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**1996
YUKON AREA
SUBSISTENCE, COMMERCIAL, AND PERSONAL USE
SALMON FISHERIES MANAGEMENT PLAN**



Regional Information Report¹: 3A-96-21

By

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1.0 INTRODUCTION

The Commercial Fisheries Management and Development Division (CFM&D) of the Alaska Department of Fish and Game (department) is responsible for the management of subsistence, commercial, and personal use fisheries in the Yukon Area. This management plan informs fishermen, processors, and other interested persons of the outlook and the department's management strategy for the 1996 Yukon Area salmon runs. Chinook, sockeye, coho, pink, and chum salmon occur in the Yukon River. Chum salmon are made up of an early summer chum salmon run and a later fall chum salmon run.

The Yukon Area includes all waters of the Yukon River drainage in Alaska and coastal waters from Point Romanof, near Kotlik, to the Naskonat Peninsula. For management purposes the Yukon Area is divided into seven districts and ten subdistricts (Figure 1). Commercial fishing occurs along the entire 1,224 miles of the Yukon River in Alaska, and in the lower 225 miles of the Tanana River. The Coastal District includes the majority of the coastal marine waters within the Yukon Area and is only open to subsistence fishing. The Lower Yukon Area, Districts 1, 2, and 3, includes coastal waters of the delta and that portion of the drainage downstream of Old Paradise Village at river mile 301. The Upper Yukon Area, Districts 4, 5, and 6, is the Alaskan portion of the drainage upstream of Old Paradise Village. Commercial, Aboriginal, and domestic fisheries occur in Canada, with fishery management activities conducted by the Canadian Department of Fisheries and Oceans (DFO).

2.0 OUTLOOK FOR 1996

2.1 Chinook Salmon

The majority of chinook salmon returning to the Yukon River are 6-year-old fish; however, 5- and 7-year-old fish make a significant contribution to the run. Spawning ground escapements in 1990, the brood year producing 6-year-old fish returning in 1996, were judged to be above average in magnitude. However, the return of this brood year as 5-year-old fish in 1995 appeared to be no better than average. The 7-year-old return is expected to be strong based upon the large contribution of age-6 fish in the 1995 run. The return of 5-year-old fish in 1996 is expected to be below average to average in abundance based on below average to average spawning escapements observed in 1991. Overall, the 1996 chinook salmon run is anticipated to be average in strength. The commercial harvest in Alaska is expected to total between 88,000 and 108,000 chinook salmon (82,000-100,000 fish in the Lower Yukon Area and 6,000-8,000 fish in the Upper Yukon Area).

2.2 Summer Chum Salmon

The majority of summer chum salmon return to the Yukon River as 4- or 5-year-old fish. The return of 5-year-old fish in 1996 is expected to be average to above average based on spawning

escapements observed in 1991 and the observed contribution of 4-year-old fish in the 1995 run. A below average to average return of age-4 summer chums is expected. Summer chum salmon spawning escapement to the Anvik River in 1992 was 775,000 fish, 55 percent above the escapement goal of 500,000 fish. Escapements to other spawning areas in 1992 appeared below average based upon aerial surveys. The 1996 outlook is for an average summer chum salmon run overall. The riverwide commercial harvest is expected to range between 400,000 and 800,000 fish, given uncertainties associated with run distribution and market conditions.

2.3 *Fall Chum Salmon*

A Ricker spawner-recruit model was used to project the returns from the 1990 to 1993 parent years which will contribute to the 1996 run. This analysis resulted in a 1996 projection of approximately 631,000 fish with the following approximate age composition:

| | |
|------------|---------------------------|
| Age-3 fish | 24,000 (1993 Brood Year) |
| Age-4 fish | 407,000 (1992 Brood Year) |
| Age-5 fish | 194,000 (1991 Brood Year) |
| Age-6 fish | 6,000 (1990 Brood Year) |

The major contributor to the 1996 run is expected to be from the 1992 brood year. In that year, the total inriver return was estimated at approximately 397,000 fall chum salmon, the second lowest return on record. Fall chum salmon escapements were poor in most areas that year. While the only escapement goal met in 1992 was the Sheenjek River, escapements in the Toklat (14,000 fish), Delta (8,900 fish), and the Fishing Branch (22,700 fish) Rivers were below their receptive minimum goals. The Canadian mainstem Yukon River fall chum salmon escapement was estimated to be 49,000 fish, falling slightly below that year's minimum goal of 51,000 fish as part of the rebuilding plan for the 1988 brood year. Weakness of the 1996 fall chum salmon return can likely be expected from Toklat and Fishing Branch Rivers age-4 fish returning from the 1992 parent year.

Average observed recruit per spawner production for Yukon River fall chum salmon is approximately 2.4. While the production from the 1992 parent-year is unknown, productivity from the 1990 brood year is expected to exceed 2.60 recruits per spawner. Similarly, production from the 1991 brood year will also be above average since the return of age-3 and age-4 fish already indicate a minimum recruit per spawner of 2.47. Age-5 fish from the 1991 brood year will be returning in 1996. Should the apparent, good production realized from the 1990 and 1991 parent years carry over to 1992, then the 1996 projected run size of 631,000 fall chum salmon could be conservative.

The 1996 preseason projection of 631,000 fall chum salmon is not encouraging for Alaska commercial fishing activities directed at fall chum salmon. However, the preseason projection does suggest that normal subsistence, sport, and personal use fishing would occur in 1996. The department will manage the 1996 fall chum salmon return based on inseason information available. There are indicators that suggest the preseason projection may be underestimating the return in 1996. If the preseason projection is underestimating the 1996 return, the chances for Alaska commercial fishing activities directed at fall chum salmon would increase.

2.4 Coho Salmon

Although comprehensive Yukon River drainage coho salmon stock escapement information is lacking, it is known that coho salmon primarily return at age-4. Assuming average survival, limited coho salmon escapement surveys in 1992 suggest a below average return of coho salmon in 1996.

Coho salmon have a later but slightly overlapping run timing with that of the fall chum salmon run. Yukon River Fall chum salmon is the primary species of management concern during the fall season. No guideline harvest ranges established have been for coho salmon, and commercial harvest of coho salmon is a function of the timing, frequency, and duration of the periods established for the more numerous fall chum salmon. Any commercial harvest of coho salmon in 1996 will be largely dependent upon the abundance of fall chum salmon and accompanying management strategies to harvest fall chum salmon.

3.0 MANAGEMENT STRATEGY

The overall goal of the department's program is to manage the various salmon runs for sustained yield under the policies and regulations established by the Alaska Board of Fisheries (board). Management of the Yukon River commercial salmon fishery is complex due to the inability to determine stock specific run size and timing, the increasing efficiency of the commercial fleet, and allocation issues. Current escapement goals in the Yukon River drainage are based, in part, on historic escapements to key index spawning areas. In most cases, the average historic escapement level for each index area is considered a minimum escapement goal to be achieved.

Subsistence fishing occurs throughout most of the Yukon Area and has the highest priority among uses of the resource. In order to enforce commercial fishing regulations it is necessary to place some restrictions on the subsistence fishery. For example, subsistence salmon fishing is closed in most areas for 24 hours prior to and following the commercial salmon season. This regulation discourages the illegal activity of subsistence caught salmon or salmon roe being sold commercially. However, substantially more fishing time is allowed throughout the fishing season for subsistence than for commercial purposes.

Primary tools used in the management of the commercial salmon fishery are guideline harvest ranges established by the board (Table 1) and emergency order authority. Emergency orders are used to open and close the commercial fishing seasons, establish fishing periods, and implement gear restrictions. The department attempts to manage the commercial fisheries so that each district's harvest is proportionally similar to their respective guideline harvest range.

3.1 New Regulations for 1996

The Alaska Board of Fisheries met in Anchorage in March 1996, and made regulation changes to the Yukon Area boundary description, the Anvik River Chum Salmon Fishery Management Plan, and the Yukon River Drainage Fall Chum Salmon Management Plan (Appendix B).

The board moved the northern boundary of the Yukon Area and Coastal District from Canal Point Light to Point Romanof. This change was based, in part, on subsistence use patterns of Stebbins and St. Michaels fishermen. This change is not expected to result in any changes to the current management of Yukon River fisheries.

The Board of Fisheries increased the commercial summer chum salmon roe cap for the Anvik River Management Area from 50,000 to 100,000 pounds. In addition, the period limit to the number of chum salmon or salmon roe sold by a permit holder in the Anvik River was increased from 600 chum salmon in the round, or 400 pounds of chum salmon roe per commercial period, to 1,000 chum salmon in the round, or 700 pounds of chum salmon roe. These regulatory changes to the Anvik River Chum Salmon Fishery Management Plan provide additional harvest opportunities in the Anvik River during years of a large returns. During some years, the Anvik River summer chum salmon escapement have been well above the minimum escapement goal of 500,000 fish. In addition, the board based their decision to increase the Anvik River summer chum salmon roe cap on the desirability of shifting fishing effort and harvest from the lower end of Subdistrict 4-A to the Anvik River. Changes to the Anvik River Management Plan are not expected to impact fisheries below Subdistrict 4-A.

The Subdistrict 4-A summer chum salmon roe cap of 183,000 pounds was not altered by the board during the March 1996 meeting. The presence of mixed stocks of summer chum salmon in the mainstem Subdistrict 4-A Yukon River fishery was the primary concern for not increasing the salmon roe cap.

The Board of Fisheries also adopted a Yukon River Fall Chum Salmon Management Plan that will be in effect for the next two seasons. The board adopted a plan that was similar to that recommended by the Yukon River Drainage Fisheries Association (YRDFA). The 1996 and 1997 management plan is different from the 1995 management plan by recommending that, in years of below average returns, a total closure of the subsistence fall chum salmon directed fishery would not occur unless the drainagewide escapement level is less than or equal to 350,000 fall chum salmon (Table 2).

3.2 Subsistence Fishery

The department encourages fishermen to keep track of their subsistence salmon harvest on their subsistence catch calendar or subsistence fishing permit. Fishermen within nonpermitted areas who did not receive a subsistence salmon calendar by mail can contact the department in Emmonak or Fairbanks to have a calendar mailed to them. In an effort to increase fishermen use and return of these calendars, the calendar's format has been updated for the 1996 fishing season. To encourage

fishermen to return catch calendars by mail, the 1996 calendar's return postage is already paid for by the department.

3.2.1 Districts 1, 2, and 3 and Subdistrict 4-A

In Districts 1, 2, and 3 and Subdistrict 4-A, salmon may be taken by subsistence salmon fishermen seven days per week until 24 hours prior to the opening of the commercial salmon fishing season. The board adopted new subsistence regulations in 1993 and 1994 specifically designed to discourage the sale of subsistence caught salmon or salmon roe during commercial openings. These regulations separate the subsistence and commercial fishing periods in Districts 1, 2, and 3 and Subdistrict 4-A. During the commercial season, subsistence fishing will only be allowed between commercial periods. During the commercial salmon fishing season, subsistence salmon fishing will open 12 hours after the closure of a commercial period and will terminate 18 hours before the start of the next scheduled commercial salmon fishing opening.

In Districts 1, 2, and 3, regulations require fishermen to immediately remove the dorsal fin from chinook salmon taken for subsistence purposes. The sale of salmon that have had the dorsal fin removed is illegal.

3.2.2 Subdistricts 4-B and 4-C

Regulations allow subsistence salmon fishing seven days per week prior to the opening of the Subdistricts 4-B and 4-C commercial salmon season. Once the Subdistricts 4-B and 4-C commercial salmon season opens, managers will attempt to have the allowable commercial salmon fishing periods coincide with the subsistence salmon fishing schedule. During the commercial salmon season, subsistence salmon fishing time in Subdistricts 4-B and 4-C will be two 48-hour periods per week, unless altered by emergency order. Additionally, for any commercial salmon fishing closures of greater than five days in duration during the commercial salmon season, subsistence salmon fishermen may take salmon five days a week from 6:00 p.m. Sundays until 6:00 p.m. Fridays.

Subsistence salmon fishing is prohibited for the 24 hours following the closure of the commercial salmon season. Beginning 24 hours after the closure of the commercial salmon season, subsistence fishermen may take salmon seven days per week.

3.2.3 District 5

In Subdistrict 5-D, unless altered by emergency order, subsistence salmon fishermen may take salmon seven days per week throughout the season. In the remainder of District 5, subsistence salmon fishermen may take salmon seven days per week until 24 hours prior to the opening of the commercial salmon season. Once the commercial salmon fishing season opens in Subdistricts 5-A, 5-B, and 5-C, subsistence salmon fishing periods will coincide with the commercial salmon fishing schedule.

During the commercial salmon season when commercial salmon fishing closures of greater than five days in duration occur, subsistence salmon fishermen may take salmon five days per week from 6:00 p.m. Tuesdays until 6:00 p.m. Sundays. Subsistence salmon fishermen may not take salmon within 24 hours following the closure of the commercial salmon season. In Subdistrict 5-A, following the closure of the commercial salmon season, subsistence salmon fishermen may take salmon from 6:00 p.m. Tuesdays until 6:00 p.m. Sundays. In Subdistricts 5-B and 5-C, 24 hours following the commercial salmon season closure, subsistence salmon fishermen may take salmon seven days a week.

In portions of District 5, regulation requires subsistence fishermen to obtain subsistence fishing permits. Permit areas include the “Yukon River bridge area.” The Yukon River bridge area includes the Yukon River drainage from Hess Creek to the Dall River. Additionally, regulation also requires subsistence fishing permits for the Yukon River drainage from Twenty-two Mile Slough, located upstream of Fort Yukon, to the Canadian border. Subsistence fishermen may obtain a permit by contacting the department’s office in Fairbanks. Permits may be issued in person or by mail. Regulations require all permit holders to report harvest information at the end of the fishing season.

3.2.4 District 6

Regulations require salmon fishermen in District 6, the Tanana River drainage, to obtain subsistence salmon permits. Subsistence salmon fishermen can obtain a permit from the department’s office in Fairbanks. No subsistence fishing is allowed in that portion of the Tanana River drainage included in the Fairbanks Nonsubsistence Area. Subsistence permit holders in that portion of Subdistrict 6-B upstream of a point three miles upstream of the mouth of Totchaket Slough, are required to report the number of salmon taken to the department each week. Permit holders can report their weekly catch by calling a recorder at (907) 459-7388. All Tanana River subsistence permit holders are required to report their harvest information at the end of the fishing season by returning their expired permit to the department’s office in Fairbanks.

Within the majority of Subdistricts 6-A and 6-B, unless altered by emergency order, the subsistence salmon fishing schedule is two 42-hour periods per week from 6:00 p.m. Mondays until 12 noon Wednesdays, and from 6:00 p.m. Fridays until 12 noon Sundays. One exception is within the Old Minto Area where subsistence salmon fishing is allowed five days a week from 6:00 p.m. Fridays until 6:00 p.m. Wednesdays. The Old Minto Area includes that portion of the Tanana River drainage from the downstream end of Crescent Island up to a line three miles upstream from the mouth of Totchaket Slough. These subsistence salmon fishing schedules may be altered by emergency order.

3.3 Commercial Fishing Reporting Requirements

All processors and buyers of salmon are required to register with the department prior to purchasing salmon in the Yukon Area. Processors and buyers in Districts 1, 2, and 3 must register with the

department's office in Emmonak. Processors and buyers in Districts 4, 5, and 6 must register with the department's office in Fairbanks. Timely reporting of salmon purchases is essential for the management of these fisheries. Registered salmon buyers are required to provide a verbal report of their salmon purchases within 18 hours following the closure of a commercial fishing period. Buyers may report verbal harvest information in the Upper Yukon Area after office hours by calling a 24-hour recording at (907) 459-7388. Buyers are also required to mail or deliver fish tickets to the department within 24 hours following the closure of a commercial fishing period in the Lower Yukon Area. In the Upper Yukon Area, buyers are required to mail or deliver fish tickets to the department within 36 hours following the closure of a commercial fishing period. If there is incomplete reporting, the department may delay commercial fishing until the needed harvest reports are received. In addition, it is very important for buyers to accurately report on each fish ticket the statistical area where salmon were harvested.

State law requires that any Yukon Area fish ticket which records the purchase of salmon must include the current price paid per pound for each species of salmon purchased. In addition, a fish buyer is required to prominently post the current price paid for salmon at each location where salmon are purchased, including tenders. Regulations also require commercial fishermen to report on the fish ticket the number of salmon harvested but not sold during commercial fishing periods. Buyers are requested to ensure this information is reported on fish tickets.

3.4 Chinook and Summer Chum Salmon Commercial Season

The 1996 chinook salmon run will be managed to achieve aerial survey escapement goals for selected streams in the Alaskan portion of the drainage and to endeavor to provide for a minimum of 28,000 chinook salmon spawning escapement level and a harvest within an agreed guideline harvest range of 16,800 to 19,800 fish for Canada. The chinook salmon spawning escapement in Canada has averaged 28,000 fish during the six-year period from 1990 through 1995. Inseason run assessment will be based on test fisheries, main river sonar passage estimates, subsistence catch reports, age composition, and commercial catch statistics.

Conservative summer chum salmon management is necessary in order to maintain and rebuild non-Anvik River stocks. The department will assess the summer chum salmon run inseason using the main river sonar project near Pilot Station, test fisheries, subsistence catch reports, age composition, and commercial catch statistics. A comparison of the Anvik River sonar escapement estimate and the Pilot Station sonar passage estimate will be used, in conjunction with other escapement monitoring projects, to provide information concerning the size and sex ratio of escapements to non-Anvik River tributaries. Other escapement monitoring projects include the Kaltag River tower operated by the Alaska Cooperative Extension Service 4-H Fisheries and Bering Sea Fishermen's Association (BSFA), the Nulato River tower funded by BSFA and the department, and the Andreafsky and Gisasa River weirs operated by the United States Fish and Wildlife Service (USFWS).

The department will manage the early portion of the summer chum salmon run based upon the assumption that the run will be average in size and that this run size will meet escapement and

subsistence needs, as well as provide for a commercial harvest between the lower end and the mid-point of the guideline harvest ranges. The commercial harvest of surplus summer chum salmon will be allocated by district or subdistrict based upon the guideline harvest ranges established by the board (Table 1).

Declining salmon markets may have a major impact on the fisheries this season. Therefore, the department will work closely with buyers and fishermen to manage the chinook and summer chum salmon fisheries by timing harvests for fish quality and market demands to the extent feasible within biological constraints.

3.4.1 Districts 1, 2, and 3

It is anticipated that the directed commercial chinook salmon fishery will open by emergency order on a staggered basis beginning with District 1, when increasing subsistence and/or test-net catches of chinook salmon have occurred over a seven- to ten-day period. This management strategy provides for uninterrupted subsistence fishing in the Lower Yukon Area and allows for passage of a portion of the early run segment through the lower river districts prior to commercial fishing.

Directed chinook salmon commercial fishing periods are anticipated to be no more than 12 hours in duration. In District 1, fishing periods are expected to begin at 6:00 p.m. on Mondays and Thursdays. It is anticipated that fishing periods in Districts 2 and 3 will begin at 6:00 p.m. Wednesdays and Sundays; however, fishing periods in District 3 may vary from this schedule because it has a separate guideline harvest range. Since Districts 1 and 2 have a combined guideline harvest range, the overall harvest level will determine when the directed chinook salmon fishery and commercial salmon season ends. It may not be possible to allow an equal amount of fishing time for each district.

Normally, the use of unrestricted mesh size gillnets will cease when the combined Districts 1 and 2 harvest approaches 60,000 to 70,000 chinook salmon. Six inch maximum mesh size directed summer chum salmon fishing periods are anticipated to be 4 to 12 hours in duration. Short summer chum salmon directed fishing periods may be scheduled based on market considerations and run assessment. In addition, short chum salmon periods will be easier to establish between unrestricted mesh size periods and lower the harvest of chinook salmon during such periods. Because of market considerations, an effort will be made to schedule summer chum salmon directed periods prior to June 25.

The combined commercial harvest for Districts 1 and 2 is expected to be 80,000 to 98,000 chinook and 200,000 to 500,000 summer chum salmon, with actual harvest dependent on inseason run assessment and market conditions. The District 3 commercial harvest is expected to range between 1,800 and 2,000 chinook salmon. Because of declining market conditions, District 3 fishermen should ensure that they have a market for their fish.

The USFWS will be operating a weir on the East Fork of the Andreafsky River in 1996. Historical escapement timing information obtained from sonar and tower projects operated on this river will be used to assess the 1996 spawning escapement inseason. The department will use the assessment of the spawning escapement in the East Fork Andreafsky River to regulate the size of the area closed to commercial fishing near the mouth of the Andreafsky River.

Regulations require identification of any vessel used in Districts 1, 2, and 3 by commercial salmon fishermen. A vessel must display either the ADF&G vessel license number or the fisherman's 5-digit Commercial Fisheries Entry Commission (CFEC) permit serial number and the letter that follows. Symbols must be at least 12 inches high and 1 inch wide and displayed on both sides of the hull or cabin.

In 1996, new gillnet depth regulations for commercial fishing will be in effect in Districts 1, 2, and 3. Gillnets with greater than 6 inch mesh size may not be more than 45 meshes in depth. Gillnets with 6 inch or less mesh size may not be more than 50 meshes in depth.

3.4.2 District 4

It is anticipated that the commercial salmon fishing season in District 4 may open as early as the last week of June. Commercial fishing periods in Subdistrict 4-A are anticipated to begin at 6:00 p.m. Sundays and 6:00 p.m. Wednesdays and no longer than 24 hours in duration. Frequency and duration of Subdistrict 4-A fishing periods will be based on summer chum salmon run abundance and roe quality considerations. Management will be based, in part, on summer chum salmon spawning escapements and sex ratios monitored on the Anvik, Kaltag, Nulato, and Gisasa Rivers.

It is anticipated that Subdistricts 4-B and 4-C will initially be placed on a schedule of two 48-hour periods per week beginning at 6:00 p.m. Sundays and 6:00 p.m. Wednesdays. Subdistricts 4-B and 4-C may open earlier than Subdistrict 4-A to allow harvest of earlier running chinook salmon. If subsistence salmon fishing opportunities are not sufficient to meet subsistence needs due to the commercial fishing schedule, additional subsistence only fishing time will be allowed.

Based on preseason projections, the department will manage within the chinook salmon guideline harvest range and a summer chum salmon harvest between the lower end and midpoint of the guideline harvest range. The District 4 early season will close when the targeted chinook or summer chum salmon harvest is reached.

3.4.3 Anvik River Management Area

The Anvik River may be opened to summer chum salmon commercial fishing if a surplus greater than the escapement goal of 500,000 fish is available. If possible, the department intends to schedule the Anvik River commercial fishing periods to coincide with those of Subdistrict 4-A. Additional fishing periods may be allowed in the Anvik River based upon the size of the surplus available for commercial harvest. The intent is to allow a harvest of Anvik River summer chum salmon which are in excess of the spawning escapement goal and to decrease the harvest pressure

on non-Anvik River summer chum salmon. Fish harvested in the Anvik River fishery will not count against the Subdistrict 4-A summer chum salmon guideline harvest range. Permit holders are reminded that all chinook salmon caught during Anvik River commercial fishing periods must be returned to the water alive.

3.4.4 District 5

The District 5 commercial salmon fishing season will open by emergency order once the chinook salmon run is distributed throughout the area. Assessment of run abundance and timing from downstream districts, along with subsistence catch reports, will be used to determine the season opening.

It is anticipated that Subdistricts 5-A, 5-B, and 5-C fishing periods during the early season will initially be 24 or 36 hours in duration. For Subdistrict 5-D, the department anticipates it will use emergency order authority to schedule 24- or 36-hour commercial fishing periods. This will allow the department to better monitor and maintain the harvest within the guideline harvest range. In years with average returns and run timing, the first Subdistricts 5-A, 5-B, and 5-C commercial fishing period should occur between June 25 and July 5, and between July 1 and July 10 in Subdistrict 5-D.

Subdistricts 5-A, 5-B, and 5-C have a guideline harvest range of 2,400 to 2,800 chinook salmon, and Subdistrict 5-D has a guideline harvest range of 300 to 500 chinook salmon. Based on the preseason projection, the department will manage the chinook salmon harvest to remain within the guideline harvest ranges.

There are very few summer chum salmon present or harvested in Subdistricts 5-B, 5-C, and 5-D. The commercial harvest of summer chum salmon in District 5 will largely be a function of the management actions taken for chinook salmon.

3.4.5 District 6

In the spring of 1988, the Board of Fisheries held a special session in Fairbanks to discuss and evaluate the fishery management strategies for the Tanana River. At this meeting, the board instructed the department to continue managing District 6 on the basis of guideline harvest ranges; however, the department does have the authority to manage District 6 at a different level within the guideline harvest range, as well as to exceed the upper end of the guideline harvest level. The department can exceed the upper end of the guideline harvest range only in years it can be determined that additional commercial fishing would not jeopardize achieving escapement goals or meeting subsistence needs.

Currently, Tanana River drainage inseason salmon run strength and timing indicators are limited. These include test fish wheel catches near the village of Nenana, aerial surveys, and performance of the commercial and subsistence fisheries. In addition, chinook and summer chum salmon escapement information collected by Sport Fish Division through tagging or tower counting

projects on the Chena and Salcha Rivers may be used for inseason run assessment. Test fisheries provide run timing and species composition information; however, test fisheries appear to be less useful in determining the magnitude of the run due to inter-annual variability in fish wheel location and efficiency. During the 1996 season, the Nenana test fish wheel will operate during the entire season with a "live box." No sales of salmon are expected from the test fish wheel. Due to the limited management tools available, the department will be conservative in the management of District 6.

It is anticipated that the opening of the District 6 commercial fishing season will be in early to mid-July. During the early season in District 6, there may be up to two 42-hour commercial fishing periods per week, from 6:00 p.m. Fridays until 12 noon Sundays and from 6:00 p.m. Mondays until 12 noon Wednesdays. The directed chinook salmon commercial fishery is expected to close once the midpoint of the chinook salmon guideline harvest range of 700 chinook salmon is reached. Additional commercial fishing directed at chinook salmon may be allowed if escapement monitoring projects indicate that the chinook salmon escapement goals and subsistence needs are being met. Directed summer chum salmon commercial fishing periods would occur later in July and into August. Based on preseason projections, it is anticipated that the summer chum salmon harvest will be between the lower end and the mid-point of the guideline harvest range.

3.5 Fall Chum and Coho Salmon Commercial Season

The Board of Fisheries addressed Agenda Change Request 2, review of 5 AAC 01.249. *THE 1995 YUKON RIVER DRAINAGE FALL CHUM SALMON MANAGEMENT PLAN* during a meeting held in Anchorage, Alaska, on March 10 through 19, 1996. The board received public and advisory committee comments concerning the 1996 management plan, including proposed amendments from Yukon River Drainage Fisheries Association. The board adopted a management plan for the next two years similar to a plan that was proposed by YRDFA.

The 1996 and 1997 management plan is different from the management plan used last season by recommending that, in years of below average returns, a total closure of the subsistence chum salmon directed fishery would not occur unless the drainagewide escapement level is less than or equal to 350,000 fall chum salmon. At a fall chum salmon run size greater than 350,000 fish but less than or equal to 550,000 fall chum salmon, the drainagewide escapement level was lowered from the intent of the 1995 management plan's 400,000 fall chum salmon level to 350,000 or 375,000 fall chum salmon, depending on the run strength (Table 2).

Similar to the management plan in effect last season, the 1996 and 1997 management plan continued to recommend that, with a run size greater than 550,000 fall chum salmon, the subsistence directed chum salmon fisheries would be managed for a 400,000 drainagewide fall chum salmon escapement level. In managing the commercial, personal use, and sport directed chum salmon fisheries, the 1996 and 1997 management plan would also continue to target a 400,000 fall chum salmon drainagewide escapement at all run size levels.

The revised Yukon River Drainage Fall Chum Salmon Management Plan directed that “Only when the fall chum salmon run is projected to be more than 650,000 fish may the department consider a directed Yukon River fall chum salmon commercial fishery” for all districts. The preseason projection of approximately 631,000 fall chum salmon would not be encouraging for Alaska fall chum salmon commercial fishing activities. However, as 1996 inseason information becomes available, the department’s evaluation of the run size may be adjusted upward or downward.

There are indications that the 1996 fall chum salmon return may be greater than the preseason projection. If the preseason projection is underestimating the 1996 return, the chances for Alaska commercial fishing activities directed at fall chum salmon would increase.

3.5.1 Districts 1, 2, and 3

The guideline harvest range for Districts 1, 2, and 3 is 60,000 to 220,000 fall chum salmon. The department will monitor the run inseason by using the lower Yukon River set and drift gillnet test fishery, Pilot Station sonar passage estimates, and subsistence and commercial catch statistics. This information, in combination with the preseason projection, will be the basis for the initial management decisions for the Districts 1, 2, and 3 fisheries. If the 1996 fall chum salmon return is as projected, no fall season commercial fishing activities are anticipated. Regulations require District 1 commercial fishermen to register for the Set Net Only Area prior to the opening of the fall commercial fishing season.

3.5.2 District 4

Current regulations do not provide for a commercial fall season in Subdistrict 4-A. The fall commercial fishing season in Subdistricts 4-B and 4-C opens after August 1 by emergency order and closes either by regulation on September 30 or earlier by emergency order. The guideline harvest range for Subdistricts 4-B and 4-C is 5,000 to 40,000 fall chum salmon.

3.5.3 District 5

Subdistricts 5-A, 5-B, and 5-C have a guideline harvest range of 4,000 to 36,000 fall chum salmon. In years with average run timing and a commercially harvestable surplus, the first commercial fishing period would normally occur in mid-August.

For Subdistrict 5-D, the Board of Fisheries established a separate guideline harvest range of 1,000 to 4,000 fall chum salmon. In years with average run timing, the first commercial fishing period in Subdistrict 5-D would normally occur in early September.

3.5.4 District 6

Currently, Tanana River inseason fall chum salmon run strength and timing indicators are limited. These indicators include test fish wheel catches and performance of the commercial, personal use, and subsistence fisheries. Additionally, for the second consecutive year, the department will be

conducting a tagging study in 1996 to estimate the population abundance of fall chum salmon in the upper Tanana River drainage upstream of the confluence with the Kantishna River. Results of the 1995 project are still being evaluated to determine the feasibility of implementing the tagging study on an annual basis for use as an inseason management tool. While preliminary results are encouraging, it is anticipated that information collected in 1996 by the tagging study will be of limited value for inseason management due to the absence of an historical data base.

The department will continue to manage District 6 on the basis of the guideline harvest ranges. The department does, however, have the authority to manage District 6 for a different level within the guideline harvest range or to exceed the guideline harvest range provided the department could justify that additional commercial fishing would not jeopardize achieving escapement goals or meeting subsistence needs. Due to the limited inseason run assessment tools currently available, the department will be conservative in the management of District 6.

District 6 has a guideline harvest range of 2,750 to 20,500 fall chum salmon. In years with average run timing and a commercially harvestable surplus, the first fall season commercial salmon fishing period would normally occur in early to mid-September.

3.5.5 Toklat River Fall Chum Salmon Rebuilding Plan

The Board of Fisheries reviewed and modified the Toklat River Fall Chum Salmon Rebuilding Management Plan during the November 1994 meeting. The modified plan will be in effect through the 1997 fishing season. One of the components of the Toklat River rebuilding plan is to manage for a commercial salmon harvest that is lower than the maximum harvest level allowed in those areas that harvest Toklat River bound salmon. This will allow more fish to reach the Toklat River spawning grounds to aid in the rebuilding effort.

While the rebuilding plan continues to restrict the Kantishna River subsistence fishery, the department does have the authority to allow normal subsistence fishing opportunities if indicators suggest that the Toklat River escapement objective will be achieved. This may be possible with the continuation of the Toklat River sonar project in 1996. The Toklat River sonar project was first conducted in 1994.

Regulations require a Kantishna River subsistence salmon fishing permit to participate in this fishery. Permits are available at the department's office in Fairbanks.

3.5.6 Coho Salmon

A slightly later but overlapping coho salmon run with the fall chum salmon run complicates the fall season salmon management program. Yukon River fall chum salmon is the primary species of management concern during the fall season. No guideline harvest ranges established have been for coho salmon, and commercial harvest of coho salmon is a function of the timing, frequency, and duration of the periods established for the more numerous fall chum salmon. Any commercial

harvest of coho salmon in 1996 will be largely dependent upon the abundance of fall chum salmon and accompanying management strategies to harvest fall chum salmon.

3.6 Personal Use Fishery

In 1995, the Joint Board of Fish and Game adopted regulations that affected the Fairbanks Nonsubsistence Area. No subsistence fishing is allowed within non-subsistence areas. This new regulation affected the salmon fishermen within Subdistrict 6-C which falls entirely within the Fairbanks Nonsubsistence Area (Figure 2). Like 1995, in 1996 the Subdistrict 6-C salmon fishery will be managed under personal use regulations. There is a fishery harvest limit in Subdistrict 6-C of 750 chinook, 5,000 summer chum, and 5,200 fall chum and coho salmon combined. If this harvest limit is reached, the Subdistrict 6-C personal use fishery will be closed.

Personal use salmon fishing permits are required in Subdistrict 6-C and can be obtained from the department's office in Fairbanks during regular office hours. Permit applicants must possess a valid State of Alaska resident sport fishing license.

4.0 U.S./CANADA YUKON RIVER SALMON PANEL AND NEGOTIATIONS

Negotiations were initiated in 1985 regarding cooperative conservation and management between the United States (U.S.) and Canada for the chinook and fall chum salmon stocks which spawn in the Yukon River drainage in Canada.

In the course of these negotiations, both sides have agreed that spawning escapements of chinook and fall chum salmon in the Yukon River drainage in Canada had declined, were substantially below levels necessary to achieve optimum sustained yield, and needed to be rebuilt. It will require both sides working together for rebuilding to be successful.

For Canadian Yukon River mainstem chinook salmon, a six-year stabilization plan ended in 1995. In Canada, the mainstem Yukon River means the Yukon River drainage in Canada excluding the Porcupine River drainage. The objective of the six-year stabilization plan was to prevent further declines in spawning escapement through achieving an escapement of at least 18,000 chinook for each year through 1995. The six-year stabilization plan resulted in chinook salmon spawning escapements averaging 28,000 fish.

For Canadian Yukon River mainstem fall chum salmon, a 12-year rebuilding plan was agreed upon beginning with the 1990 season. The term "rebuilding" means building spawning escapements back up to prior levels in planned steps over a number of years. The objective of this plan is to rebuild the stock by achieving a spawning escapement of 80,000 or more fall chum salmon for all brood years in the cycle by the year 2001. The U.S. contribution to this effort is to endeavor to deliver to the Canadian border on the mainstem Yukon River an agreed to number of fall chum salmon. The Canadian contribution to this effort is to endeavor to manage the harvest

of fall chum salmon in the mainstem Yukon River drainage in Canada by all user groups combined within a guideline harvest range of 23,600 to 32,600 fall chum salmon.

For the Porcupine River stocks, the two sides have only basically agreed that more information is needed and that no new fisheries in the Porcupine River drainage will not be initiated for a number of years.

In recent years, there was realization that, while reaching a comprehensive long term agreement remained a formidable challenge given some of the key unresolved issues, there would be benefits that could be realized by more formally implementing the areas of agreement to date. In February 1995, an interim Yukon River Salmon Agreement went into effect. A Yukon River Panel (Panel) was formed to implement the interim Yukon River Salmon Agreement. The Panel also administers a Yukon River Salmon Restoration and Enhancement Fund (Fund). The Panel consists of commercial, Aboriginal, subsistence and recreational fishermen, and federal, state, and territorial representatives. Both sides have to agree on an item prior for the action to occur. The U.S. side of this Panel consists of four Alaskan Yukon River drainage fishermen, one Alaska state government official, and one U.S. federal government official. There is an advisory group of Alaska Yukon River drainage fishermen providing input to the U.S. side. A Joint Technical Committee (JTC) provides technical support to the Panel. The focus of the Panel is on the salmon stocks that spawn in the Canadian portion of the Yukon River drainage. The Panel will make recommendations to the management agencies in Alaska and Canada.

The interim agreement will be in place through 1997, with an option to extend if both sides desire. This will allow for a try-out period to get underway with a Yukon River Panel so that we can see whether this process works effectively without making a longer term and more formal treaty commitment. There are a number of issues that remain to be resolved, and negotiations will continue. The goal of the negotiations will be to reach a long-term agreement on the remaining issues and to incorporate the relevant elements of the interim agreement.

The Yukon River Panel held its inaugural meeting in Whitehorse, Yukon Territory, on April 16 through 18, 1996, to officially begin the work of restoring and rebuilding Canadian salmon stocks consistent with the Interim Yukon River Salmon Agreement between the U.S. and Canada.

After outlining institutional arrangements, the Panel proceeded to address the work of jointly improving salmon stocks of common concern on the Yukon River. The Panel agreed to the first six years of a rebuilding plan for Canadian mainstem chinook salmon stocks. Recognizing the desirability of rebuilding stocks and preventing stock declines, the parties agreed to an interim minimum spawning escapement objective for Canadian mainstem Yukon River chinook salmon of 28,000 fish for six years beginning in 1996. The U.S. contribution to this effort is to endeavor to deliver between 44,800 to 47,800 chinook salmon to the Canadian mainstem Yukon River. The Canadian contribution to this effort is to endeavor to manage the harvest of chinook salmon in the mainstem Yukon River drainage in Canada by all user groups combined within a guideline harvest range of 16,800 to 19,800 chinook salmon. Given the prospect of a poor 1997 fall chum salmon return, the Panel began discussions on how to deal with this challenge. The Joint

Technical Committee is charged with developing options for consideration at the November 1996 meeting of the Panel in Alaska.

A key component of the Yukon agreement is a jointly administered restoration and enhancement fund to address the rebuilding of Canadian origin salmon stocks. The Panel agreed to several initial projects that are intended to begin increasing salmon production on the river. These projects will be funded from \$140,000 in start-up funds contributed by the United States. The agreement commits the U.S. to contribute \$400,000 annually to this fund.

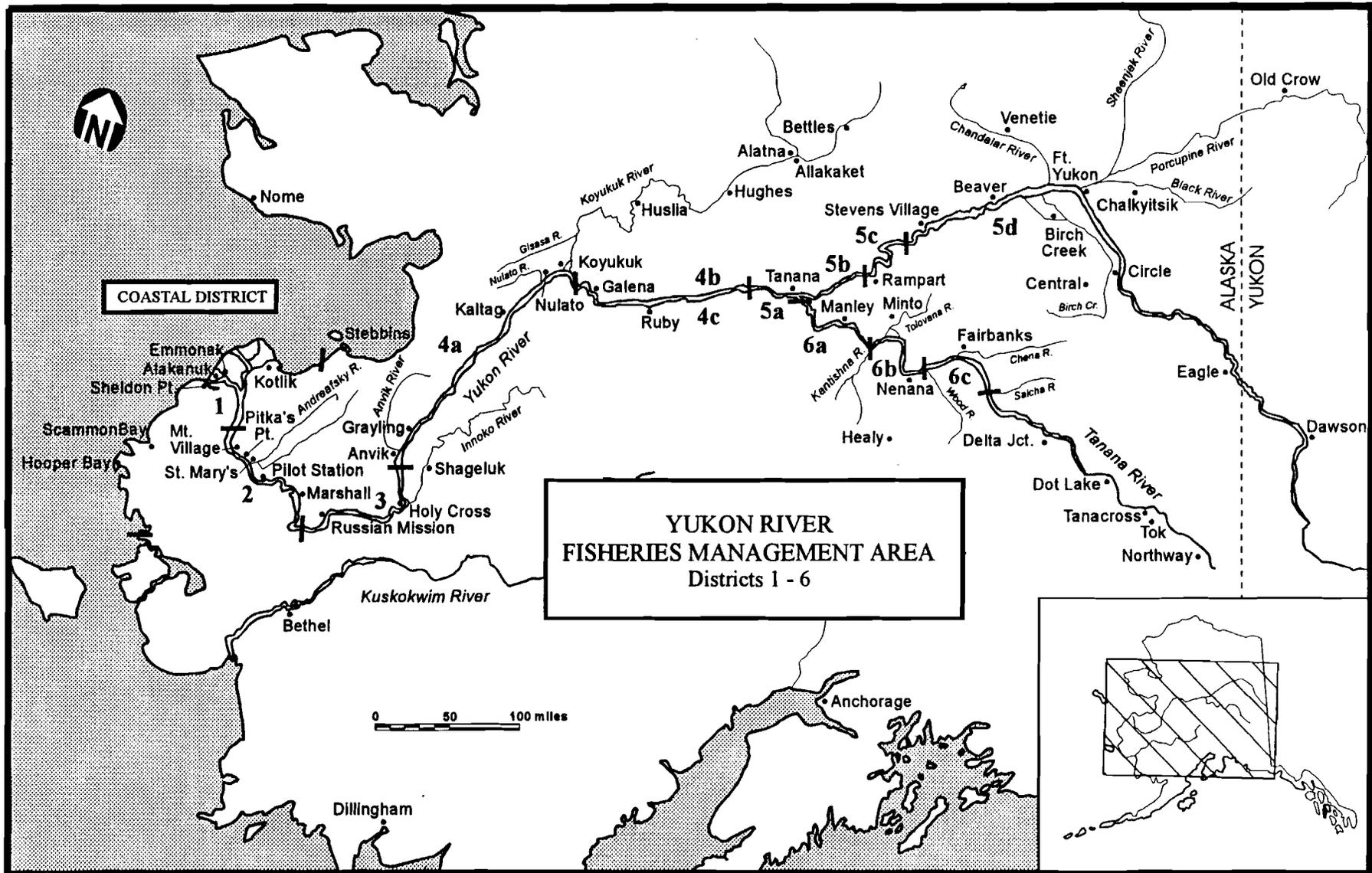


Figure 1. Map of the Alaskan portion of the Yukon River drainage showing communities and fishing districts.

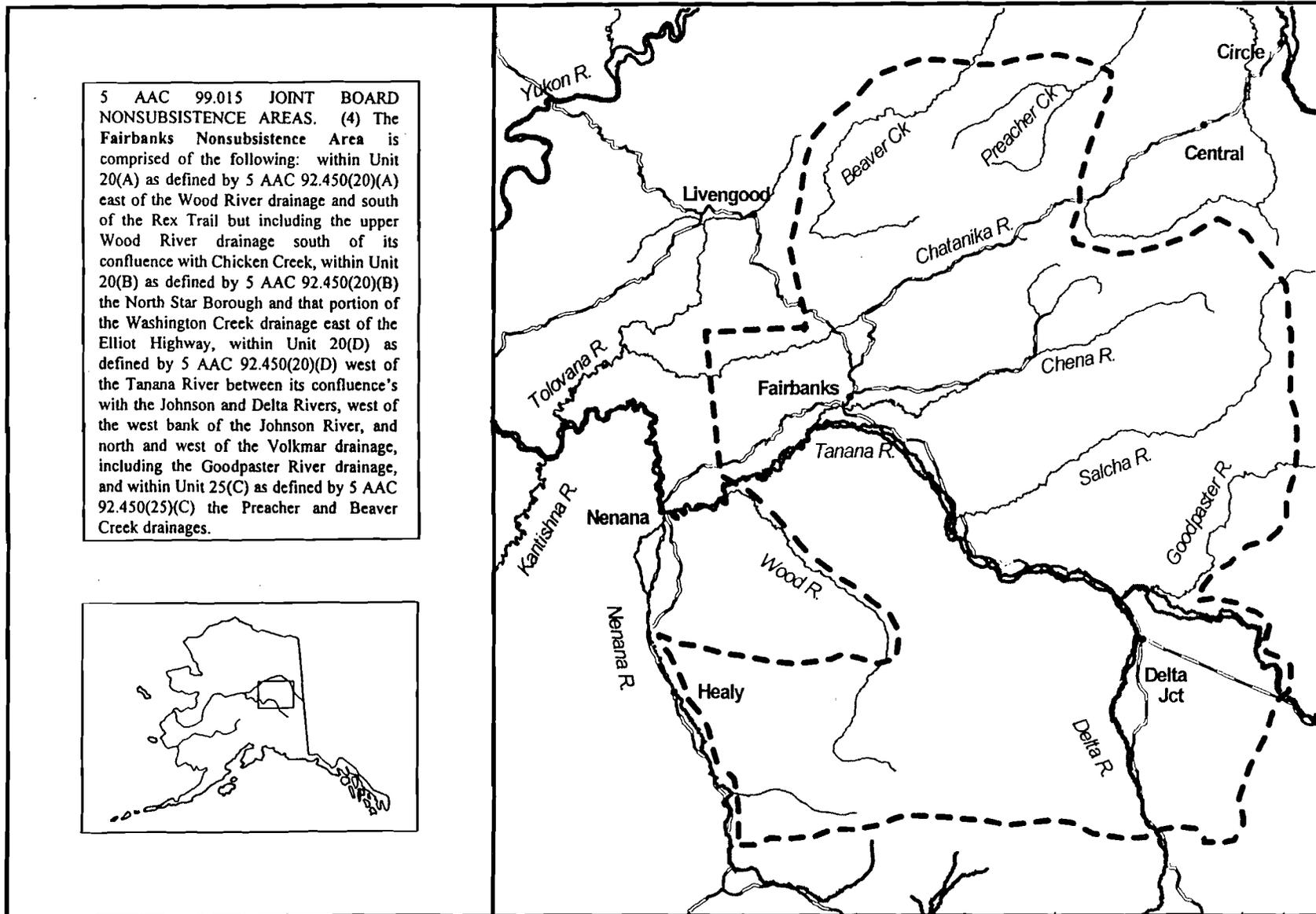


Figure 2. The Fairbanks Nonsubsistence Area, 1996.

Table 1. Guideline harvest ranges and mid-points for Alaskan commercial harvest of chinook, summer and fall chum salmon, Yukon Area, 1996.

| Chinook Salmon | | | | | | |
|-------------------------------|-------------------------|--------------|----------------|--------------|------------------|--------------|
| District or Subdistrict | Guideline Harvest Range | | | | | |
| | Lower | | Mid-Point | | Upper | |
| | Numbers | Percent | Numbers | Percent | Numbers | Percent |
| 1 and 2 | 60,000 | 89.1 | 90,000 | 91.6 | 120,000 | 92.9 |
| 3 | 1,800 | 2.7 | 2,000 | 2.0 | 2,200 | 1.7 |
| 4 | 2,250 | 3.3 | 2,550 | 2.6 | 2,850 | 2.2 |
| 5A,B,C | 2,400 | 3.6 | 2,600 | 2.6 | 2,800 | 2.2 |
| 5D | 300 | 0.4 | 400 | 0.4 | 500 | 0.4 |
| 6 | 600 | 0.9 | 700 | 0.7 | 800 | 0.6 |
| Total | 67,350 | 100.0 | 98,250 | 100.0 | 129,150 | 100.0 |
| Summer Chum Salmon | | | | | | |
| District or Subdistrict | Guideline Harvest Range | | | | | |
| | Lower | | Mid-Point | | Upper | |
| | Numbers | Percent | Numbers | Percent | Numbers | Percent |
| 1 and 2 | 251,000 | 62.8 | 503,000 | 62.9 | 755,000 | 62.9 |
| 3 | 6,000 | 1.5 | 12,500 | 1.6 | 19,000 | 1.6 |
| 4A a | 113,000 | 28.3 | 225,500 | 28.2 | 338,000 | 28.2 |
| 4B,C | 16,000 | 4.0 | 31,500 | 3.9 | 47,000 | 3.9 |
| 5 | 1,000 | 0.3 | 2,000 | 0.3 | 3,000 | 0.3 |
| 6 | 13,000 | 3.3 | 25,500 | 3.2 | 38,000 | 3.2 |
| Total | 400,000 | 100.0 | 800,000 | 100.0 | 1,200,000 | 100.0 |
| Fall Chum Salmon | | | | | | |
| District or Subdistrict | Guideline Harvest Range | | | | | |
| | Lower | | Mid-Point | | Upper | |
| | Numbers | Percent | Numbers | Percent | Numbers | Percent |
| 1, 2, and 3 | 60,000 | 82.5 | 140,000 | 71.2 | 220,000 | 68.6 |
| 4B,C | 5,000 | 6.9 | 22,500 | 11.4 | 40,000 | 12.5 |
| 5A,B,C | 4,000 | 5.5 | 20,000 | 10.2 | 36,000 | 11.2 |
| 5D | 1,000 | 1.4 | 2,500 | 1.3 | 4,000 | 1.2 |
| 6 | 2,750 | 3.8 | 11,625 | 5.9 | 20,500 | 6.4 |
| Total | 72,750 | 100.0 | 196,625 | 100.0 | 320,500 | 100.0 |

a Or the equivalent roe poundage of 61,000 to 183,000 pounds or some combination of fish and pounds of roe.

Table 2. The Yukon River drainage fall chum salmon management plan, 1996.

| Run Size Estimate <i>b</i> (Point Estimate) | Recommended Management Action <i>a</i> Fall Chum Salmon Directed Fisheries | | | | Targeted Drainagewide Escapement |
|--|---|--------------------------------|----------------------|--------------------------------|--|
| | Commercial | Personal Use | Sport | Subsistence | |
| 350,000 or Less | Closure | Closure | Closure | Closure <i>c</i> | 350,000 |
| 350,000 to 450,000 | Closure | Closure | Closure | Restrictions <i>d</i> | 350,000 |
| 450,001 to 550,000 | Closure | Closure | Closure | Restrictions <i>d</i> | 375,000 |
| 550,001 to 600,000 | Closure | Closure <i>e</i> | Closure <i>e</i> | Restrictions <i>d</i> | 400,000 |
| Greater Than 600,000 | Commercial Fishing Considered <i>f</i> | Normal Fishing Schedules | Retention Allowed | Normal Fishing Schedules | 400,000 or More |

a Considerations for the Toklat River and Canadian Mainstem rebuilding plans may require more restrictive management actions.

b The department will use the best available data including pre-season projections, mainstem river sonar passage estimates, test fisheries indices, subsistence and commercial fishing reports, and passage estimates from escapement monitoring projects to assess the run size.

c The department may, by emergency order, allow subsistence chum salmon directed fisheries in areas that indicator(s) suggest that the escapement goal(s) in that area will be achieved.

d The department may, by emergency order, allow a less restrictive or a normal subsistence fishing schedule in areas that indicator(s) suggest that the escapement goal(s) in that area will be achieved.

e The department may, by emergency order, allow personal use and sport fishing in areas that have normal subsistence fishing schedules and indicator(s) that suggest the escapement goal(s) in that area will be achieved.

f The department may, by emergency order, allow commercial fishing in areas that have normal subsistence fishing schedules and indicator(s) that suggest the escapement goal(s) in that area will be achieved. A commercial harvestable surplus of at least 50,000 fall chum salmon (consistent with the Toklat River Rebuilding Plan) is needed to provide for an orderly drainagewide commercial fishery. Harvest will be distributed by district or subdistrict proportional to the guideline harvest range established in 5 AAC 05.365. The department shall distribute the harvest at levels below the low end of the guideline harvest range by district or subdistrict proportional to the mid-point of the guideline harvest range.

5 AAC 05.365. (4) manage the commercial fishery during the fall chum salmon season for a guideline harvest range of 72,750 to 320,000 chum salmon, distributed as follows:

- (A) Districts 1, 2 and 3: 60,000 to 220,000 chums;
- (B) Subdistricts 4-B and 4-C: 5,000 to 40,000 chums;
- (C) Subdistricts 5-A, 5-B, and 5-C: 4,000 to 36,000 chums;
- (D) Subdistrict 5-D: 1,000 to 4,000 chums;
- (E) District 6: 2,750 to 20,500 chums.

Appendix A

Historical Commercial Harvest and Escapement Information

Appendix A.1. Commercial chinook salmon sales and estimated harvest by area and district, Yukon River drainage in Alaska, 1961-1995.

| Year | Upper Yukon Area | | | | | | | | | | | | | | | Canada Total | Grand Total | | | | |
|------------------|------------------|------------|------------|----------|------------|-------|-------------------|------------|-----|-------------------|------------|-------|-------------------|----------|-------|--------------|-------------|-------------------|-------------------------|-------|---------|
| | Lower Yukon Area | | | | District 4 | | | District 5 | | | District 6 | | | Subtotal | | | | | | | |
| | District 1 | District 2 | District 3 | Subtotal | Number | Roe | Estimated Harvest | Number | Roe | Estimated Harvest | Number | Roe | Estimated Harvest | Number | Roe | | | Estimated Harvest | Total Estimated Harvest | | |
| 1961 | 84,466 | 29,026 | 4,368 | 117,860 | - | - | - | - | - | - | - | - | - | - | - | 1,804 | - | 1804 | 119,664 | 3,446 | 123,110 |
| 1962 | 67,099 | 22,224 | 4,687 | 94,010 | - | - | - | - | - | - | - | - | - | - | - | 724 | - | 724 | 94,734 | 4,037 | 98,771 |
| 1963 | 85,004 | 24,221 | 7,020 | 116,245 | - | - | - | - | - | - | - | - | - | - | - | 803 | - | 803 | 117,048 | 2,283 | 119,331 |
| 1964 | 67,555 | 20,246 | 4,705 | 92,506 | - | - | - | - | - | - | - | - | - | - | - | 1,081 | - | 1,081 | 93,587 | 3,208 | 96,795 |
| 1965 | 89,268 | 23,763 | 3,204 | 116,235 | - | - | - | - | - | - | - | - | - | - | - | 1,863 | - | 1,863 | 118,098 | 2,265 | 120,363 |
| 1966 | 70,788 | 16,927 | 3,612 | 91,327 | - | - | - | - | - | - | - | - | - | - | - | 1,988 | - | 1,988 | 93,315 | 1,942 | 95,257 |
| 1967 | 104,350 | 20,239 | 3,618 | 128,207 | - | - | - | - | - | - | - | - | - | - | - | 1,449 | - | 1,449 | 129,656 | 2,187 | 131,843 |
| 1968 | 79,465 | 21,392 | 4,543 | 105,400 | - | - | - | - | - | - | - | - | - | - | - | 1,126 | - | 1,126 | 106,526 | 2,212 | 108,738 |
| 1969 | 71,688 | 14,756 | 3,595 | 90,039 | - | - | - | - | - | - | - | - | - | - | - | 988 | - | 988 | 91,027 | 1,640 | 92,667 |
| 1970 | 56,648 | 17,141 | 3,705 | 77,494 | - | - | - | - | - | - | - | - | - | - | - | 1,651 | - | 1,651 | 79,145 | 2,611 | 81,756 |
| 1971 | 86,042 | 19,226 | 3,490 | 108,758 | - | - | - | - | - | - | - | - | - | - | - | 1,749 | - | 1,749 | 110,507 | 3,178 | 113,685 |
| 1972 | 70,052 | 17,855 | 3,841 | 91,748 | - | - | - | - | - | - | - | - | - | - | - | 1,092 | - | 1,092 | 92,840 | 1,769 | 94,609 |
| 1973 | 56,981 | 13,859 | 3,204 | 74,044 | - | - | - | - | - | - | - | - | - | - | - | 1,309 | - | 1,309 | 75,353 | 2,199 | 77,552 |
| 1974 | 71,840 | 17,948 | 3,480 | 93,268 | 685 | - | 685 | 2,663 | - | 2,663 | 1,473 | - | 1,473 | 4,821 | - | 4,821 | 98,089 | 1,808 | 99,897 | | |
| 1975 | 44,585 | 11,315 | 4,177 | 60,077 | 389 | - | 389 | 2,872 | - | 2,872 | 500 | - | 500 | 3,761 | - | 3,761 | 63,838 | 3,000 | 66,838 | | |
| 1976 | 62,410 | 16,556 | 4,148 | 83,114 | 409 | - | 409 | 3,151 | - | 3,151 | 1,102 | - | 1,102 | 4,662 | - | 4,662 | 87,776 | 3,500 | 91,276 | | |
| 1977 | 69,915 | 16,722 | 3,965 | 90,602 | 985 | - | 985 | 4,162 | - | 4,162 | 1,008 | - | 1,008 | 6,155 | - | 6,155 | 96,757 | 4,720 | 101,477 | | |
| 1978 | 59,006 | 32,924 | 2,916 | 94,846 | 608 | - | 608 | 3,079 | - | 3,079 | 635 | - | 635 | 4,322 | - | 4,322 | 99,168 | 2,975 | 102,143 | | |
| 1979 | 75,007 | 41,498 | 5,018 | 121,523 | 1,989 | - | 1,989 | 3,389 | - | 3,389 | 772 | - | 772 | 6,150 | - | 6,150 | 127,673 | 6,175 | 133,848 | | |
| 1980 | 90,382 | 50,004 | 5,240 | 145,626 | 1,521 | - | 1,521 | 4,891 | - | 4,891 | 1,947 | - | 1,947 | 8,359 | - | 8,359 | 153,985 | 9,500 | 163,485 | | |
| 1981 | 99,506 | 45,781 | 4,023 | 149,310 | 1,347 | - | 1,347 | 6,374 | - | 6,374 | 987 | - | 987 | 8,708 | - | 8,708 | 158,018 | 8,593 | 166,611 | | |
| 1982 | 74,450 | 39,132 | 2,609 | 116,191 | 1,087 | - | 1,087 | 5,385 | - | 5,385 | 981 | - | 981 | 7,453 | - | 7,453 | 123,644 | 8,640 | 132,284 | | |
| 1983 | 95,457 | 43,229 | 4,106 | 142,792 | 601 | - | 601 | 3,606 | - | 3,606 | 911 | - | 911 | 5,118 | - | 5,118 | 147,910 | 13,027 | 160,937 | | |
| 1984 | 74,671 | 36,697 | 3,039 | 114,407 | 961 | - | 961 | 3,669 | - | 3,669 | 867 | - | 867 | 5,497 | - | 5,497 | 119,904 | 9,885 | 129,789 | | |
| 1985 | 90,011 | 48,365 | 2,588 | 140,964 | 664 | - | 664 | 3,418 | - | 3,418 | 1,142 | - | 1,142 | 5,224 | - | 5,224 | 146,188 | 12,573 | 158,761 | | |
| 1986 | 53,035 | 41,849 | 901 | 95,785 | 502 | - | 502 | 2,733 | - | 2,733 | 950 | - | 950 | 4,185 | - | 4,185 | 99,970 | 10,797 | 110,767 | | |
| 1987 | 76,643 | 47,458 | 2,039 | 126,140 | 1,524 | - | 1,524 | 3,758 | - | 3,758 | 3,338 | - | 3,338 | 8,620 | - | 8,620 | 134,760 | 10,864 | 145,624 | | |
| 1988 | 56,120 | 35,120 | 1,767 | 93,007 | 3,159 | - | 3,159 | 3,436 | - | 3,436 | 762 | - | 762 | 7,357 | - | 7,357 | 100,364 | 13,217 | 113,581 | | |
| 1989 | 61,570 | 33,166 | 1,645 | 96,381 | 2,790 | - | 2,790 | 3,286 | - | 3,286 | 1,741 | - | 1,741 | 7,817 | - | 7,817 | 104,198 | 9,789 | 113,987 | | |
| 1990 | 51,199 | 33,061 | 2,341 | 86,601 | 3,536 | 8 | 3,538 | 3,353 | 47 | 3,365 | 1,757 | 1,676 | 2,156 | 8,646 | 1,731 | 9,059 | 95,660 | 11,324 | 106,984 | | |
| 1991 | 56,332 | 39,260 | 2,344 | 97,936 | 2,446 | 2,222 | 3,582 | 3,810 | 62 | 3,826 | 686 | 1,545 | 1,072 | 6,942 | 3,829 | 8,480 | 106,416 | 10,906 | 117,322 | | |
| 1992 | 74,212 | 38,139 | 1,819 | 114,170 | 1,819 | 2,273 | 2,394 | 3,852 | 7 | 3,855 | 572 | 884 | 753 | 6,075 | 3,164 | 7,002 | 121,172 | 10,877 | 132,049 | | |
| 1993 | 49,286 | 37,293 | 1,501 | 88,080 | 1,349 | 701 | 1,577 | 3,008 | 0 | 3,008 | 1,113 | 1,313 | 1,445 | 5,470 | 2,014 | 6,030 | 94,110 | 10,350 | 104,460 | | |
| 1994 | 62,241 | 41,692 | 1,114 | 105,047 | 2,216 | 564 | 2,443 | 3,739 | 10 | 3,744 | 2,135 | 1,820 | 2,606 | 8,090 | 2,394 | 8,793 | 113,840 | 12,028 | 125,868 | | |
| 1995 | 76,106 | 41,458 | 0 | 117,564 | 262 | 626 | 499 | 3,242 | 0 | 3,242 | 1,660 | 4,731 | 2,747 | 5,164 | 5,357 | 6,488 | 124,052 | | 124,052 | | |
| 5 Yr Ave 1985-89 | 67,476 | 41,192 | 1,788 | 110,455 | 1,728 | - | 1,728 | 3,326 | - | 3,326 | 1,587 | - | 1,587 | 6,641 | - | 6,641 | 117,096 | 11,448 | 128,544 | | |
| 5 Yr Ave 1990-94 | 58,654 | 37,889 | 1,824 | 98,367 | 2,240 | 1,154 | 2,707 | 3,552 | 25 | 3,560 | 1,253 | 1,448 | 1,606 | 7,045 | 2,626 | 7,873 | 106,240 | 11,097 | 117,337 | | |

1. Harvest reported in numbers of fish sold in the round and pounds of roe sold. Since 1990, efforts were made to separate chinook roe from summer chum roe. Does not include department test fish sales.

2. All fish sold in the round. Includes department test fish sales prior to 1988.

3. The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold.

4. In 1974, District 4 was subdivided to include Districts 5 and 6.

5. Includes the illegal sales of 653 chinook salmon in District 5, and 2,136 chinook salmon in District 6.

6. Includes the illegal sales of 3,211 chinook salmon.

7. Includes the illegal sales of 1,101 chinook salmon.

8. Includes the illegal sales of 2,711 chinook salmon in District 1, and 284 chinook salmon in District 2.

9. Includes the illegal sales of 1,218 chinook salmon in District 1, and 207 chinook salmon in District 2.

Appendix A.2. Commercial summer chum salmon sales and estimated harvest by area and district, Yukon River drainage, 1967-1995.

| Year | Upper Yukon Area | | | | | | | | | | | | | | | | Total Estimated Harvest |
|---------------------|-------------------------------|------------|------------|-----------|------------|---------|-----------------------------------|------------|-------|-----------------------------------|---------------------|-------|-----------------------------------|----------|---------|-----------------------------------|-------------------------------|
| | Lower Yukon Area ^b | | | | District 4 | | | District 5 | | | District 6 | | | Subtotal | | | |
| | District 1 | District 2 | District 3 | Subtotal | Number | Roe | Estimated Harvest ^c | Number | Roe | Estimated Harvest ^c | Number | Roe | Estimated Harvest ^c | Number | Roe | Estimated Harvest ^c | |
| 1967 | 9,453 | 1,425 | 57 | 10,935 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 10,935 |
| 1968 | 12,995 | 1,407 | 68 | 14,470 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 14,470 |
| 1969 | 56,886 | 5,080 | - | 61,966 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 61,966 |
| 1970 | 117,357 | 19,649 | - | 137,006 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 137,006 |
| 1971 | 93,928 | 8,112 | 50 | 100,090 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 100,090 |
| 1972 | 114,234 | 20,907 | 527 | 135,668 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 135,668 |
| 1973 | 221,644 | 63,402 | 463 | 285,509 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 285,509 |
| 1974 ^d | 466,004 | 74,152 | 1,721 | 541,877 | 27,866 | - | 27,866 | 6,831 | - | 6,831 | 13,318 | - | 13,318 | 48,015 | 0 | 48,015 | 589,892 |
| 1975 | 418,323 | 99,139 | - | 517,462 | 165,054 | - | 165,054 | 12,997 | - | 12,997 | 14,782 | - | 14,782 | 192,833 | 0 | 192,833 | 710,295 |
| 1976 | 273,204 | 99,190 | 9,802 | 382,196 | 211,307 | - | 211,307 | 774 | - | 774 | 6,617 | - | 6,617 | 218,698 | 0 | 218,698 | 600,894 |
| 1977 | 250,652 | 105,679 | 3,412 | 359,743 | 169,541 | - | 169,541 | 1,274 | - | 1,274 | 4,317 | - | 4,317 | 175,132 | 0 | 175,132 | 534,875 |
| 1978 | 393,785 | 227,548 | 27,003 | 648,336 | 364,184 | 16,920 | 381,104 | 4,892 | 605 | 5,497 | 34,814 | 8,236 | 43,050 | 403,890 | 25,761 | 429,651 | 1,077,987 |
| 1979 | 369,934 | 172,838 | 40,015 | 582,787 | 169,430 | 35,317 | 204,747 | 8,608 | 1,009 | 9,617 | 18,491 | 3,891 | 22,382 | 196,529 | 40,217 | 236,746 | 819,533 |
| 1980 | 391,252 | 308,704 | 44,782 | 744,738 | 147,560 | 135,824 | 283,384 | 456 | - | 456 | 35,855 | 3,282 | 39,137 | 183,871 | 139,106 | 322,977 | 1,067,715 |
| 1981 | 507,158 | 351,878 | 54,471 | 913,507 | 59,718 | 187,032 | 330,445 | 1,236 | 49 | 1,285 | 32,477 | 1,987 | 34,464 | 93,431 | 189,068 | 366,194 | 1,279,701 |
| 1982 | 249,516 | 182,344 | 4,086 | 435,946 | 3,647 | 151,281 | 257,719 | 213 | 21 | 234 | 21,597 | 1,517 | 23,114 | 25,457 | 152,819 | 281,067 | 717,013 |
| 1983 | 451,164 | 248,092 | 14,600 | 713,856 | 6,672 | 148,125 | 255,388 | 42 | 1,856 | 1,898 | 24,309 | 18 | 24,327 | 31,023 | 149,999 | 281,613 | 995,469 |
| 1984 | 292,676 | 236,931 | 1,087 | 530,694 | 1,009 | 166,842 | 278,070 | 645 | 47 | 692 | 56,249 | 335 | 56,584 | 57,903 | 167,224 | 335,346 | 866,040 |
| 1985 | 247,486 | 188,099 | 1,792 | 437,377 | 12,007 | 247,085 | 427,483 | 700 | - | 700 | 66,913 | 1,540 | 68,453 | 79,620 | 248,625 | 496,636 | 934,013 |
| 1986 | 381,127 | 288,427 | 442 | 669,996 | 300 | 269,545 | 465,535 | 690 | - | 690 | 50,483 | 2,146 | 52,629 | 51,473 | 271,691 | 518,854 | 1,188,850 |
| 1987 | 222,898 | 174,876 | 3,501 | 401,275 | 29,991 | 121,474 | 209,800 | 362 | 44 | 406 | 10,610 | 450 | 11,060 | 40,963 | 121,968 | 221,266 | 622,541 |
| 1988 | 645,322 | 424,461 | 13,965 | 1,083,748 | 24,051 | 254,526 | 490,074 | 722 | 363 | 1,085 | 40,129 | 1,646 | 41,775 | 64,902 | 256,535 | 532,934 | 1,616,682 |
| 1989 | 544,373 ^r | 343,032 | 7,578 | 894,983 | 18,554 | 283,305 | 510,244 | 154 | 373 | 527 | 42,115 | 4,871 | 46,986 | 60,823 | 288,549 | 557,757 | 1,452,740 |
| 1990 | 146,725 | 131,755 | 643 | 279,123 | 12,364 | 105,723 | 222,550 | 11 | 594 | 671 | 11,127 ^s | 3,059 | 14,833 | 23,502 | 109,376 | 238,054 | 517,177 |
| 1991 | 140,470 ^h | 175,149 | 8,912 | 324,531 | 6,381 | 137,232 | 309,844 | 4 | 28 | 35 | 18,197 | 4,716 | 23,892 | 24,582 | 141,976 | 333,571 | 658,102 |
| 1992 ⁱ | 177,329 | 147,129 | 65 | 324,523 | 2,659 | 110,809 | 211,396 | 102 | 295 | 430 | 5,029 | 1,892 | 7,228 | 7,790 | 112,996 | 219,054 | 543,577 |
| 1993 | 73,659 | 19,332 | 463 | 93,454 | 27 | 22,447 | 42,957 | 0 | 0 | 0 | 3,041 | 515 | 3,705 | 3,068 | 22,962 | 46,662 | 140,116 |
| 1994 | 42,332 | 12,869 | 35 | 55,236 | 3,611 | 89,717 | 171,607 | 229 | 212 | 464 | 21,208 | 7,828 | 31,434 | 25,048 | 97,757 | 203,505 | 258,741 |
| 1995 | 142,266 | 83,817 | 0 | 226,083 | 8,873 | 281,074 | 554,587 | 107 | 188 | 316 | 24,711 | 9,475 | 37,428 | 33,691 | 290,737 | 592,331 | 818,414 |
| 5 Yr Ave 1985-89 | 408,241 | 283,779 | 5,456 | 697,476 | 16,981 | 235,187 | 420,627 | 526 | 156 | 682 | 42,050 | 2,131 | 44,181 | 59,556 | 237,474 | 465,489 | 1,162,965 |
| 5 Yr Ave 1990-94 | 116,103 | 97,247 | 2,024 | 215,373 | 5,008 | 93,186 | 191,631 | 69 | 226 | 320 | 11,720 | 3,602 | 16,218 | 16,798 | 97,013 | 208,169 | 423,543 |

^a Harvest reported in numbers of fish sold in the round and pounds of roe. Roe sales may include some pink and chinook salmon roe. Does not include department test fish sales
^b All sales are fish in the round. Includes department test fish sales prior to 1988.
^c The estimated harvest is the fish sold in the round plus the estimated number of females caught to produce the roe sold. In addition, the estimated harvest for District 4 includes the estimated number of unsold males harvested.
^d In 1974, District 4 was subdivided to include Districts 5 and 6.
^e Includes the illegal sales of 150 summer chum salmon in District 1.
^f Does not include 1,233 female summer chum salmon sold in Subdistrict 6-C with roe extracted and roe sold separately. These fish are included in estimated harvest to produce roe sold.
^h Includes the illegal sales of 1,023 summer chum salmon.
ⁱ Includes the illegal sales of 31 summer chum salmon in District 1, and 91 summer chum salmon in District 2.

Appendix A.3. Commercial fall chum salmon sales and estimated harvest by area and district, Yukon River drainage in Alaska, 1961-1995.

| Year | Upper Yukon Area | | | | | | | | | | | | | | | | Canada Total | Grand Total | |
|-------------------|------------------|------------|------------|----------|------------|-------|-------------------|------------|--------|-------------------|------------|--------|-------------------|----------|--------|-------------------------|--------------|-------------|-------------------|
| | Lower Yukon Area | | | | District 4 | | | District 5 | | | District 6 | | | Subtotal | | Total Estimated Harvest | | | |
| | District 1 | District 2 | District 3 | Subtotal | Numbers | Roe | Estimated Harvest | Numbers | Roe | Estimated Harvest | Numbers | Roe | Estimated Harvest | Numbers | Roe | | | | Estimated Harvest |
| 1961 | 42,461 | - | - | 42,461 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 42,461 | 3,276 | 45,737 |
| 1962 | 53,116 | - | - | 53,116 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 53,116 | 936 | 54,052 |
| 1963 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 2,196 | 2,196 |
| 1964 | 8,347 | - | - | 8,347 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 8,347 | 1,929 | 10,276 |
| 1965 | 22,936 | - | - | 22,936 | - | - | - | - | - | - | - | - | - | 381 | 0 | 381 | 23,317 | 2,071 | 25,388 |
| 1966 | 69,836 | - | 1,209 | 71,045 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 71,045 | 3,157 | 74,202 |
| 1967 | 36,451 | - | 1,823 | 38,274 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 38,274 | 3,343 | 41,617 |
| 1968 | 49,857 | - | 3,068 | 52,925 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 52,925 | 453 | 53,378 |
| 1969 | 128,866 | - | 1,722 | 130,588 | - | - | - | - | - | - | - | - | - | 722 | 0 | 722 | 131,310 | 2,279 | 133,589 |
| 1970 | 200,306 | 4,858 | 3,285 | 208,449 | - | - | - | - | - | - | - | - | - | 1,146 | 0 | 1,146 | 209,595 | 2,479 | 212,074 |
| 1971 | 188,533 | - | - | 188,533 | - | - | - | - | - | - | - | - | - | 1,061 | 0 | 1,061 | 189,594 | 1,761 | 191,355 |
| 1972 | 136,711 | 12,898 | 1,313 | 150,922 | - | - | - | - | - | - | - | - | - | 1,254 | 0 | 1,254 | 152,176 | 2,532 | 154,708 |
| 1973 | 173,783 | 45,304 | - | 219,087 | - | - | - | - | - | - | - | - | - | 13,003 | 0 | 13,003 | 232,090 | 2,806 | 234,896 |
| 1974 | 176,036 | 53,540 | 552 | 230,128 | 9,213 | - | 9,213 | 23,551 | - | 23,551 | 26,884 | - | 26,884 | 59,648 | 0 | 59,648 | 289,776 | 2,544 | 292,320 |
| 1975 | 158,183 | 51,666 | 5,590 | 215,439 | 13,666 | - | 13,666 | 27,212 | - | 27,212 | 18,692 | - | 18,692 | 59,570 | 0 | 59,570 | 275,009 | 2,500 | 277,509 |
| 1976 | 105,851 | 21,212 | 4,250 | 131,313 | 1,742 | - | 1,742 | 5,387 | - | 5,387 | 17,948 | - | 17,948 | 25,077 | 0 | 25,077 | 156,390 | 1,000 | 157,390 |
| 1977 | 131,758 | 51,994 | 15,851 | 199,603 | 13,980 | - | 13,980 | 25,730 | - | 25,730 | 18,673 | - | 18,673 | 58,383 | 0 | 58,383 | 257,986 | 3,990 | 261,976 |
| 1978 | 127,947 | 51,646 | 11,527 | 191,120 | 10,988 | 1,721 | 12,709 | 21,016 | 5,220 | 26,236 | 13,259 | 3,687 | 16,946 | 45,263 | 10,628 | 55,891 | 247,011 | 3,356 | 250,367 |
| 1979 | 109,406 | 94,042 | 25,955 | 229,403 | 48,899 | 3,199 | 52,098 | 47,459 | 8,097 | 55,556 | 34,185 | 7,170 | 41,355 | 130,543 | 18,466 | 149,009 | 378,412 | 9,084 | 387,496 |
| 1980 | 106,829 | 83,881 | 13,519 | 204,229 | 27,978 | 4,347 | 32,325 | 41,771 | 605 | 42,376 | 19,452 | 68 | 19,520 | 89,201 | 5,020 | 94,221 | 298,450 | 9,000 | 307,450 |
| 1981 | 167,834 | 154,883 | 19,043 | 341,760 | 12,082 | 1,311 | 13,393 | 86,620 | 6,955 | 93,575 | 25,989 | 3,019 | 29,008 | 124,691 | 11,285 | 135,976 | 477,736 | 15,260 | 492,996 |
| 1982 | 97,484 | 96,581 | 5,815 | 199,880 | 3,894 | 167 | 4,061 | 13,593 | 42 | 13,635 | 6,820 | 596 | 7,416 | 24,307 | 805 | 25,112 | 224,992 | 11,312 | 236,304 |
| 1983 | 124,371 | 85,645 | 10,018 | 220,034 | 4,482 | 1,963 | 6,445 | 43,993 | 0 | 43,993 | 34,089 | 3,101 | 37,190 | 82,564 | 5,064 | 87,628 | 307,662 | 25,990 | 333,652 |
| 1984 | 78,751 | 70,803 | 6,429 | 155,983 | 7,625 | 2,215 | 9,840 | 24,060 | 57 | 24,117 | 20,564 | 56 | 20,620 | 52,249 | 2,328 | 54,577 | 210,560 | 22,932 | 233,492 |
| 1985 | 129,948 | 40,490 | 5,164 | 175,602 | 24,452 | 2,525 | 26,977 | 25,338 | 0 | 25,338 | 42,352 | 0 | 42,352 | 92,142 | 2,525 | 94,667 | 270,269 | 35,746 | 306,015 |
| 1986 | 59,352 | 51,307 | 2,793 | 113,452 | 2,045 | 0 | 2,045 | 22,053 | 395 | 22,448 | 1,892 | 182 | 2,074 | 25,990 | 577 | 26,567 | 140,019 | 11,464 | 151,483 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40,591 | 40,591 |
| 1988 | 44,890 | 31,845 | 2,090 | 78,825 | 15,662 | 1,421 | 17,083 | 16,989 | 0 | 16,989 | 21,844 | 1,806 | 23,650 | 54,495 | 3,227 | 57,722 | 136,547 | 30,263 | 166,810 |
| 1989 | 74,235 | 97,558 | 15,332 | 187,125 | 11,776 | 3,407 | 15,183 | 18,215 | 3,989 | 22,204 | 49,090 | 7,353 | 56,443 | 79,081 | 14,749 | 93,830 | 280,955 | 17,549 | 298,504 |
| 1990 | 25,269 | 37,077 | 3,715 | 66,061 | 4,989 | 2,351 | 8,166 | 7,778 | 1,058 | 8,976 | 43,182 | 7,535 | 50,975 | 55,949 | 10,944 | 68,117 | 134,178 | 27,537 | 161,715 |
| 1991 | 59,724 | 102,628 | 9,213 | 171,565 | 3,737 | 1,616 | 6,091 | 27,355 | 3,625 | 32,114 | 28,195 | 14,154 | 44,448 | 59,287 | 19,395 | 82,653 | 254,218 | 31,404 | 285,622 |
| 1992 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15,721 | 2,806 | 19,022 | 15,721 | 2,806 | 19,022 | 19,022 | 18,576 | 37,598 |
| 1993 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,762 | 7,762 |
| 1994 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,630 | 0 | 3,630 | 1 | 3,276 | 4,369 | 3,631 | 3,276 | 7,999 | 7,999 | 30,035 | 38,034 |
| 1995 | 79,345 | 90,831 | 0 | 170,176 | 2,924 | 4,126 | 8,731 | 9,778 | 18,815 | 30,033 | 67,855 | 9,560 | 74,117 | 80,557 | 32,501 | 112,881 | 283,057 | 283,057 | |
| 5 Yr. Ave 1985-89 | 61,685 | 44,240 | 5,076 | 111,001 | 10,787 | 1,471 | 12,258 | 16,519 | 877 | 17,396 | 23,036 | 1,868 | 24,904 | 50,342 | 4,216 | 54,557 | 165,558 | 27,123 | 192,681 |
| 5 Yr. Ave 1990-94 | 16,999 | 27,941 | 2,586 | 47,525 | 1,745 | 793 | 2,851 | 7,753 | 937 | 8,944 | 17,420 | 5,554 | 23,763 | 26,918 | 7,284 | 35,558 | 83,083 | 23,063 | 106,146 |

• Sales reported in numbers of fish sold in the round and pounds of unprocessed roe, which may include small amounts of coho salmon roe. Since 1990, efforts were made to separate coho roe from fall chum roe. Does not include department test fish sales.
 v All fish sold in the round. Includes department test fish sales prior to 1988.
 v The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold.
 v In 1974, District 4 was subdivided to include Districts 5 and 6.
 v Does not include 884 female fall chum salmon sold in Subdistrict 6-C with roe extracted and roe sold separately. Females are accounted for in the estimated harvest to produce roe sold.

Appendix A 4. Commercial coho salmon sales and estimated harvest by area and district, Yukon River drainage in Alaska, 1961-1995

| Year | Upper Yukon Area | | | | | | | | | | | | | | | | |
|---------------------|------------------|------------|----------|----------|------------|-----|---------|------------|-----|---------|---------------------|-------|---------|----------|-------|---------|-------------------------------|
| | Lower Yukon Area | | | | District 4 | | | District 5 | | | District 6 | | | Subtotal | | | Total Estimated Harvest |
| | District 1 | District 2 | District | Subtotal | Number | Roe | Harvest | Number | Roe | Harvest | Number | Roe | Harvest | Number | Roe | Harvest | |
| 1961 | 2,855 | - | - | 2,855 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 2,855 |
| 1962 | 22,926 | - | - | 22,926 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 22,926 |
| 1963 | 5,572 | - | - | 5,572 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 5,572 |
| 1964 | 2,446 | - | - | 2,446 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 2,446 |
| 1965 | 350 | - | - | 350 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 350 |
| 1966 | 19,254 | - | - | 19,254 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 19,254 |
| 1967 | 9,925 | - | 1,122 | 11,047 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 11,047 |
| 1968 | 13,153 | - | 150 | 13,303 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 13,303 |
| 1969 | 13,989 | - | 1,009 | 14,998 | - | - | - | - | - | - | - | - | - | 0 | 0 | 95 | 15,093 |
| 1970 | 12,632 | - | - | 12,632 | - | - | - | - | - | - | - | - | - | 0 | 0 | 556 | 13,188 |
| 1971 | 12,165 | - | - | 12,165 | - | - | - | - | - | - | - | - | - | 0 | 0 | 38 | 12,203 |
| 1972 | 21,705 | 506 | - | 22,211 | - | - | - | - | - | - | - | - | - | 0 | 0 | 22 | 22,233 |
| 1973 | 34,860 | 1,781 | - | 36,641 | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 | 36,641 |
| 1974 ^a | 13,713 | 176 | - | 13,889 | 0 | - | 0 | 1,409 | - | 1,409 | 1,479 | - | 1,479 | 2,888 | 0 | 2,888 | 16,777 |
| 1975 | 2,288 | 200 | - | 2,488 | 0 | - | 0 | 5 | - | 5 | 53 | - | 53 | 58 | 0 | 58 | 2,546 |
| 1976 | 4,064 | 17 | - | 4,081 | 0 | - | 0 | 0 | - | 0 | 1,103 | - | 1,103 | 1,103 | 0 | 1,103 | 5,184 |
| 1977 | 31,720 | 5,319 | 538 | 37,577 | 0 | - | 0 | 2 | - | 2 | 1,284 | - | 1,284 | 1,286 | 0 | 1,286 | 38,863 |
| 1978 | 16,460 | 5,835 | 758 | 23,053 | 32 | - | 32 | 1 | - | 1 | 3,066 | - | 3,066 | 3,099 | 0 | 3,099 | 26,152 |
| 1979 | 11,369 | 2,850 | - | 14,219 | 155 | - | 155 | 0 | - | 0 | 2,791 | - | 2,791 | 2,946 | 0 | 2,946 | 17,165 |
| 1980 | 4,829 | 2,660 | - | 7,489 | 30 | - | 30 | 0 | - | 0 | 1,226 | - | 1,226 | 1,256 | 0 | 1,256 | 8,745 |
| 1981 | 13,129 | 7,848 | 419 | 21,396 | 0 | - | 0 | 0 | - | 0 | 2,284 | - | 2,284 | 2,284 | 0 | 2,284 | 23,680 |
| 1982 | 15,115 | 14,179 | 87 | 29,381 | 15 | - | 15 | 0 | - | 0 | 7,780 | - | 7,780 | 7,795 | 0 | 7,795 | 37,176 |
| 1983 | 4,595 | 2,557 | - | 7,152 | 0 | - | 0 | 0 | - | 0 | 6,168 | - | 6,168 | 6,168 | 0 | 6,168 | 13,320 |
| 1984 | 29,472 | 43,064 | 621 | 73,157 | 1,095 | - | 1,095 | 0 | - | 0 | 7,688 | - | 7,688 | 8,783 | 0 | 8,783 | 81,940 |
| 1985 | 27,676 | 17,125 | 171 | 44,972 | 938 | - | 938 | 0 | - | 0 | 11,762 | - | 11,762 | 12,700 | 0 | 12,700 | 57,672 |
| 1986 | 24,824 | 21,197 | 793 | 46,814 | 0 | - | 0 | 0 | - | 0 | 441 | - | 441 | 441 | 0 | 441 | 47,255 |
| 1987 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 |
| 1988 | 36,028 | 34,758 | 1,419 | 72,205 | 2 | - | 2 | 8 | - | 8 | 13,972 | - | 13,972 | 13,982 | 0 | 13,982 | 86,187 |
| 1989 | 22,987 | 38,402 | 3,988 | 65,377 | 3 | - | 3 | 84 | - | 84 | 16,084 | - | 16,084 | 16,171 | 0 | 16,171 | 81,548 |
| 1990 | 12,160 | 16,405 | 918 | 29,483 | 0 | - | 0 | 0 | - | 0 | 11,549 ^f | 4,042 | 14,804 | 11,549 | 4,042 | 14,804 | 44,287 |
| 1991 | 54,095 | 40,898 | 1,905 | 96,898 | 14 | 0 | 14 | 0 | 0 | 0 | 6,268 | 4,299 | 9,774 | 6,282 | 4,299 | 9,788 | 106,686 |
| 1992 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,556 | 1,680 | 7,979 | 6,556 | 1,680 | 7,979 | 7,979 |
| 1993 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1994 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 5,588 | 4,451 | 120 | 5,588 | 4,451 | 4,451 |
| 1995 | 21,625 | 18,488 | 0 | 40,113 | 0 | 0 | 0 | 0 | 0 | 0 | 5,826 | 2,229 | 6,900 | 5,826 | 2,229 | 6,900 | 47,013 |
| 5 Yr Ave 1985-89 | 22,303 | 22,296 | 1,274 | 45,874 | 189 | - | 189 | - | - | - | 8,452 | - | 8,452 | 8,659 | - | 8,659 | 54,532 |
| 5 Yr Ave 1990-94 | 13,251 | 11,461 | 565 | 25,276 | 3 | - | 3 | 0 | 0 | 0 | 4,899 | 3,122 | 7,402 | 4,901 | 3,122 | 7,404 | 32,681 |

^a Sales reported in numbers of fish sold in the round and pounds of roe. Since 1990, efforts were made to separate coho and fall chum salmon roe. Does not include department test fish sales.

^b All sales are fish in the round. Includes department test fish sales prior to 1988.

^c The estimated harvest is the fish sold in the round plus the estimated number of females caught to produce the roe sold.

^d In 1974, District 4 was subdivided to include Districts 5 and 6.

^f Does not include 438 female coho salmon sold in District 6-C with roe extracted and roe sold separately. These fish are included in estimated harvest to produce roe sold.

-
- ^a Data obtained by aerial survey unless otherwise noted. Only peak counts are listed. Survey rating is fair to good, unless otherwise noted. Latest table revision 02-May-96
 - ^b From 1961-1970, river count data are from aerial surveys of various segments of the mainstem Anvik River. From 1972-1979, counting tower operated; mainstem aerial survey counts below the tower were added to tower counts. From 1980-present, aerial survey counts for the river are best available minimal estimates for the entire Anvik River drainage. Index area counts are from the mainstem Anvik River between the Yellow River and McDonald Creek.
 - ^c Includes mainstem counts below the confluence of the North and South Forks, unless otherwise noted.
 - ^d Chena River index area for assessing the escapement objective is from Moose Creek Dam to Middle Fork River.
 - ^e Salcha River index area for assessing the escapement objective is from the TAPS crossing to Caribou Creek.
 - ^f Incomplete and/or poor survey conditions resulting in minimal or inaccurate counts.
 - ^g Boat survey.
 - ^h Data unavailable for index area. Calculated from historic (1972-91) average ratio of index area counts to total river counts (0.90:1.0).
 - ⁱ Tower Counts
 - ^m Population estimate
 - ⁿ Mainstem counts below the confluence of the North and South Forks Nulato River included in the South Fork counts.
 - ^p Weir Counts
 - ^r Weir installed on June 29; first full day of counts June 30.
 - ^s Tower counts delayed until June 29 because of high, turbid water. First full day of counts occurred on June 30.
 - ^t Weir installed on July 11; first full day of counts July 12.
 - ^v Preliminary.
 - ^w Interim escapement goals. Established March, 1992.
 - ^x Interim escapement goal for the entire Anvik River drainage is 1,300 salmon. Interim escapement objective for mainstem Anvik River between the Yellow River and McDonald Creek is 500 salmon.

Appendix A.6. Chinook salmon escapement counts for selected spawning areas in the Canadian portion of the Yukon River drainage, 1961-1995.

| Year | Tincup Creek ^a | Tatchun River ^{a, b} | Little Salmon River ^a | Big Salmon River ^{a, c} | Nisutlin River ^{a, d} | Ross River ^{a, f} | Wolf River ^{a, g} | Whitehorse Fishway ^h | Canada Mainstem Tagging Estimate ⁱ |
|-------------------|------------------------------|----------------------------------|--|--|-----------------------------------|-------------------------------|-------------------------------|------------------------------------|--|
| 1961 | | | | | | | | 1,068 | |
| 1962 | | | | | | | | 1,500 | |
| 1963 | | | | | | | | 483 | |
| 1964 | | | | | | | | 595 | |
| 1965 | | | | | | | | 903 | |
| 1966 | | 7 ^k | | | | | | 563 | |
| 1967 | | | | | | | | 533 | |
| 1968 | | | 173 ^k | 857 ^k | 407 ^k | 104 ^k | | 414 | |
| 1969 | | | 120 | 286 | 105 | | | 334 | |
| 1970 | | 100 | | 670 | 615 | | 71 ^k | 625 | |
| 1971 | | 130 | 275 | 275 | 650 | | 750 | 856 | |
| 1972 | | 80 | 126 | 415 | 237 | | 13 | 391 | |
| 1973 | | 99 | 27 ^k | 75 ^k | 36 ^k | | | 224 | |
| 1974 | | 192 | | 70 ^k | 48 ^k | | | 273 | |
| 1975 | | 175 | | 153 ^k | 249 | | 40 ^k | 313 | |
| 1976 | | 52 | | 86 ^k | 102 | | | 121 | |
| 1977 | | 150 | 408 | 316 ^k | 77 | | | 277 | |
| 1978 | | 200 | 330 | 524 | 375 | | | 725 | |
| 1979 | | 150 | 489 ^k | 632 | 713 | | 183 ^k | 1,184 | |
| 1980 | | 222 | 286 ^k | 1,436 | 975 | | 377 | 1,383 | |
| 1981 | | 133 | 670 | 2,411 | 1,626 | 949 | 395 | 1,555 | |
| 1982 | | 73 | 403 | 758 | 578 | 155 | 104 | 473 | 19,790 |
| 1983 | 100 | 264 | 101 ^k | 540 | 701 | 43 ^{k, n} | 95 | 905 | 28,989 |
| 1984 | 150 | 153 | 434 | 1,044 | 832 | 151 ^k | 124 | 1,042 | 27,616 ^m |
| 1985 | 210 | 190 | 255 | 801 | 409 | 23 ^k | 110 | 508 | 10,730 |
| 1986 | 228 | 155 | 54 ^k | 745 | 459 ^k | 72 ⁿ | 109 | 557 | 16,415 |
| 1987 | 100 | 159 | 468 | 891 | 183 | 180 ^k | 35 | 327 | 13,260 |
| 1988 | 204 | 152 | 368 | 765 | 267 | 242 | 66 | 405 | 23,118 |
| 1989 | 88 | 100 | 862 | 1,662 | 695 | 433 ^p | 146 | 549 | 25,201 |
| 1990 | 83 | 643 | 665 | 1,806 | 652 | 457 ^k | 188 | 1,407 | 37,699 |
| 1991 | | | 326 | 1,040 | | 250 | 201 ^r | 1,266 | 20,743 |
| 1992 | 73 | 106 | 494 | 617 | 241 | 423 | 110 ^r | 758 | 25,497 |
| 1993 | | 183 | 184 | 572 | 339 | 400 | 168 ^r | 668 | 28,558 |
| 1994 | 101 ^k | 477 | 726 | 1,764 | 389 | 506 | 393 ^r | 1,577 ^t | 25,890 |
| 1995 ^a | 121 | 397 | 781 | 1,314 | 274 | 253 ^k | 229 ^r | 2,103 | 32,168 |
| E.O. | | | | | | | | | 33,000 - 43,000 ^q |

- ^a Data obtained by aerial survey unless otherwise noted. Only peak counts are listed. Survey rating is fair to good, unless otherwise noted. Latest table revision: December 19, 1995.
- ^b All foot surveys except 1978 (boat survey) and 1986 (aerial survey).
- ^c For 1968, 1970, and 1971 counts are from mainstem Big Salmon River. For all other years counts are from the mainstem Big Salmon River between Big Salmon Lake and the vicinity of Souch Creek.
- ^d One Hundred Mile Creek to Sidney Creek.
- ^f Big Timber Creek to Lewis Lake.
- ^g Wolf Lake to Red River.
- ^h Includes 50, 90, 292, 506, 243, 288, 879, and 757 fin-clipped hatchery-origin salmon in 1988, 1989, 1990, 1991, 1992, 1993, 1994, and 1995 respectively. Note that the 1994 count is presently under review because a number of fin-clipped fish were double-counted.
- ^j Estimated total spawning escapement excluding Porcupine River (estimated border escapement minus the Canadian catch).
- ^k Incomplete and/or poor survey conditions resulting in minimal or inaccurate counts.
- ^m Estimate derived by dividing the annual 5-area (Whitehorse Fishway, Big Salmon, Nisutlin, Wolf, Tatchun) count by the average proportion of the annual 5-area index count to the estimated spawning escapement from the DFO tagging study for years 1983, 1983, and 1985-1989.
- ⁿ Information on area surveyed is unavailable.
- ^p Counts are for Big Timber Creek to Sheldon Lake.
- ^r Counts are for Wolf Lake to Fish Lake outlet.
- ^s Preliminary. Area surveyed unknown.
- ^t Under review; a number of fin-clipped fish were double-counted.
- ^q Interim escapement objective. Stabilization escapement objective for years 1990 - 1995 is 18,000 salmon.

Appendix A.7. Summer chum salmon escapement counts for selected spawning areas in the Alaskan portion of the Yukon River drainage, 1973-1995.

| Year | Andreafsky River | | | | | Rodo River ^a | Kaltag Cr. Tower Counts | Nulato River | | | Gisasa River | | Hogatza River | | Tozitna River ^a | Chena River | | Salcha River | |
|-------------------|---------------------|----------------------------|------------------------|-----------------------------|--------------------|-------------------------|-------------------------|----------------------|-------------------------|----------------------|--------------------|---------------------|----------------------|------------------|----------------------------|--------------------|--------------------|------------------|--------|
| | East Fork | | West Fork ^a | Anvik River | | | | Aerial | | Mainstem | Aerial | Weir | Clear & Caribou Cr. | Tower Counts | | Aerial | Tower | Aerial | Tower |
| | Aerial ^a | Sonar, Tower, or Weir Cnts | | Tower & Aerial ^b | Sonar | | | South Fork | North Fork ^c | Tower Counts | | | Clear Creek | | | | | | |
| 1973 | 10,149 ^d | | 51,835 | 249,015 | | | | | | | | | | | | 79 ^d | 290 | | |
| 1974 | 3,215 ^d | | 33,578 | 411,133 | | 16,137 | | 29,016 | 29,334 | | 22,022 | | | 1,823 | 4,349 | 3,510 | | | |
| 1975 | 223,485 | | 235,954 | 900,967 | | 25,335 | | 51,215 | 87,280 | | 56,904 | | 22,355 | 3,512 | 1,670 | 7,573 | | | |
| 1976 | 105,347 | | 118,420 | 511,475 | | 38,258 | | 9,230 ^d | 30,771 | | 21,342 | | 20,744 | 725 ^d | 685 | 6,484 | | | |
| 1977 | 112,722 | | 63,120 | 358,771 | | 16,118 | | 11,385 | 58,275 | | 2,204 ^d | | 10,734 | 761 ^d | 610 | 677 ^d | | | |
| 1978 | 127,050 | | 57,321 | 307,270 | | 17,845 | | 12,821 | 41,659 | | 9,280 ^d | | 5,102 | 2,262 | 1,609 | 5,405 | | | |
| 1979 | 66,471 | | 43,391 | | 280,537 | | | 1,506 | 35,598 | | 10,962 | | 14,221 | | 1,025 ^d | 3,060 | | | |
| 1980 | 36,823 ^d | | 114,759 | | 492,676 | | | 3,702 ^d | 11,244 ^d | | 10,388 | | 19,786 | 580 | 338 | 4,140 | | | |
| 1981 | 81,555 | 147,312 ^f | | | 1,486,182 | | | 14,348 | | | | | | | 3,500 | 8,500 | | | |
| 1982 | 7,501 ^d | 181,352 ^f | 7,267 ^d | | 444,581 | | | | | | 334 ^d | | 4,984 ^d | 874 | 1,509 | 3,756 | | | |
| 1983 | | 110,608 ^f | | | 362,912 | | | 1,263 ^d | 19,749 | | 2,356 ^d | | 28,141 | 1,604 | 1,097 | 716 ^d | | | |
| 1984 | 95,200 ^d | 70,125 ^f | 238,565 | | 891,028 | | | | | | | | 184 ^d | | 1,861 | 9,810 | | | |
| 1985 | 66,146 | | 52,750 | 1,080,243 | 24,576 | | | 10,494 | 19,344 | | 13,232 | | 22,566 | 1,030 | 1,005 | 3,178 | | | |
| 1986 | 83,931 | 167,614 ^d | 99,373 | 1,189,602 | | | | 16,848 | 47,417 | | 12,114 | | | 1,778 | 1,509 | 8,028 | | | |
| 1987 | 6,687 ^d | 45,221 ^d | 35,535 | 455,876 | | | | 4,094 | 7,163 | | 2,123 | | 5,669 ^d | | 333 | 3,657 | | | |
| 1988 | 43,056 | 68,937 ^d | 45,432 | 1,125,449 | 13,872 | | | 15,132 | 26,951 | | 9,284 | | 6,890 | 2,983 | 432 | 2,889 ^d | | | |
| 1989 | 21,460 ^d | | | 636,906 | | | | | | | | | | | 714 ^d | 1,574 ^d | | | |
| 1990 | 11,519 ^d | | 20,426 ^d | 403,627 | 1,941 ^d | | | 3,196 ^{d,^} | 1,419 ^d | | 450 ^d | | 2,177 ^d | 36 | 245 ^d | 450 ^d | | | |
| 1991 | 31,886 | | 46,657 | 847,772 | 3,977 | | | 13,150 | 12,491 | | 7,003 | | 9,947 | 93 | 115 ^d | 154 ^d | | | |
| 1992 | 11,308 ^d | | 37,808 ^d | 775,626 | 4,465 | | | 5,322 | 12,358 | | 9,300 | | 2,986 | 794 | 848 ^d | 3,222 | | | |
| 1993 | 10,935 ^d | | 9,111 ^d | 517,409 | 7,867 | | | 5,486 | 7,698 | | 1,581 | | | 970 | 168 | 5,487 | 212 | 5,563 | |
| 1994 | | 200,981 ^{j,k} | | 1,124,689 | | 47,295 | | | | 148,762 ^m | 6,827 | 51,116 ⁿ | 8,247 ^o | | 1,137 | 9,984 | 4,916 | 39,450 | |
| 1995 ^w | | 172,148 ^{j,p} | | 1,339,418 | 12,849 | 75,240 | | 10,875 | 29,949 | 236,890 | 6,458 | 136,886 | | 116,735 | 4,985 | 185 ^d | 3,473 ^d | 934 ^d | 31,329 |
| E.O. ^t | >109,000 | | >116,000 | >500,000 ^s | | | | >53,000 ^l | | | | | >17,000 ^v | | | | | >3,500 | |

^a Data obtained by aerial survey unless otherwise noted. Only peak counts are listed. Latest table revision :December 12, 1995
^b From 1972-1979 counting tower operated; escapement estimate listed is the tower counts plus expanded aerial survey counts below the tower (see Buklis 1982).
^c Includes mainstem counts below the confluence of the North and South Forks, unless otherwise noted.
^d Incomplete survey and/or poor survey timing or conditions resulted in minimal or inaccurate count.
^e Sonar count.
^f Tower count.
^g Mainstem counts below the confluence of the North and South Forks Nulato River included in the South Fork counts.
^h Weir Count
ⁱ Weir installed on June 29. First full day of counts occurred on June 30.
^j Tower counts delayed until June 29 because of high, turbid water. First full day of counts occurred on June 30.
^k Weir installed on July 11. First full day of counts occurred on July 12.
^l BLM helicopter survey.
^m Weir operated from June 16 - September 12. Passage of chum salmon from August 1 - September 12 was 2,584 fish.
ⁿ Tower operations were severely hampered because of high, turbid water which prohibited observations from the tower. Tower operated during the periods July 10 - 15 and from July 19 - 30, 1995.
^o Interim escapement objective.
^p The Anvik River Escapement Objective was rounded upward to 500,000 from 487,000 in March, 1992.
^q Interim escapement objective for North Fork Nulato River only.
^r Consists of Clear and Caribou Creeks interim escapement objectives of 9,000 and 8,000, respectively.
^s Preliminary.

Appendix A.8.

Fall chum salmon escapement counts for selected spawning areas in Alaskan and Canadian portions of the Yukon River drainage, 1971-1995. ^a

| Year | Alaska | | | | Canada | | | | | |
|--------------------|---------------------------|--------------------------|------------------------------|-----------------------------|--------------------------------------|--|---------------------------|------------------------------|------------------------------|--|
| | Toklat River ^b | Delta River ^c | Chandalar River ^d | Sheenjek River ^d | Fishing Branch River ^{f, g} | Mainstem Yukon River Index ^{g, h} | Koidem River ^g | Kluane River ^{g, i} | Teslin River ^{g, k} | Mainstem Tagging Estimate ^m |
| 1971 | | | | | 312,800 | | | | | |
| 1972 | | 5,384 | | | 35,125 ⁿ | | | 198 ^{p, r} | | |
| 1973 | | 10,469 | | | 15,989 ^s | 383 | | 2,500 | | |
| 1974 | 41,798 | 5,915 | | 89,966 ^t | 32,525 ^s | | | 400 | | |
| 1975 | 92,265 | 3,734 ^v | | 173,371 ^t | 353,282 ^s | 7,671 | | 362 ^r | | |
| 1976 | 52,891 | 6,312 ^v | | 26,354 ^t | 36,584 | | | 20 | | |
| 1977 | 34,887 | 16,876 ^v | | 45,544 ^t | 88,400 | | | 3,555 | | |
| 1978 | 37,001 | 11,136 | | 32,449 ^t | 40,800 | | | 0 ^r | | |
| 1979 | 158,336 | 8,355 | | 91,372 ^t | 119,898 | | | 4,640 ^r | | |
| 1980 | 26,346 | 5,137 | | 28,933 ^t | 55,268 | | | 3,150 | | |
| 1981 | 15,623 | 23,508 | | 74,560 | 57,386 ^w | | | 25,806 | | |
| 1982 | 3,624 | 4,235 | | 31,421 | 15,901 | 1,020 ^x | | 5,378 | | 31,958 |
| 1983 | 21,869 | 7,705 | | 49,392 | 27,200 | 7,560 | | 8,578 ^r | | 90,875 |
| 1984 | 16,758 | 12,411 | | 27,130 | 15,150 | 2,800 ^y | 1,300 | 7,200 | 200 | 56,633 ^z |
| 1985 | 22,750 | 17,276 ^v | | 152,768 | 56,016 ^o | 10,760 | 1,195 | 7,538 | 356 | 62,010 |
| 1986 | 17,976 | 6,703 ^v | 59,313 | 84,207 ^{aa} | 31,723 ^s | 825 | 14 | 16,686 | 213 | 87,940 |
| 1987 | 22,117 | 21,180 | 52,416 | 153,267 ^{aa} | 48,956 ^s | 6,115 | 50 | 12,000 | | 80,776 |
| 1988 | 13,436 | 18,024 | 33,619 | 45,206 ^{aa} | 23,597 ^s | 1,550 | 0 | 6,950 | 140 | 36,786 |
| 1989 | 30,421 | 21,342 ^v | 69,161 | 99,116 ^{aa} | 43,834 ^s | 5,320 | 40 | 3,050 | 210 ^p | 35,750 |
| 1990 | 34,739 | 8,992 ^v | 78,631 | 77,750 ^{aa} | 35,000 ^{ab} | 3,651 | 1 | 4,683 | 739 | 51,755 |
| 1991 | 13,487 | 32,905 ^v | | 86,496 ^{ac} | 37,733 ^s | 2,426 | 53 | 11,675 | 468 | 78,461 |
| 1992 | 14,070 | 8,893 ^v | | 78,808 ^{ac} | 22,517 ^s | 4,438 | 4 | 3,339 | 450 | 49,082 |
| 1993 | 27,838 | 19,857 | | 42,922 ^{ac} | 28,707 ^s | 2,620 | 0 | 4,610 | 555 | 29,743 |
| 1994 | 76,057 | 23,777 ^v | | 153,000 ^{ac, ad} | 65,247 ^s | 1,429 ^p | 20 ^p | 10,734 | 209 ^p | 98,358 |
| 1995 ^{ad} | 54,513 ^{ah} | 20,587 | | 235,000 ^{ac} | 51,971 ^{s, aj} | 4,701 | 0 | 16,456 | 633 | 158,240 |
| E.O. ^{af} | > 33,000 | > 11,000 | | > 64,000 ^{ag} | 50,000 - 120,000 | | | | | > 80,000 |

continued

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- ^a Latest table revision November 2, 1995.
 - ^b Expanded total abundance estimates for upper Toklat River index area using stream life curve (SLC) developed with 1987-1993 data. Index area includes Geiger Creek, Sushana River, and mainstem floodplain sloughs from approximately 0.25 mile upstream of roadhouse to approximately 1.25 mile downstream of roadhouse.
 - ^c Estimates are a total spawner abundance, generally from using spawner abundance curves and streamlife data.
 - ^d Side-scan sonar estimate, unless otherwise indicated.
 - ^f Located within the Canadian portion of the Porcupine River drainage. Total escapement estimated using weir to aerial survey expansion factor of 2.72, unless otherwise indicated
 - ^g Aerial survey count unless otherwise indicated.
 - ^h Tatchun Creek to Fort Selkirk.
 - ^j Duke River to end of spawning sloughs below Swede Johnston Creek.
 - ^k Boswell Creek area (5 km below to 5 km above confluence).
 - ^m Excludes Fishing Branch River escapement (estimated border passage minus Canadian removal).
 - ⁿ Weir installed on September 22. Estimate consists of a weir count of 17,190 after September 22, and a tagging passage estimate of 17,935 prior to weir installation.
 - ^p Incomplete and/or poor survey conditions resulting in minimal or inaccurate counts.
 - ^r Foot survey
 - ^s Weir count.
 - ^t Total escapement estimate using sonar to aerial survey expansion factor of 2.22.
 - ^v Population estimate from replicate foot surveys and stream life data.
 - ^w Initial aerial survey count was doubled before applying the weir/aerial expansion factor of 2.72 since only half of the spawning area was surveyed.
 - ^x Boat survey.
 - ^y Total index area not surveyed. Survey included the mainstem Yukon River between Yukon Crossing to 30 km below Fort Selkirk.
 - ^z Escapement estimate based on mark-recapture program unavailable. Estimate based on assumed average exploitation rate.
 - ^{aa} Expanded estimates for period approximating second week August through middle fourth week September, using Chandalar River run timing data.
 - ^{ab} Weir was not operated. Although only 7,541 chum salmon were counted on a single survey flown October 26, a population estimate of approximately 27,000 fish was made through date of survey, based upon historic average aerial-to-weir expansion of 28%. Actual population of spawners was reported by DFO as between 30,000 - 40,000 fish considering aerial survey timing.
 - ^{ac} Total abundance estimates are for the period approximating second week August through middle fourth week of September. Comparatively escapement estimates prior to 1986 are considered more conservative; approximating the period of end of August through middle week of September.
 - ^{ad} Preliminary.
 - ^{af} Interim escapement objective.
 - ^{ag} Based on escapement estimates for years 1974-1990.
 - ^{ah} Minimal estimate because of late timing of ground surveys with respect to peak of spawning.
 - ^{ai} Minimal count because weir was submerged, but closed, during the period 31 August- 8 September because of high water.

Appendix A.9. Coho salmon escapement counts for selected spawning areas in the Alaskan portion of the Yukon River drainage, 1972-1995. ^a

| Year | Andreafsky River | | Kantishna River | | | Nenana River Drainage | | | | Delta Clearwater River ^{f, g} | Clearwater Lake and Outlet | Richardson Clearwater River |
|-------------------|---------------------|-----------|------------------|---------------------------|-----------------------|-----------------------|------------------------------|-------------------------|---------------------|--|----------------------------|-----------------------------|
| | East Fork | West Fork | Anvik River | Geiger Creek ^b | Barton Creek | Lost Slough | Nenana Mainstem ^c | Wood Creek ^d | Seventeen Slough | | | |
| 1972 | | | | | | | | | | 630 | 417 | 454 ^k |
| 1973 | | | | | | | | | | 3,322 | 551 ^f | 375 ^f |
| 1974 | | | | | | 1,388 | | | 27 | 3,954 ^j | 560 | 652 ^f |
| 1975 | | | | | | 943 | | | 956 | 5,100 | 1,575 ^{f, h} | 4 ^k |
| 1976 | | | 467 ^k | 25 ^j | | 118 | | | 281 | 1,920 | 1,500 ^{f, h} | 80 ^k |
| 1977 | | | 81 ^k | 60 | | 524 ^k | | 310 ^h | 1,167 | 4,793 | 730 ^{f, h} | 327 |
| 1978 | | | | | | 350 | | 300 ^b | 466 | 4,798 | 570 ^{f, h} | |
| 1979 | | | | | | 227 | | | 1,987 | 8,970 | 1,015 ^{f, h} | 372 |
| 1980 | | | | 3 ^j | | 499 ^k | | 1,603 ^h | 592 | 3,946 | 1,545 ^{f, h} | 611 |
| 1981 | 1,657 ^k | | | | | 274 | | 849 ^{n, i} | 1,005 | 8,563 ^p | 459 ^k | 550 |
| 1982 | | | | 81 | | | | 1,436 ^{n, i} | | 8,365 ^p | | |
| 1983 | | | | 42 | | 766 | | 1,042 ⁿ | 103 | 8,019 ^p | 253 | 88 |
| 1984 | | | | 20 ^j | | 2,677 | | 8,826 ⁿ | | 11,061 | 1,368 | 428 |
| 1985 | | | | 42 ^j | | 1,584 | | 4,470 ⁿ | 2,081 | 5,358 | 750 | |
| 1986 | | | | 5 | 496 | 794 | | 1,664 ⁿ | 218 ^{d, h} | 10,857 | 3,577 | 146 ^k |
| 1987 | | | | 1,175 | | 2,511 | | 2,387 ⁿ | 3,802 | 22,300 | 4,225 ^{f, h} | |
| 1988 | 1,913 | 830 | 1,203 | 159 | 437 | 348 | | 2,046 ⁿ | | 21,600 | 825 ^{f, h} | |
| 1989 | | | | 155 | 12 ^k | | | 412 ⁿ | 824 ^k | 11,000 | 1,600 ^{f, h} | 483 |
| 1990 | | | | 211 | | 688 | 1,308 | | 15 ^k | 8,325 | 2,375 ^{f, h} | |
| 1991 | | | | 427 | 467 ^k | 564 | 447 | | 52 | 23,900 | 3,150 ^{f, h} | |
| 1992 | | | | 77 | 55 ^k | 372 | | | 490 | 3,963 | 229 ^{f, h} | 500 ^f |
| 1993 | | | | 138 | 141 | 484 | 419 | 666 ^{n, s} | 581 | 10,875 | 3,525 ^{f, h} | |
| 1994 ^t | | | | 410 | 2,000 ^{n, w} | 944 | 1,648 | 1,317 ^{n, x} | 2,909 | 62,675 ^y | 3,425 ^{f, h} | 5,800 ^f |
| 1995 | 10,901 ⁿ | | | 86 | 192 ^{n, z} | 4,169 | 2,218 | 500 | 2,972 ^k | 20,100 | 3,625 | |
| E.O. | | | | | | | | | | >9,000 ^u | | |

^a Only peak counts presented. Survey rating is fair to good, unless otherwise noted. Latest table revision: April 30, 1996.

^b Foot survey.

^c Mainstem Nenana River between confluences of Lost Slough and Teklanika River.

^d Surveyed by F.R.E.D.

^f Surveyed by Sport Fish Division.

^g Boat survey counts in the lower 17.5 river miles, unless otherwise indicated.

^h Boat Survey.

ⁱ Aerial survey.

^k Poor survey.

ⁿ Weir count.

^p Expanded estimate based on partial survey counts and historic distribution of spawners from 1977-1980.

^r Coho weir was operated at the mouth of Clear Creek (Shores Landing).

^s Weir project terminated on October 4. Weir normally operated until mid to late October.

^t Preliminary.

^u Interim escapement objective established March, 1993, based on boat survey counts of coho salmon in the lower 17.5 river miles during the period October 21-27.

^w A total of 298 coho salmon were passed between September 11 and October 4. However, it was estimated that 1,500 to 2,000 coho salmon passed the weir site within a 24-hour period beginning at approximately noon on October 4. Weir operated from August 18 through morning of October 5, 1994.

^x Weir project terminated September 27. Weir normally operated until mid-October.

^y An additional 17,565 coho salmon were counted by helicopter in the Delta Clearwater outside of the normal mainstem index area.

^z An additional 1,000 coho salmon were estimated pooled downstream of weir on October 2, just prior to weir removal.

Appendix B

Yukon Area Salmon Fishery Regulation Changes

Appendix B. Yukon Area Salmon Fishery Regulation Changes, 1996.

To keep Yukon Area salmon fishermen, processors, and other interested individuals informed of current fishing regulations, the department is providing this partial summary of regulatory changes that the Alaska Board of Fisheries has recently adopted. This summary of actions is limited to the three Yukon Area Agenda Change Requests addressed by the board during the March 10 through March 19, 1996 meeting in Anchorage.

The following draft regulatory language is for informational purposes only, and is not intended to detail, reflect, or fully interpret the reasons for the board's actions.

Agenda Change Request 451. The description of the Yukon-Northern Area boundary was altered by moving the northern boundary of the Yukon Area from Canal Point to Point Romanof.

5 AAC 05.100. DESCRIPTION OF AREA. The Yukon-Northern Area includes all waters of Alaska between the latitude of ~~Canal Point light~~ Point Romanof and the latitude of the westernmost point of the Naskonat Peninsula, including those waters draining into the Bering Sea, and all waters of Alaska north of a latitude of the westernmost tip of Point Hope and west of 141° W. long., including those waters draining into the Arctic Ocean and the Chukchi Sea.

Agenda Change Request 2. In the managing of the Yukon River fall chum salmon directed subsistence fishery, the board adopted an Optimal Escapement Goal of 350,000 fall chum salmon in years of a Yukon River drainage fall chum salmon run greater than 350,000 fall chum salmon but less than or equal to 450,000 fall chum salmon. Additionally, in the managing of the fall chum salmon directed subsistence fishery, the board adopted an Optimal Escapement Goal of 375,000 fall chum salmon in years of a Yukon River drainage fall chum salmon run greater than 450,000 fall chum salmon but less than or equal to 550,000 fall chum salmon.

5 AAC 01.249. THE YUKON RIVER DRAINAGE FALL CHUM SALMON MANAGEMENT PLAN. The objective of the management plan contained in this section is to ensure adequate escapement of fall chum salmon into the Yukon River drainage and to provide management guidelines to the department. The commissioner shall, by emergency order, implement this plan during the period from July 16 - December 31 each year, as follows:

- (1) the department shall use the best available data including preseason projections, mainstem river sonar passage estimates, test fisheries indices, subsistence and commercial fishing reports and passage estimates from escapement monitoring projects to assess the run size for the purpose of implementing this plan;

- (2) when the projected run size is 350,000 chum salmon or less,
 - (A) the department shall close the commercial, sport, and personal use directed chum salmon fisheries; and
 - (B) the department shall close the subsistence directed chum salmon fisheries except that if indicators suggest that an individual escapement goal in a subdistrict, district, or a portion of a subdistrict or district will be achieved, the commissioner may, by emergency order, allow a subsistence directed chum salmon fishery in that subdistrict, district, or portion of the subdistrict or district;
- (3) when the projected run size is more than 350,000 but not more than 450,000 chum salmon,
 - (A) the targeted drainagewide optimal escapement goal is 350,000 chum salmon; and
 - (B) the department shall close the commercial, sport, and personal use directed chum salmon fisheries; and
 - (C) the department shall manage the subsistence chum salmon directed fisheries to achieve the targeted drainagewide optimal escapement goal, except that if indicators suggest that an individual escapement goal and identified subsistence needs in a subdistrict, district, or a portion of a subdistrict or district will be achieved, the commissioner may, by emergency order, allow a less restrictive subsistence directed chum salmon fishery in that subdistrict, district, or portion of the subdistrict or district;
- (4) when the projected run size is more than 450,000 but not more than 550,000 chum salmon,
 - (A) the targeted drainagewide optimal escapement goal is 375,000 chum salmon; and
 - (B) the department shall close the commercial, sport, and personal use directed chum salmon fisheries; and
 - (C) the department shall manage the subsistence chum salmon directed fisheries to achieve the targeted drainagewide optimal escapement goal, except that if indicators suggest that an individual escapement goal and identified subsistence needs in a subdistrict, district, or a portion of a subdistrict or district will be achieved, the commissioner may, by emergency order, allow a less restrictive subsistence directed chum salmon fishery in that subdistrict, district, or portion of the subdistrict or district;
- (5) when the projected run size is more than 550,000 but not more than 600,000 chum salmon,

- (A) the targeted drainagewide escapement goal is 400,000 chum salmon; and
- (B) the department shall close the commercial, sport, and personal use directed chum salmon fisheries, except that if indicators suggest that an individual escapement goal and identified subsistence needs in a subdistrict, district, or a portion of a subdistrict or district will be achieved, the commissioner may, by emergency order, allow a sport, or personal use fishery in that subdistrict, district, or portion of the subdistrict or district; and
- (C) the department shall manage the subsistence chum salmon directed fisheries to achieve the targeted drainagewide escapement goal, except that if indicators suggest that an individual escapement goal and identified subsistence needs in a subdistrict, district, or a portion of a subdistrict or district will be achieved, the commissioner may, by emergency order, allow a less restrictive subsistence directed chum salmon fishery in that subdistrict, district, or portion of the subdistrict or district;

(6) when the projected run size is more than 600,000 chum salmon,

- (A) the targeted drainagewide escapement goal is 400,000 or more chum salmon; and
- (B) the department may open a subsistence fishery to the fishing seasons and periods specified in 5 AAC 01.210 and 5 AAC 05.367, open a personal use fishery of up to 84 hours of fishing per week, and open a sport fishery to allow for the retention of chum salmon; and
- (C) when the projected run size is more than 600,000 chum salmon, but not more than 650,000 chum salmon, the department shall close the commercial directed chum salmon fisheries, except that if indicators suggest that an individual escapement goal and identified subsistence needs in a subdistrict, district, or a portion of a subdistrict or district will be achieved, the commissioner may, by emergency order, allow a commercial fishery in that subdistrict, district, or portion of the subdistrict or district;
- (D) when the projected run size is more than 650,000 chum salmon, the department may allow for a commercial fishery with the harvest distribution by district or subdistrict proportional to the guideline harvest range established in 5 AAC 05.365; the department shall distribute the harvest levels below the low end of the guideline harvest range by district or subdistrict proportional to the mid-point of the guideline harvest range;

(7) the provisions of this section do not apply after December 31, 1997. 5 AAC 01.249.

Agenda Change Request 8. The commercial summer chum salmon roe cap for the Anvik River was increased from 50,000 pounds to 100,000 pounds of summer chum salmon roe. In addition, the limit to the number of chum salmon or summer chum salmon roe sold by a permit per period was increased.

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(4) no more than ~~50,000~~ 100,000 pounds of summer chum salmon roe from the Anvik River may be sold annually. However, if this cap is reached, fishing effort may continue, but only the sale of chum salmon in the round will be allowed;

(6) in the Anvik River, during periods specified by the department, a CFEC permit holder may not sell more than ~~600~~ 1,000 chum salmon in-the-round or ~~400-700~~ pounds of chum salmon roe per commercial fishing period;

(7) this section is repealed April 30, 1998.