

ANNUAL SUMMARY OF YAKUTAT  
FINFISH AND SHELLFISH OPERATIONS  
1988

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INTRODUCTION/OVERVIEW

## YAKUTAT AREA SETNET-1988

The 1988 Yakutat setnet fishery produced a cumulative catch of 518,400 salmon which was 38% above the recent 10-year average and the highest production for the area since 1941. Sockeye returns to most streams were average to slightly below average, but coho, pink, and chum returns were all strong. Coho and pinks comprised 63% of the total harvest. Chum harvest was 114% above the recent 10-year average, with the East River accounting for 84% of the catch. King harvest was 54% below average, but harvest was affected by various restrictions, particularly the ban on retention of kings in the Situk River. Prices for all species were at record levels all season and, when combined with the excellent harvest, produced an average setnet income of \$55,901.

### Sockeye Salmon

Sockeye harvest of 162,188 was 5% below the recent 10-year average. The East and Situk Rivers combined for 70% of the total harvest. East River catch of 61,483 was 22% below the recent 10 year average. This average contains all of the peak production years for the East, and catch of over 61,000 sockeye is the sixth highest on record. The return per spawner off the parent year escapement of 29,000 was approximately 3.4:1, only slightly below average. Situk River catch of 52,128 is the second highest catch since 1977. As in 1987, lower escapement goals allowed an increase in overall fishing time. 46,701 sockeye passed through the Situk weir, achieving the escapement goal. The return per spawner of approximately 1.6:1 was lower than the 2:0:1 return in 1987.

The Alsek River continued to have problems with sockeye production. Catch of 6,286 sockeye is 74% below the recent 10-year average and is the fourth lowest catch on record. The Klukshu weir escapement of 9,337 is the lowest in the history of the weir. As in 1987 these low figures came from a good parent year escapement count of over 23,000 through the Klukshu weir. Yakutat Bay harvest of 14,239 was average. Akwe River catch was 16% above the recent 10-year average. The Italio was not open during sockeye season due to poor escapement levels. The combined Manby fisheries catch of 11,923 is 45% above the recent 10-year average.

### Coho Salmon

Coho harvest of 205,866 was 54% above the recent 10-year average. It was the highest catch since 1954 and the second highest since 1941. Run strength was strong area-wide, and all fishing areas were on extended fishing time for the final four weeks of the season. The Situk, with a catch of 61,689, and the Tsiu River, with a catch of 56,116, were the peak producers. Combined catch for the two rivers accounted for 57% of the total harvest. The Yakataga District, comprised of the Tsiu, Kaliakh, Kiklukh, and

Tashalich Rivers, accounted for 34% of the total area catch. Some river systems reported coho catches far above historical levels. The East River coho catch of 20,148 was almost double the previous high catch for the river, 10,875 recorded in 1984, and is 300% above the recent 10-year average. The combined Manby fisheries catch of 20,844 is more than double the previous 10-year average, and is the third highest recorded catch for the area. Akwe River catch was 61% above the recent 10-year average. Only the Alsek, Italo and Yahtse Rivers did not follow the general trend, catches on each being below average. Very little effort was directed towards the Italo and Yahtse Rivers.

Escapement counts to date have been above average. Inclement weather through mid-October has precluded final surveys. All streams from Cape Yakataga to one-half mile west of the Yahtse, including Jetty and Pt. Riou Creeks, remained closed to commercial fishing in 1988.

#### King Salmon

King Salmon harvest of 844 was 54% below the recent 10-year average. Harvest levels were affected by various king salmon conservation measures in force throughout the area. Situk River catch of 300 kings is well below the recent 10-year average of 568. Surveys and weir counts in the Situk indicated escapement goals would not be met. During the first two weeks of the commercial season fishermen were strongly urged to release kings. Sale of kings did not diminish, and, on June 30, the Situk was closed to the retention of kings. This ban remained in force until August 22. Final weir count of 1,078 was below the escapement goal of 2,000 kings. King salmon escapement goals are being re-evaluated.

Alsek River king catch of 223 is well below the recent 10-year average catch of 870, but is average for the years since king conservation measures have been in force. A six inch mesh restriction was again enforced, and several fishermen cooperated with conservation measures by releasing kings early in the season. Klukshu weir count of 2,030 is approximately 400 fish below average for the years the weir has been in operation. Alsek kings did not appear in the East River in large numbers. The East opened two weeks later than in recent years, and the few kings that were caught came from the surf area. Akwe River catch of 100 kings is slightly below average.

#### Pink Salmon

Pink salmon returns to Yakutat were strong in 1988. The price paid for pinks was significantly higher than in recent years, and it became economically feasible to harvest pinks from outlying areas. Pink salmon harvest of 120,205 was 16% above the recent 10-year average. Humpback Creek, in Yakutat Bay, accounted for

92,173 pinks, or 77% of the total harvest. Escapement goals were met and fishing time on Humpback Creek was extended throughout the pink season. Situk River harvest of 15,323 was 10% above the recent 10-year average. 75,753 pinks were enumerated through the Situk weir.

#### Chum Salmon

Chum salmon returns were also strong this year. Catch of 29,247 chum is 114% above the recent 10-year average. The East River is the only major chum producer in Yakutat, catch of 24,453 in the East accounted for 84% of the total harvest. Most other areas reported average catches, with the exception of the Akwe River. Catch of 2,288 chums in the Akwe is the highest recorded catch for that river. Most of those chums were undoubtedly bound for the Italo River and strayed into the Akwe from the common mouth area. The Italo is historically the better chum producer of the two. East River chum escapement was good.

YAKUTAT AREA WEEKLY SETNET CATCH DATA-1988

<u>WK</u>	<u>ENDING DATE</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>
25	6/18	109	949	0	0	5	1,063
26	6/25	208	4858	1	0	11	5,078
27	7/02	372	18269	28	10	90	18,769
28	7/09	71	23400	7	46	41	23,565
29	7/16	66	29072	55	466	309	29,968
30	7/23	31	17889	83	888	479	19,370
31	7/30	12	12100	66	1059	814	14,051
32	8/06	12	18333	267	5047	1651	25,310
33	8/13	8	18484	1081	18068	2831	40,472
34	8/20	4	11703	3497	49674	3244	68,122
35	8/27	0	5350	15121	29627	4301	54,399
36	9/03	0	668	31337	14490	2007	48,502
37	9/10	1	842	59941	724	9917	71,425
38	9/17	0	213	43766	88	2345	46,412
39	9/24	0	47	35054	15	740	35,856
40	10/1		9	12393	2	390	12,794
41	10/8		2	3169	1	72	3,244
<b>TOTAL:</b>		<b>894</b>	<b>162188</b>	<b>205866</b>	<b>120205</b>	<b>29247</b>	<b>518,400</b>

YAKUTAT AREA  
10-YEAR SETNET CATCH COMPARISON

<u>YEAR-EFFORT-KING</u>			<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL FISHED</u>	<u>DAYS</u>
1978	161	3057	130681	139500	30525	6181	309944	418
1979	158	4299	165123	95885	152071	7399	424777	332
1980	150	2800	159229	119571	149998	20151	451749	331
1981	152	2031	132419	147537	134879	10234	427100	357
1982	149	1424	211895	148384	9506	5837	377046	313
1983	131	812	155545	80974	23615	11119	272035	292
1984	137	944	102274	182720	19387	31838	337163	284
1985	149	1146	236582	202166	16070	12399	468363	337.5
1986	153	1341	151672	91284	7183	16635	268115	359
1987	155	1766	258884	126103	12690	14744	414187	442
				<u>10-YEAR AVERAGE:</u>				
	149	1962	170430	133412	55592	13654	375044	347
1988	160	894	162188	205866	120205	29247	518400	466.5
				<u>% OF AVERAGE:</u>				
	+7%	-54%	-5%	+54%	+116%	+114%	+38%	+34%

## YAKUTAT AREA TROLL-1988

The 1988 troll season in the Yakutat area was characterized by a short summer king season, short openings during most of the coho season with a below average coho catch, but an above average catch of king salmon. Overall effort was above average, with 81 vessels participating (33 handtroll, 48 powertroll).

A chronology of the Yakutat trolling season is as follows: the winter troll season which had opened on October 1, 1987, for kings only, closed on April 14 at 11:59pm with very few king salmon taken from Yakutat Bay, which is the only portion of the Yakutat area open for trolling during the winter season. Trolling re-opened for the summer season at 12:01am on July 1 for all species of salmon. The Southeast Alaska-Yakutat (SE-YAK) king salmon quota was achieved rapidly and trolling for kings closed at 11:59pm on July 12, but remained open for the taking of other salmon species. Poor coho catches over all of SE-YAK resulted in a ten-day closure from July 26 through August 4. On August 7, the specific Yakutat restrictions established by the Board of Fisheries several years ago went into effect (see map) which make weekly troll time in state waters of Yakutat from approximately Grand Plateau Glacier to Sitkagi Bluffs the same as weekly setnet fishing time on the Situk River, through September 20 (last day of summer troll season). Continued poor troll coho catches resulted in another ten-day closure from 12:01 am on August 15 until 11:59 pm on Wednesday August 24. Trolling then reopened for seven days, from 12:01 am Thursday, August 25, until 11:59 pm Wednesday, August 31. Because trolling in restricted state waters would not have reopened until Monday August 29 at noon (when Situk setnetting reopened) a loss of four days' fishing time out of seven, an exception was given by the Department to allow trollers to fish in restricted state waters starting two days earlier than normal, at noon on Saturday, August 27. Following this opening, a three-day closure ensued, from 12:01 am September 1 through 11:59 pm September 3. Trolling reopened on September 4 at 12:01 am, but only in the Yakutat area and SE Districts 12, 14 and 16. It remained open in these areas through the last day of the summer season, September 20.

The king salmon troll catch of 5,641 was second highest in the last seven years, and most of these fish were caught during the July 1 through 12 summer king season. The winter season catch was minimal. Peak weekly effort on kings was 16 hand and 14 power boats during the week of July 10 (the final three days of king fishing).

The coho salmon troll catch of 54,383 was 21% below the recent six-year average (years with comparable data). Total effort of 81 vessels (handtroll and powertroll combined) was 12% above average. Peak handtroll effort came during the week of August 7 with 33 boats; peak power troll effort was at 48 boats during the week of September 4. Peak weekly effort for both gear groups combined occurred during the week of September 4 (79 vessels),

and was lowest during the final week of September 18 (4 vessels). Troll effort was concentrated in state and federal waters off of the Yakutat forelands; only two trollers fished westward in the Yakataga District, off the Tsiu River. In 1982, the Alaska Board of Fisheries established a portion of state waters in the Yakutat area (inside three miles offshore) as closed to all trolling from September 4 through 20. This closed-water area extends from approximately 4.5 nautical miles east of Ocean Cape light (Loran C Line 7960-y-30390) to the Dangerous River (Loran Line 7960-y-30200). The purpose of this closed-water area is to protect coho salmon stocks returning to the Situk River, which is the site of the major coho setnet fishery for the town of Yakutat. In 1988, early and middle-timing coho returns were fair to good on most river systems on the Yakutat Forelands. The Akwe River was one notable exception, however; its returns were poor, even when consideration was given to the fact that this river's coho run is usually later than that of most other forelands systems. Based on the continuing poor return of coho to the Akwe River, the above closed-water area was expanded southeastward along the coast to a point 9.5 nautical miles west of the Alsek River (Loran Line 7960-y-30025) from September 4 through September 20 to reduce troll fishing pressure on Akwe stocks.

Along with the troll closure, the weekly setnet fishing time in the Akwe River was reduced from a standard three days to two days during the weeks of August 28 and September 4. Signs of some improvement in the run prompted a return to a three-day fishing week for the week of September 11; however, the Akwe cumulative coho setnet catch at this time still was well below average. Therefore, the troll closure remained in effect, and the Akwe stood alone among all coho setnet fisheries in the Yakutat area as the only fishery with less than four days' time that week. The following week of September 18 showed the first signs of a healthy coho return to the Akwe River, and setnet fishing time was increased to four days; unfortunately for trollers, this not only occurred after the troll season had ended on September 20, but after the fish had moved inshore out of reach of troll gear. The final Akwe River setnet coho catch of 13,705 fish was 61% above the recent 10-year average, an excellent catch. The normally late Akwe River run was even later than usual in 1988 and as a result was virtually inaccessible to the troll fleet.

The low troll catch in the Yakutat area in 1988 despite good returns of coho to local rivers was unfortunate for trollers. From discussions by ADF&G personnel with trollers as to the cause of the poor troll catch, the common reasoning proposed by trollers was that while large numbers of coho were present and were detected on sonar/depth sounding equipment, the fish would not bite. Many trollers attributed this behavior to the unusually heavy rains Yakutat experienced during the last half of August, which also stimulated coho to move into most streams earlier than usual. Late August weather is usually dry, and the associated low water levels usually hold coho offshore until the heavy September rains fall.

YAKUTAT AREA TROLL KING CATCH-1988

<u>ENDING</u> <u>WK-DATE</u>	<u>HAND</u>		<u>POWER</u>		<u>TOTAL</u>	
	<u>BOATS</u>	<u>CATCH</u>	<u>BOATS</u>	<u>CATCH</u>	<u>BOATS</u>	<u>CATCH</u>
27 7/02	5	57	0	0	5	57
28 7/09	15	296	1	400	16	696
29 7/16	16	145	14	4743	30	4888
TOTAL:	36	498	15	5143	51	5641

YAKUTAT AREA TROLL COHO CATCH-1988

<u>ENDING</u> <u>WK-DATE</u>	<u>HAND</u>		<u>POWER</u>		<u>TOTAL</u>	
	<u>BOATS</u>	<u>CATCH</u>	<u>BOATS</u>	<u>CATCH</u>	<u>BOATS</u>	<u>CATCH</u>
27 7/02	5	163	0	0	5	163
28 7/09	15	857	1	4	16	861
29 7/16	16	919	14	939	30	1858
30 7/23	16	623	9	806	25	1429
31 7/30	8	350	4	274	12	624
32 8/06	21	1120	5	442	26	1562
33 8/13	33	1286	12	1493	45	2779
34 8/20	11	354	10	4439	21	4793
35 8/27	20	480	8	1581	28	2061
36 9/03	31	1902	47	16,739	78	18,641
37 9/10	31	2414	48	12,978	79	15,392
38 9/17	14	295	15	3836	29	4131
39 9/24	2	5	2	84	4	89
TOTAL:	223	10,768	175	43,615	398	54,383

TROLL COMPARISON  
KING & COHO, 1982-1988

<u>YEAR</u>	<u>KING</u>	<u>COHO</u>	<u>TOTAL</u>	<u>HAND</u>	<u>POWER</u>	<u>TOTAL</u>
1982	1118	68,300	69,418	-	-	
1983	1430	81,246	82,676	-	-	
1984	746	40,600	41,346	26	23	49
1985	3857	78,021	81,878	34	27	61
1986	5197	90,428	95,625	32	59	91
1987	7424	53,368	60,792	21	67	88
AVERAGE	3295	68,661	71,956	28	44	72
1988	5641	54,383	60,024	33	48	81

YAKUTAT AREA TROLL VS. SETNET  
COHO HARVEST & EFFORT  
(In numbers of fish)

<u>Year</u>	<u>HARVEST</u>			<u>Total</u>	<u>EFFORT</u>		
	<u>1/ Troll</u>	<u>2/ Yakutat District Setnet</u>	<u>2/ Yakataga District Setnet</u>		<u>3/ Troll Hnd-Pwr</u>	<u>Setnet</u>	
1965	648	58,013	67,408	126,069	4	166	
1966	1165	26,055	41,359	68,579	8	161	
1967	23,075	75,573	44,713	143,361	22	147	
1968	30,492	95,586	26,911	152,989	40	155	
<sup>4/</sup> 1969	27,362	26,694	3929	57,985	27	148	
1970	8929	30,279	-	39,208	16	123	
1971	3084	37,683	-	40,767	8	110	
1972	9917	46,298	-	56,215	12	127	
1973	868	32,393	9383	42,644	9	2	179
1974	771	68,197	9359	78,327	4	-	188
1975	270	37,403	-	37,673	8	13	104
1976	509	47,394	4350	52,253	8	1	125
1977	7817	83,426	8802	100,045	10	2	130
1978	68,676	103,153	36,347	208,176	46	8	151
1979	22,877	57,943	37,942	118,762	48	15	158
1980	17,814	80,566	39,005	137,385	46	6	150
<sup>5/</sup> 1981	32,925	99,244	33,175	165,344	18	20	152
1982	88,337	86,662	61,722	236,721	30	55	149
<sup>6/</sup> 1983	19,409	56,854	24,120	100,383	21	6	131
<sup>7/</sup> 1984	77,546	117,795	64,441	259,782	26	23	137
<sup>8/</sup> 1985	190,000	114,924	87,242	392,166	34	27	149

<u>8/</u>	1986	118,000	62,045	30,026	210,071	31	66	153
<u>8/</u>	1987	53,368	73,807	52,296	179,471	21	67	155
<u>8/</u>	1988	54,383	136,634	69,232	260,249	33	48	160

- 1/ Troll statistical areas 181 and 183 through 1985, statistical area 191 included subsequently.
- 2/ The Yakutat area is divided into the Yakutat District (Cape Fairweather to Icy Cape) and the Yakataga District (Icy Cape to Cape Suckling).
- 3/ Maximum observed effort any one week. No gear group breakdown prior to 1973.
- 4/ Yakutat Bay troll period same as for set gillnetting Aug 1-Sept 20 from 1969-1980.
- 5/ Troll period same as Situk River setnet period Aug 1-Sept 20 in state waters between Sitkagi Bluffs and Dangerous River 1981-1982.
- 6/ Same as 5/ plus state waters closed between one mile west of Lost River and East River Aug 1-Sept 20.
- 7/ Situk River mouth area closed Aug 7-Sept 20 and state waters between Sitkagi Bluffs and East River same fishing time as Situk setnet fishery Aug 7-Sept 20.
- 8/ Same as 7/ except state waters between Sitkagi Bluffs and Grand Plateau Glacier on same fishing time as Situk setnet fishery, Aug 7-Sept 20. Up to 14 trollers fished off Tsiu-Kaliakh in Sept 1985, and up to 20 in Sept 1987, heaviest recorded troll effort in Yakataga District.

YAKUTAT AREA SETNET & TROLL SALMON PRODUCTION-1988

<u>AREA</u>	<u>PERMITS</u>	<u>1/</u> <u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
ALSEK	30R,10C	223	6286	4986	7	907	12,409	34.0
EAST	81R,24C	40	61,483	20,148	2628	24,453	108,752	39.0
AKWE	13R,24C	100	12,476	13,705	1686	2288	30,255	39.0
ITALIO	3C	0	5	3051	6	15	3077	22.0
DANGEROUS	3R	0	1305	0	0	0	1305	41.5
SITUK	83R,61C	300	52,128	61,689	15,323	886	130,326	53.5
LOST	6R,4C	22	2316	5905	478	41	8762	48.0
YAK BAY	34R,7C	196	14,239	3164	99,965	651	118,215	64.5
MANBY	12R,15C	13	11,923	20,844	106	1	32,886	52.5
YAHTSE	3C	0	1	3142	2	0	3145	24.0
KALIAKH	14C	0	2	8867	0	0	8869	27.0
TSIU	38C	0	24	56,116	3	3	56,146	20.0
<hr/>								
<u>2/</u> TOTAL:		<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
160 ACTIVE		894	162,188	205,866	120,205	29,247	518,400	465.0
H & P TROLL:		5641		54,383			60,024	
SALMON CATCH:		6535	162,168	260,249	120,204	29,247	578,403	

1/ R= RED(SOCKEYE) SALMON, C=COHO SALMON

2/ Total includes catch from Yana, Kiklukh, Tashalich Rivers, and catch confiscated by Fish and Wildlife Protection Division.

### YAKUTAT AREA FISH-BUYING FACILITIES-1988

Two major fish processors operated in the Yakutat area in 1988. Sitka Sound Seafoods (SSS) operated two plants, the main one in Yakutat with freezer capacity, and a subsidiary plant in Dry Bay. The Dry Bay plant, with icing capacity only, purchased setnet-caught salmon from the Alsek and East Rivers and flew them to Yakutat in a DC-3 aircraft. The main plant operated from both the main dock and the old cold storage facility located about 1/2 mile west of the main dock. SSS operated through the end of the salmon season.

Rainier International Seafoods leased the old ARCO facilities in Monti Bay from the Yak-Tat-Kwaan. Processing activities were conducted on board the M/V "Western Sea" a processor-freezer ship moored at the ARCO dock throughout the season. Rainier operated a fish buying station just off the runway in Dry Bay and flew Alsek and East River fish to Yakutat in small planes. The freezing capacity of the "Western Sea" broke down at the end of the second week in September, and Rainier ceased all fish-buying operations at that time.

Both Rainier and SSS commenced buying operations with the April blackcod opening and processed and froze blackcod, halibut, dungeness crab, troll and setnet-caught salmon, and other miscellaneous species. Both companies intend to operate in Yakutat in 1989.

Three buyers operated in the Yakataga District this year. Rainier and SSS maintained buying stations on the Tsiu River. Both companies shuttled Tsiu and Kaliakh River coho to Cape Yakataga with small planes, and flew from the Cape to Yakutat with DC-3 aircraft. Evans Aviation also maintained a buying station on the Tsiu and flew fish to North Pacific Processors, Inc. in Cordova. One floating processor, the M/V "Bering Star", Icicle Seafoods, Petersburg, operated in Yakutat Bay during the spring blackcod season.

1988 EX-VESSEL DOLLAR VALUE OF YAKUTAT FISHERIES TO FISHERMEN

1/  
SALMON

SPECIES	SETNET	TROLL	
		HAND	POWER
King	\$30,843	\$26,145	\$270,007
Sockeye	3,167,141	-	-
Coho	5,079,744	258,432	1,046,760
Pink	315,536	-	-
Chum	350,964	-	-
TOTAL:	8,944,228	284,577	1,316,767
TOTAL HALIBUT: <u>2/</u>		\$1,063,750	
TOTAL BLACKCOD: <u>2/</u>		\$7,416,750	
TOTAL DUNGENESS: <u>2/</u>		\$3,300,000	

3/

TOTAL 1988 FINFISH INCOME:	\$19,026,072
TOTAL 1988 SHELLFISH INCOME:	\$3,300,000 (Dungeness crab only)
TOTAL 1988 FISHING INCOME:	\$22,326,072

Average 1988 income per setnet permit (160 active permits) was \$55,901, a record high and more than three times the previous 10-year average annual income of \$16,978 (1978-1987).

Total income from troll landings in Yakutat in 1988 (\$1,601,344) was a new record high. This excludes deliveries made in Pelican and Sitka from the Yakutat area.

<u>1/</u> Average <u>setnet</u> values used:	<u>king</u>	<u>sockeye</u>	<u>coho</u>	<u>pink</u>	<u>chum</u>
body weight, lb's.	15	6.2	10.5	3.5	10
price per lb.	\$2.30	\$3.15	\$2.35	\$0.75	\$1.20

Average <u>troll</u> values used:				
body weight, lb's.	15	-	8	-
price per lb.	\$3.50		\$3.00	

<u>2/</u> Species	<u>Total Catch (lb.)</u>	<u>Average Price per lb.</u>
Halibut	925,000	\$1.15
Blackcod	4,785,000	\$1.55
Dungeness crab	3,300,000	\$1.00

3/ Includes salmon; halibut, blackcod.

TABLE 1. - TOTAL INCOME AND AVERAGE EARNINGS FROM COMMERCIAL FISHING, EXCLUDING SHELLFISH, YAKUTAT AREA, 1975 -  
(All data is for Yakutat landings only.)

YEAR	TOTAL FINFISH INCOME 1/	TOTAL SALMON TROLL INCOME	TOTAL SALMON SETNET INCOME	NO. OF ACTIVE SET- NET PERMITS	AVER. EARNING PER SETNET PERMIT	PREVIOUS 10 YEAR AVER. SETNET INCOME	TOTAL SETNET-TROLL SALMON INCOME
1975	\$ 737,270 <u>2/</u>	\$ 29,135 <u>3/</u>	\$ 703,085	104	\$ 6,809	-	\$ 737,270
1976	1,252,865 <u>2/</u>	33,082 <u>3/</u>	1,219,783	125	9,758	-	1,252,865
1977	2,155,718 <u>2/</u>	39,108 <u>3/</u>	2,066,610	130	15,897	-	2,155,718
1978	3,066,121 <u>2/</u>	46,330	2,669,791	151	17,681	-	3,066,121
1979	3,317,191	50,415	3,163,975	166	17,762	-	3,238,991
1980	2,090,752 <u>2/</u>	161,600	1,929,752	117	16,538	-	2,090,752
1981	2,428,949 <u>2/</u>	101,810	2,327,129	151	15,319	-	2,428,949
1982	2,756,629	62,430	2,694,139	143	18,923	-	2,756,629
1983	1,355,472	41,217	1,271,159	113	11,271	-	1,355,472
1984	2,936,096 <u>2/</u>	66,507	2,875,789	130	17,842	-	2,936,096
1985	4,268,029 <u>4/</u>	87,451	4,183,579	149	28,245	813,632	3,890,511
1986	6,019,829	113,153	4,981,307	153	12,953	14,972	2,969,862
1987	9,767,778	111,828	6,077,589	177	32,759	15,292	6,258,517
1988	19,026,072	1,641,111	8,944,223	187	55,901	16,973	10,545,572

1/ Through 1985, Jan. 1 - 1986, Dec. 31. Includes landings from the Yakutat area and the Yakutat area. Includes landings from 1981, Jan. 1 - 1982, Dec. 31.

2/ Includes landings from the Yakutat area and the Yakutat area. Includes landings from 1981, Jan. 1 - 1982, Dec. 31.

3/ Handred only; no power troll data, or no power trolling done.

4/ Excludes blackhead landings of 173,000 lb. in 1985, 52,890 lb. in 1986, and no-landings.

### WEATHER-1988

Yakutat experienced another wetter than average year in 1988, with 153 inches of precipitation recorded by the end of October. This is already 14 inches above the average annual precipitation, with two months yet remaining in the year. Of the 10 months through October, seven were above average for precipitation. Annual snowfall (from November 1987 through May 1988) was 135 inches, 71 inches below normal. However, total precipitation during this November-May period was 40.5 inches above normal because due to warmer than average temperatures, precipitation fell as rain instead of snow. August, which is usually dry during the last two weeks, had heavy rains during this period and was the wettest month, through that time, for the year, with 22.6 inches of precipitation, subsequently exceeded only by October's 34.2 inches.

The spring months of March and April, critical for juvenile fish survival and migration, were wetter than average (each seven inches above normal), ensuring good survival.

May and June, also critical months for juvenile survival, were drier than normal, but both by only less than one inch, so juvenile fish habitat was probably not affected and survival was probably good during these two months as well.

The heavy rains in late August and the associated high freshwater runoffs in all streams apparently stimulated coho salmon adults to move into these streams earlier than normal, increasing setnet catches but decreasing troll catches. Some late coho surveys were flown in early November when dry, cold weather allowed water levels to drop, but all surveys in October were flooded out by heavy rains.

SALMON - YAKUTAT DISTRICT

### ALSEK RIVER

1988 marked the second year in a row of poor sockeye returns off good parent year escapement levels in the Alsek River. 1983 parent year escapement of 23,545 sockeye might have been expected to yield average to above average returns. With the very poor showing in 1987 off even higher parent year escapement levels in mind, the river was managed conservatively from the beginning, and fears proved to be fully justified. Sockeye catch of 6,286 is 76% below the recent 10-year average, and is the fourth lowest catch on record. The final Klukshu weir count of 9,337 sockeye is the lowest escapement since the weir was installed in 1976. Regardless of which Klukshu contribution model (40% or 60%) is used, the return per spawner ratio is below 0.6:1. Grim city.

Early run sockeye returns were not expected to be strong and the Alsek was opened for one 24 hour period on June 13, one week later than in 1987. Catches and CPUE were carefully monitored in-season to assess run strength for possible extensions of fishing time. Fishing time was extended to 48 hours during the third week of the season when catches during the first 24 hours appeared to be good. Fishing then dropped off dramatically, with very few fish caught in the ensuing 24 hours. The Alsek remained on one day per week fishing time for the remainder of the sockeye season. The in-season abundance model, used from the end of the second week of fishing on, showed from the beginning that escapement goals would not be met and that the final escapement count would be one of the lowest ever. Aerial surveys of the local spawning populations in the Tanis River and Basin Creek were also below average.

The river was fished by 30 and 28 permits during the first and second weeks of the season, respectively, an increase over previous years. This early effort on the Alsek was accounted for by the fact that the East River did not open until June 27, two weeks later than the Alsek. A few permits, normally on the East during the years when the two rivers opened coincidentally, fished the Alsek during this two week period. Effort levels on the Alsek dropped to 25 and less when the East finally opened. One permit fished the Alsek surf area during the opening week, catches in the surf were minimal.

The Alsek is not a major coho producer, and catch of 4,986 is 26% below the recent 10-year average. Early catches were poor as the river remained on reduced fishing time to protect late-run sockeye. Catches during the last four weeks of the season were considerably better, and fishing time was extended to four days per week for these four weeks. Coho escapements were good to excellent. Good numbers of fish were seen in Gines and Cabin Creek. The Klukshu weir count of 2,751 coho is one of the highest counts recorded for the weir, and was exceeded only by the 1978 count of 2,758. Chum catch of 907 is average.

The catch of 223 kings is well below the recent 10-year average of 871, and far below historical levels. For the third year in a

row a six inch mesh restriction was enforced on the Alsek as a conservation measure. As in 1987 the permits fishing the upper holes below the markers assisted with conservation measures by releasing a high percentage of kings, keeping only those fish that were beyond saving. Total run of kings was below average. Klukshu weir escapement of 2,030 is below the weir average of 2,490 for the 12 years the weir has been operating.

The old range finder markers used to delineate the surf fishing area on the east side of the river were replaced this year. No markers are placed on the west side due to surf action there. Markers were again used to close the mouths of Williams, Gines and Emile Creeks to commercial fishing.

ALSEK RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u>		<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
<u>WK</u>	<u>DATE</u>								
25	6/18	30	98	779				881	1.0
26	6/25	28	82	921				1003	1.0
27	7/02	25	34	897				931	2.0
28	7/09	21	3	801				804	1.0
29	7/16	16	2	826		2		830	1.0
30	7/23	8	1	327			1	329	1.0
31	7/30	22	3	1592		2	2	1599	1.0
32	8/06	4		90		2	5	97	1.0
33	8/13	1		8	1		4	13	1.0
34	8/20	1		5			5	10	1.0
35	8/27	5		18	53		7	78	2.0
36	9/03	4		6	257	1	14	278	2.0
37	9/10	5		5	275		37	317	3.0
38	9/17	6		3	1062		217	2005	4.0
39	9/24	7		6	1722		271	1999	4.0
40	10/1	10		2	1061		280	1343	4.0
41	10/8	6			555		64	619	4.0
TOTAL:		30R,10C	223	6286	4986	7	907	12,409	34.0

5 YEAR COMPARISON

1983	20R,11C	77	19,131	5661	7	299	25,175	40.0
1984	22R,11C	60	14,409	7854	23	1354	23,677	33.0
1985	18R,6C	212	5603	5674	8	423	11,920	33.0
1986	26R,11C	476	24,164	1331	13	537	26,521	34.0
1987	27R,9C	345	11,299	2537	0	1922	16,102	38.5
1988	30R,10C	223	6286	4986	7	907	12,409	34.0

ALSEK ESCAPEMENT

<u>Area</u>	<u>King</u>	<u>Red</u>	<u>Coho</u>	<u>Remarks</u>
7/16 Cabin Creek	1	0	0	
7/16 Tanis #1	0	0	0	
7/16 Tanis #2	0	0	0	
8/16 Tanis #1		400		
8/16 Tanis #2		350		
8/19 Basin Creek		500		Poor Visibility
9/07 Basin Creek		400		
9/27 Gines Creek			800	
9/27 Emile Creek			100	
9/27 Cabin Creek			1000	
11/3 Cabin Creek			300	

KLUKSHU WEIR

	<u>King</u>	<u>Red</u> <u>1/</u>	<u>Coho</u>	<u>Total</u>
10/13	2030	9337	2751	14,118

1/ Klukshu subsistence harvest of 1604 deducted from weir count of 9337 leaves a count of 7733 spawners.

### EAST RIVER

The East River in 1988 saw record harvests of coho and pink salmon, the third highest chum salmon catch on record, but a sockeye catch only 78% of the recent 10-year average (1978-1987). Escapements were excellent for sockeye, and good for coho (Doame River stocks).

The East River commercial fishery opening was delayed in 1988 by emergency order from the regulatory first Monday in June to the fourth Monday (June 27) for two reasons: 1) 1987 scale age analysis from the sockeye catches in the East River confirmed our suspicions that most of the sockeye caught until the fourth week of June are Doame River stocks, and East River stocks do not show up in moderate numbers until early July. Thus, the later opening ensures that the depressed Doame River stocks are not fished now and are given a chance to build up for possible future fishing. This delay was supported by fishermen and processors as well, and should become regulation as soon as possible. 2) In recent years, Alsek River-bound king salmon have strayed into the lower East River and held there for several weeks before moving back to the ocean and migrating up their natal stream. They probably do this because the East River (whose full name is actually the East Alsek River) is simply Alsek River water that has been forced underground and then upwells on the Forelands to form the headwaters of the East River. These king salmon appear in the lower East River beginning in late May, in numbers as great as 300 at any one time, and are usually gone by mid-June. A 1986 tagging study indicated that these kings are Alsek River fish and no king salmon have been observed spawning in the East River or the Doame River in recent years (the Doame River did have some very minor (13 or fewer annually) king salmon catches in the 1940's and 1950's prior to its mouth blockage, diversion and joining with the East River in 1965, but some or all of these fish could also have been Alsek River fish). A maximum of 150 kings was observed in the East River this year, on May 28, with most or all of these fish gone by mid-June. Delaying the opening of the sockeye fishery on the East River until the fourth Monday of June ensures that none of these Alsek River king salmon are intercepted. This delayed opening, until the fourth Monday of June, should become regulation as soon as possible for the East River.

The fishing season on the East progressed as follows: the river opened on Monday, June 27 for one 24-hour period, and due to very low sockeye escapements, fishing time remained at one day per week for the next four weeks. The one-day opening in the fifth week (week of July 25) was unusual because it was from noon Friday, July 29 to noon Saturday, July 30. The river had been closed all week because of very low escapements of sockeye. Aerial surveys were being done every other day to allow fishing time as soon as escapements justified it. Then, on Thursday,

July 28, an aerial survey revealed an escapement of 8,000 sockeye, most of which had entered the river since the previous aerial survey count two days before. Some immediate fishing time was needed to harvest the surplus fish which had materialized so suddenly and continued to move rapidly into the river. Therefore, the 24-hour opening was held late in the week. With the sockeye escapement building up, fishing time was increased to two days during the following week of August 1, then to four days the week of August 8 with escapement building up rapidly. During this week, heavy rains made fish back down the river from the escapement area into the fishery, and some escapement was lost to nets before the upper regulatory marker was moved downstream 1/4 mile on Wednesday, August 10. It remained in place at the downstream location until Monday, August 29, when it was moved back to its original location; backout of fish had continued to be a problem during that period of time. The sockeye run dropped off rapidly starting the week of August 15, and fishing time was reduced to two days that week. With increasing coho escapements, and the sockeye escapement goal achieved, fishing time was increased to three, then four days and remained so for the rest of the season, through the final week of October 2.

The final catch of sockeye on the East was 61,483 fish, which is only 78% of the recent 10-year average of 79,310 (1978-1987). Final escapement was 38,000, for total return of 99,483 fish. Since parent year escapement was 29,000, this yields a return per spawner of 3.4:1 (average R/S since 1975 has been 3.9:1). This R/S was less than expected from the parent year escapement which was in the optimum range of 25,000-35,000 sockeye. Peak effort was 81 permits the weeks of August 1 and 8, second only to 1987 when 90 permits fished.

Once again, effort and catch on the East River was spread among three user groups by fishing location: ocean, surf and inriver. The inriver fishermen comprised 65.1% of the total number of fishermen but caught 68.3% of the sockeye catch. Surf fishermen, 23.0% of the permits, took 25.6% of the catch; and ocean permits, only 11.9% of the nets, took only 6.1% of the total catch. The inriver and surf permits took at least "their share" of the catch, by percent, nearly each week, while ocean nets always took a percentage of the catch that was less than the percentage their nets made up of the total nets fished. This has been the pattern in nearly every year the East River has been fished. Surf nets were very effective at catching fish, especially at middle tide stages, because one major channel, flowing to the west from the river mouth, was used most heavily by fish. This channel, though dry at low tide, was the major migration route used by sockeye on incoming tides. It was fished heavily and competition for sites was always intense, with several citations issued during the season for nets too close to each other.

The use of pulley systems is increasing on the East River, especially in the surf area, and these systems increase efficiency and catches. They have one major benefit for the resource: they allow fishermen to pick fish out of their nets during high surf, conditions which previously prevented most fishermen using skiffs from checking their nets. This had resulted in dead fish falling out of the nets and being lost or fish being beaten to a pulp in the surf and becoming unfit for sale; both situations were wasteful. Some fishermen are concerned that the semi-permanent pulley setups are the first step on the road to establishing fixed, permanent setnet sites which would violate the nature of Yakutat setnet sites as non-fixed sites.

The coho catch on the East River of 20,148 was excellent, a new record, and double that of the previous record year (10,875 in 1984). This catch is four times the recent 10-year average coho catch. Peak effort was only 24 permits, but after the first Monday of September (Sept.5), each permit was allowed two 15-fathom nets instead of one, so effort was more than permit number alone would indicate. Since no coho are known to spawn in the East River, all of the coho caught in this fishery are of Doame River origin and are caught while enroute to the Doame River. Escapement counts were good on the Doame, with peak count of 2,500 coho on September 7 with poor visibility. Surveys at peak of spawning were flooded out, with over 34 inches of rain in October alone (14 inches above normal).

King salmon catch of 40 is less than half the recent 10-year average. Pink catch of 2,628 is a record high, and the chum catch of 24,453 is third highest on record. Total catch of all species of salmon (108,752) is third highest on record.

The 1989 sockeye return has as its parent year an escapement of 60,000 fish (in 1985). This is in the upper range of recorded escapements and can be expected to produce in the lower range for return per spawner (R/S). However, even if this escapement produces only a 2:1 return, this would mean 120,000 fish; subtracting the escapement goal of 30,000 leaves 90,000 fish for harvest, which would be an excellent catch. Average R/S for the three years of parent year escapements of 50,000 or more is 1.8:1.

A 43 foot-long adult female gray whale (Eschrichtius robustus) became entangled in some pulley system lines at the East River mouth at 2:00 AM on July 12, after coming next to shore, inside the outer bar, on a high tide. She was probably feeding on large, numerous schools of capelin which were spread out along the coast from Cape Fairweather to at least Yakutat Bay. The whale, high and dry with the outgoing tide when discovered several hours later, died from asphyxiation; the carcass remained on shore near the high tide line for the rest of the season.

A proposal from ADF&G will be before the Board of Fisheries at their meeting in early 1989 in Juneau to redefine the current marker location on the East River by reference from an upstream fixed geographic point (i.e., Steve's Island) rather than from the river mouth (as now written) because the mouth changes often, even from week to week.

EAST RIVER WEEKLY CATCH DATA-1988

<u>Ending</u>	<u>Permits</u>	<u>King</u>	<u>Red</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>	<u>Days</u>
27 7/02	19	3	33				36	1.0
28 7/09	19	5	251		1	3	260	1.0
29 7/16	24	11	1152		13	2	1178	1.0
30 7/23	39	9	5839	7	88	44	5987	1.0
31 7/30	50	2	5334	3	71	119	5529	1.0
32 8/06	81	4	14,539	45	249	744	15,581	2.0
33 8/13	81	5	16,992	410	1044	2388	20,839	4.0
34 8/20	61		10,656	625	636	2694	14,611	2.0
35 8/27	40		5135	2395	347	4229	12,106	3.0
36 9/03	24		590	1115	34	1883	3622	3.0
37 9/10	24	1	766	8274	137	9700	18,878	4.0
38 9/17	20		162	4221	7	2082	6472	4.0
39 9/24	15		31	2260	1	456	2748	4.0
40 10/1	9		3	626		102	731	4.0
41 10/8	2			167		7	174	4.0
<b>Total: 81R,24C</b>		<b>40</b>	<b>61,483</b>	<b>20,148</b>	<b>2628</b>	<b>24,453</b>	<b>108,752</b>	<b>39.0</b>

5 YEAR COMPARISON

1983	52R,14C	30	82,204	4891	273	9566	96,964	29.5
1984	48R,15C	22	39,023	10,875	851	22,419	73,190	27.5
1985	66R,19C	67	185,851	8148	801	10,576	206,143	42.0
1986	78R,28C	109	76,355	2769	332	14,285	93,850	28.0
1987	89R,16C	98	133,723	5134	113	10,525	149,593	50.2
1988	81R,24C	40	61,483	20,148	2628	24,453	108,752	39.0

EAST RIVER RED SALMON CATCH COMPARISON-1988  
IN-RIVER, SURF & OCEAN

<u>ENDING</u> <u>WK-DATE</u>	<u>AREA</u>	<u>PERMITS</u>	<u>(%)</u>	<u>1/</u> <u>RED CATCH</u>	<u>CPUE</u>	<u>% RED CATCH</u>
30-7/23	In-river	25	(59.5%)	3492	140	59.8
	Surf	14	(33.3)	2131	152	36.5
	Ocean	3	(17.2)	216	72	3.7
31-7/30	In-river	40	(67.8)	3203	80	60.0
	Surf	19	(32.2)	2131	112	40.0
	Ocean	NOT	FISHED			
32-8/06	In-river	36	(42.9)	6711	186	46.2
	Surf	22	(26.2)	5030	229	34.6
	Ocean	26	(30.9)	2798	108	19.2
33-8/13	In-river	68	(63.6)	13,036	192	76.7
	Surf	21	(19.6)	3383	161	19.9
	Ocean	18	(16.8)	573	32	3.4
34-8/20	In-river	49	(80.3)	8806	180	82.6
	Surf	12	(19.7)	1850	154	17.4
	Ocean	NOT	FISHED			
35-8/27	In-river	40	(93.0)	4724	118	92.0
	Surf	3	(7.0)	411	137	8.0
	Ocean	NOT	FISHED			
<u>TOTAL</u>						
	In-river	258	(65.1)	39,972	155	68.3
	Surf	91	(23.0)	14,936	164	25.6
	Ocean	47	(11.9)	3587	76	6.1

1/ Some permits fished more than one area within the river in a given week, thus weekly figures for all three areas combined are higher than actual number of permits fished each week in the East River.

EAST ESCAPEMENT

	<u>RED</u>	<u>COHO</u>	<u>CHUM</u>	<u>REMARKS</u>
6/19	0			
6/26	600			
6/29	650			
7/05	600			300 below markers
7/10	1000			100 below markers
7/16	750			40 below markers
7/19	2200			900 below markers
7/21	1800			2400 below markers
7/24	2600			2400 below markers
7/26	1300			500 below markers
7/28	8000			1100 " "
7/31	12,000			1400 " "
8/04	18,200			2000 " "
8/10	18,000			
8/13	21,700		1500	200 spawning reds
8/16	22,000		2000	
8/19	22,500		2500	700 R, 600Ch below mrks
8/29	25,000			mixed red & chum
9/02	22,000		2500	6,000 reds spawning
9/06	25,000		3000	chum & coho mixed
9/27	38,000	3000 <u>1/</u>	4000	
11/3	5000			15,000 dead sockeye

DOAME RIVER ESCAPEMENT

6/26	0		
7/16	0		
7/19	50		
9/07		2500	
9/27		2000	
11/3		1000	

1/ In Doame River-East River joint lagoon area.

EAST RIVER  
RETURN PER SPAWNER SINCE 1975

<u>YEAR</u>	<u>TOTAL RETURN</u>	<u>PARENT YEAR ESCAPEMENT</u>	<u>RETURN PER SPAWNER</u>	<u>RANK</u>
1976	79,816	10,000	7.98	1
1982	177,785	25,000	7.11	2
1985	245,851	35,000	7.02	3
1983	147,204	30,000	4.91	4
1977	61,309	15,000	4.08	5
1984	68,023	18,000	3.78	6
1975	44,530	12,000	3.71	7
1979	81,262	22,000	3.69	8
1988	99,483	29,000	3.43	9
1987	167,723	65,000	2.58	10
1981	82,365	40,000	2.06	11
1978	56,003	35,000	1.60	12
1986	120,355	80,000	1.50	13
1980	66,530	50,000	1.33	14
Average return per spawner since 1975			3.91	

## AKWE RIVER

The Akwe River experienced one of its best overall production years in 1988. Sockeye catch of 12,476 was 16% above the previous 10-year average. Coho catch of 13,705 was 61% above the same average. Pink catch of 1,686 has only been exceeded twice before, in 1961 and 1962, and chum catch of 2,288 far exceeds the previous high catch of 662. Total production of 30,255 fish of all species is the fourth highest on record for the Akwe. Catch of 100 kings is slightly below average.

The Akwe remained very turbid this season, and it proved very difficult to monitor escapement from the air. The river opened on schedule on June 27. With heavy effort directed towards sockeye the river was managed conservatively. Fishing time was maintained on a reduced level of one to one and one-half days for most of the sockeye season, the single exception being the normal fishing time of two and one half days during the second week of July. Reductions of fishing time do coincide with high levels of effort on the Akwe; even so, total fishing time of 39 days in 1988 was well above average.

Run timing of coho tends to be a little later in the Akwe than it is in other area streams. Poor catches during the early part of the coho run forced a reduction in fishing time from three to two days per week for the first two weeks in September. As catches improved, fishing time was added and the river was fished four days a week for the final three weeks of the season.

Markers were again placed on the Akwe one-half mile upstream of the mid-tide level to minimize the problem of fishing mixed stocks of Italo and Akwe fish in the common mouth area. There were strong indications in 1988 that Italo chums did stray into and were caught in the Akwe River. The evidence for such straying by sockeye and coho is not as strong as for chum, however these species are probably being intercepted as well. Major evidence for straying of Italo chum into the Akwe came from the fact that weekly fish tickets showed that the highest chum catches there were in the nets furthest downstream and therefore closest to the Italo. Chum catches were fewer with each successive net in an upriver direction away from the Italo. Such a pattern has not been the case during past years when the Akwe and Italo Rivers had separate mouths. Salmon normally dispersed throughout the fishery during closed periods and moved upriver around nets during open periods, so that often the upriver nets caught more fish than the downriver nets. As noted both here and in the Italo River narrative, catch of 2,288 chums is far above historical levels for the Akwe, while catch of chums in the Italo, the better chum producer, was minimal. A high proportion of the Akwe chum catch probably consisted of Italo River fish.

There is a strong possibility that in 1989 the Akwe River marker will be moved to a point one mile upriver from the mid-tide line to allow more room for Italo River salmon to segregate out from Akwe River stocks before being subjected to any fishing pressure.

AKWE RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u>	<u>WK-DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
	27 7/02	8	69	1501			4	1574	1.5
	28 7/09	13	13	2364		7	23	2407	1.0
	29 7/16	12	10	4188		25	173	4396	2.5
	30 7/23	13	2	1962		18	159	2141	1.5
	31 7/30	11		1248	3	85	524	1860	1.5
	32 8/06	7	2	737	5	430	678	1852	3.0
	33 8/13	5	2	267	30	455	343	1097	3.0
	34 8/20	4	2	152	91	542	325	1112	3.0
	35 8/27	3		22	24	20	10	76	3.0
	36 9/03	5		16	271	28	22	337	2.0
	37 9/10	10		9	1921	48	14	1992	2.0
	38 9/17	9		4	1917	26	5	1952	3.0
	39 9/24	12		3	5664	2	4	5673	4.0
	40 10/1	9		1	2771		4	2776	4.0
	41 10/8	2			1008			1010	4.0
TOTAL: 13 R.			100	12,476	13,705	1686	2288	30,255	39.0
12 COHO									

5-YEAR COMPARISON

1983	6	93	5687	5282	151	73	11,286	30.0
1984	8	143	17,706	8837	1027	662	28,375	23.2
1985	9	135	4938	4044	19	45	9181	21.0
1986	15	337	9497	8635	41	99	19,609	32.5
1987	12	190	12,133	7945	32	513	20,813	38.0
1988	13	100	12,476	13,705	1686	2288	30,255	39.0

AKWE ESCAPEMENT

	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>REMARKS</u>
6/19	2			
6/26				
6/29				
7/05				
7/12				
7/16		40		
7/21		50		
8/04	2	20		REDS SEEN AT MOUTH
9/15		10		OF SWANSON CREEK

## ITALIO RIVER

As in 1987, fishing area on the Italo was divided among three distinct areas, the Old, Middle, and New Italo Rivers. The New Italo, being the main channel of the river, continued to share a common mouth area with the Akwe River. The mouth of the New Italo was again closed to commercial fishing to prevent interception of mixed stocks. A limited fishing area of approximately one-quarter mile on the New Italo was delineated by regulatory markers prior to the start of the season. This coincided with the same area established in 1987.

Escapement counts built very slowly during the sockeye run, and the river remained closed to commercial fishing for sockeye. An aerial survey on August 4 revealed a peak escapement count of 2,300 sockeye, far below average escapements of 9-10,000. A peak count of 600 sockeye was observed in Italo Lake on August 13.

The Italo was opened initially on August 22, and all three river channels were fished for coho. Combined catch of 3,051 coho is one-half the previous 10-year average. The river was not fished during the first and last weeks of the season, and effort remained low during the periods the river was fished. 1,131 coho (37% of the catch) were reported from the Old Italo. Coho escapement counts were above average.

The Italo reported a total catch of 15 chum salmon in 1988, one of the lowest catches on record. The Akwe River, on the other hand, recorded a chum catch of 2,288, 3.5 times the previous high catch for that river. Undoubtedly a high percentage of the Akwe catch consisted of Italo River chums that strayed into the Akwe from the common mouth area. The Italo River is historically the better chum producer of the two.

ITALIO RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u>	<u>WK-DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>	
	35	OPEN-NOT FISHED								2.0
	36 9/03	1		1	49	2	6	58	2.0	
	37 9/10	2		3	267	3	7	280	3.0	
	38 9/17	2		1	709	1	1	712	3.0	
	39 9/24	2			895		1	896	4.0	
	40 10/1	3			1131	1/		1131	4.0	
	41 10/8	NOT FISHED								4.0
	TOTAL:	3	0	5	3051	6	15	3077	22.0	
	1/ ALL REPORTED FROM OLD ITALIO									

5-YEAR COMPARISON

1983	3	0	1346	4747	455	574	7130	29.0
1984	5	1	8210	9315	1364	5614	24,504	38.0
1985	3	4	1146	9496	356	478	11,480	34.0
1986	6	18	3976	1873	0	903	6770	35.5
1987	4	2	778	1331	3	649	2763	33.0
1988	3	0	5	3051	6	15	3077	22.0

ITALIO ESCAPEMENT

<u>AREA</u>	<u>RED</u>	<u>COHO</u>	<u>CHUM</u>	<u>REMARKS</u>
6/19 NEW ITALIO	0			
6/26 NEW ITALIO	0			
6/29 NEW ITALIO	30			
7/05 NEW ITALIO	0			
7/10 NEW ITALIO	100			
7/12 NEW ITALIO	500			
7/16 NEW ITALIO	250			
7/19 NEW ITALIO	200			
7/21 NEW ITALIO	250			
7/24 NEW ITALIO	1200			200 BELOW MARKERS
7/28 NEW ITALIO	600			
7/28 ITALIO LAKE	400			
8/04 NEW ITALIO	2300			
8/04 ITALIO LAKE	400			
8/13 NEW ITALIO	900		50	
8/13 ITALIO LAKE	600			
8/19 MIDDLE ITALIO		0		
8/24 NEW ITALIO		100		
8/24 MIDDLE ITALIO		350		
8/24 OLD ITALIO		0		
9/02 NEW ITALIO		300		
9/02 OLD ITALIO		150		
9/02 MIDDLE ITALIO		10		
9/07 MIDDLE ITALIO		100		
9/07 NEW ITALIO				2000 MIXED CHUM AND COHO
9/15 NEW ITALIO	200	800		
9/15 ITALIO LAKE	500			
9/19 OLD ITALIO		1300		
9/19 MIDDLE ITALIO		100		
9/19 NEW ITALIO		0		
9/23 OLD ITALIO		3000		
9/23 MIDDLE ITALIO		500		
9/27 OLD ITALIO		1400		
9/27 MIDDLE ITALIO		150		
9/27 NEW ITALIO	100	1000		
9/27 ITALIO LAKE	500			
11/3 NEW ITALIO		650		
11/3 MIDDLE ITALIO		250		
11/3 OLD ITALIO		700		

## DANGEROUS RIVER

The Dangerous River opened on June 27 under the season specified for the remainder of the district. During most of the season the river was fished by one permit fishing an area approximately one-half mile below the Dangerous River bridge. Catch of 1,350 sockeye is only half the average of recent years, total effort was also down from 1986 and 1987 levels. The Dangerous was not fished for coho in 1988. No sockeye were seen during the three aerial surveys of the Harlequin Lake ponds.

The waters of Harlequin Lake and the river above the bridge have been closed to commercial fishing since 1985. The Yakutat Advisory Committee has a proposal before the Board of Fisheries to reopen these waters to commercial fishing.

DANGEROUS RIVER WEEKLY CATCH DATA-1988

<u>WK-DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
29 7/16	1		101				101	2.5
30 7/23	1		84				84	2.5
31 7/30	3		161				161	2.5
32 8/06	1		414				414	3.0
33 8/13	1		280				280	3.0
34 8/20	1		265				265	3.0
35 8/27								3.0
36 9/03								3.0
37 9/10								3.0
38 9/17								4.0
39 9/24								4.0
40 10/1								4.0
41 10/8								4.0
TOTAL:	3		1,305				1,305	41.5

COMPARISON

1986	16	10	2811	202	23	7	3,104	42.0
1987	10	4	2454				2,458	43.5
1988	3		1305				1,305	41.5

DATA FOR DANGEROUS RIVER NOT KEPT PRIOR TO 1986.

ESCAPEMENT

7/16 NO REDS SEEN IN HARLEQUIN LAKE PONDS.  
8/16 NO REDS SEEN IN HARLEQUIN LAKE PONDS.  
9/02 NO REDS SEEN IN HARLEQUIN LAKE PONDS.

## SITUK-AHRNKLIN RIVERS

The Situk-Ahrnklin River fishery (referred in this report as "the Situk River Fishery" for brevity) in 1988 recorded very good to excellent catches of all salmon species except king salmon. The coho catch was the best since 1955; sockeye catch was second highest since 1977; pink catch was sixth highest since 1948; and the chum catch was fourth highest on record. Prices for salmon were at an all-time high. Escapements of all species except king salmon were also good to excellent and the revised sockeye escapement goal was achieved this year. For the first time since 1955, the Situk weir was placed in the lower river and used directly in-season to manage the sockeye fishery. Research continued on the Situk to determine effects of any overflow of Russell Fjord (due to Hubbard Glacier advance) on salmonid stocks and their habitat. A sockeye stock timing tagging study was also conducted for the first time this year.

### KING SALMON

The return of king salmon to the Situk River in 1988 showed early indications of strength and it appeared that the 2,000 escapement goal would be achieved. However, as the early weeks of the sockeye fishery progressed (third and fourth weeks of June) it became obvious that the escapement goal would not be achieved without some conservation measures to reduce king salmon interception. Commercial fishermen were asked to voluntarily release king salmon, but this was not having the desired effect. Therefore, on June 30 a special 12-hour opening was held during which retention of all king salmon, alive or dead, was prohibited on a trial basis. Initial observations indicated some success with this method, despite protests from fishermen, and so from this time through the third week of August, king salmon non-retention was in effect on the Situk River. Evidence from personal observations, fishermen interviews and numbers of gillnet-marked fish counted through the Situk weir indicated that there was some continued degree of success with the release of kings. Some dead kings had to be released and this wastage of the resource was unfortunate, and regretted by the Department, but the Department had no other means in its authority to conserve kings. A proposal by the Department to the Board of Fisheries in February 1989 will ask the Board to give the Department authority to make the sale of kings illegal on the Situk if such a conservation crisis arises again. Fishermen would be allowed to retain dead kings for their own use under this proposal.

Total 1988 king catch was 300, well below the recent 10-year average of 568 fish. Final escapement was only 1,078 (885 large, 193 small), only half of the escapement goal of 2,000 fish. Historical reliable escapement data indicates, based on preliminary analysis, that the optimum return per spawner of kings on the Situk River is produced from escapements in the

range of 1,000 to 1,600 fish. The Department will do a detailed analysis of this data in the winter of 1988-89 and will then establish a revised, more accurate king salmon escapement goal on the Situk River as was done for sockeye salmon in 1987.

#### SOCKEYE SALMON

The escapement goal range for sockeye salmon on the Situk River was revised downward from 80,000-100,000 fish to 45,000-55,000 fish after detailed analysis in 1987, and the river was managed in 1988 to achieve this revised goal. Fishing opened on schedule on the third Monday of June (June 20) for 1.5 days. Early catches, coupled with escapement counts in the lower river and through the Situk weir indicated a good return of sockeye. Therefore, fishing time in the second week was increased to 4 days and in ensuing weeks went to 4.5, then 5.5 days as run strength built. Beginning with the week of July 18, the sockeye return began to decline steadily and fishing time was reduced accordingly. Final escapement was 47,000 sockeye, well within the escapement goal range; catch of 52,000 was 1.8 times the recent 10-year average catch (28,491 for 1978-1987), and the second highest catch since 1977. Total return of Situk sockeye from the parent year escapement of 68,000 was approximately 107,000 (Situk catch plus escapement, plus half of the Yakutat Bay sockeye catch (7,120) plus half of the Lost River catch (1,158)). Return per spawner (R/S) was 1.6:1. This is an improvement over the long-term average R/S of 1:1 for the Situk, but still below the 3:1 average for most North American sockeye systems. The improved returns per spawner from the lower escapements of sockeye on the Situk River in recent years continue to lend credence to the data analysis done in 1987 which indicated that highest R/S resulted from mid-range escapements, in the range of 45,000 to 55,000.

A major enforcement problem occurred in the Situk and Lost River fisheries during the week of July 11-16. The regulations and weekly fishing times as applied to each river fishery from the mouth of the Dangerous River west to Cape Suckling (approx. 180 miles of coastline), also apply to the area in the surf/ocean within a radius of one-half mile from the terminus of that river (5AAC 30.340, p. 17, 1988 Southeast and Yakutat Commercial Finfish Regulations, Salmon and Miscellaneous Finfish). There is no requirement that half-mile markers be placed on any of the approximately 50 streams along this coastline, and in fact this would be a monumental task to accomplish and maintain, well beyond the given ADF&G manpower available in the Yakutat area. Half-mile markers were placed on the Situk in 1986, but these had fallen down and been lost since then. One fisherman did notify ADF&G that the markers were down, during the week of July 10, but replacement of these markers was not made a high priority because they are not required by regulation, a limited number of ADF&G personnel were extremely busy at this time with field operations problems, logistics, etc. for five field camps, and when

enforcing this regulation, a leeway of 1/4 mile has been granted to fishermen due to the lack of a requirement for markers. However, the violations detected on Saturday, July 16 were gross and blatant; nets were set more than 8 miles along the coastline from the mouth of the Situk all the way to Ocean Cape, when the only open waters in this area after 6:00pm Wednesday, July 13 were those within a one-half mile radius of the Situk River. The major motivation for these violations was dissatisfaction by a few fishermen that the Lost River was closed after 6:00pm Wednesday when the Situk River was open (until 6:00pm Saturday); they decided to fish the Lost and its half-mile radius anyway, and even set nets in the "Rest of the District" area between the Lost River and Ocean Cape. Many of these nets were illegal "bingo" nets, with no required identification at all on them. The weekly fishing time extension announcement that had been posted on Wednesday July 13 stated clearly that only the Situk River, Yakutat Bay and Manby Outside area were extended until 6:00pm Saturday, July 16. Approximately 30 nets (including approximately 6 "bingo" nets, three of which were confiscated) were fishing illegally on Saturday, July 16, from Ocean Cape to one-half mile west of the Situk River. One of these fishermen admitted to ADF&G staff that he: 1) had not read the announcement about Situk extension posted around Yakutat at the usual locations; 2) had not read a regulation book, or even seen one, for 1988 (the ADF&G office had 50-100 copies of the regulation book on hand all summer); 3) was unaware of the half-mile radius regulation; and 4) had simply followed the example of other more experienced fishermen, some of whom had decided to deliberately fish in violation of the regulations.

To avoid such problems in the future and to ensure an orderly fishery, given the large number of fishermen using the Situk and Lost River ocean area at times, Yakutat ADF&G staff, beginning in 1989 and annually thereafter, will place and maintain regulatory markers on the beach one-half mile each side of the Situk and the Lost River mouths. These markers will be clearly visible to anyone on shore or in a boat offshore.

In 1988, for the first time since 1955, the Situk weir was placed in the lower river, only 1.5 miles upstream of the landing and 2.0 miles above the Situk-Ahrnklin fishery. Since 1955, the weir had been located 13 miles upriver where Forest Highway 10 crosses the river. The new weir location provides escapement information which is timely and therefore very useful in managing the sockeye fishery on a weekly basis. The weir operated from June 7 until August 22, and final escapement counts are in the accompanying table. The weir delayed the upstream migration of king and sockeye salmon somewhat, but this delay did not appear to either adversely affect spawning activity or increase natural mortality. Sport fishing effort took proportionately more king salmon under these conditions than in previous years when there was no weir in the lower river.

The Department conducted a migration timing tagging study on the Situk sockeye population this year. Three different timing segments (early, middle, late) of the sockeye return were tagged at the Situk weir with three colors of spaghetti tags (orange-early-1,053 tags; yellow-middle-1,642 tags; and blue-late-1,850 tags, for a total of 4,545 tags released). The two objectives of this study were to determine: 1) if timing of sockeye stocks through the fishery and weir was the same as timing onto the spawning grounds, and 2) if separate timing segments existed in the Situk sockeye population which would manifest themselves as discrete subpopulations spawning in locations separate from other subpopulations. Tag recovery data has not been analyzed at the time of this writing but preliminary results are: 1) timing of sockeye stocks through Mountain Lake weir is the same as timing through the Situk weir, i.e., orange tags were counted through first, followed by yellow, then blue; and 2) all three timing stocks were present in equal numbers in Mountain Lake. Therefore, timing appears to be the same on the spawning grounds as through the fishery, but at least as far as Mountain Lake is concerned (probably the second biggest sockeye subpopulation in the Situk system), this subpopulation cannot be characterized or identified by any timing characteristics, because it is a "mixed bag" of all Situk system timing segments.

These results from the tagging study have implications for management of the Situk River sockeye fishery as it relates to achievement of the king salmon escapement goal there. The easiest method for improving king escapement on the Situk River in any year when the king return is poor is to delay the opening of the sockeye fishery on the Situk, because this fishery intercepts king salmon during its early weeks. However, if this is done in a year when there is a strong sockeye return, then fishing time, and thus fishing pressure, will have to be increased on the middle or late timing segments of the sockeye run if the desired escapement goal is not to be exceeded. The danger of this method is two-fold: 1) if done for several years, it would favor survival of early timing stocks and the timing of the sockeye run could be shifted earlier and 2) if any particular fish stocks within the Situk system were predominantly later-timing fish, then these stocks could be in danger of being severely reduced or eliminated. The preliminary results from this one year's study indicate that both the Mountain Lake and the mainstream Situk River spawning subpopulation which together comprise the majority of the Situk system sockeye population, are composed of a wide range of timing segments, from early to late timing. Therefore, delaying the opening of the Situk sockeye fishery for a few weeks to conserve kings would not place any particular stocks of sockeye on the Situk system in jeopardy but could still gradually change the overall timing of the Situk system sockeye return, making it earlier. This is undesirable because a later sockeye run timing would be needed to ease the conflict with the early king salmon run timing.

Because tagging has only been conducted in one year, all conclusions must be regarded as very preliminary. This tagging study will be repeated and the Mountain Stream weir installed again in 1989, to give more validity to the study by taking into account interannual variability.

#### COHO SALMON

Coho catch of 61,689 was the highest since 1955 and more than double the recent 10-year average catch (1978-1987) of 29,500. Early escapement counts were good to excellent. Later escapement surveys were flooded out. Inclement weather and very high tides during the final three weeks of the season reduced gear efficiency; fishing time was maintained at four days per week for the final five weeks of the season (September 5-October 7).

#### PINK AND CHUM SALMON

Pink salmon catch of 15,323 was highest since 1981 and sixth highest since 1948, but only 10% above the recent 10-year average due to very high pink catches in 1979, 1980, and 1981. Escapement of 78,753 is fair to good. Chum catch of 886 is fourth highest on record for the Situk.

#### RUSSELL FJORD-SITUK RIVER STUDIES

In May of 1986, the Hubbard Glacier, north of Yakutat at the head of 30-mile-long Russell Fjord, surged forward rapidly, blocking off the fjord. Water level in the fjord rose steadily for five months, until early October, when the ice dam gave way and water levels returned to normal. Had the ice dam remained intact, best predictions were that the low salinity water in the fjord would have overflowed down the now mostly dry Old Situk channel, continuing down the main Situk channel, inundating spawning grounds, juvenile fish rearing habitat and commercial, sport and subsistence fishing areas and fishing camps and recreational cabins. The new volume in the Situk is predicted to be at least ten times the present volume. If the Hubbard Glacier ever advances again, and the ice dam remains intact next time, there is great potential for major changes to and, in the short term (less than 10 years), some loss of, salmonid spawning and rearing habitat as well as loss of existing fishing sites and camps and recreational cabins. Experts predict that the Hubbard will advance again in the near future and in light of this, the Alaska Department of Fish & Game (ADF&G), the National Marine Fisheries Service Auke Bay Laboratory near Juneau (NMFS) and the U.S.D.A. Forest Service (USFS) signed a cooperative agreement early in 1988 to study salmonid populations in the Situk River and Russell Fjord drainages. The major objective of these studies is to gather as much information as possible about distribution and abundance of rearing juvenile and spawning adult salmonids in

those areas most likely to be adversely affected by any overflow and flooding caused by the Hubbard Glacier advance. With this information as a baseline, mitigative measures can then be instituted after overflow and flooding to restore any lost habitat or displaced fish populations.

In 1988, with funding primarily from the USFS, the NMFS and ADF&G provided personnel, equipment and expertise and carried out the above studies in the Situk River, its tributaries, and in Russell Fjord. NMFS/ADF&G crews documented distribution and abundance of juvenile and adult salmonids and growth and age composition of juvenile salmonids throughout the Situk River system, and an ADF&G crew documented distribution, abundance and species composition of fish in the fjord. NMFS tagged adult king salmon with radio tags (internal) and Petersen disk tags at the Situk weir and monitored their movements within the Situk system. The Russell Fjord work was a pioneer effort; no such information had ever been gathered from this area before, and involved surveying 102 streams and over 130 miles of shoreline. Few fish were found, and these were mostly in the southern quarter of the fjord, and were coho salmon (adults and juveniles), Dolly Varden trout (adult and juvenile), sculpin and threespine stickleback. Sampling methods in 1988 were limited to minnow traps and a small seine; these studies will be repeated next year, with additional sampling methods (e.g., electroshockers) to ensure capture of other species which are not as susceptible to minnow traps or seines. The research in the Situk system by NMFS will also continue in 1989 and 1990.

SITUK-AHRNKLIN RIVERS  
WEEKLY CATCH DATA-1988

<u>ENDING</u>									
<u>WK</u>	<u>DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
26	6/25	40	97	2802			3	2902	1.5
27	7/02	77	202	11,272		1	8	11,483	4.0
28	7/09	64		12,057		27	8	12,092	4.5
29	7/16 <sup>1/</sup>	83	1	15,614	3	339	59	16,017	5.5
30	7/23	67		5932	6	686	165	6759	2.5
31	7/30	47		1276		289	16	1581	1.5
32	8/06	32		1605	41	2357	90	4093	3.0
33	8/13	31		838	489	3837	65	5238	3.0
34	8/20	38		530	2449	5031	186	8196	2.0
35	8/27	49		102	5750	1820	43	7715	3.0
36	9/03	52		31	8271	431	61	8794	3.0
37	9/10	58		28	21,524	438	131	22,121	4.0
38	9/17	60		35	11,104	52	39	11,230	4.0
39	9/24	61		5	9425	12	7	9449	4.0
40	10/1	32		1	1531	2	4	1538	4.0
41	10/8	24			1092	1	1	1094	4.0
<u>TOTAL:</u> 83R,61C			300	52,128	61,689	15,323	886	130,326	53.5

<sup>1/</sup> Includes catch confiscated by Fish & Wildlife Protection.

5 YEAR COMPARISON

1983	29	345	19,426	15,047	6314	100	41,232	37.5
1984	31R,45C	513	7438	47,479	12,162	714	68,306	34.5
1985	31R,44C	472	18,887	54,992	9054	158	83,563	45.0
1986	31R,41C	182	7663	14,401	1530	109	23,885	16.5
1987	61R,46C	759	63,501	30,269	10,758	899	106,186	58.0
1988	83R,61C	300	52,128	61,689	15,323	886	130,326	53.5

SITUK WEIR ESCAPEMENT

<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>
<sup>1/</sup>		<sup>2/</sup>			
1078	46,701	1786	78,753	231	128,549

<sup>1/</sup> (885 large, 193 small)

<sup>2/</sup> weir removed at beginning of coho run.

SITUK-AHRNKLIN ESCAPEMENT SURVEYS  
(Non-main Stem Situk River)

AREA	KING	RED	COHO	PINK	REMARKS
					Above & below
7/8 Antlen		0			FH10 -foot
7/8 Sockeye Creek		5			Foot
7/9 Ahrnklin-Antlen		2630			mouth(Antlen) foot
7/28 Old Situk		0			Boat
7/28 Sockeye Creek	1	900			Foot
8/5 Old Situk		0			Foot
8/5 West Fork		0			Foot
8/13 Sockeye Creek		319	50	1000	Foot
8/18 Old Situk		170			Foot
8/26 West Fork		1		2000	Boat
8/26 Redfield Lake		20			Boat
9/1 Old Situk		465		300	Foot
9/2 Old Situk					Aerial
9/2 West Fork		1	7	5000	Foot
9/2 Old Situk		17		2070	Boat
9/15 Old Situk		50	50		Aerial
9/24 Antlen			700		Boat

SITUK FLOAT COUNTS

9/8			5200	35,000	FH10-LANDING
9/16			1900		SITUK LK-FH10
9/26		5000	3000		SITUK LK-FH10
9/27			11,000		FH10-LANDING

MOUNTAIN STREAM & LAKE SURVEYS

<u>Area</u>	<u>King</u>	<u>Red</u>	<u>Remarks</u>
8/3 Mtn.Stream		5000	Foot-all at mouth of stream
8/4 Stream		7500	Aerial-500 in stream, rest at mouth
8/4 Lake		4500	Aerial
8/11 Stream		5010	Foot
8/18 Stream	4	3900	Foot
8/27 Stream		1500	Foot
9/4 Stream		482	Foot
9/6 Stream		307	Foot

SITUK RIVER ECONOMICS

DOLLAR VALUE OF SALMON SETNET HARVEST 1/

	(20LB) <u>KING</u>	(6LB) <u>RED</u>	(9LB) <u>COHO</u>	(3LB) <u>PINK</u>	(9LB) <u>CHUM</u>	<u>TOTAL</u>
1975	\$7,000	\$128,000	\$114,560	\$7,000	\$4	\$256,760
1976	24,000	345,300	108,000	8,300	80	485,680
1977	21,000	588,560	255,530	25,230	310	890,630
1978	10,000	333,150	417,270	7,140	126	767,690
1979	29,560	430,350	223,950	31,200	220	715,280
1980	22,540	155,130	218,190	23,100	106	419,070
1981	25,000	237,710	308,270	40,440	625	612,050
1982	5,610	170,940	191,240	3,800	410	372,000
1983	4,830	101,000	96,300	3,300	315	205,750
1984	12,310	50,740	498,530	10,640	2400	575,120
1985	11,330	122,770	385,000	4,750	710	524,560
1986	3,276	59,771	116,648	688	294	180,677 (LOW)
1987	23,908	755,662*	454,035	9,682	5394	1,248,984
1988	10,350	1,018,060	1,522,176	40,223	10,632	2,601,441 (HIGH)

1/ (Av.price/lb) x (av.lb/fish) x (ttl.fish delivered)

\* (7lb.) average

	TOTAL YAKUTAT AREA DOLLAR VALUE; SALMON SETNET HARVEST	PERCENT VALUE OF SITUK TO YAKUTAT AREA SETNET
1975	\$ 713,860	36%
1976	1,214,550	40%
1977	2,065,055	43% (high)
1978	3,066,120	25%
1979	3,239,000	22%
1980	2,090,750	20%
1981	2,333,300	26%
1982	2,084,140	18%
1983	1,355,470	15%
1984	2,375,790	24%
1985	3,010,580	17%
1986	1,981,807	9% {low}
1987	5,077,589	25%
1988	8,944,228	29% 1975-88 average=25%

1/ (av.price/lb) x (av.lb/fish) x (ttl.fish delivered)

1988 SITUK RIVER WEIR SOCKEYE SALMON TAGGING PROJECT

SEASON SUMMARY

<u>Orange tags</u>	<u>Yellow tags</u>	<u>Blue tags</u>	<u>Total tags Released</u>
1053	1642	1850	4545

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Orange Tag Releases

<u>Date</u>	<u>No.'s Released</u>	<u>Daily Total</u>	<u>Cumulative Total</u>
6/17	6450-6451	2	2
6/19	6452	1	3
6/22	6453-6473	21	24
6/24	6474-6476	2	26
6/25	6477-6480	4	30
6/26	6481-6516	35	65
6/27	6517-6542	24	89
6/28	6543-6863	311	400
6/29	6895-7552	653	1053

Yellow Tag Releases

<u>Date</u>	<u>No.'s Released</u>	<u>Daily Total</u>	<u>Cumulative Total</u>
7/8	3002-3044	237	237
7/9	3240-3260	17	254
7/10	3261-3400	140	394
7/11	3401-3560	159	553
7/12	3561-3726	166	719
7/13	3727-4000	272	991
7/14	4001-4238	236	1227
7/15	4239-4304	66	1293
7/16	4305-4472	161	1454
7/17	4473-4663	188	1642

Blue Tag Releases

<u>Date</u>	<u>No.'s Releases</u>	<u>Daily Total</u>	<u>Cumulative Total</u>
7/26	not numbered	481	481
7/27	"	209	690
7/28	"	697	1387
7/29	"	463	1850

1988 SITUK RIVER DRAINAGE  
SOCKEYE SALMON TAG RECOVERIES

<u>Date</u>	<u>No. of tags recovered</u>			<u>Recovery Location</u>	
	<u>Orange</u>	<u>Yellow</u>	<u>Blue</u>		
July 5	6			Mountain Stream Weir (unless indicated- otherwise)	
6	0				
7	48				
8	40				
9	32				
10	15				
11	10				
12	13				
13	30	2			
14	18	1			
15	13	2			
16	28	6			
17	6	18			
18	2	7			
19	4	9			
20	1	8			
21	1	21			
22	2	16			
23	1	20			
24	3	9			
25	3	36			
26	3	24			
27	2	3			
28	2	2	1	{Orng.: 6801 & 6634 (tagged 6/28). Situk R., middle cabin 10 mi. upriver from mouth}	
29		9			
30		5			
31		2			
Aug. 1		5		{Situk R., middle cabin 10 mi. upriver from mouth}	
2		1			
3		7	3		
4		7	1		
5		-	-		
6		-	3		
7		3	5		
8		4	11		
9	1	25	51		
10		4	8		
11		3	8		
12		1	9		
13		2	12		
14		1	6		
15			5		
16		1	3		
17			6		
18	7	5	2		Old Situk from hwy-3mi upstr.
18	7		6		
19			2		
20		1	6		
21	1		11		

SITUK RIVER DRAINAGE  
SOCKEYE SALMON TAG RECOVERIES

<u>Date</u>	<u>No. of tags recovered</u>			<u>Recovery Location</u>
	<u>Orange</u>	<u>Yellow</u>	<u>Blue</u>	
Aug. 22	1	0	23	Mountain Stream Weir {unless indicated otherwise}
23		4	26	
24	1	2	19	
25	1	1	6	
26	2	1	6	
27				
28		2	6	
29			4	
30			8	
31		1	8	
Sept. 1	5	14	5	
1	5	1	5	Old Situk, Hwy-Situk R. chnnl.
2			2	
2			14	
3			4	
4			1	
5				
6	5		1	Mtn. Strm after weir pulled
26	1			West Fork, Situk River
26		6	22	Situk Lake
26	1	3	46	Situk R. Lake outlet-Hwy.
Oct. 16	1			Old Situk, 1/2 mile above hwy. (loose tag on bottom)
Oct. 22	1			Old Situk, 1/4 mile above hwy. (loose tag on bottom)
Nov. 2	1			Old Situk 1 mile below hwy. (loose tag on bottom)
<hr/>				
	286	277	283	<u>TOTAL</u> Mountain Stream weir recoveries
	22	28	<u>1/</u> 98	Total other recoveries
<hr/>				
<u>GRAND TOTAL:</u>	308	305	381	

1/ Blue tags were placed on fish in the greatest number, followed by yellow, then orange tags (see tagging summary table). Most stream surveys were conducted in the latter part of the season, at "peak" of spawning (when total spawning fish in the streams are highest). This timing of surveys probably favored the recovery of blue tags.

## LOST RIVER

The 1988 catch of 2,316 sockeye is 21% below the recent 10-year average for the Lost River. It is, however, a significant improvement over the recent five year's production, the average catch for that period of time being only 1,386 sockeye. Due to the close proximity of the Lost to the Situk River, and the fact that much of the fishery on the Lost takes place in the ocean surf and lagoon areas adjacent to the mouth of the river, a considerable portion of the Lost River catch consists of Situk-bound fish. The Lost is often managed in such a manner as to enhance Situk River escapement. In past years, whenever the Situk has been on reduced time the Lost River fishing time has also been reduced.

The problem, from a commercial fisherman's point of view, is that increased fishing time on the Situk River does not automatically mean an increase of time on the Lost River. The Lost has its own small run of sockeye, and must be managed so as to prevent over-harvest of these stocks. Such was the case this year. Both rivers were opened initially for 1.5 days. For the next three weeks fishing time on the Situk was extended to 4.0, 4.5, and 5.5 days, respectively. Fishing time on the Lost was maintained, all three weeks, at the normal fishing period of 2.5 days. There was no indication that escapement counts in the Lost warranted extra fishing time. A peak escapement count of 1,500 sockeye in Tawah Creek on July 31 is below average for the Lost River. See the Situk River section for a discussion concerning half-mile radius marker placement for the Situk and Lost River mouths.

Coho catch of 5,905 is 13% below the recent 10-year average. A float count on Tawah Creek on September 6 revealed above average escapement, and fishing time was maintained on an extended basis for the remainder of the season. Final escapement counts revealed good numbers of coho.

LOST RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u>	<u>WK-DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
	26 6/25	1	6	239				245	1.5
	27 7/02	6	3	545			6	554	2.5
	28 7/09	2	4	104	2			110	2.5
	29 7/16	3	6	593		7	2	608	2.5
	30 7/23	3	2	275	1	27	4	309	2.5
	31 7/30	3	1	237	2	11	3	254	1.5
	32 8/06	3		178	11	77	9	275	3.0
	33 8/13	1		49	16	137	3	205	3.0
	34 8/20	2		42	91	140	10	283	3.0
	35 8/27	1		36	107	74	2	219	3.0
	36 9/03	2		2	256	2		260	3.0
	37 9/10	4		9	2103	3	1	2116	4.0
	38 9/17	4		5	1275			1280	4.0
	39 9/24	4		2	1739		1	1742	4.0
	40 10/1	3			179			179	4.0
	41 10/8	3			123			123	4.0
<b>TOTAL:</b>		<b>6</b>	<b>22</b>	<b>2316</b>	<b>5905</b>	<b>478</b>	<b>41</b>	<b>8,762</b>	<b>48.0</b>

5-YEAR COMPARISON

1983	5	3	2459	5340	1376	3	9,181	37.5
1984	4	22	726	10,688	1792	71	13,299	34.5
1985	4	6	1272	9129	315	13	10,736	40.5
1986	4	6	498	2495	80	3	3082	29.0
1987	4	33	1976	3646	113	37	5805	41.0
1988	6	22	2316	5905	478	41	8762	48.0

LOST RIVER ESCAPEMENT

	<u>AREA</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>REMARKS</u>
7/16	Tawah	0			aerial
7/31	Tawah	1500			aerial
9/01	Tawah		117	3	boat
9/02	Ophir	800			aerial
9/06	Tawah		1600		boat
9/25	Tawah		350		boat
9/25	Coast Guard Lake		1000		boat
9/27	Ophir	500			aerial
9/27	Coast Guard Lake		500		aerial
10/26	Roadside Ditches		124		foot
11/03	Coast Guard Lake		500		aerial

## YAKUTAT BAY

The Yakutat Bay sockeye catch of 14,239 is 3% below the recent 10-year average. The Bay fishery opened on June 13, and recorded very poor catches during the first three weeks of the season. During the week of June 13, 28 permits accounted for a total of 170 sockeye during a two and one-half day opening. During the June 20 opening the following week, a peak count of 34 permits recorded a catch of 896 sockeye. Discussions with local fishermen revealed that none could ever remember the Bay fishery being so poor. It was felt by many that something, perhaps the severe earthquake activity in the area during the previous winter and spring, had changed water conditions (currents, clarity, etc) in the Bay, and that sockeye were not following their normal migration patterns (earthquakes occurred on Nov. 16 and 30, 1987, and on March 13, 1988, with Richter scale magnitudes of 6.9, 7.6 and 7.3, respectively).

Sockeye catches gradually improved, but the Bay never did record a big production week as it did in 1987. Peak weekly catch of 3,728 occurred during the second full week of July during a five and one-half day opening. Effort levels in the Bay were average, and did not approach the record levels of 1987. As Situk River escapement built, fishing time in the Bay was extended to 4.5 and then 5.5 days during the peak weeks.

Pink salmon returns to Humpback Creek were very strong. The bay recorded a total pink catch of 99,965 pinks of which 92,173, or 92%, came from Humpback Creek. That portion of Yakutat Bay containing Humpback Creek was extended to five days fishing time per week for five weeks to harvest these pinks. The remainder of the Bay, including the Monti Bay/Khantaak Island fishery area, remained on normal fall fishing time of three days during this period. The area of the Bay that was on extended time was defined as being south of a line extending west from Eleanor Island and east of a line extending north from the west point of Sawmill Cove. Markers remained in place on Humpback Creek throughout the season, but were moved closer to the creek itself on September 5, thus protecting the creek while allowing fishing in the ocean area immediately adjacent to the creek. Escapement goals were met on Humpback Creek (at least 10,000 pinks).

The recent history of pink production and exploitation in Humpback Creek has been spotty. During the three year period 1979-1981, record harvests were achieved, with over 100,000 pinks caught in each of those years. In 1982 and 1983 catches were below historical levels. The creek was not fished during the years 1984-1987. Returns were good in 1984 and 1985 (over 80,000 estimated in 1985), but there was virtually no market for pinks in those years. Poor returns prevented any harvest in 1986 and 1987. The combination of excellent returns and high price allowed utilization of the resource this year.

Yakutat Bay is not a major coho producer, and effort always drops off during coho season. Catch of 3,164 coho is 600 fish above the recent 10-year average. Coho escapement has been good, final surveys have been flooded out. With limited effort and the excellent overall coho run, fishing time was extended to four days per week for the last four weeks of the season.

YAKUTAT BAY WEEKLY CATCH DATA-1988

<u>ENDING</u>	<u>WK DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>REDS</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
	25 6/18	28	11	170			5	186	2.5
	26 6/25	34	23	896	1		8	928	1.5
	27 7/02	25	52	1199	28	9	72	1360	2.5
	28 7/09	20	44	2875	4	11	7	2941	4.5
	29 7/16	25	36	3728	52	79	73	3968	5.5
	30 7/23	18	15	2438	69	69	106	2697	2.5
	31 7/30	21	6	2038	58	601	150	2853	1.5
	32 8/06	15	6	770	165	1932	125	2998	5.0 <u>1/</u>
	33 8/13	17	1	50	126	12,595	28	12,800	5.0
	34 8/20	19	2	44	129	43,273	24	43,472	5.0
	35 8/27	15		5	237	27,346	10	27,598	5.0
	36 9/03	7		16	727	13,991	21	14,755	5.0
	37 9/10	4		10	476	59	22	567	3.0
	38 9/17	2			520			520	4.0
	40 10/1	3			554			554	4.0
	41 10/8								4.0

TOTAL: 34 R, 196 14,239 3164 99,965 651 118,215 64.5  
 7 COHO

5 YEAR COMPARISON

1983	16 RED	239	17,603	3634	14,900	363	36,739	40.0
	4 COHO							
1984	32 RED	125	9134	2913	2159	996	15,327	29.0
	5 COHO							
1985	32 RED	237	10,992	3204	5479	694	20,606	45.5
	4 COHO							
1986	36 RED	202	21,826	3056	5162	687	30,933	36.0
	7 COHO							
1987	52 RED	319	24,943	2520	1671	196	29,649	46.0
	5 COHO							
1988	34 RED	196	14,239	3164	99,965	651	118,215	64.5
	7 COHO							

1/ Humpy Creek portion extended to 5 days, remainder of Yakutat Bay stayed at 3 days.

YAKUTAT BAY ESCAPEMENT

<u>AREA</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>REMARKS</u>
7/24 Humpy Creek			1,500	Aerial-intertidal
7/26 Humpy Creek			500	Aerial-intertidal
7/28 Humpy Creek			200	Aerial-intertidal
7/31 Humpy Creek			5,000	Aerial-intertidal
8/04 Humpy Creek			3.000	Aerial-intertidal
8/04 Humpy Creek			40	Foot
8/10 Humpy Creek			10,000	Aerial-intertidal
8/16 Humpy Creek			7,000	Aerial-intertidal
8/16 Onklat Creek			1,000	Aerial-intertidal
8/17 Humpy Creek			600	Foot
8/24 Humpy Creek			5,000	Aerial-intertidal
8/25 Humpy Creek			7,860	Foot
8/30 Humpy Creek			9,500	Foot
8/30 Onklat Creek			1,000	Foot
8/30 Log Dump Creek			300	Boat
9/06 Humpy Creek			1,500	Aerial-intertidal
9/06 Onklat Creek			500	Aerial-intertidal

## MANBY FISHERIES

The combined Manby fisheries total harvest of 32,887 fish is the highest production on record for the area. Catch of 11,923 sockeye is 43% above the recent 10-year average, and coho catch of 20,844 is 113% above the same average. Sockeye catch was distributed between the outside Manby Shore fishery (9,153) and the Sudden Stream-Grand Wash inside fishery (2,119). Manby Stream, Spoon River, and Esker Creek, fished later in the season for coho, contributed small numbers of sockeye to the total catch. The Manby Shore fishery opened initially on June 20 for one and one-half days, and was not fished that week. Inside fisheries opened on June 27 and both inside and outside fisheries recorded catches. A peak weekly count of nine permits fished the Manby Shore outside fishery during the third week of the season. Both inside and outside fisheries were on extended fishing time during the third and fourth weeks of the season.

Coho catch was almost equally distributed between Manby Stream (7,247), Esker Creek (6,421) and Spoon River (6,170). Sudden Stream-Grand Wash contributed 1,005 coho to the total catch. Escapement surveys are limited due to the glacial nature of most systems. 800 coho were observed in Spoon River on September 11. Final surveys have been flooded out through late October. All Manby area fisheries remained on extended time throughout the coho season. None of the areas were fished during the last week of the season.

MANBY FISHERIES WEEKLY CATCH DATA -1988  
COMBINED CATCH

<u>ENDING</u>	<u>WK DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>	
	27 7/02	7	9	2822				2838	2.5	
	28 7/09	12	2	4948	1			4963	4.5	
	29 7/16	4		2870				2874	5.5	
	30 7/23	3	2	1032				1037	2.5	
	31 7/30	2		214				214	2.5	
	32 8/06	NOT FISHED								3.0
	33 8/13	NOT FISHED								2.0
	34 8/20	1		9	112	52		173	3.0	
	35 8/27	4		23	1350	16		1389	3.0	
	36 9/03	3			1799	1		1800	4.0	
	37 9/10	11		2	6105	36	1	6144	4.0	
	38 9/17	15		1	6574	1		6576	4.0	
	39 9/24	6			3132			3132	4.0	
	40 10/1	4		2	1771			1773	4.0	
	41 10/8	NOT FISHED								4.0
<b>TOTAL:</b>		15	13	11,923	20,844	106	1	32,877	52.5	

5 YEAR COMPARISON

1983 20R,4C	25	7689	5457	139	13	13,323	22.0
1984 18R,7C	44	5116	18,661	2	8	23,831	28.0
1985 14R,5C	5	6662	16,366	33	12	23,078	34.5
1986 3R,6C	0	4879	3978	0	3	8860	43.5
1987 10R,7C	15	8067	7552	0	1	15,635	47.5
1988 12R,15C	13	11,923	20,844	106	1	32,887	52.5

MANBY SHORE WEEKLY CATCH DATA-1988

26 6/25	NOT FISHED							1.5
27 7/02	6	9	2330			2339	2.5	
28 7/09	9	1	4096	1		4098	4.5	
29 7/16	2		2175			2175	5.5	
30 7/23	2	2	552			554	2.5	
<b>TOTAL:</b>	9	12	9153	1		9166	16.5	

MANBY STREAM WEEKLY CATCH DATA-1988

28 7/09	2	1	614			615	4.5
35 8/27	2		17	895	8	920	3.0
36 9/03	2			1619	1	1620	4.0
37 9/10	6		1	2776	8	2786	4.0
38 9/17	6			1917		1917	4.0
39 9/24	1			40		40	4.0
40 10/1							4.0
41 10/8							4.0
<b>TOTAL:</b>	6	1	632	7247	17	7898	31.5

SPOON RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u>	<u>WK</u>	<u>DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
	34	8/20	1		9	112	52		173	3.0
	35	8/27	1		6	315	8		329	3.0
	36	9/03	1			180			180	4.0
	37	9/10	4		1	2625	28		2654	4.0
	38	9/17	3		1	2299	1		2301	4.0
	39	9/24	1			123			123	4.0
	40	10/1	1			516			516	4.0
	41	10/8								4.0
<u>TOTAL:</u>			4		17	6170	89		6276	30.0

SUDDEN STREAM-GRAND WASH WEEKLY CATCH DATA-1988

	27	7/02	1		492				492	2.5
	28	7/09	1		238				238	4.5
	29	7/16	2		695				695	4.5
	30	7/23	1		480				480	2.5
	31	7/30	2		214				214	2.5
	38	9/17	3			519			519	4.0
	39	9/24								4.0
	40	10/1	1			486			486	4.0
	41	10/8								4.0
<u>TOTAL:</u>			3		2119	1005			3124	32.5

ESKER CREEK WEEKLY CATCH DATA-1988

	35	8/27	1			140			140	2.0
	36	9/03	NOT FISHED							4.0
	37	9/10	1			704			704	4.0
	38	9/17	3			1839			1839	4.0
	39	9/24	4			2969			2969	4.0
	40	10/1	2		2	769			771	4.0
	41	10/8								4.0
<u>TOTAL:</u>					2	6421			6423	26.0

MANBY STREAMS ESCAPEMENT

		<u>COHO</u>	<u>REMARKS</u>
9/11	SPOON RIVER	800	
9/29	MANBY STREAM	0	POOR VISIBILITY

### YAHTSE RIVER

The Yahtse River coho catch of 3,142 is 65% below the recent 10-year average catch of 8,901. Effort was significantly lower than in recent years. Good production in other systems, particularly the Tsiu River, kept permits that might be expected to fish the Yahtse from migrating there. Yahtse coho were flown to Yakutat in small planes. A small number of coho were taken from the Yana River. Noted as being from the Yana, these catches were included in the Yahtse River total harvest. Escapement surveys of the Yahtse and Icy Bay area streams are limited in nature due to the turbidity of most systems. Only Jetty Creek revealed any numbers of spawning coho.

Markers were again used to protect spawning tributaries entering the Yahtse lagoon. One set of markers was placed approximately 300 yards either side of the mouth of a creek located about one-half mile upstream from the mouth of the river. Another marker was placed approximately three miles to the east of the mouth and served to delineate the upstream closed water area. Fishing time was maintained on an extended basis for the final four weeks of the season. As in 1987, all streams from one-half mile west of the Yahtse to Cape Yakataga, including all streams in Icy Bay, remained closed to commercial fishing all season.

YAHTSE RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u>									
<u>WK</u>	<u>DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
35	8/27	1		1	209	1		211	2.0
36	9/03	1			262			262	3.0
37	9/10	NOT FISHED							3.0
38	9/17	1			1224	1		1225	4.0
39	9/24	1			809			809	4.0
40	10/1	3			409	<u>1/</u>		409	4.0
41	10/8	1			229	<u>2/</u>		229	4.0
<u>TOTAL:</u>		3		1	3142	2		3145	24.0

1/ 77 Coho reported from Yana River

2/ All reported from Yana River

5 YEAR COMPARISON

1983	6			6799				6799	18.0
1984	5			1526				1526	19.0
1985	5			3871				3871	20.0
1986	12			18,278				18,278	16.0
1987	9		4	12,873			2	12,879	19.0
1988	3		1	3142		2		3145	24.0

YAHTSE RIVER ESCAPEMENT-INCLDING ICY BAY

	<u>COHO</u>	<u>REMARKS</u>
9/11 Yahtse	0	Aerial
9/11 Jetty Creek	700	Aerial
9/15 Yahtse	0	Aerial
9/29 Yahtse	0	Aerial
9/29 Jetty Creek	120	Aerial
9/29 Riou Creek	0	Aerial

SALMON - YAKATAGA DISTRICT

## SALMON-YAKATAGA DISTRICT

The Yakataga District, including the Kaliakh River, opened initially on June 27. This earlier opening was in response to fishermen's requests that the Yakataga District be opened for sockeye fishing. The Tsiu River remained closed until coho season to protect the relatively small sockeye population in that system, but all other Yakataga systems were open throughout the sockeye season. There is no record of any catch or effort in the Yakataga District during the sockeye season. Coho catches on the Tsiu were well above average, and were a little below average on the Kaliakh. Total production for the Yakataga District was 69,232 coho, 34% of the total Yakutat area catch. The Kiklukh and Tashalich Rivers were fished this season, and added small numbers of coho to the Yakataga District total. Catch of 69,232 was the third highest catch for the District since 1951.

## KALIAKH RIVER

The Kaliakh was fished initially on August 22, coincident with the Tsiu River opening. Coho catch of 8,867 was 16% below the previous 10-year average. Inclement weather during the peak weeks of the run limited overall effort on the Kaliakh. A peak weekly count of 14 permits fished the Kaliakh during the last week of August. This is a significant decrease from the 22-27 permits that have fished the river over the past three years. Only three or four permits fished the Kaliakh exclusively, the rest fished the Tsiu, then switched to the Kaliakh during the closed periods on the Tsiu. Catches during the peak weeks were also affected by flood conditions. The Kaliakh can be very difficult to fish during flood stage, and gear efficiency is subsequently reduced. Several nets were destroyed by logs as they drifted in and out of the mouth of the river on the tides.

Enforcement problems on the Kaliakh center around the use of "bingo" nets. On occasion two 25 fathom nets are tied together to form a 50 fathom net. The river is far too large to be patrolled effectively from the beach. We recommend strongly that as soon as possible a skiff be placed on the Kaliakh for use by F & WP and ADF & G personnel. This skiff could also be used for escapement surveys on Chiuki (Stink) Creek, as well as for enforcement purposes.

The initial fishing period on the Kaliakh was for three days. With indications of a strong coho return area-wide the Kaliakh was extended to four days a week for the remainder of the season. Escapement counts in the Kultiet River, the main spawning tributary, were below average, but the Kultiet was high and silty for most of the season, and visibility was poor. Counts were well below actual numbers of fish in the system. Final surveys have been flooded out.

KALIAKH RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u>	<u>WK-DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>	
	35 8/27	8		1	118			119	3.0	
	36 9/03	14			2582			2582	4.0	
	37 9/10	13		1	3826			3827	4.0	
	38 9/17	7			1041			1041	4.0	
	39 9/24	6			1163			1163	4.0	
	40 10/1	1			137			137	4.0	
	41 10/8	NOT FISHED								4.0
TOTAL:		14		2	8867			8869	27.0	

5-YEAR COMPARISON

1983					4433			4433	10.0
1984					13,082			13,082	21.0
1985	22				22,641			22,641	20.0
1986	27				10,775			10,775	23.0
1987	24				15,709			15,709	16.0
1988	14		2		8,867			8,869	27.0

ESCAPEMENT

	<u>COHO</u>	<u>REMARKS</u>
9/15	1,100	KULTIETH RIVER
9/29	2,500	KULTIETH RIVER

## TSIU RIVER

The Tsiu River coho catch of 56,116 is 56% above the recent 10-year average and is the second highest catch for the river during that period of time. Prior to 1978 catch was not broken out between the various rivers in the Yakataga District, and historical comparisons for individual rivers are unavailable. The Tsiu accounted for 81% of the Yakataga District coho catch. The river was closed to commercial fishing during the sockeye season to protect the small sockeye population.

The Tsiu opened for coho on August 22 and was open for two 24 hour periods during that week. Early escapement counts were above average, and the river remained on extended fishing time of three 24 hour periods for the rest of the season. Escapement counts were spotty due to inclement weather and flood conditions. Peak escapement count of 16,000 was recorded on September 15, and was ahead of the escapement schedule at that time. A final escapement count on September 29 of 15,000 is only a partial count as visibility was very poor due to bad weather and flood conditions.

A peak count of 38 permits fished the Tsiu during the last week of August, and effort remained high for most of the season. High winds and flood conditions reduced gear efficiency, and some escapement was noticed even during fishing periods. Inclement weather was responsible for delaying two fishing periods for 24 hours as fish-hauling planes could not fly during the normal opening. As in recent years the river was not legally closed to fishing during these delays. Fishermen were told not to fish unless they either had a buyer or could move their own fish to market. Fishing time was then extended to make up for the time lost due to inclement weather.

Three buyers, Sitka Sound Seafoods, Rainier International Seafoods, Yakutat, and Evans Aviation, Cordova, competed for fish on the Tsiu. All three operated buying stations on the grounds and flew fish to Cape Yakataga with small planes, and from there to either Yakutat or Cordova in DC-3 or C-46 aircraft. Rainier operated through September 16, SSS operated through September 23, and Evans Aviation through the end of the month. With no buyer on the grounds and a severe storm during the first week of October, the river was not fished during that final week of the season.

Two small rivers to the west of the Tsiu, the Kiklukh and the Tashalich, were fished for coho this season. The Kiklukh, locally known as Eight Mile Creek, was fished harder this year than it has been in recent memory. There is no record of Tashalich Creek ever being fished before, although it may have been prospected on occasion. The waters of both systems are dark, and it is often very difficult to assess escapement in them

from the air. They are also remote, meaning little or no enforcement, and there are, at present, no markers on either creek. Both systems should be carefully monitored for commercial fishing activity in the future. This is especially true during years of average or below average run strength. As few as two nets, though fished legally, could still cause severe damage to spawning populations in these small systems.

TSIU RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u> <u>WK-DATE</u>	<u>PERMITS</u>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>	<u>DAYS</u>
35 8/27	25		7	4878	3		4888	2.0
36 9/03	38		6	15,748			15,754	3.0
37 9/10	34		9	14,717		2	14,728	3.0
38 9/17	28		2	12,095		1	12,098	3.0
39 9/24	21			6523			6523	3.0
40 10/1	10			2155			2155	3.0
41 10/8	NOT FISHED							3.0
<b>TOTAL:</b>	<b>38</b>		<b>24</b>	<b>56,116</b>	<b>3</b>	<b>3</b>	<b>56,146</b>	<b>20.0</b>

5-YEAR COMPARISON

1983	16			19,687			19,687	10.0
1984	22			50,875			50,875	21.0
1985	34			64,601			64,601	20.0
1986	29			19,251			19,251	17.0
1987	37			35,685			35,685	11.0
1988	38		24	56,116	3	3	56,146	20.0

ESCAPEMENT

	<u>COHO</u>	<u>REMARKS</u>
8/17	900	2,100 BELOW MARKERS
9/04	9,000	
9/06	10,000	
9/15	16,000	
9/29	15,000	

KIKLUKH RIVER WEEKLY CATCH DATA-1988

<u>ENDING</u>				
<u>WK-DATE</u>	<u>PERMITS</u>	<u>COHO</u>	<u>TOTAL</u>	<u>DAYS</u>
37 9/10	2	453	453	4.0
38 9/17	2	2024	2024	4.0
39 9/24	2	88	88	4.0
40 10/1	2	604	604	4.0
41 10/8	NOT FISHED			4.0
TOTAL:	2	3169	3169	20.0

COMPARISON

1987	1	902	902	8.0
1988	2	3169	3169	20.0

TASHALICH CREEK WEEKLY CATCH DATA-1988

<u>ENDING</u>				
<u>WK-DATE</u>	<u>PERMITS</u>	<u>COHO</u>	<u>TOTAL</u>	<u>DAYS</u>
39 9/24	2	1080	1080	4.0
40	NOT FISHED			4.0
41	NOT FISHED			4.0
TOTAL:				16.0

NO COMPARISON DATA AVAILABLE. NOT FISHED PRIOR TO 1988.

ESCAPEMENT

9/29 Flight on 9/29 revealed 500 coho in Tashalich Creek and 50 coho in Kikluh River. Visibility poor in Kikluh.

1988-89 YAKUTAT SUBSISTENCE SALMON HARVEST  
SOCKEYE AND KING SALMON 1/

<u>LOCATION</u> <sup>2/</sup>	<u>KING</u>	<u>RED</u>	<u>COHO</u>	<u>PINK</u>	<u>CHUM</u>	<u>TOTAL</u>
ALSEK (11)	13	148	9			170
EAST (8)	1	180	1		2	184
AKWE (6)	43	180	12			235
ITALIO (1)			12			12
YAK BAY (13)	58	248				306
SITUK (36)	81	1363	142	46		1632
TOTAL	196	2119	176	46	2	2539

NUMBER OF PERMITS ISSUED	109
NUMBER OF PERMITS RETURNED	98 (90%)
NUMBER OF PERMITS RETURNED, FISHED	70
NUMBER OF PERMITS RETURNED, NOT FISHED	28

1/ Coho permits still valid, information not available  
 2/ Number in parenthesis indicates number of permits reporting harvest from that area. Some permits reported catch from more than one area.

1/

YAKUTAT RECENT HISTORICAL SUBSISTENCE HARVEST

YEAR	SOCKEYE			KING			COHO			PINK
	<u>2/</u> A	<u>3/</u> B	<u>4/</u> C	A	B	C	A	B	C	
1980	961	(?)	(?)	284	(?)	(?)	982	(?)	(?)	-
1981	952	(?)	(?)	167	(?)	(?)	1701	(?)	(?)	-
1982	1645	(?)	(?)	198	(?)	(?)	2180	(?)	(?)	-
1983	1175	(?)	(?)	188	(?)	(?)	360	(?)	(?)	-
1984	890(56%)	(1598)		233(56%)	(416)		572(56%)	(1021)		-
1985	1003(52%)	(1929)		230(52%)	(442)		59 (7%)	(843)		-
1986	2357(88%)	(2678)		301(88%)	(342)		586(89%)	(658)		92
1987	3598(92%)	(3911)		372(92%)	(404)		883(80%)	(1104)		-
1988	2119(90%)	(2381)		196(90%)	(220)		STILL PENDING			

- 1/ Data available only for years starting in 1980  
2/ A = Actual recorded harvest  
3/ B = Percent of permits returned  
4/ C = Extrapolated total harvest estimate, i.e.,  
C = A divided by B

## YAKUTAT AREA SHELLFISH-1988

### DUNGENESS CRAB

This year saw a record harvest of dungeness crab in the Yakutat Area of 3.3 million lbs., with 2.5 million lbs. (76%) landed in Yakutat, and the rest in Cordova, Sitka and Kodiak. Dungeness crab were the major shellfish species harvested, as in all previous years. The winter season continued (having opened November 1, 1987) through February 28; the spring season opened on May 15 and extended through July 14. A total of 32 vessels (11 local, 21 non-local) participated in the spring season; only 4 vessels fished during the winter season (3 local, 1 non-local). Average crab weight was 2.1 lb., average price \$1.00/lb. Rainier Seafoods and Sitka Sound Seafoods both purchased dungeness crab in Yakutat. Effort concentrated again in the Icy Bay area during the spring season, but was close to Yakutat in the winter season. Winter catches were slow, while spring catches were moderate to good. The surprising element this year in the opening was that crab catches actually improved from a poor to fair start as the season progressed and then levelled out at a moderate to good catch rate in major areas of crab concentration. Softshell appeared in a few isolated areas but was never a problem. Recruit and pre-recruit abundance in the catches was not as great as in 1987, but was still fair to good.

### TANNER CRAB

Only one vessel fished for Tanner crab in 1988 and all catch information is therefore confidential.

### SHRIMP

Shrimp pot and trawl fishing effort in the Yakutat area was minor, involving fewer than four vessels in each gear type and information is therefore confidential.

### OTHER SHELLFISH

No commercial fishing for king crab or scallops was recorded in 1988.

### 1988 HALIBUT

The 1988 halibut season consisted of four, 24-hour periods (NOON TO NOON): May 23-24, June 20-21, September 7-8 and October 3-4. Period poundage limits were in effect during the final October period only. The bad weather which plagued halibut openings in 1987 was not as much of a factor in the openings this year and as a result, the total catch of 925,000 lbs was up by 53% over 1987 (but down by 17% from the record harvest in 1986 of 1,112,000 lbs.). Total ex-vessel dollar value of the halibut catch was \$1,063,750, with prices averaging \$1.15 for the majority of the catch. Two processors handled halibut in 1988: Sitka Sound Seafoods and Rainier Seafoods.

### 1988 BLACKCOD (SABLEFISH)

The Eastern Gulf of Alaska regulatory area for blackcod includes the Southeast, East Yakutat, and West Yakutat management areas, and extends roughly from Dixon Entrance to Valdez. Yakutat is located midway between the East and West Yakutat management areas. All three areas opened on April 1 in 1988. Effort was high from the start, but catches were slow. Severe storms April 8-15 sunk several large vessels and slowed the fishery to nearly a halt for more than a week. Catches were never as good as they were in 1987, and it was not until May 2 that the three areas attained their quotas and were closed.

Blackcod deliveries in Yakutat totalled a record 4,785,000 lb., double that of the previous record delivery year, 1987. All deliveries were from non-local boats. Total ex-vessel value was approximately \$7,416,750, also a new record, with average price for dressed 3-5 lb. fish of \$1.55/lb.

Three processors bought blackcod in 1988: shore-based Sitka Sound Seafoods, Rainier Seafoods (floating processor tied to shore) and Icicle Seafoods (floating processor "Bering Star" anchored in Monti Bay and Yakutat Roads).