

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

YUKON AREA
SALMON REPORT

to the
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BACKGROUND

Area Boundaries and Legal Gear

The Yukon area includes all waters of the Yukon River drainage in Alaska and coastal waters from Canal Point light near Cape Stephens to the Naskonat Peninsula (Figure 1). For management purposes, the area is divided into six districts and 10 subdistricts. Commercial and subsistence fishing occurs along the 1200 mile length of the Yukon River (in Alaska) and in the lower 220 miles of the Tanana River.

Legal commercial fishing gear consists of set and drift gillnets in the lower Yukon area (lower 3 districts). Fishwheels and set gillnets are legal gear in the upper Yukon area. Open skiffs powered by outboard motors are used to operate the fishing gear and deliver the fish to buyers.

Management Objectives and Strategies

The overall objective of the Department's research and management programs is to manage the various salmon runs for optimum sustained yield. The commercial fishery is regulated on the assumption that a harvestable salmon surplus, after providing for spawning and subsistence utilization requirements, is available.

Subsistence has been designated by the Legislature (State Law 151) as the highest priority among beneficial uses of fish and game resources. Except in areas where intensive commercial fisheries occur, the subsistence fishery is subject to few restrictions in order to give preference to subsistence users. The majority of Yukon fishermen usually take salmon for both commercial and subsistence purposes in major commercial fishing areas. Therefore, in order to enforce commercial fishing regulations, it is necessary to place some restrictions on the subsistence fishery. For example, during the commercial salmon fishing season, subsistence

fishing is allowed only during the open commercial fishing periods. During the course of the year, however, substantially more subsistence fishing time is allowed than commercial fishing time.

Management is made difficult by the character of salmon runs, the nature of the various fisheries (for example, allocation problems between upriver and downriver fishermen), and the river itself. Since most of the commercial fisheries have only developed or expanded in recent years, there is a lack of adequate escapement and return data on which to fully evaluate the effects of increased commercial harvests. The various fisheries scattered over 1400 river miles harvest mixed stocks usually several weeks and hundreds of miles from their spawning grounds. Because the Yukon River commercial fishery is essentially a "cape fishery" (fishing on mixed stocks), some tributary populations may be under- or overharvested in relation to their actual abundance. For example, in a mixed-stock fishery, where it is impossible to manage each stock separately, some spawning populations may be reduced to very low levels or even eliminated.

New research projects are underway and other programs are planned, once additional funding becomes available, to obtain the biological information necessary for better management of the salmon runs. These include: 1) king salmon stock separation studies using scale analysis techniques 2) side-scanning sonar to obtain accurate daily and seasonal escapements in important tributaries (Anvik, Andreafsky, Melozitna, and Sheenjok rivers), 3) expanded upper Yukon test fishing program, and 4) main river sonar feasibility study (near Pilot Station) to obtain index estimates of salmon abundance.

Management of the Yukon River commercial salmon fishery should be conservative because of the difficulty in obtaining necessary biological information, fishing on mixed stocks, increased effort and efficiency of the commercial fishery, allocation problems, and the need to provide for subsistence. This is achieved by establishing guideline harvest

ranges, gillnet mesh-size restrictions, weekly fishing periods, and season closures. If it becomes apparent during the fishing season (based on analysis of catch data) that the run is substantially smaller or larger than needed for escapement and subsistence requirements, commercial fishing time will be adjusted through the use of the emergency order or, less frequently, emergency regulation authority.

Status of Fishery and Stocks

All five species of Pacific salmon occur in the Yukon River, with chums being the most abundant, followed by kings, cohos, pinks, and reds. Commercial salmon fishing (for kings) on the Yukon dates back to 1918, but the multi-species salmon fishery is considered to not have been fully developed until the mid-1970's. The average annual combined commercial and subsistence salmon harvest for the period 1977-1982 is 1.8 million fish, approximately 20% of which is taken for subsistence use.

Approximately 900 commercial fishermen (700 in the 3 lower subdistricts) participate in the fishery. The ex-vessel value of the salmon catch has averaged \$7.3 million for the most recent 5-year period.

King salmon spawning populations are widely distributed throughout the Alaskan and Canadian portions of the Yukon River drainage. Major spawning streams in Alaska include the Andreafsky, Anvik, Nulato, and Salcha rivers; in the Canadian portion of the drainage (Yukon Territory), important king salmon systems include the Big Salmon and Nisutlin rivers. King salmon escapement trends are shown in Figure 2.

Annual subsistence catches of king salmon in Alaska during 1961-1981 ranged from 11,000-42,700 (20,400 average) (Figure 5). During the past 5 years, king catches have increased due to above-average size runs (29,700 average). In the Yukon Territory (Canada), the recent 5-year average is 6,900 kings.

During the period 1960-1971, the commercial catch of king salmon ranged from 67,600 to 129,700 and averaged 101,800. Yukon king salmon runs generally declined in magnitude during the early to mid-1970's, and average commercial harvests dropped to 83,700 during the period 1972-76. This decline of Yukon River king salmon is partially attributed to interceptions by the Japanese high seas mothership fishery.

Since 1976, reductions in high seas interceptions (except 1980), a series of mild winters, and more restrictive management of the inshore fishery have combined to produce a series of above-average king salmon returns. For the period 1977 through 1981, average commercial harvests (in Alaska) increased to 127,200 (Table 1). During the same period, commercial catches in the Yukon Territory averaged 6,400 kings.

Timing of king salmon runs is highly variable, in response to spring weather conditions. Opening of the commercial fishery in the lower river is likewise variable and occurs between June 5 and June 15 by emergency order. The season is opened only after it is established that a sustained in-migration of fish is occurring and that the early portion of the run is well distributed throughout the lower river. This strategy allows fishery managers an opportunity to assess run strength prior to intensive commercial fishing effort, spreads out fishing effort over a larger portion of the run, and affords subsistence fishermen an opportunity to harvest fish for their domestic needs prior to implementation of restrictive commercial fishing periods.

During the king salmon season, commercial and subsistence fishing in districts 1 and 2 is regulated by emergency order and is normally allowed for two 24-hour periods per week. In district 3, fishing is allowed for two 36-hour periods per week, and in districts 4, 5, and 6 fishing occurs during two 48-hour periods per week. Duration and frequency of fishing periods may be changed by emergency order, depending on run strength as indicated by comparative commercial and test catches.

A guideline harvest range of 60,000-120,000 king salmon for districts 1 and 2 has been established by Board of Fisheries regulations. The midpoint (90,000) of this guideline harvest range should be the expected catch if the run is of average magnitude. The expected catch if the run is above average would be 90-120,000 kings. If an exceptionally large run occurs, as in 1981, then the upper end (120,000) of the guideline harvest range may be exceeded. Consequently, fishing time may be reduced in districts 1 and 2 to more evenly distribute harvest throughout the run, even in years of large runs. Commercial king salmon harvests in districts 3-6 are likewise regulated by guideline harvest ranges which allow an additional (combined) harvest of 7,350 to 9,150 kings.

Summer chums are the most abundant of the two chum salmon runs that occur in the Yukon River. Summer chums can be distinguished from fall chums by the following characteristics: 1) earlier run timing (early June to mid-July in the lower river); 2) rapid maturation in fresh water; 3) smaller body size (6-7 lbs.); and 4) greater population size.

Summer-run chums spawn primarily in the lower 5-600 miles of the drainage. The Anvik River supports the largest spawning population; other important spawning areas include the Andreadsky, Nulato, Rodo, Salcha, and Hogatza rivers. With possible exceptions, Yukon summer chum stocks have not experienced declining escapements, although runs fluctuate greatly in abundance from year to year. Documented harvests and escapements during recent years show minimum run sizes ranging from 1.2 to 5.6 million fish. Summer chum salmon escapement trends are shown in Figure 4.

Regulations regarding harvest and sale of summer-run chum salmon were liberalized beginning with the 1967 season. By 1973 all gillnet mesh-size restrictions were lifted in order to afford fishermen an opportunity to use small-mesh gillnets, which select for the more abundant chum salmon. Prior to this time, commercialization of this

species had been limited because of its importance to upriver subsistence fisheries. Presently the summer chum salmon subsistence fishery takes about 200,000 fish annually (206,700 - 1977-1981 average) (Figure 6).

The summer chum commercial fishery has developed rapidly in recent years. From 1967 through 1982, harvests ranged from 11,200 to 1.2 million fish, and the most recent 5-year average is 942,400 (Table 1). A regulation was promulgated prior to the 1976 season which established a range of dates (from June 27 to July 5 in districts 1 and 2, and July 5 to July 15 in district 3) after which only gillnets of 6-inch or smaller mesh can be used. This regulation serves not only to minimize capture of large female king salmon during the late portion of the king run but also to optimize the harvest of the abundant summer chums migrating through the lower river fishery during late June-early July.

The majority of summer chums harvested in the upper Yukon districts are taken in subdistrict 4-A. A statewide abundance of ocean-caught salmon in recent years has minimized the salability of upriver summer chum salmon because of their relatively poor flesh quality; however, large amounts of high-quality roe continue to be produced in this area.

Fall chums have the following differentiating characteristics from summer chum salmon: 1) later run timing (mid-July to early September in the lower river); 2) larger size (7-9 lbs.) and robust body shape and bright silvery appearance in the lower river; 3) smaller population size; and 4) spawning that occurs in the upper portions of the drainage in spring-fed streams.

Major spawning areas are located in the Porcupine River drainage (Sheenjok River in Alaska and Fishing Branch River in Canada) and the Tanana River drainage in Alaska (Toklat River, Delta River, and mainstem

Tanana upstream of Fairbanks). Spawning occurs during September through mid-November.

Porcupine River and upper Yukon fall chums are distinguished from Tanana River fall chums by their earlier run timing and their orientation along the north bank of the Yukon River (mile 530-700), as opposed to the south-bank orientation of Tanana drainage fall chums.

Substantially different escapement trends have been observed for some of the major spawning populations. Escapements in the upper Tanana River have been above average during 1979-1981 but below average during 1980-82 in the Toklat and Sheenjek rivers (Figure 4). Fishing Branch River escapement information has been quite limited in recent years due to poor survey conditions, but a decline in escapements is apparent.

Use of tag and recovery data resulted in population estimates of 460,000 and 514,000 fish during 1977 and 1978, respectively. Minimum annual population estimates based on documented harvests and escapements range from 349,000 to 922,000 since 1974.

Fall chum subsistence catches in Alaska average 153,177 annually (1977-1981) (Figure 6). An additional 9,900 fall chums are taken annually (recent 5-year average) in the Yukon Territory (mostly at Old Crow).

Commercial fall chum catches in Alaska since 1961 have ranged from 8,300 to 486,100, and the recent 5-year average (1977-1981) harvest is 327,800. In the Yukon Territory, the recent 5-year average catch is 8,100 fish.

The fisheries for these species are regulated by guideline harvest ranges which are established by regulation. In the lower Yukon, the flexible guideline harvest range is 120,000-220,000 chums. In years of average abundance, the harvest should approximate 170,000 fish, the midpoint of the guideline range. Harvests should approach the upper

or lower ends of the range if the run is substantially above or below average in magnitude. If the fall chum run is exceptionally large (as in 1981), then the upper end of the goal may be exceeded. Guideline harvest ranges for the upper river districts are established to include incidental harvests of coho salmon. Combined guideline harvest levels for the upriver fisheries are 25,500-100,500.

Regulations specify that fall chum and coho salmon may be taken during two weekly 24-hour periods in districts 1 and 2. Scheduled fishing periods in districts 3-6 are identical to those in effect during the summer season.

The overall commercial guideline harvest range of 145,500-320,500 fall chum salmon was established on the assumption that the commercial harvest will not impinge on spawning ground requirements or subsistence needs. Recent data indicate that present utilization levels may be higher than can be sustained, and, in light of an apparent trend of increasing subsistence catches, a reduction in guideline harvest ranges may be required in order to maintain the health and productivity of those stocks.

Coho salmon enter the river during August and early September. Escapement information is very limited. Coho salmon comparative escapement information is available only from the Tanana River drainage in Alaska, where escapements appear to have been relatively stable during the last 10 years. Available data indicate the majority of coho spawn in clearwater streams tributary to the Tanana River. The Delta Clearwater River near Delta Junction supports the largest single population within the Yukon drainage.

The commercial harvest of coho salmon in the lower Yukon area is dependent upon the duration of the fishing season (usually related to when the fall chum fishery is closed). Coho migration in the lower river peaks during mid- to late August. Cohos are taken incidentally

to the fall chum fishery in the upriver subdistricts. Commercial catches in the Yukon area during the period 1977-1981 have averaged approximately 22,700 coho (Table 1).

SEASON SUMMARY

Area Summary

During 1982, a total of 1,000,021 salmon was commercially harvested in the Yukon area. The catch was composed of 123,658 kings; 839,187 chums (614,166 summer chums and 225,021 fall chums), and 37,176 cohos (Table 2). The commercial king salmon catches were slightly below the recent 5-year average; however, summer and fall chum catches were one-third below the 1977-1981 average and down approximately one-half from 1981 levels (Table 1). The 1982 coho salmon harvest was second only to the 1977 record catch of 38,000.

Yukon River fishermen received approximately \$6,700,000 for their catch, which is similar to the recent 5-year average. A total of 15 processors operated in the lower Yukon subdistricts and 12 in the upper river area. The number of commercial fishermen participating in the 1982 harvest (833) declined from the previous 5-year average of 890 fishermen.

Subsistence harvests are projected to total an additional 25,000 kings; 200,000 summer chums; 100,000 fall chums; and 30,000 coho.

In general, the magnitude of economically important salmon runs to the Yukon River during 1982 fell short of pre-season expectations. Allowable commercial fishing time, particularly for fall chums, should have been reduced to provide for increased escapements and subsistence utilization.

King Salmon

Because of unusually cool spring temperatures experienced in Interior and Western Alaska, breakup on the Yukon was late during 1982. The lower river became ice free on June 2, and the first king was captured near Emmonak 4 days later.

In accordance with management strategy described previously in this report and set forth in the 1982 Yukon Area Management Plan, the commercial fishing season was not opened until the run was well distributed throughout the lower subdistricts. Districts 1 and 2 were opened by emergency order on June 14 and 16, respectively, and district 3 was opened on June 28. Two 24-hour periods per week were allowed in districts 1 and 2 throughout the king salmon run.

In-season analyses of commercial and test fishing data indicated run strength to be average. Gillnet mesh-size restrictions (6" maximum) were imposed on July 3 in district 1 and on July 2 in district 2. At that time the combined commercial king salmon harvest was 106,400. Incidental harvests of kings after the regulation change accounted for an additional 7,200 fish, bringing the districts 1 and 2 combined total to 113,600 kings.

The district 3 king salmon fishery is managed on the basis of a guideline harvest range of 1,800-2,200 fish. The commercial fishing season opened on June 28; after three 24-hour fishing periods, a harvest of 2,600 kings was taken, and the season was closed on July 7.

Commercial landings of kings in district 4 totaled only 1,100 fish; this harvest level, however, is not considered reflective of run strength as most fishermen in this area retain kings for personal use. Fishermen in district 5 harvested approximately 5,400 kings. Subdistricts 5-A, 5-B, and 5-C were closed by emergency order on July 14. Subdistrict 5-D

(which is managed on the basis of a guideline harvest range separate from the lower portions of district 5) was closed on August 1.

Tanana River king salmon catches peaked during the period July 19-21. High water and floating debris hampered fishing effort and probably suppressed catches during that time. A total of 1,000 kings was harvested in district 6.

Escapement surveys in the Alaskan portion of the drainage were limited by generally poor weather and stream conditions; however, escapement of kings to Tanana River tributaries (Salcha and Chena rivers) was similar to the most recent 5-year period for which reliable data are available (1976-1980). Aerial stream surveys conducted by Alaskan biologists in selected Canadian streams revealed escapements were below those of the past 3 years (Figure 2).

Summer Chum Salmon

The early portion of the summer chum run appeared strong and was composed of large, predominantly 5-year-old fish. As the run progressed, 4-year-olds became the dominant age class, and subsequent analysis of catch data indicated the run to be below average to average in magnitude.

In districts 1, 2, and 3, a combined total of 435,800 summer-run chum salmon was harvested in the commercial fishery, one-third less than the most recent 5-year average.

In district 1, a majority of the summer chum harvest was taken during the king salmon season (no restriction on mesh size) and was attributed to the summer chum run peaking prior to the implementation of the 6" maximum mesh-size restriction.

As in recent years, very limited markets exist for summer chums taken in the upper Yukon River districts. A result of this situation has

been the development of a roe fishery in district 4. Fishermen unable to sell summer chum salmon extract roe from their catch which is sold to local buyers. For purposes of monitoring comparative catch statistics, roe production is converted to "equivalent" numbers of chums and is presented as such in accompanying tables. A total of 152,819 lbs. of summer chum roe was sold from upper Yukon subdistricts during 1982. The majority of the roe production originated in subdistrict 4-A; nearly all of the 155,000 "equivalent" chums marketed in district 4 were sold as roe (Table 3).

The Tanana River summer chum catch of 23,000 was slightly below the recent 5-year average but likely would have been higher had there been normal fishing and processing effort in the Nenana area.

Summer chum escapements were poorly documented due to adverse aerial survey conditions but were considered average to below average in streams where surveys were conducted (Figure 3). Sonar estimates in the Anvik, Andreafsky (East Fork), and Melozitna rivers also indicated summer chum salmon escapements were average to below average.

Fall Chum Salmon

A total of 199,900 fall chum salmon was taken in the lower Yukon area commercial fishery. Comparative commercial and test fishery catch data in the lower river indicated a below-average to average run. However, following the closure of the fishery in the lower Yukon area, upriver subsistence and test fishing catches indicated a much weaker run. Severe restrictions were placed on the subsistence and commercial fishery in the upper Yukon area in order to bolster escapements. A total commercial catch of only 25,100 fall chum, considerably below average, was taken in the upper Yukon area. Escapements were considered poor in all streams surveyed.

A detailed review of the 1982 fishery and a status report on the stocks, fisheries, and management has been prepared and is available upon request.

Coho Salmon

As explained in the background section of this report, the magnitude of the commercial coho catch is dependent more on run timing relative to fall chums than on actual abundance. As in other areas in Western Alaska, the 1982 coho return was good. The total commercial catch of 37,000 is the second highest on record. Coho escapements (where monitored) were considered excellent.

OUTLOOK FOR 1983

King Salmon

In most years the dominant age class returning is 6-year-old fish; however, 5- and 7-year-old fish may also contribute to the run. The 1977 brood year run (6-year-olds in 1983) was judged average in abundance as indicated by comparative catch and escapement data. The return of 5-year-olds (1978 brood year) is expected to be significant based on above-average run strength in 1978. Seven-year-olds are not expected to contribute significantly to the run in 1983 based on below-average to average run strength of 6-year-olds in 1982. In summary, based on evaluation of brood year run size data, it is expected that the 1983 Yukon River king salmon run will be average in magnitude. The expected commercial harvest is expected to total 90,000-120,000 fish.

Summer Chum Salmon

Normally the Yukon River summer chum salmon runs are composed of predominantly 4-year-old fish, although in some years 5-year-old fish

are present in large numbers. The return of 4-year-olds in 1983 will be dependent on the strength of the 1979 brood year and the survival of the resulting offspring. Based on the available catch and escapement data, the 1979 summer chum run was considered below average to average in magnitude, and the return of 4-year-olds in 1983 is expected to be of similar magnitude. The return of 5-year-olds is not expected to be significant based on the average return of 4-year-olds in 1982. In summary, the magnitude of the Yukon River summer chum salmon run in 1983 is expected to be below average to average in magnitude. The commercial harvest is expected to total 600,000-1,200,000 fish.

The question of increased Western Alaska chum salmon (both summer and fall chum runs) interceptions by the South Unimak-Shumagin Island commercial fishery needs to be addressed by the Board. In 1982 in excess of 1 million chums were taken in this fishery.

Fall Chum Salmon

Similar to the summer run, the majority of the fall chum returning each year are 4-year-old fish. Based on comparative catch and escapement information, the 1979 brood year (4-year-olds) was considered above average in magnitude. The return of 5-year-olds (1978 brood year) is not expected to be significant because of the weak return of 4-year-old fish in 1982. In summary, the 1983 Yukon River fall chum salmon run is expected to be average in magnitude. The expected commercial harvest should approximate 233,000 fish, the midpoint of the guideline harvest range for the entire river.

The fall chum commercial harvest may be reduced due to possible additional regulatory restrictions in order to ensure that adequate subsistence and escapement requirements are met. This issue will be included in a special comprehensive report on fall chums to be presented to the Board.

Coho Salmon

The coho salmon run annually is much smaller than the fall chum run, and the harvest is dependent on the duration of the fishery for fall chums. The commercial coho catch is expected to total 20-30,000 fish.

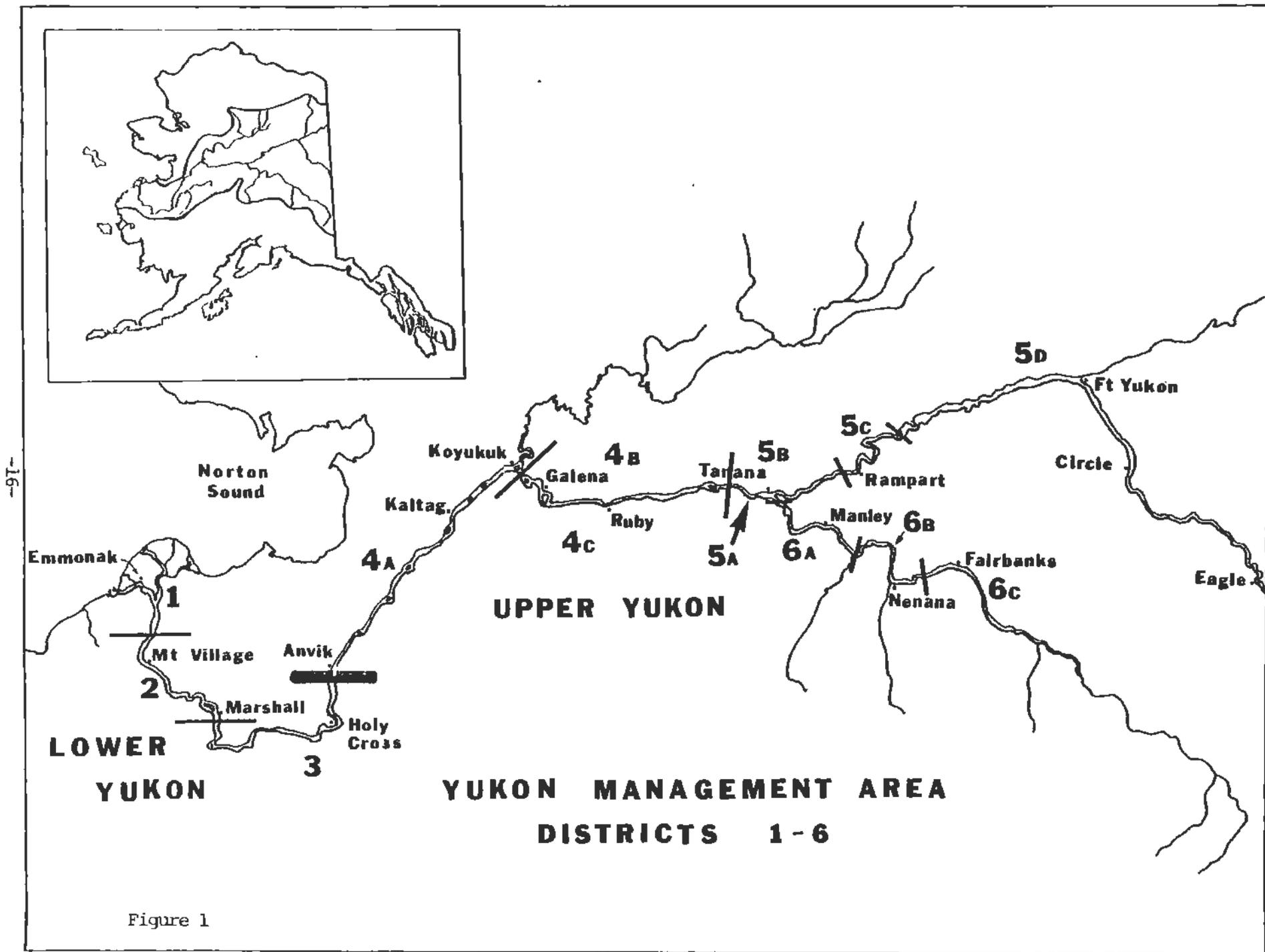


Figure 1

Figure 2.

KING SALMON ESCAPEMENTS IN SELECTED YUKON RIVER TRIBUTARIES, 1960-1982. a/

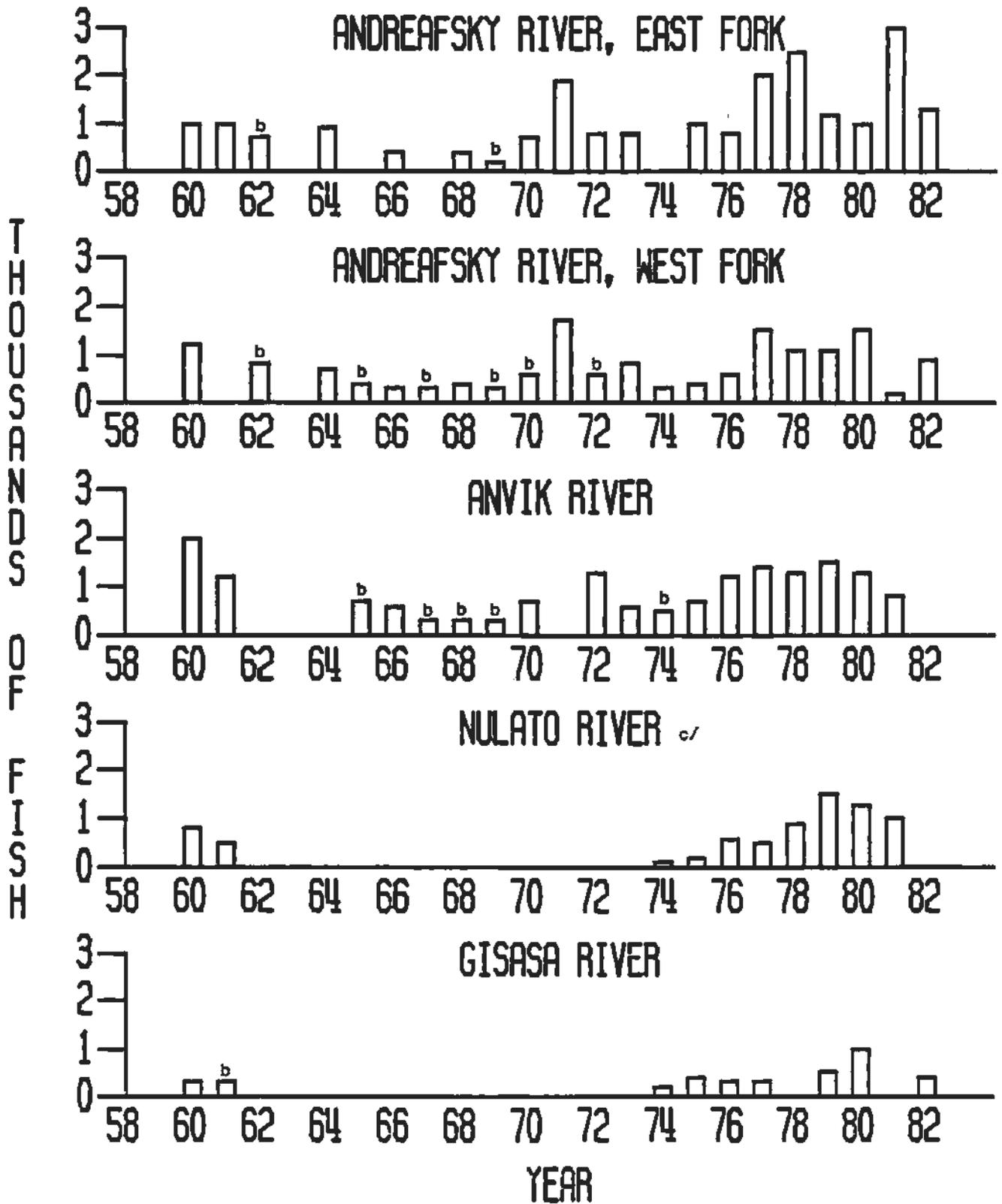
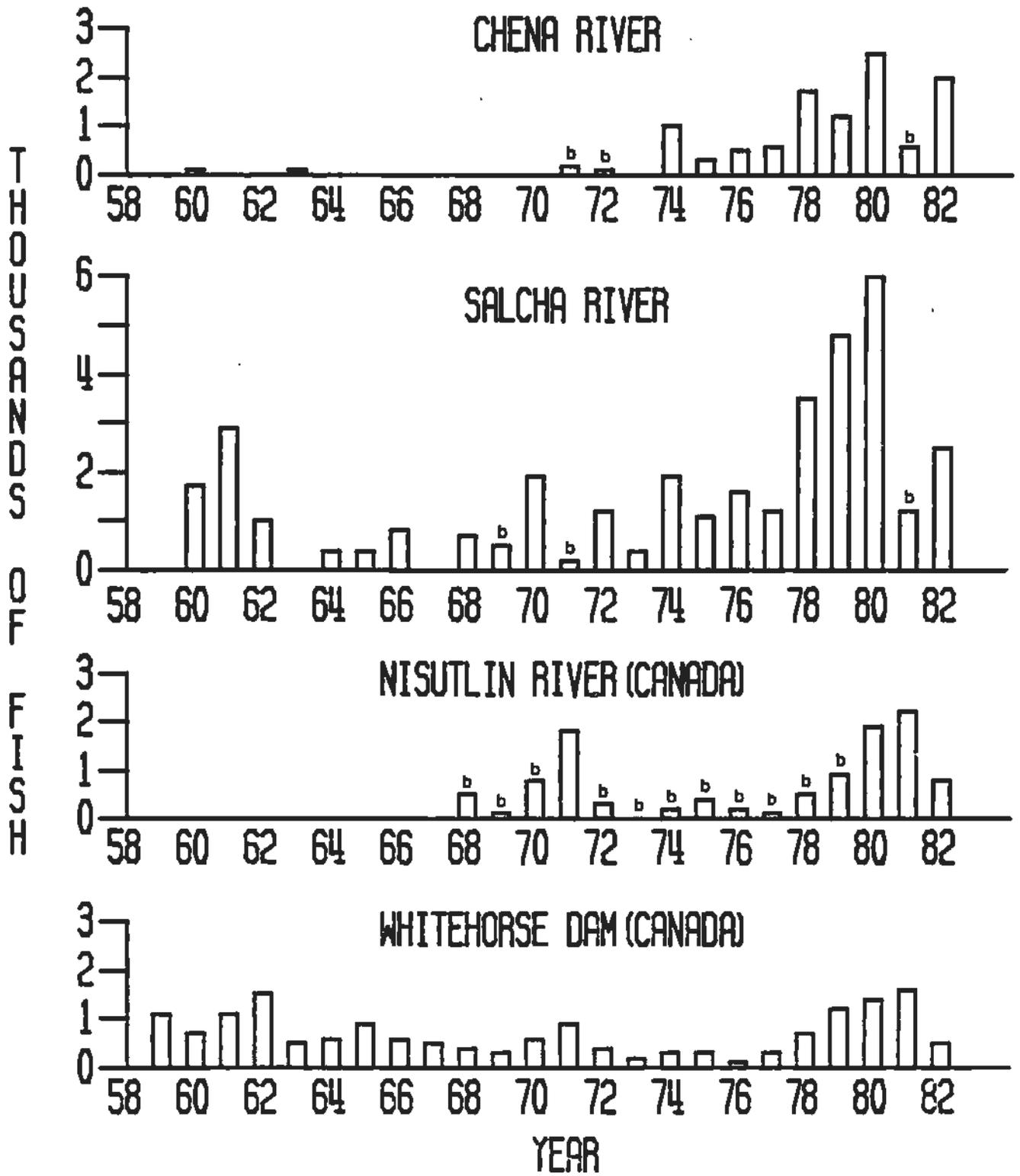


Figure 2.

KING SALMON ESCAPEMENTS IN SELECTED YUKON RIVER TRIBUTARIES, 1960-1982 (CONTINUED). a/



a/ Aerial survey counts except Whitehorse Dam, which is total count from fishway.

b/ Poor survey conditions resulting in very low escapement estimates.

c/ Surveyed both north and south forks each year except 1981.

Figure 3.

SUMMER CHUM SALMON ESCAPEMENTS IN SELECTED YUKON RIVER TRIBUTARIES, 1974-1982. a/

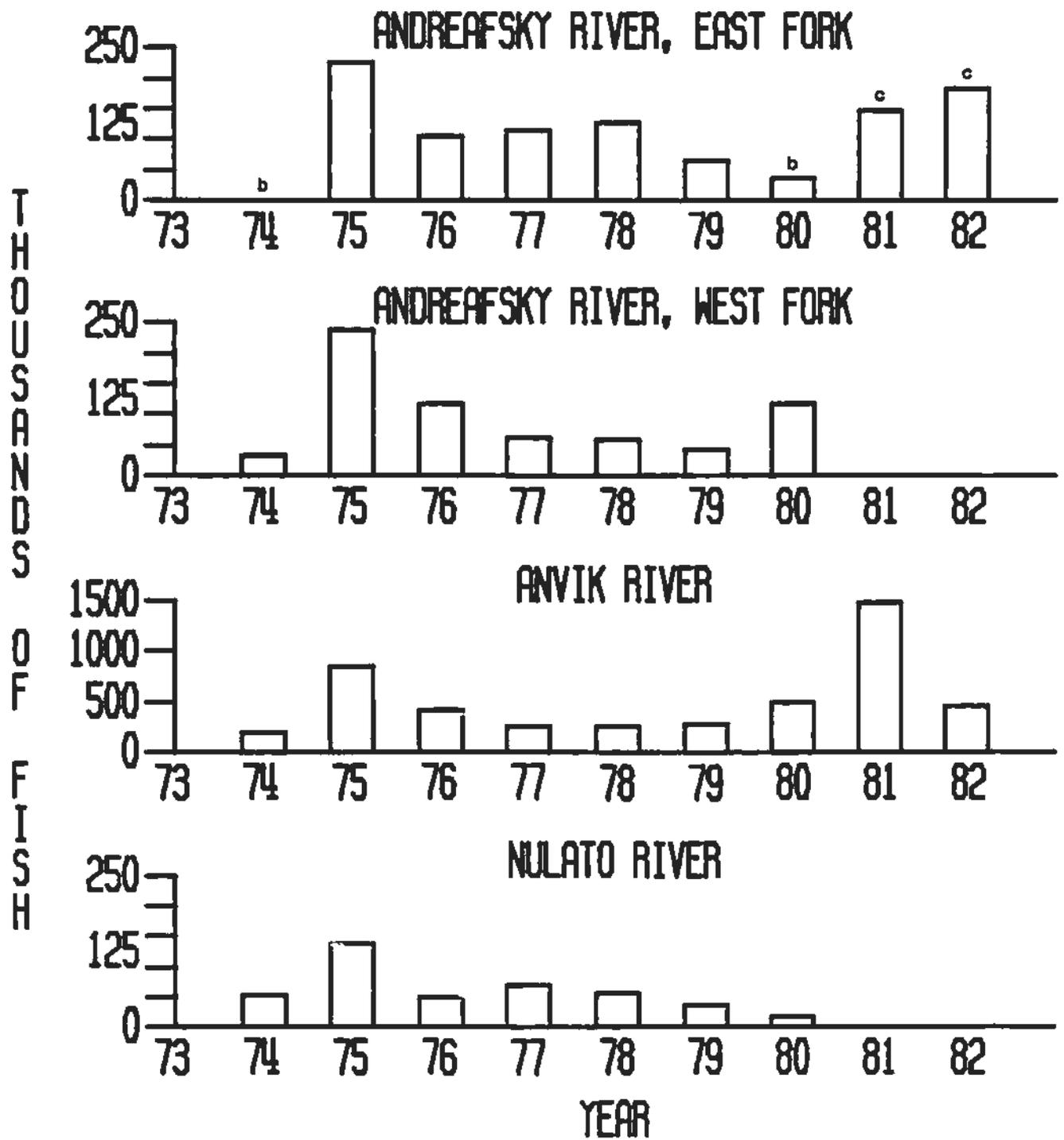
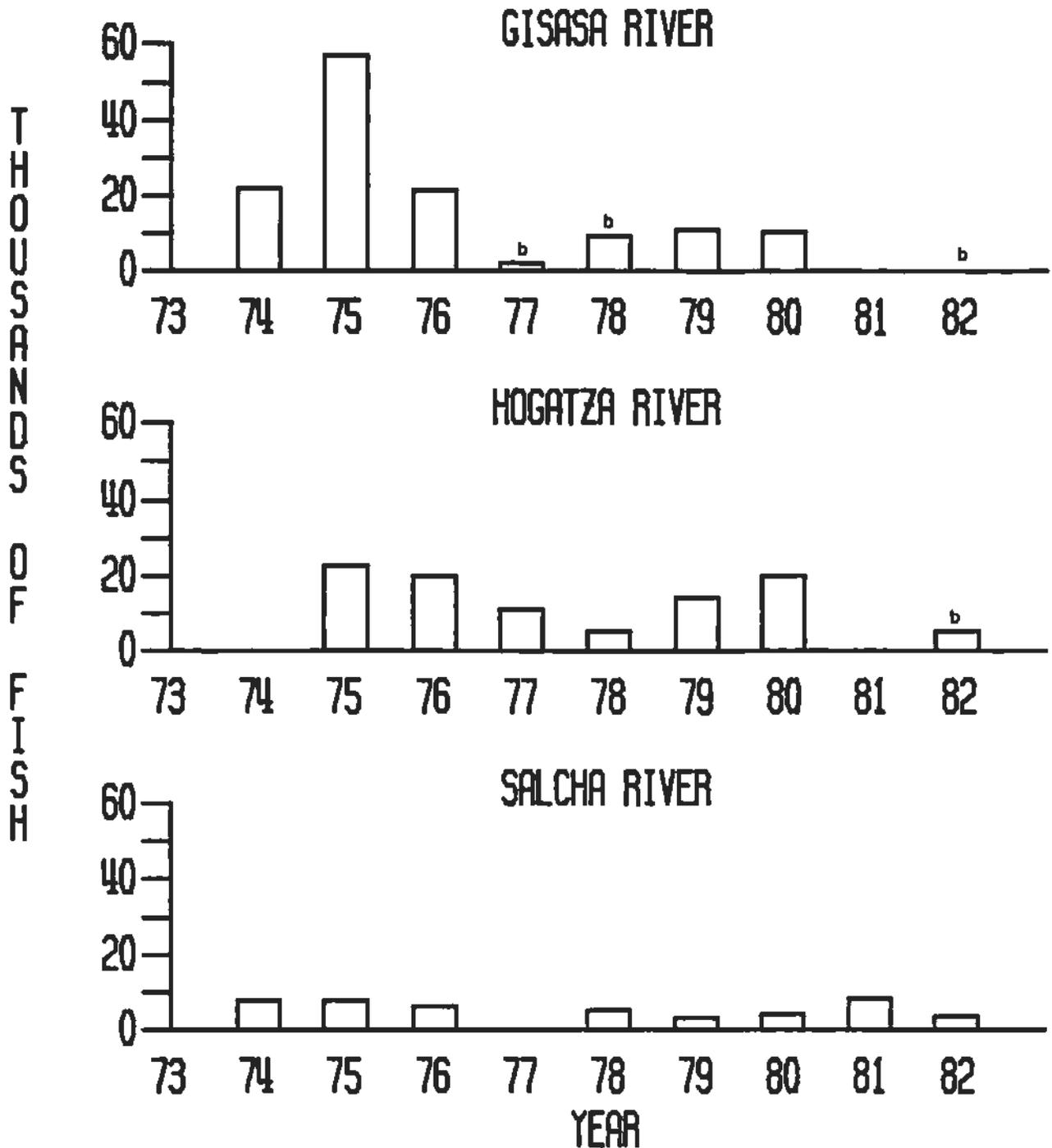


Figure 3.

SUMMER CHUM SALMON ESCAPEMENTS IN SELECTED YUKON RIVER TRIBUTARIES, 1974-1982 (CONTINUED) a/



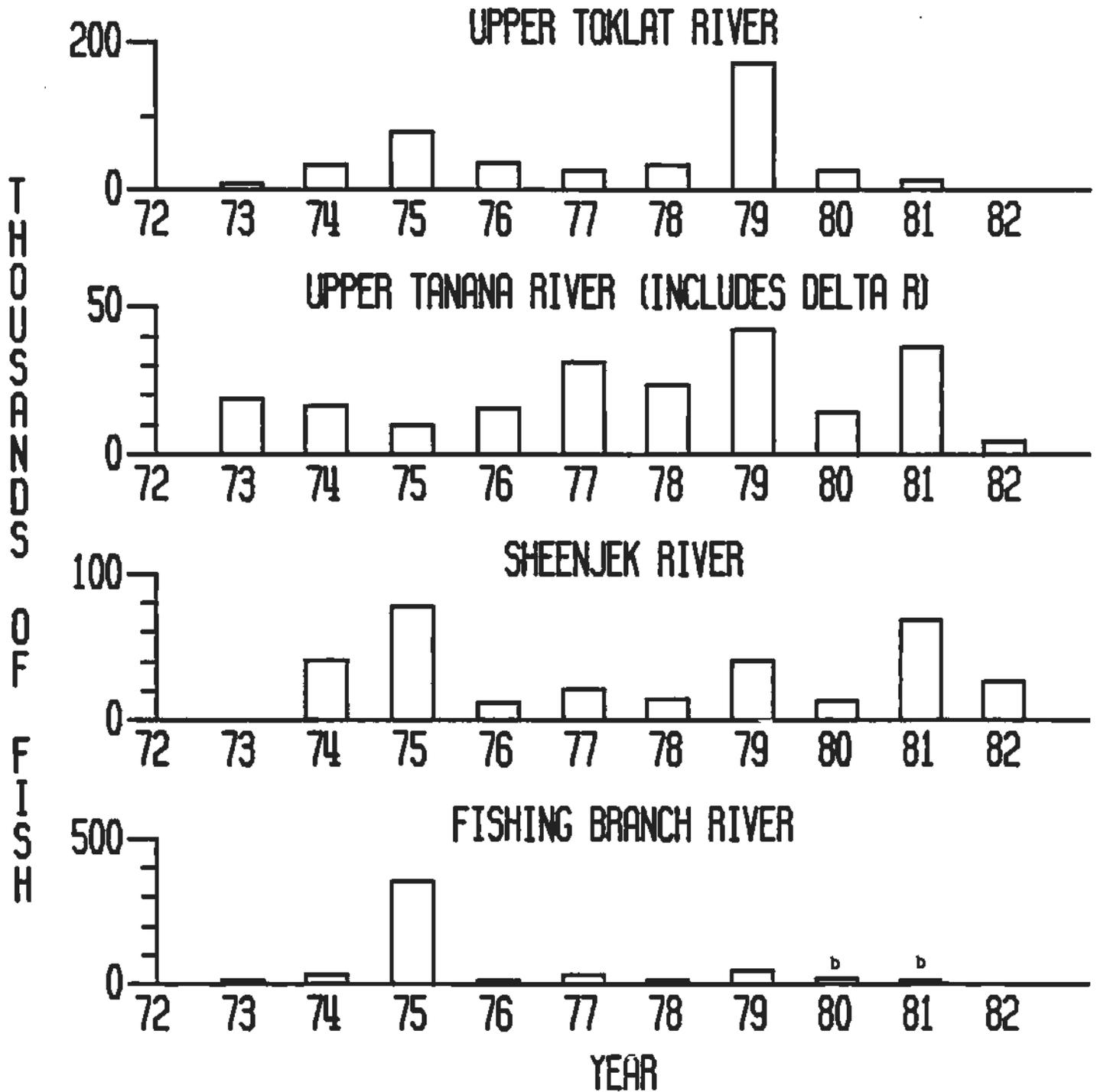
a/ Aerial survey counts except Anvik River, which represents estimated total escapements from aerial survey, counting tower and sonar methods.

b/ Poor survey conditions resulting in very low escapement estimates.

c/ Escapement estimate from sonar count.

Figure 4.

FALL CHUM SALMON ESCAPEMENTS IN SELECTED YUKON RIVER TRIBUTARIES, 1973-1982. a/

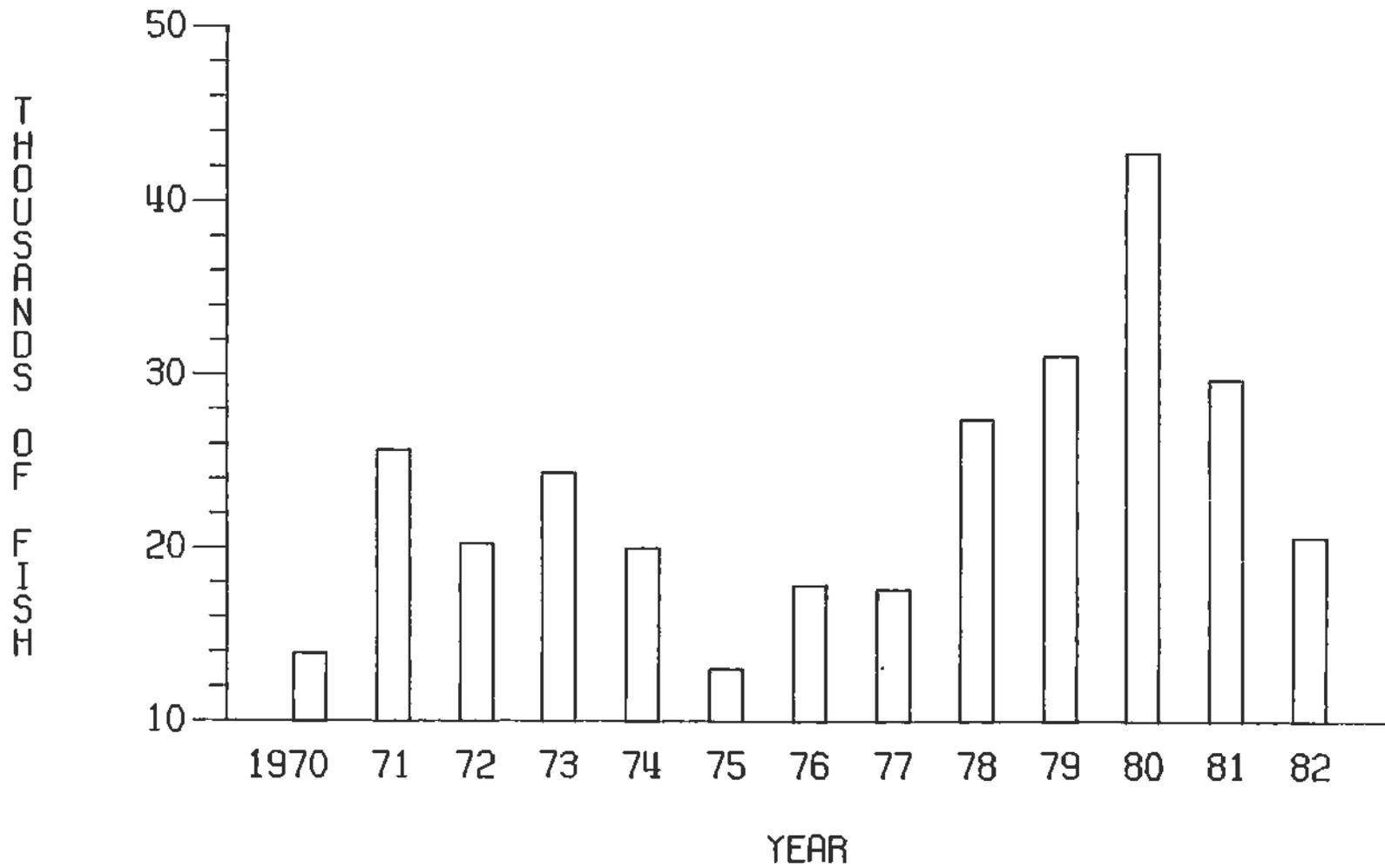


a/ Aerial survey counts, except Sheenjek River, 1981-82, which is total estimated escapement from sonar project and Fishing Branch River, 1973-75, which is total estimated escapement from weir project count.

b/ Poor survey conditions resulting in very low escapement estimates.

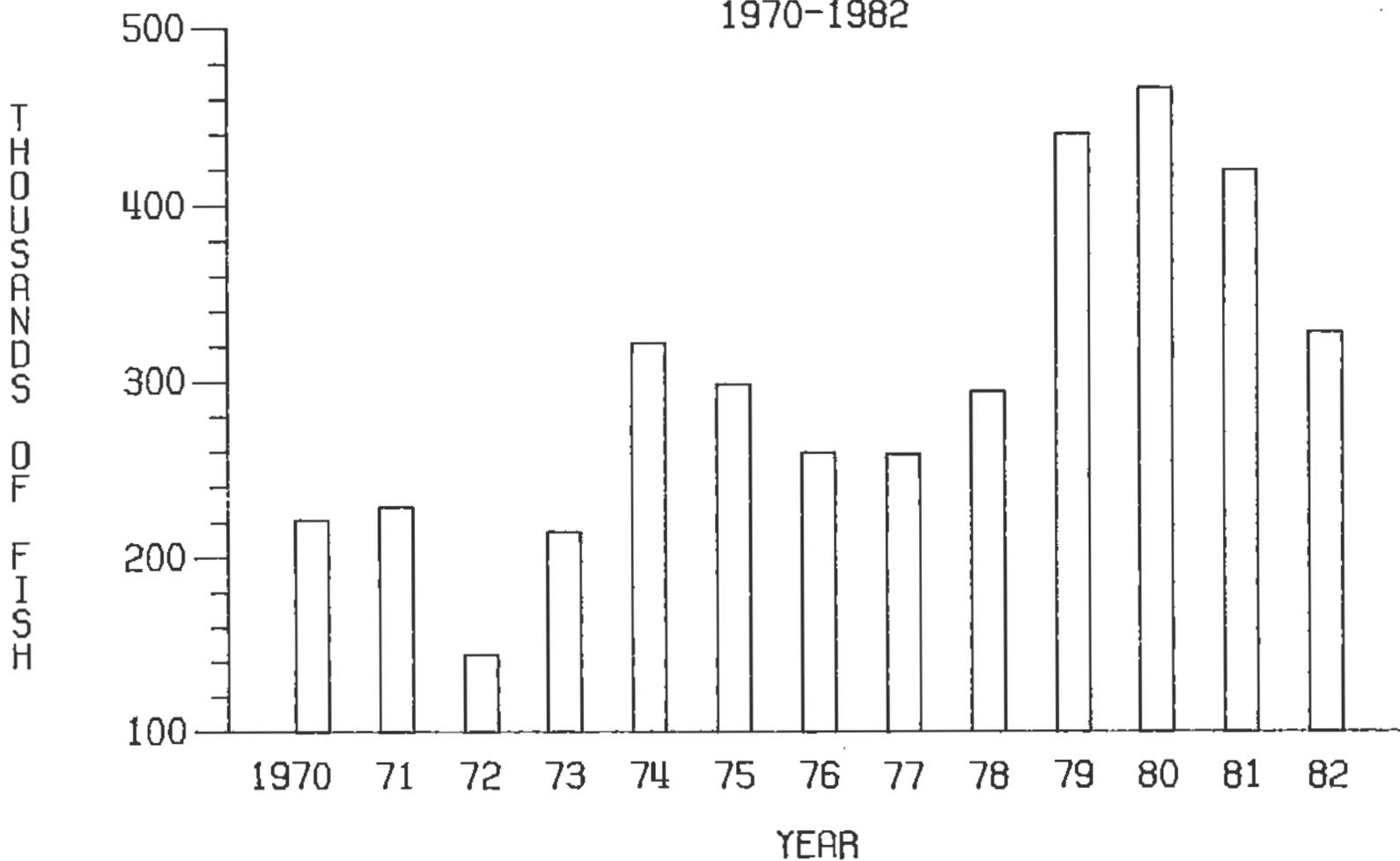
Figure 5.

YUKON AREA KING SALMON SUBSISTENCE CATCH 1970-1982



YUKON AREA

Figure 6. CHUM SALMON SUBSISTENCE CATCH (1)
1970-1982



(1) Also includes small numbers of coho and pink salmon.

Table 1. Commercial salmon catches, Yukon area, 1961-1982.

Year	King	Summer chum	Fall chum	Total chum	Coho	Total
1961	120,260	--	42,577	42,477	2,855	165,692
1962	94,374	--	53,160	53,160	22,926	170,820
1963	116,994	--	--	--	5,572	122,566
1964	93,587	--	8,347	8,347	2,446	104,380
1965	118,098	--	23,317	23,317	350	141,765
1966	93,315	--	71,045	71,045	19,254	183,614
1967	129,706	11,179	38,274	49,453	11,047	190,206
1968	106,526	14,470	52,925	67,395	13,303	187,224
1969	90,223	60,569	131,291	191,860	14,981	297,064
1970	80,269	137,368	209,356	346,724	12,245	439,238
1971	110,507	100,090	189,594	289,684	12,203	412,394
1972	92,840	135,668	152,176	287,844	22,233	402,917
1973	75,353	285,844	232,090	517,934	36,641	630,029
1974	97,919	604,210	273,158	877,368	16,240	993,402
1975	63,740	728,156	265,156	993,312	2,346	1,050,945
1976	88,671	598,227	163,282	761,509	5,197	855,377
1977	96,414	548,958	248,739	797,697	38,021	932,096
1978	97,602	1,045,092	243,737	1,288,829	25,960	1,412,391
1979	129,056	803,500	362,480	1,165,980	17,110	1,312,146
1980	155,088	1,057,761	298,123	1,355,884	8,741	1,519,713
1981	157,607	1,191,812	486,059	1,677,871	23,702	1,859,180
1982	123,658	614,166	225,021	839,187	37,136	1,000,021
5-year average (1977- 1981)	127,153	929,425	327,828	1,257,253	22,707	1,407,113

Table 2. Yukon area commercial salmon catch and effort data, 1982.

District/ Subdistrict	Fishermen	Kings	Summer Chums	Fall Chums	Total Chums	Cohos	Total
1	455	74,450	249,378	97,470	346,848	15,115	436,413
2	224	39,132	182,358	96,581	278,939	14,179	332,250
3	21	2,609	4,086	5,815	9,901	87	12,597
Lower Yukon Total	700	116,191	435,822	199,866	635,688	29,381	781,260
4a	56	78	138,643	-	138,643	-	138,721
4b	17	509	13,609	978	14,587	-	15,096
4c	14	520	2,676	3,083	5,759	15	6,294
District 4 Subtotal	76	1,107	154,928	4,061	158,989	15	160,111
5a	7	61	21	8,286	8,307	-	8,368
5b	22	2,339	213	1,083	1,296	-	3,635
5c	26	2,284	-	4,309	4,309	-	6,593
5d	2	695	-	-	-	-	695
District 5 Subtotal	53	5,379	234	13,678	13,912	-	19,291
6a	4	414	4,982	706	5,688	1,004	7,106
6b	17	309	13,498	5,182	18,680	6,449	25,438
6c	6	258	4,702	1,528	6,230	327	6,815
District 6 Subtotal	27	981	23,182	7,416	30,598	7,780	39,359
Upper Yukon Total	156	7,467	178,344	25,155	203,499	7,795	218,761
Total	856	123,658	614,166	225,021	839,187	37,176	1,000,021

Table 3. Upper Yukon area salmon and salmon roe production, 1982.*

Subdistrict	No. of fishermen	Kings	Summer chums			Fall chums			Coho
			Chums	Chum roe	Equiv. chums	Chums	Chum roe	Equiv. chums	
4-A	56	78	1,032	137,611	138,643	--	--	--	--
4-B	17	509	1,059	12,550	13,609	958	20	978	--
4-C	14	520	1,556	1,120	2,676	2,936	147	3,083	15
Subtotal	76	1,107	3,647	151,281	154,928	3,894	167	4,061	15
5-A	7	61		21	21	8,286	--	8,286	--
5-B	22	2,339	213	--	213	1,060	23	1,083	--
5-C	26	2,284	--	--	--	4,290	19	4,309	--
5-D	2	695	--	--	--	--	--	--	--
Subtotal	53	5,379	213	21	234	13,636	42	13,678	--
6-A	4	414	4,982	--	--	706	--	706	1,004
6-B	17	309	12,471	1,027	13,498	4,586	596	5,182	6,449
6-C	6	258	4,212	490	4,702	1,528	--	1,528	327
Subtotal	27	981	21,665	1,517	23,182	6,820	596	7,416	7,780
Total	156	7,467	25,525	152,819	178,344	24,350	805	25,155	7,795

* All figures are preliminary.