.5	31071.2	37728.4
WALLEYE POLLOCK	43594.3	1293376.2	1336970.6	4099.4	49729.3	63.7	1.9	65.6	53894.2	1390864.8
UNSP. ROUND FISH	-	-	-	-	-	-	TR	TR	TR	TR
___ALL ROUND FISH	73743.0	1485320.3	1559063.3	12892.3	89774.2	6895.8	7882.0	14777.8	117444.3	1676562.1
SPINY DOGFISH	-	-	-	-	-	-	16.3	16.3	16.3	16.5
UNSPECIFIED SQUID	8.7	442.1	450.8	40.3	26.2	9.2	1.6	10.8	77.4	528.2
OTHER GROUND FISH	-	-	-	TR	4.4	9.5	145.7	155.2	159.6	160.9
UNSP. GROUND FISH	356.1	12390.5	12746.6	164.5	589.5	100.2	12.9	113.1	867.1	13613.7
___MISC. GROUND FISH	364.8	12832.6	13197.4	204.9	620.1	118.9	176.5	295.4	1120.4	14319.2

THIS REPORT INCLUDES ONLY DATA FOR NORTH PACIFIC COUNCIL INPFC AREAS

P R E L I M I N A R Y

NPFMC PERIOD REPORT: MONTHLY COMM. GROUNDFISH LANDED CATCH (MTONS) FOR 1988 FOR ALL GEARS, ALL AREAS

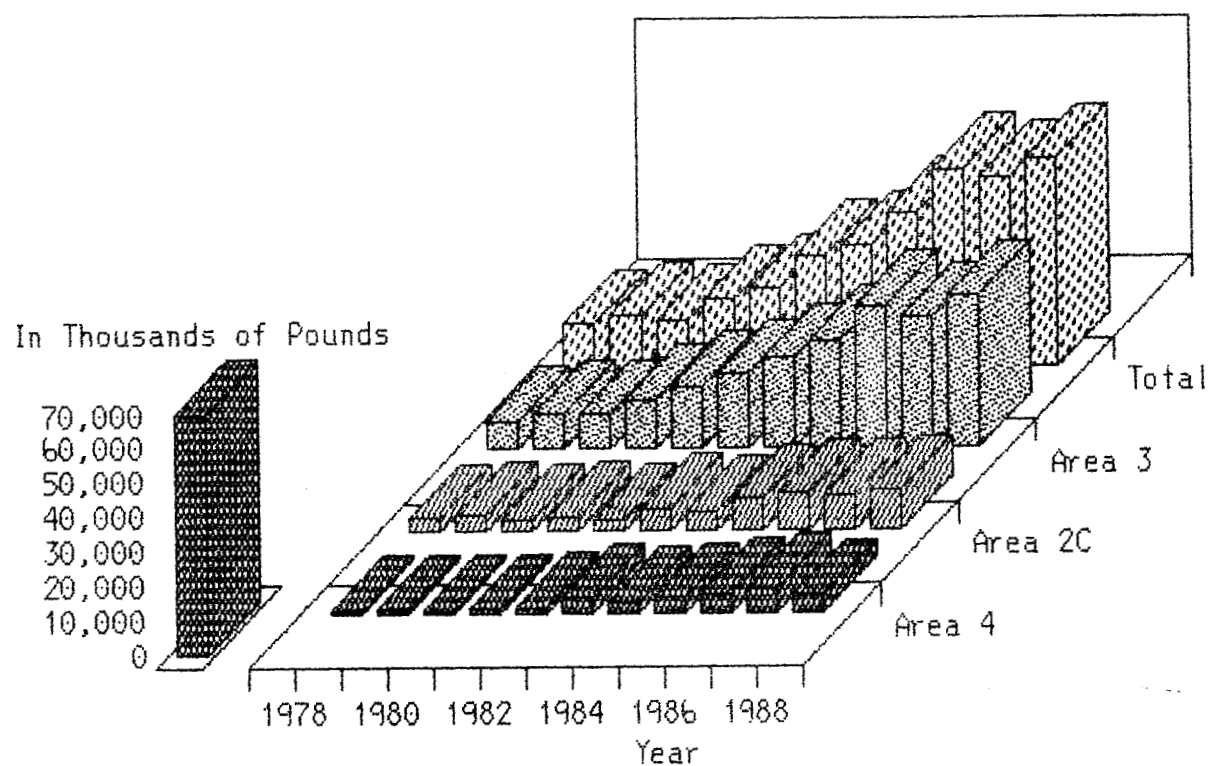
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ALL GROUNDFISH	225797	270069	234913	263326	318401	112455	95643	86024	163973	145045	115818	66205	2097668

THIS REPORT INCLUDES ONLY DATA FOR NORTH PACIFIC COUNCIL INPFC AREAS

TR => LANDED CATCH LESS THAN 0.5 METRIC TONS, OR METRIC TONS PER UNIT OF EFFORT LESS THAN 0.005

HALIBUT

Alaska Halibut Landings 1978-1988



ALASKA HALIBUT LANDINGS AND VALUE 1978-1988

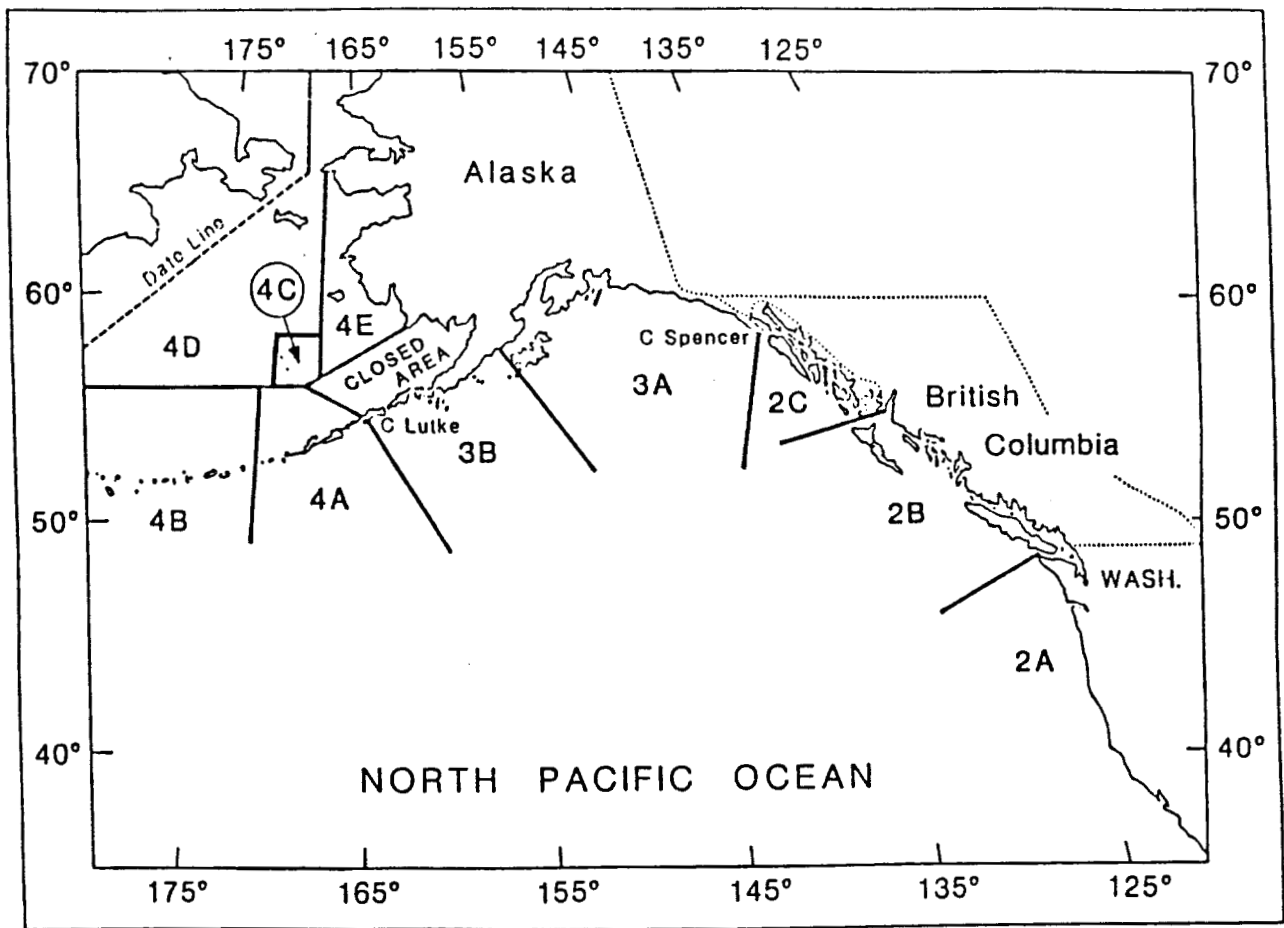
CATCH IS IN THOUSANDS OF POUNDS

<u>YEAR</u>	<u>AREA 2C</u>	<u>AREA 3</u>	<u>AREA 4</u>	<u>TOTAL</u>	<u>VALUE IN MILLIONS OF \$</u>
1978	3,746	8,348	624	12,808	\$23.4
1979	4,412	10,087	952	15,451	\$36.5
1980	3,260	10,291	713	14,264	\$13.6
1981	4,212	14,681	1,185	20,078	\$20.2
1982	3,500	(3A) 13,530 (3B) <u>4,801</u> 18,331	1,429	<u>23,260</u>	\$21.4
1983	6,398	(3A) 14,112 (3B) <u>7,751</u> 21,863	4,422	<u>32,683</u>	\$36.9
1984	5,847	(3A) 19,971 (3B) <u>6,503</u> 26,474	3,164	<u>35,485</u>	\$24.9
1985	9,207	(3A) 20,852 (3B) <u>10,808</u> 31,660	4,284	<u>45,231</u>	\$40.3
1986	10,611	(3A) 32,790 (3B) <u>8,831</u> 41,621	5,333	<u>57,565</u>	\$79.4
1987	10,400	(3A) 30,500 (3B) <u>7,500</u> 38,000	6,890	<u>55,340</u>	\$60.9
1988*	11,400	(3A) 38,000 (3B) <u>6,200</u> 44,200	4,800	<u>60,400</u>	\$74.5

* *preliminary data*

data compiled 02/09/89

COMMERCIAL HALIBUT REGULATORY AREAS FOR 1988



As defined by the International Pacific Halibut Commission