

1999  
YUKON AREA  
SUBSISTENCE, PERSONAL USE, AND COMMERCIAL  
SALMON FISHERIES OUTLOOK AND  
MANAGEMENT STRATEGIES



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By

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**1999**  
**YUKON AREA**  
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**MANAGEMENT STRATEGIES**

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## 1.0 INTRODUCTION

This document informs fishermen, processors, and other interested individuals about the outlook for the 1999 Yukon Area salmon runs and management strategy for the subsistence, personal use, and commercial salmon fisheries. Chinook, coho, pink, and chum salmon are harvested in Yukon River fisheries. The Yukon River chum salmon return consists of an earlier and more abundant summer chum salmon run and a later fall chum salmon run. No directed commercial fishing occurs for pink salmon within the Yukon River drainage.

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

## 2.0 OUTLOOK FOR 1999

### 2.1 CHINOOK SALMON

Typically the majority of chinook salmon returning to the Yukon River are 6-year-old fish, though 5- and 7-year-old fish usually make up a significant contribution to the run. Spawning ground escapements in 1993, the brood year producing 6-year-old fish returning in 1999, were judged to be above average in magnitude. However, the return of 5-year-old fish in 1998 appeared to be only near average in strength. The 7-year-old return is expected to be weak based on the unusually low contribution of 5- and 6-year-old fish from the 1992 parent year which returned in 1997 and 1998. The return of 5-year-old fish in 1999 is expected to be average to below average. Although parent year escapements in 1994 were judged to be average to above average in magnitude, the return of 4-year-old fish in 1998 appeared to be weak and many of the 5- and 6-year old fish showed physical signs of stress. Assuming poor production, the 1999 chinook salmon run is anticipated to be weak to below average in strength. The commercial harvest in Alaska is expected to be 25,000 to 75,000 chinook salmon (23,000 to 69,000 fish in the Lower Yukon Area and 2,000 to 6,000 fish in the Upper Yukon Area), representing a range of catch well below all except two others recorded during the previous 30 years.

### 2.2 SUMMER CHUM SALMON

Based on above average escapements in 1994 and 1995, an above average return of 4- and 5-year-old summer chum salmon would normally be expected. However, similar to many salmon stocks in the Bering Sea region, recent productivity of Yukon River summer chum salmon has declined. Specifically, production of Anvik River chum salmon, which represents the largest spawning stock of Yukon River summer chum salmon, has fallen to well below one return per spawner for the 1993, and apparently 1994, brood years. Causes for the observed drop in productivity are still unknown, as are the duration and exact magnitude of the current downward trend. In addition, an unusually small number of age-3 fish

from the 1995 brood year were detected in spawning tributary samples collected in 1998. It is possible that the extreme winter of 1995-96, characterized by very little snow cover may also have adversely effected the survival of age-4 fish returning in 1999. Overall, the 1999 outlook is for a below average summer chum salmon run. The commercial harvest is expected to be from 25,000 to 300,000 fish given uncertainties associated with recent declines in productivity and market conditions.

### **2.3 FALL CHUM SALMON**

Since 1987, the Yukon River preseason fall chum salmon projection was presented as a point estimate. However, because of the unexpected run failures observed in 1997 and 1998, there is a level of uncertainty associated with the Yukon River fall chum salmon run projection for 1999. Consequently, the 1999 Yukon River projection is being presented as a range of 550,000 to 1,197,000 fall chum salmon. The upper end of the 1999 preseason projection is based upon a Ricker model using spawner-return relationships and average maturity schedules. The lower bound of the 1999 preseason projection was taken as 46% of the number generated by the Ricker model. The lower bound was based upon the results of the 1998 season. The estimated total return of Yukon River fall chum salmon in 1998 was less than half (46%) of the preseason projection.

While exact reasons for the recent run failures are unknown, it is likely that poor marine survival occurred. Long-term climate changes are taking place in the North Pacific Ocean and in the Bering Sea. It is believed that these climate changes may be increasing the mortality of salmon while they are in the marine environment. Besides the increased marine mortality, there may have been increased fresh water mortality for fall chum salmon returning in 1999. Throughout the interior of Alaska, the winter of 1995-96 produced little snow cover and very cold temperatures. Fall chum salmon return primarily as age-4 fish. In 1999, age-4 fish will be returning from the 1995 parent year. Ground freeze levels were considerably deeper than normal following the 1995 spawning event. Because of the low snow cover and cold winter of 1995-96, the eggs and juvenile salmon may have experienced increased mortality which may reduce the number of fall chum salmon returning in 1999.

### **2.4 COHO SALMON**

Coho salmon have later and overlapping run timing with fall chum salmon. Like fall chum salmon, coho salmon also return primarily as age-4 fish. Assuming average survival, an average to above average return of coho salmon would be anticipated in 1999. This is based upon results of limited escapement surveys conducted in 1995, when escapements were considered average to above average in most areas examined. While Yukon River chinook and chum salmon runs appear to have been severely impacted by poor marine survival in recent years, effects on Yukon River coho salmon returns have been less apparent. However, it is unknown how the low snow cover and cold winter of 1995-96 may have affected the survival of eggs and juvenile coho salmon. If poor marine survival is combined with increased freshwater mortality, a below average coho salmon run could be expected in 1999.

## **3.0 MANAGEMENT STRATEGY FOR 1999**

The department manages the various salmon runs under the policies and regulations established by the Alaska Board of Fisheries. Management of the Yukon Area commercial salmon fishery is complex due to the inability to determine stock specific run size and timing, increased 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 a base period for each index area is considered a minimum escapement goal to be achieved.

### **3.1 NEW REGULATIONS FOR 1999**

The Alaska Board of Fisheries (Board) met in Homer in November 1998 and in Anchorage in March 1999 to address two Yukon Area finfish proposals and two agenda change requests. A partial summary of actions taken by the Board at these meetings is provided in Appendix C.

### **3.2 SUBSISTENCE FISHERY**

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 24 hours prior to the commercial salmon season to discourage the illegal sale of subsistence caught salmon or salmon roe. However, substantially more fishing time is allowed throughout the fishing season for subsistence than for commercial purposes. If salmon abundance is poor, subsistence fishing time may be altered by emergency order to improve escapement.

The department encourages fishermen to keep track of their subsistence salmon harvest on their subsistence catch calendar or subsistence fishing permit. Non-permitted fishermen who do not receive a subsistence salmon calendar by mail may contact the department in Emmonak or Fairbanks to have a calendar mailed to them. To encourage fishermen to use and return catch calendars by mail, return postage for the 1999 calendar has been prepaid by the department. Additionally, a \$200 lottery will be conducted following the season for all households that have returned properly filled out calendars.

#### **3.2.1 Districts 1, 2, and 3**

In Districts 1, 2, and 3, subsistence fishermen may take salmon seven days per week until 24 hours prior to opening of the commercial salmon fishing season. During the commercial season, subsistence fishing is allowed only between commercial periods. During the chinook and summer chum commercial salmon fishing season, subsistence salmon fishing will be closed 18 hours before, during, and 12 hours following a commercial salmon fishing period. During the fall chum season, subsistence salmon fishing will be closed 12 hours before, during, and 12 hours following each District 1, 2 or 3 commercial salmon fishing period.

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

#### **3.2.2 Subdistrict 4-A**

In Subdistrict 4-A, subsistence fishermen may take salmon seven days per week until 24 hours prior to opening of the commercial salmon fishing season. Regulations also separate subsistence fishing periods with set gillnet, fish wheel, and beach seine gear from commercial fishing periods in Subdistrict 4-A. During the commercial salmon fishing season, subsistence salmon fishing with set gillnet, fish wheel, and beach seine gear will be closed 12 hours before, during, and 12 hours following a Subdistrict 4-A commercial salmon fishing period. However, chinook salmon may be taken with drift gillnet gear only for two 48-hour periods per week during the commercial salmon fishing season from 6:00 p.m. Sunday until 6:00 p.m. Tuesday, and from 6:00 p.m. Wednesday until 6:00 p.m. Friday.

### **3.2.3 Subdistricts 4-B and 4-C**

Regulations allow subsistence salmon fishing seven days per week until 24 hours prior to the opening of Subdistricts 4-B and 4-C commercial salmon fishing season. Once the commercial salmon season opens, managers will attempt to coincide allowable commercial salmon fishing periods with the traditional subsistence salmon fishing schedule. Normally, the subsistence salmon fishing schedule in Subdistricts 4-B and 4-C will be two 48-hour periods per week during the commercial salmon season. Additionally, when the department announces a commercial fishing closure that will last longer than five days in duration during the commercial salmon season, subsistence salmon fishermen may take salmon five days per week from 6:00 p.m. Sunday until 6:00 p.m. Friday.

### **3.2.4 District 5**

In Subdistrict 5-D, 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 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. Additionally, subsistence only salmon fishing periods may also be scheduled.

When the department announces a commercial fishing closure that will last longer than five days in duration during the commercial salmon season in Subdistricts 5-A, 5-B and 5-C, subsistence salmon fishermen may take salmon five days per week from 6:00 p.m. Tuesday until 6:00 p.m. Sunday.

In portions of District 5, regulations require subsistence fishermen to obtain subsistence fishing permits. Permit areas include the "Yukon River bridge area" and the Yukon River drainage from Twenty-two Mile Slough, located upstream of Fort Yukon, to the Canadian border. The Yukon River bridge area includes the Yukon River drainage from Hess Creek to the Dall River. Subsistence fishermen may obtain a permit by contacting the department's office in Fairbanks. Permits may be issued in person or by mail. All permit holders are required to report harvest information on their permits and to return their permits to the department at the end of the fishing season.

### **3.2.5 District 6**

Regulations require subsistence salmon permits in District 6, the Tanana River drainage, except for Subdistrict 6-C, which is managed under personal use regulations (see Section 3.3). Subsistence salmon fishermen can obtain a permit by contacting the department's office in Fairbanks. Subsistence permit holders in that portion of Subdistrict 6-B, from a point three miles upstream of the mouth of Totchaket Slough to the upper boundary of Subdistrict 6-B, are required to report to the department each week the number of salmon taken. Permit holders can report their weekly catch on a message recording at (907) 459-7388. All Tanana River subsistence permit holders are required to record their harvest information on their permit and return expired permits to the department's office in Fairbanks at the end of the fishing season.

Within the majority of Subdistricts 6-A and 6-B, the subsistence salmon fishing schedule is two 42-hour periods per week from 6:00 p.m. Monday until 12 noon Wednesday and from 6:00 p.m. Friday until 12 noon Sunday. One exception is within the Old Minto Area where subsistence salmon fishing is allowed five days a week from 6:00 p.m. Friday until 6:00 p.m. Wednesday. 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 PERSONAL USE FISHERY**

In 1995, the Joint Board of Fish and Game adopted regulations that created the Fairbanks Nonsubsistence Area (Figure 2). No subsistence fishing is allowed within non-subsistence areas. Subdistrict 6-C falls entirely within the Fairbanks Nonsubsistence Area and thus is managed under personal use regulations. There are fishery harvest limits in Subdistrict 6-C of 750 chinook, 5,000 summer chum, and 5,200 fall chum and coho salmon combined. If a harvest limit is reached inseason, 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. Personal use applicants must possess a valid State of Alaska resident sport fishing license and report their harvests to the department each week.

### **3.4 COMMERCIAL FISHERY AND REPORTING REQUIREMENTS**

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

All processors, buyers, and catcher/sellers of salmon are required to register with the department before purchasing salmon in the Yukon Area. Processors, buyers, and catcher/sellers in Districts 1, 2, and 3 must register with the department's office in Emmonak. Processors, buyers, and catcher/sellers in Districts 4, 5, and 6 must register with the department's office in Fairbanks. 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 verbally report harvest information in the Upper Yukon Area after office hours by calling a 24-hour message recording at (907) 459-7388. Buyers are also required to mail or deliver fish tickets to the department within 24 hours following 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 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.

Regulations also require commercial fishermen in Subdistrict 6-C to report, on each 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.

### **3.5 CHINOOK AND SUMMER CHUM SALMON COMMERCIAL SEASON**

The Yukon River chinook salmon run will be managed to achieve escapement goals established for selected streams in the Alaskan portion of the drainage. The conservation and stock rebuilding efforts developed between the U.S. and Canada will continue by endeavoring to provide for a minimum 28,000 chinook salmon spawning escapement level in the Canadian mainstem. Inseason chinook salmon run assessment will be based on lower river test fisheries, main river sonar passage estimates, subsistence catch reports, age and sex composition, commercial harvest data, and preliminary escapement monitoring information. As in years past, the department will participate in YRDFA conference calls inseason to gather information from the public and to discuss run status and management actions.

The department will initially manage the early portion of the chinook salmon run conservatively, based upon the unexpectedly poor return in 1998. The age composition of the 1999 chinook run will be closely monitored to determine the strength of the 6-year-old return. The commercial harvest outlook is 25,000 to 75,000 chinook salmon for Districts 1-6 combined. This harvest range equates to approximately one third of to 10% above the lower end of each districts guideline harvest range. If the abundance of chinook salmon in 1999 is similar to that in 1998, the commercial harvest will likely be about half of the harvest taken in 1998.

As part of commercial fisheries management in 1999, the department will be endeavoring to provide for a season total passage estimate of 140,000 to 200,000 chinook salmon at Pilot Station sonar. This preliminary passage index range is based on below average escapements observed throughout the drainage in 1998 when the passage estimate was only 122,000 chinook salmon, and upstream harvests and above average escapements achieved in 1995 and 1997 when the passage estimates were greater than 200,000 fish (Appendix A.6). Approximately 75% of the recent 10-year average (1988-1997) chinook salmon subsistence harvest in Alaska is above Pilot Station. It is expected that it will be difficult to confidently project the season total sonar passage estimate inseason. This range of passage is preliminary and may well change after further analysis.

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 and sex composition data, and commercial harvest information. A passage of approximately 1 million summer chum salmon at Pilot Station is necessary for escapement needs. 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 run size upstream of the Anvik River. Other escapement monitoring projects include the Kaltag River tower operated by the Alaska Cooperative Extension Service 4-H Fisheries and Bering Sea Fisherman's Association (BSFA); the Nulato River tower funded by BSFA and the department; the Andreafsky, and Gisasa River weirs operated by the United States Fish and Wildlife Service (USFWS); and Clear Creek tower operated by Tanana Chiefs Conference (TCC) and BSFA.

The department will initially manage the early portion of the summer chum salmon run conservatively, based upon the assumption that poor marine productivity will continue in 1999. The commercial harvest outlook is 25,000 to 300,000 summer chum salmon for Districts 1-6 combined. This range of harvest would equate to a harvest of only fish caught incidental to chinook salmon directed fisheries to a harvest near the lower end of the total river guideline harvest range. 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.

### **3.5.1 Districts 1, 2, and 3**

It is anticipated the chinook salmon directed commercial fishery will open 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 passage of a portion of the early run segment through the lower river districts before commercial fishing starts.

Initially, directed chinook salmon commercial fishing periods with unrestricted mesh size gillnets are anticipated to be no more than 6 hours in duration. In general, fishing periods are expected to begin at 6:00 p.m. Monday and Thursday in District 1, and at 6:00 p.m. Wednesday and Sunday in District 2. However, fishing periods may be delayed depending on run assessment and run timing. Since Districts 1 and 2 have a combined guideline harvest range, the overall harvest level will determine when the directed chinook

salmon fishery and the commercial salmon summer season will end. It may not be possible to allow an equal amount of fishing time for each district.

Large mesh size gillnets utilized during unrestricted mesh size openings target older, larger chinook salmon, which includes a much larger proportion of females than small mesh size periods. Fishing periods restricted to six inch or smaller mesh size gillnets result in much higher catches of smaller, predominantly male chinook salmon. The management concern is for the quality of escapements, that is, not only escapement abundance, but the proportion of female salmon in the escapements. Therefore, the amount of harvest taken with the larger mesh chinook salmon gear and smaller mesh gear will be carefully considered.

Six-inch maximum mesh size directed summer chum salmon fishing periods are anticipated to be 4 to 12 hours in duration. Shorter, summer chum salmon directed fishing periods may be scheduled based on run assessment and market considerations. In addition, short periods targeting summer chum salmon will be easier to establish between unrestricted mesh size periods and will reduce the harvest of chinook salmon during such periods. Because of market considerations, an effort will be made to schedule summer chum salmon directed periods as early in June as possible. The actual summer chum salmon harvest will be dependent on inseason run assessment and market conditions.

An attempt will be made to establish commercial fishing periods in District 3 based on input from buyers and fishermen. Regulations allow a permit holder registered in District 3 to transfer to District 1 or 2 following a 72-hour waiting period. Only one district transfer is allowed in the Lower Yukon Area prior to July 15.

The USFWS will be operating a weir on the East Fork Andreafsky River in 1999. Historical escapement timing information will be used to assess the 1999 summer chum salmon spawning escapement inseason. The department will use the assessment of 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 by commercial salmon fishermen in Districts 1, 2, and 3. 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.

Gillnet depth regulations for commercial fishing in Districts 1, 2, and 3 require that gillnets with greater than 6-inch mesh size may not be more than 45 meshes in depth and gillnets with mesh size of 6 inches or less may not be more than 50 meshes in depth.

### **3.5.2 District 4**

In years with average returns and run timing, the first District 4 commercial fishing period usually occurs between June 18 and June 25. Commercial fishing periods in Subdistrict 4-A are anticipated to begin at 6:00 p.m. Sunday and 6:00 p.m. Wednesday and be no longer than 18 hours in duration. However, the frequency and duration of Subdistrict 4-A fishing periods will be based on summer chum salmon run abundance. Management will be based, in part, on summer chum salmon spawning escapements and sex ratios monitored in the Anvik, Kaltag, Nulato, and Gisasa Rivers and Clear Creek.

It is anticipated Subdistricts 4-B and 4-C will initially be placed on a schedule of one or two 48-hour periods per week beginning at 6:00 p.m. Sunday and/or 6:00 p.m. Wednesday. Subdistricts 4-B and 4-C may open earlier than Subdistrict 4-A to allow harvest of earlier migrating 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.

### **3.5.3 Anvik River Management Area**

The Anvik River may be opened to summer chum salmon commercial fishing if a surplus greater than the escapement goal minimum 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 size of the surplus available for commercial harvest. The intent is to allow a harvest of Anvik River summer chum salmon that is in excess of the spawning escapement goal and to decrease harvest pressure on non-Anvik River summer chum salmon stocks. Fish harvested in the Anvik River fishery do 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 released alive.

### **3.5.4 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. Based on changes to the Tanana River Salmon Management Plan by the Board in November 1998 (Appendix C), no commercial fishing will be allowed in Subdistrict 5-A during the chinook and summer chum salmon fishing season.

It is anticipated Subdistricts 5-B and 5-C fishing periods during the early season will initially be 24- hours in duration. For Subdistrict 5-D, 24- or 36-hour commercial fishing periods are anticipated. This will allow the department to better monitor and maintain the harvest within guideline harvest ranges. In years with average returns and run timing, the first commercial fishing period usually occurs between June 25 and July 5 in Subdistricts 5-B and 5-C, and between July 1 and July 10 in Subdistrict 5-D.

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

### **3.5.5 District 6**

Inseason salmon run strength and timing indicators in the Tanana River drainage include test fish wheel catches near the village of Nenana, aerial surveys, and performance of commercial, personal use, and subsistence fisheries. In addition, chinook and summer chum salmon escapement information collected by tower counting projects on the Chena River by Sport Fish Division and the Salcha River by BSFA may be used for inseason run assessment. The department can exceed the upper end of the guideline harvest ranges only in years it determines that additional commercial fishing will not jeopardize achieving escapement goals and will meet subsistence needs. Due to the limited management tools available, the department will be conservative in management of District 6.

It is anticipated that the District 6 commercial fishing season will open in early to mid-July. During the early season, there may be up to two 42-hour commercial fishing periods per week, from 6:00 p.m. Friday until 12 noon Sunday and from 6:00 p.m. Monday until 12 noon Wednesday. The directed chinook salmon commercial fishery is expected to close once the midpoint of the chinook salmon guideline harvest range of 600 to 800 chinook salmon is reached. Additional commercial fishing directed at chinook salmon may be allowed if escapement monitoring projects indicate chinook salmon escapement goals and subsistence

needs are being met. Directed summer chum salmon commercial fishing periods will occur later in July and into August and will depend on inseason run assessment.

### **3.6 FALL CHUM AND COHO SALMON COMMERCIAL SEASON**

In managing the 1999 Yukon River fall chum salmon run, the department will follow guidelines provided by the Board in 5 AAC 01.249. *Yukon River Drainage Fall Chum Salmon Management Plan*. This management plan will be in effect for both the 1999 and 2000 fishing seasons. The management plan contains a "sunset" clause, which will allow this regulation to be reviewed at the next scheduled A-Y-K Board meeting in the fall/winter of 2000/2001.

The management plan stipulates that directed fall chum salmon commercial fisheries be allowed only when the run size projection is greater than 675,000 fall chum salmon (Table 2). Additionally, only the harvestable surplus above 625,000 fall chum salmon may be targeted in the Alaska commercial fisheries.

The lower portion of the 1999 preseason projection is below that level needed to provide for an Alaskan commercial fishery. The midpoint of the projection, approximately 875,000 fall chum salmon, suggests a possible Alaskan fall chum salmon commercial harvest of up to 250,000 fall chum salmon. If the fall chum salmon return is near the midpoint of the preseason projection, an Alaskan commercial harvest approaching the third quartile of each district's guideline harvest range could be expected. If the 1999 fall chum salmon return is near the upper end of the preseason projection, a record commercial harvest could be expected.

As a result of the wide range in the preseason projection, the department will rely more on inseason run assessment tools to determine the 1999 fall chum salmon run size. As in past years, the department will participate in inseason YRDFA conference calls to gather information from the public and to discuss the status of the run and possible management actions. In accordance with the management plan, inseason indicators should project that the 1999 run will be greater than 675,000 fall chum salmon prior to allowing commercial fishing activities. However, given the recent run failures, fishermen and processors should be prepared for a 1999 fall chum salmon run towards the lower end of the preseason projection.

#### **3.6.1 Canadian Mainstem Considerations**

At the date of this writing, no formal agreement exists between the United States and Canada concerning the passage of fall chum salmon into the Canadian mainstem of the Yukon River. In 1999, the department will endeavor to manage the Alaska fisheries consistent with the stock rebuilding and conservation objectives that had been jointly developed. Given parent year escapement levels, this would mean a spawning escapement objective of greater than 80,000 fall chum salmon for 1999.

#### **3.6.2 Toklat River Fall Chum Salmon Rebuilding Plan**

The Board of Fisheries reviewed and modified 5 AAC 01.248. *The Toklat River Fall Chum Salmon Rebuilding Management Plan* during the December 1997 meeting. In recognition of good parent year escapement, the Board removed many of the more restrictive elements of the 1997 rebuilding plan from the 1998 fishing season. Unfortunately, the 1998 fall chum salmon escapement into the Toklat River index area was estimated to be approximately 16,000 fish, considerably less than the minimum biological escapement goal of 33,000 fall chum salmon. Section (d) of the rebuilding plan stated "if the minimum biological escapement goal is not attained in the Toklat River drainage index area in 1998" these more restrictive components of the rebuilding plan would be re-imposed for the 1999 and 2000 fishing seasons.

As a result of the 1998 Toklat River index count, all of the restrictive elements of the Toklat River rebuilding plan will be in effect for both the 1999 and 2000 fishing seasons. 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. The rebuilding plan also restricts the Kantishna River subsistence fishery by establishing a subsistence fishery harvest limit. The regulation also establishes a Kantishna River subsistence household salmon fishing permit limit and places subsistence fishing time restrictions in the Subdistrict 5-A fishery.

### **3.6.3 Coho Salmon**

The Board of Fisheries adopted 5 AAC 05.369. *Yukon River Drainage Coho Salmon Management Plan* during their meeting in Homer in November 1998 (Appendix C). The coho salmon management plan was essentially developed and recommended to the Board by the Yukon River Drainage Fisheries Association. However, during subsequent Department of Law review of the language adopted by the Board, the subsection that allowed directed coho salmon commercial fishing if "the department assesses the fall chum salmon return to be above 625,000 fish and the harvesting of fall chum salmon is severely affected by marketing difficulties throughout the drainage" was removed. The Department of Law opinion is that the Department of Fish and Game does not have the authority to base management decisions on difficulties in the markets. The Yukon River coho salmon management plan, as approved by the Department of Law, will be in effect through the year 2000 fishing season. This management plan will be reviewed during the next scheduled A-Y-K Board meeting in the fall/winter of 2000/2001.

Yukon River coho salmon have a slightly later, but overlapping, run timing with that of the fall chum salmon run. The coho salmon management plan allows a directed coho salmon commercial fisheries only under very special and unique situations. However, fall chum salmon will continue to be the primary species of management concern during the fall season.

Based on the coho salmon management plan, if the Yukon River experiences a below average fall chum salmon run of less than 625,000 fish, no directed coho salmon commercial fisheries will be allowed. Based on the fall chum salmon management plan, a run size of 675,000 fall chum salmon or greater is needed prior to consideration of a directed fall chum salmon commercial fishery. No directed coho salmon commercial fishing will be allowed in years when directed fall chum salmon commercial fisheries have occurred. Only when the fall chum salmon run is assessed to be between 625,000 and 675,000 fish will a directed coho salmon commercial fishery be considered, and then only if the coho salmon run is assessed to be above average. When the conditions of the coho salmon management plan are applied to past years, directed coho salmon commercial fisheries would have been allowed in only one of the past 18 years.

In most years the commercial harvest of coho salmon will continue to be based upon the timing, frequency, and duration of periods established for the more numerous fall chum salmon. It is very unlikely that the conditions outlined in the coho salmon management plan will occur in 1999. Any commercial harvest of coho salmon in 1999 will most likely be dependent upon the abundance of fall chum salmon and accompanying management strategies used to harvest fall chum salmon.

### **3.6.4 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 gillnet test fishery, Mountain Village drift gillnet test fishery (operated by Asacarsarmiut Traditional Council), Pilot Station sonar passage estimates, subsistence catch reports, and, if available, commercial catch statistics. This information, in combination

with the preseason projection, will be the basis for initial management decisions for Districts 1, 2 and 3 commercial fisheries.

If the 1999 fall chum salmon run is near the midpoint of the preseason projection, a combined Districts 1, 2 and 3 commercial fall chum salmon harvest of up to 180,000 fall chum salmon can be expected. However, if poor marine survival conditions affect the 1999 fall chum salmon similarly to the effects on the 1998 return, a run size closer to the lower bound of the preseason projection could be expected in 1999. The lower bounds of the preseason fall chum salmon projection do not allow commercial fishing activities.

Because of the wide range in the preseason projection, the department will rely more on inseason run assessment tools to determine the 1999 fall chum salmon run size. The department will monitor the returns of earlier running summer chum salmon in the Yukon River, along with the returns of salmon in Norton Sound and the Kuskokwim River. If the returns of these other runs in 1999 indicate that poor marine survival conditions are continuing, a fall chum salmon return towards the lower end of the preseason projection will become more likely. However, if the returns of these other runs are closer to the levels expected, assuming average survival, the department will be more optimistic for the return of Yukon River fall chum salmon. Fall chum salmon begin to enter the Yukon River in mid-July. The first projection based on Yukon River fall chum salmon inseason indicators will not be made until late July or early August.

As a reminder to fishermen, regulations require District 1 commercial fishermen to register for the coastal Set Net Only Area prior to opening of the fall commercial season. Registration "sign-in" sheets will be available at Lower Yukon Area village post offices and at the department's field office in Emmonak. A regulation adopted prior to the 1998 season allows fishermen to transfer into and out of the Set Net Only Area. After initial registration for the Set Net Only Area, a permit holder may not commercially fish for salmon in the remainder of District 1, or in another district, until 72 hours after re-registration with a Department of Fish and Game employee. After the first fall season commercial fishing period, a permit holder not registered for the Set Net Only Area may transfer to the Set Net Only Area after re-registration with a department employee. The re-registration and 72-hour waiting period begins at the time the notification is received and noted by the department.

### **3.6.5 Subdistrict 4-A**

Current regulations do not provide for a directed fall chum salmon commercial fishery in Subdistrict 4-A. However, Subdistrict 4-A is included in the Yukon River coho salmon management plan (Appendix C). In the unlikely event a directed coho salmon commercial fishery is allowed, a commercial fishing period in Subdistrict 4-A may only occur on or after August 20. By regulation, the Subdistrict 4-A commercial fishing season shall close by September 15. No more than 32 hours of commercial fishing time may be allowed per week.

### **3.6.6 Subdistricts 4-B and 4-C**

Within District 4, directed fall chum salmon commercial fishing activities are allowed only in Subdistricts 4-B and 4-C. In managing the Subdistricts 4-B and 4-C commercial fishery, the department will initially use the assessment of the overall Yukon River fall chum salmon run size and timing. Subdistricts 4-B and 4-C guideline harvest range is 5,000 to 40,000 fall chum salmon. In years with average run timing and a commercially harvestable surplus, the first fall season commercial fishing period normally occurs in early to mid-August.

### **3.6.7 Subdistrict 5-A**

The Board of Fisheries amended 5 AAC 05.367. *Tanana River Salmon Management Plan* to include Subdistrict 5-A during its meeting in Homer in November 1998 (Appendix C). The amended Tanana River management plan directs the department to manage Subdistrict 5-A based on the stock status and timing of salmon bound for the Tanana River. It is believed the majority of fall chum and coho salmon harvested in Subdistrict 5-A are bound for the Tanana River. The allocative elements of the amendments to the Tanana River management plan adopted by the Board were originally developed by Subdistrict 5-A and District 6 fishermen and supported by the Yukon River Drainage Fisheries Association. The plan will be in effect through the year 2000 fishing season. During the next scheduled A-Y-K Board meeting in the fall/winter of 2000/2001, the Subdistrict 5-A subsection of the Tanana River management plan will be reviewed and either amended and readopted or removed from regulation.

The amendments to the Tanana River management plan adopted by the Board allow Subdistrict 5-A commercial activities only during the fall season. Additionally, commercial fishing will only be allowed in years when it is assessed that a harvestable surplus of fall chum salmon is available. In most years, the Subdistrict 5-A commercial fishery will be managed for a guideline harvest range of 0 to 4,000 pounds of fall chum salmon roe. No waste of carcasses will be permitted. In adopting this regulation, the Board recognized that the carcasses produced by this commercial roe fishery should be easily absorbed by the relatively large subsistence needs of households in the village of Tanana.

The department will initially manage the fall season in Subdistrict 5-A based on the run strength and timing of the overall Yukon River fall chum salmon return. However, depending on inseason Tanana River fall chum salmon run strength and timing indicators, the department does have the authority to manage Subdistrict 5-A for a different harvest level within the guideline harvest range or to exceed the guideline harvest range. Due to the limited inseason run assessment tools currently available, the department will be conservative in management of Subdistrict 5-A fisheries.

In years with average run timing and a commercially harvestable surplus, the first fall season commercial salmon fishing period normally occurs in early to mid-September.

### **3.6.8 Subdistricts 5-B and 5-C**

In managing the Subdistricts 5-B and 5-C commercial fishery, the department will initially use the assessment of the overall Yukon River fall chum salmon run size and timing. Subdistricts 5-B and 5-C have a combined commercial guideline harvest range of 4,000 to 36,000 fall chum salmon. The USFWS "Rapids/Rampart" mark and recapture project, along with upper Yukon River drainage escapement monitoring projects, will be reviewed when determining the targeted Subdistricts 5-B and 5-C commercial harvest level. In years with average run timing and a commercially harvestable surplus, the first fall season commercial fishing period normally occurs in mid-August.

### **3.6.9 Subdistrict 5-D**

For Subdistrict 5-D, the established guideline harvest range is 1,000 to 4,000 fall chum salmon. In years with average run timing, the first fall season commercial fishing period in Subdistrict 5-D normally occurs in late August or early September.

### **3.6.10 District 6**

Tanana River inseason run strength indicators include test fish catches from a Subdistrict 5-A fish wheel located on the south (left) bank of the Yukon River near the village of Tanana, and from Tanana River test fish wheels located near the mouth of the Kantishna River and near the village of Nenana. The performance of subsistence, personal use, and if available, commercial fisheries will also be taken into consideration.

Additionally, for the fifth consecutive year, the department will conduct a Tanana River drainage fall chum salmon tagging study, which has expanded in scope. In the past, the project provided not only a post-season abundance estimate of fall chum salmon bound for the upper Tanana River drainage, upstream of the confluence of the Kantishna River, but also provided periodic inseason abundance estimates which were used in managing this stock. During the past four years, the Tanana River tagging fish wheels were located above the confluence of the Kantishna River. However, the project in 1999 has been expanded to include estimating the number of fall chum salmon bound for the Kantishna River. The expanded scope of the Tanana River tagging project in 1999 also includes tagging coho salmon in an attempt to gather additional information on the timing and relative abundance of this species in the Tanana River. This will require relocation of the project's Tanana River tagging fish wheels to sites downstream of the confluence of the Kantishna River. As a result of this major change in the project's design, data collection is anticipated to be of limited use in 1999 for making management decisions. Further, it is not anticipated that inseason fall chum salmon passage estimates will be generated in 1999.

The department will initially manage the fall season in District 6 based on fall chum salmon guideline harvest ranges and the run strength and timing of the overall Yukon River fall chum salmon return. However, depending on inseason Tanana River fall chum salmon run strength and timing indicators, the department does have the authority to manage District 6 for a different level within the guideline harvest range or to exceed the guideline harvest range. Due to the limited inseason run assessment tools currently available, the department will be conservative in management of District 6 fisheries.

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 normally occurs in early to mid-September.

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

Negotiations were initiated in 1985 between the U.S. and Canada regarding a Yukon River salmon treaty. The purpose of these negotiations is to develop between the U.S. and Canada the coordinated conservation and management of salmon stocks that spawn in the Yukon River drainage in Canada.

In the mid-1990s, 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 (Agreement) went into effect. A U.S./Canada Yukon River Panel (Panel) was formed to implement the Agreement. The focus of the Panel was on the salmon stocks that spawn in the Canadian portion of the Yukon River drainage. The Panel made recommendations to the management agencies in Alaska and Canada. The Panel also administered a Yukon River Salmon Restoration and Enhancement Fund (Fund).

A six-year stabilization plan had been completed in 1995 for Canadian Yukon River mainstem chinook salmon. 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. In April 1996, the Panel agreed to the first six years of a rebuilding plan for Canadian mainstem chinook salmon stocks. Recognizing the desirability of rebuilding stocks, the Panel 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 was to endeavor to deliver 44,800 to 47,800 chinook salmon to the Canadian mainstem Yukon River. The Canadian contribution to this effort was 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.

For Canadian Yukon River mainstem fall chum salmon, a 12-year rebuilding plan was agreed upon during the negotiation process beginning with the 1990 season. 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 four-year cycle by the year 2001. The U.S. contribution to this effort was to endeavor to deliver to the Canadian border on the mainstem Yukon River an agreed to number of fall chum salmon, which varies by year based upon the rebuilding schedule. The Canadian contribution to this effort was 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.

A key component of the Agreement was administration of the Fund by the Panel to address the restoration and enhancement of Canadian spawned salmon stocks. The U.S. contributes \$400,000 per year into the Fund. At its April 1996, March 1997 and March 1998 meetings, the Panel allocated monies from this special fund to restore and increase salmon production on the river. Overall, approximately \$1.3 million in U.S. dollars has been granted to applicants from the fund. Applicants have included regional organizations, Native groups, private consultants and others, primarily in Canada.

Initially the Agreement was in place through 1997, with an option to extend if both sides agreed. Negotiations resumed in October 1997 to reach a long-term agreement on the remaining issues and to incorporate the relevant elements of the Agreement. At the October negotiations, the Agreement was extended through March 31, 1998.

Although the U.S. side supported extending the Agreement, the Canadian side allowed the Agreement to expire at the March 1998 negotiations meeting. No other bilateral meetings were held through the remainder of 1998. Since March 1998, the department has continued to endeavor to manage the salmon fisheries on the Yukon River consistent with the stock rebuilding and conservation plans for chinook and fall chum salmon that were contained in the interim agreement.

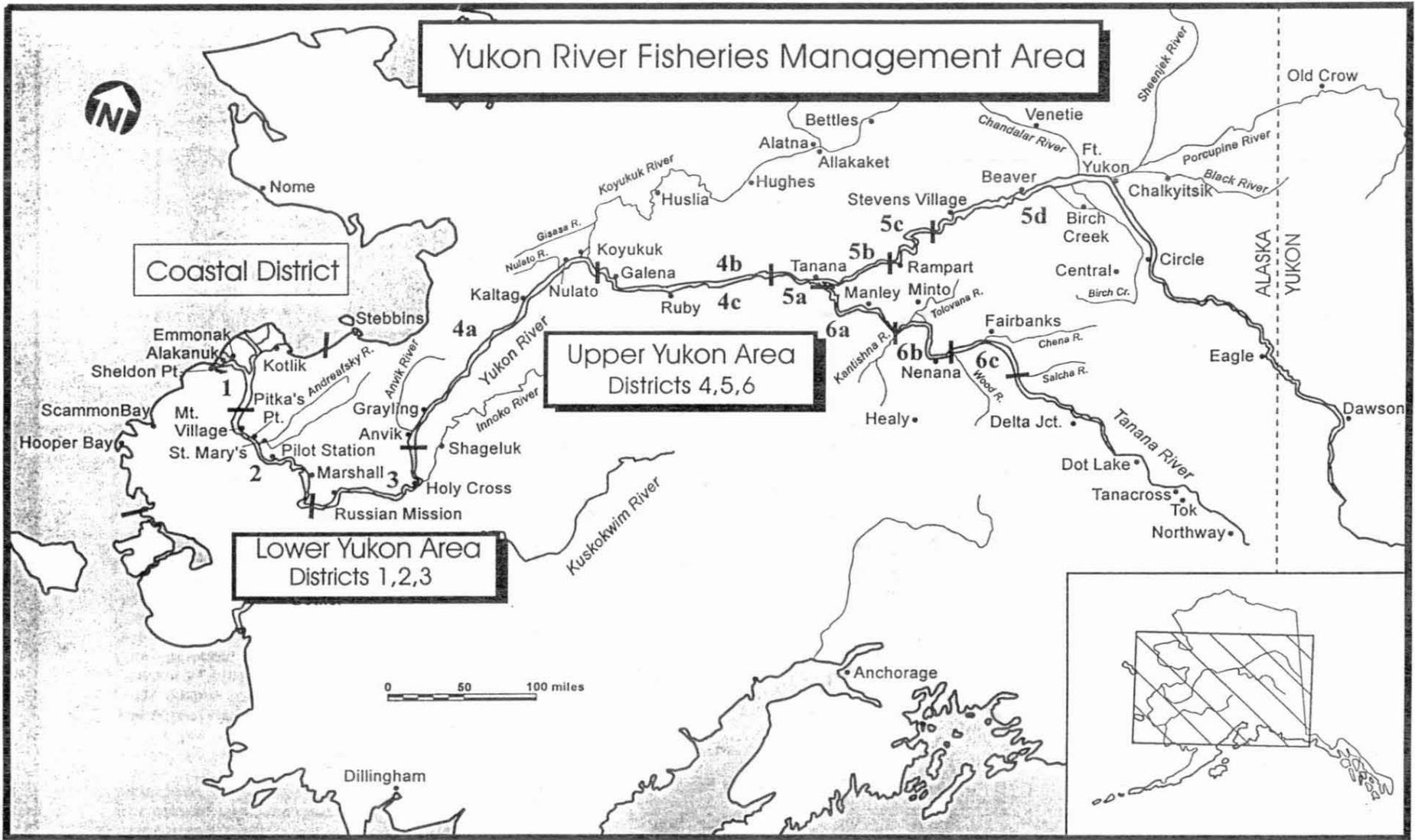


Figure 1. Alaska portion of the Yukon River drainage showing communities and fishing districts.

5 AAC 99.015 JOINT BOARD NONSUBSISTENCE AREAS. (4) The Fairbanks Nonsubsistence Area is comprised of the following: within Unit 20(A) as defined by 5 AAC 92.450(20)(A) east of the Wood River drainage and south of the Rex Trail but including the upper Wood River drainage south of its confluence with Chicken Creek, within Unit 20(B) as defined by 5 AAC 92.450(20)(B) the North Star Borough and that portion of the Washington Creek drainage east of the Elliot Highway, within Unit 20(D) as defined by 5 AAC 92.450(20)(D) west of the Tanana River between its confluence's with the Johnson and Delta Rivers, west of the west bank of the Johnson River, and north and west of the Volkmar drainage, including the Goodpaster River drainage, and within Unit 25(C) as defined by 5 AAC 92.450(25)(C) the Preacher and Beaver Creek drainages.

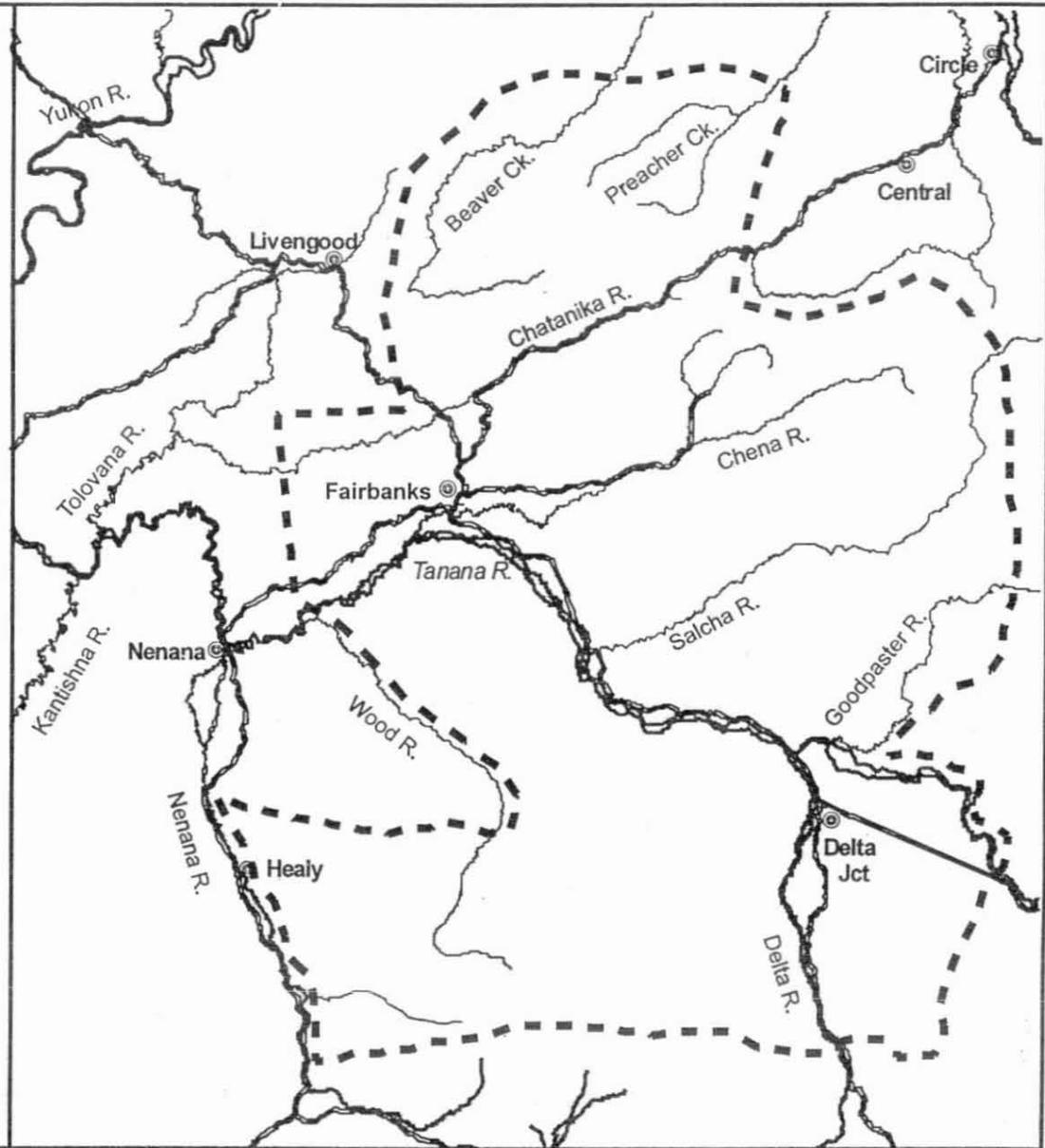
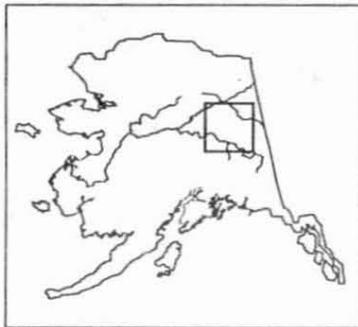


Figure 2. The Fairbanks Nonsubsistence Area.

Table 1. Guideline harvest ranges and mid-points for commercial harvest of Yukon River chinook, summer chum and fall chum salmon in Alaska, 1999.

Chinook Salmon						
District or Subdistrict	Guideline Harvest Range a					
	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
5B and 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
<b>Total</b>	<b>67,350</b>	<b>100.0</b>	<b>98,250</b>	<b>100.0</b>	<b>129,150</b>	<b>100.0</b>

Summer Chum Salmon						
District or Subdistrict	Guideline Harvest Range b					
	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 <sup>c</sup>	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
5B, C, D	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
<b>Total</b>	<b>400,000</b>	<b>100.0</b>	<b>800,000</b>	<b>100.0</b>	<b>1,200,000</b>	<b>100.0</b>

Anvik River Management Area roe cap of 100,000 pounds d

Fall Chum Salmon						
District or Subdistrict	Guideline Harvest Range e					
	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
5B and 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
<b>Total</b>	<b>72,750</b>	<b>100.0</b>	<b>196,625</b>	<b>100.0</b>	<b>320,500</b>	<b>100.0</b>

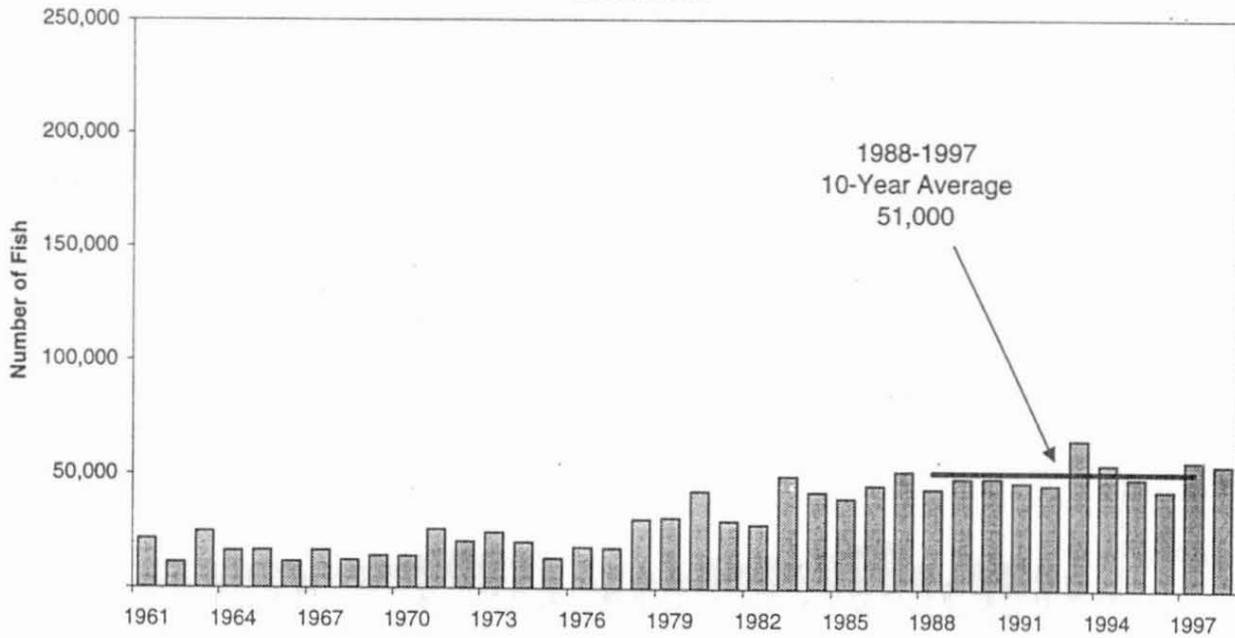
Subdistrict 5A range of 0 to 4,000 pounds of roe f

- a The chinook salmon guideline harvest ranges have been in effect since 1981.  
b Summer chum salmon guideline harvest ranges were established in February 1990 based on the average harvest shares from 1975-1989.  
c Or the equivalent roe poundage of 61,000 to 183,000 pounds or some combination of fish and pounds of roe.  
d The current Anvik River Management Area roe cap was established in March 1996.  
e The current fall chum salmon guideline harvest ranges were established in 1990.  
f Subdistrict 5A was removed from the guideline harvest ranges for chinook and summer chum and a separate guideline harvest range of 0-4,000 pounds of fall chum salmon roe was established in November 1998.

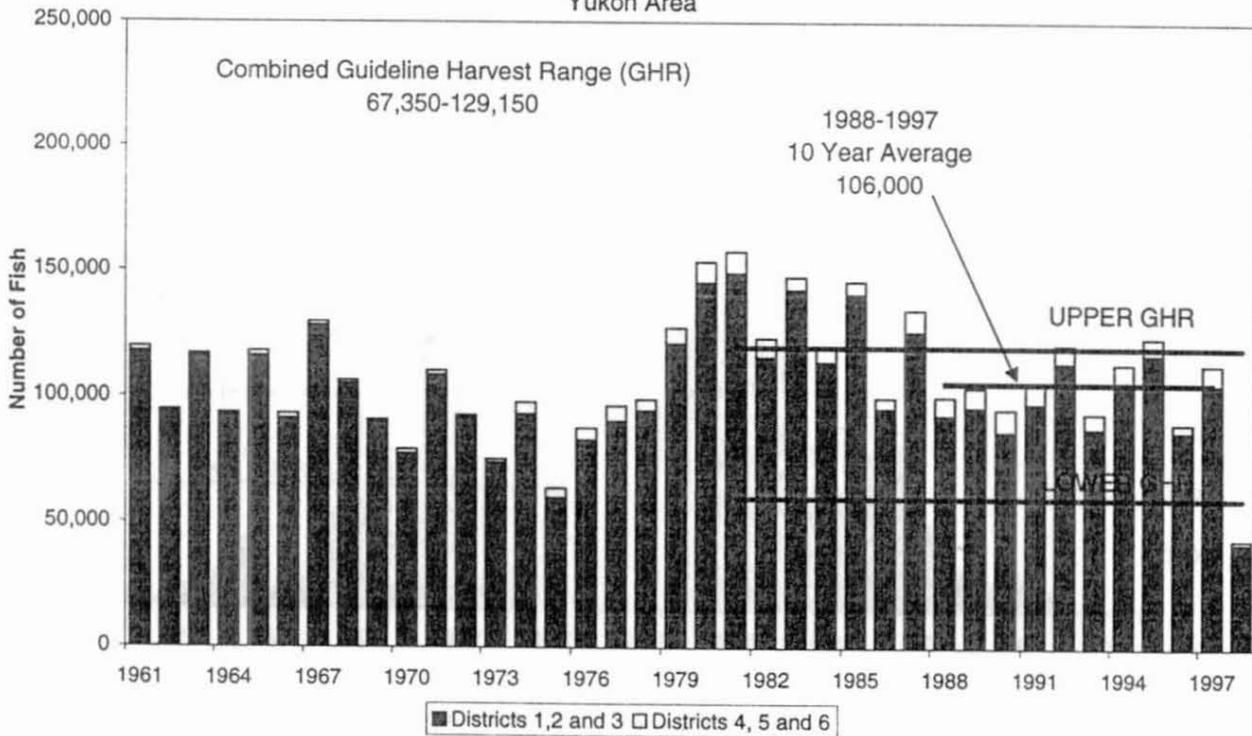
## **Appendix A**

### **Historical Chinook and Summer Chum Salmon Harvest and Escapement Information**

### Chinook Salmon Subsistence Harvest Yukon Area

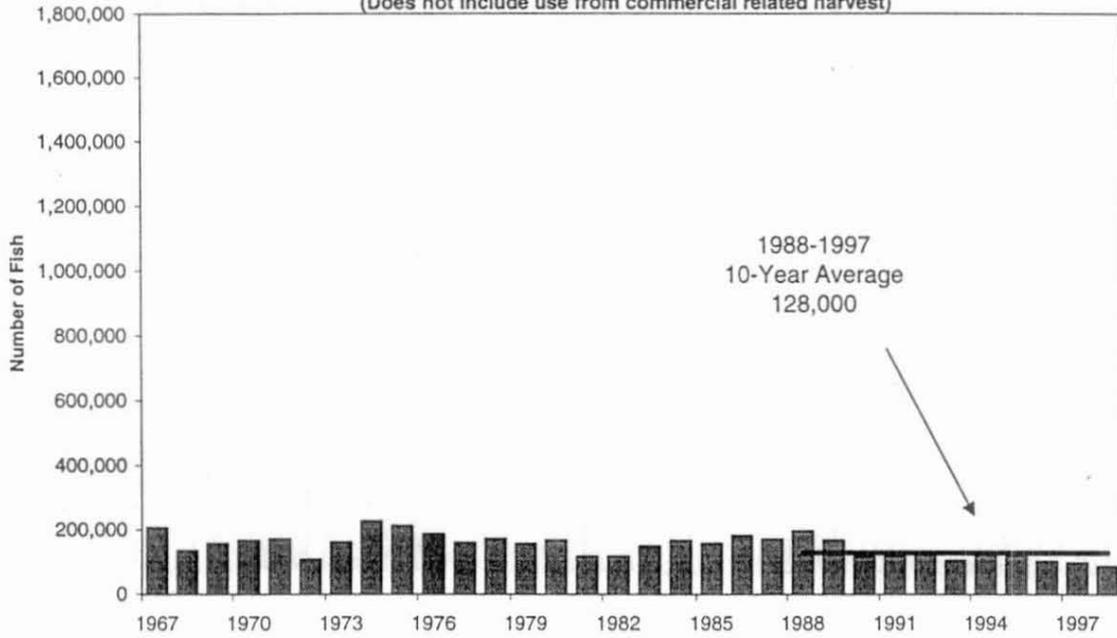


### Chinook Salmon Commercial Harvest Yukon Area

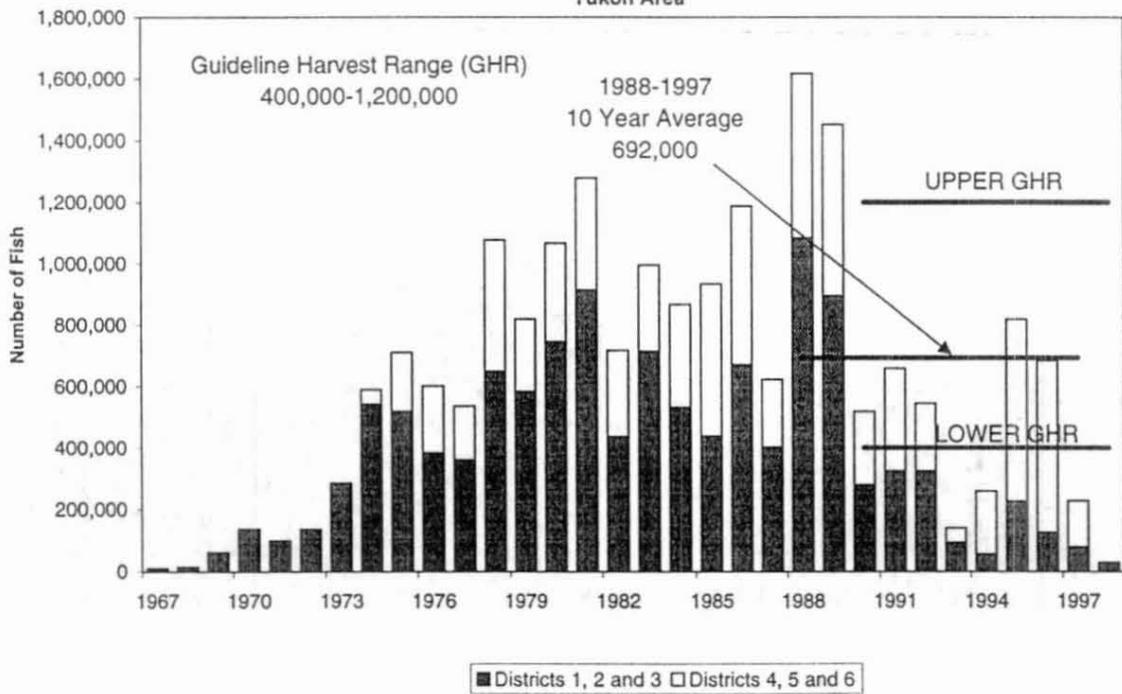


Appendix A.1. Subsistence and commercial harvest of chinook salmon, Yukon Area, 1961-1998.

**Summer Chum Salmon Subsistence Harvest**  
 Yukon Area  
 (Does not include use from commercial related harvest)

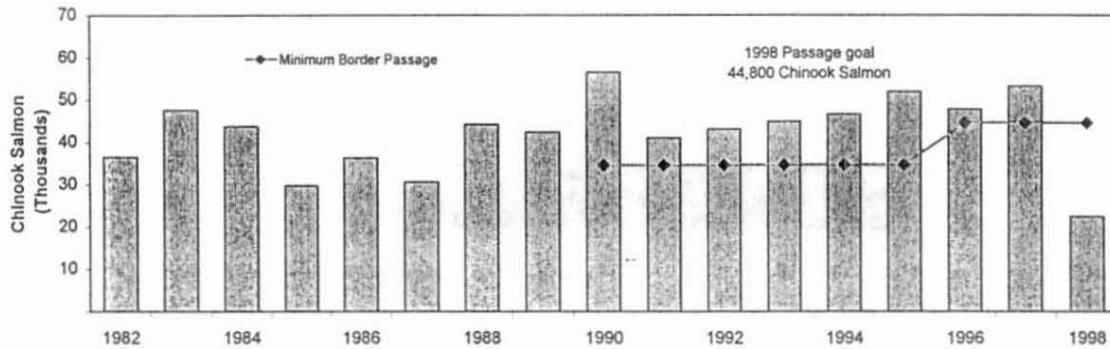


**Summer Chum Salmon Commercial Harvest**  
 Yukon Area

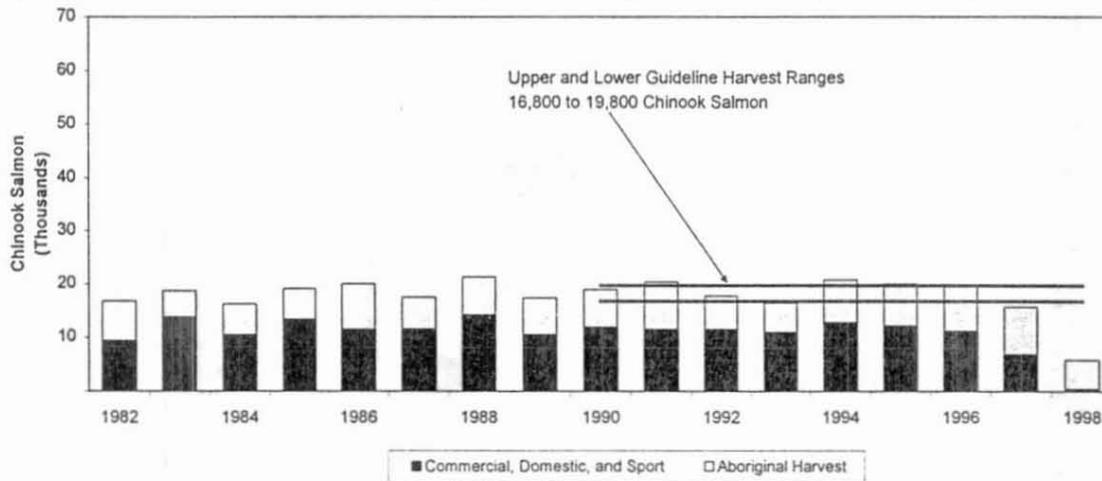


Appendix A.2. Subsistence and commercial harvest of summer chum salmon, Yukon Area, 1961-1998.

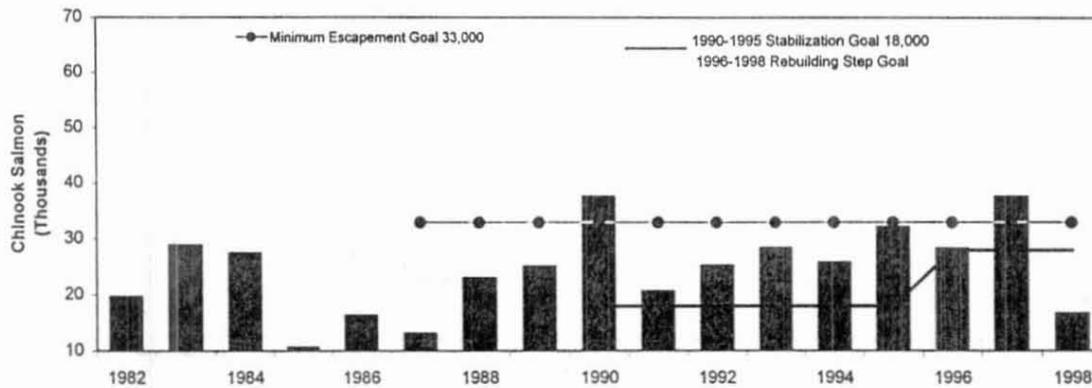
**CANADIAN MAINSTEM YUKON RIVER  
Chinook Salmon Border Passage**



**Canadian Chinook Salmon Harvest  
(Includes Aboriginal, Commercial, Domestic, and Sport Harvests)**

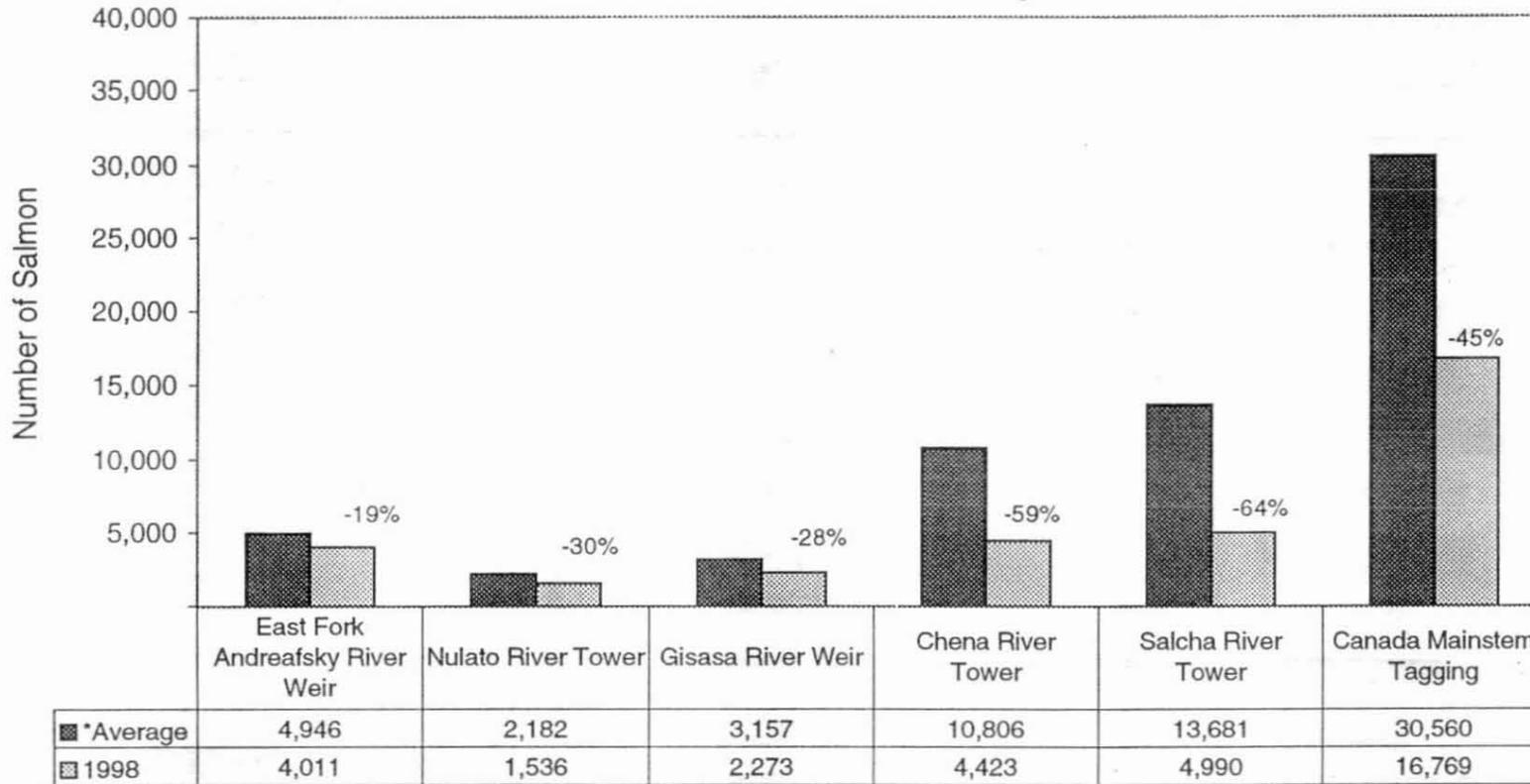


**Canadian Chinook Salmon Spawning Escapement**



Appendix A.3. Canadian mainstem border passage, harvest and escapement estimates, 1982-1998; and stabilization and rebuilding step escapement goals. Although not formally agreed to, the 1998 rebuilding step is depicted as if the interim agreement had been extended.

## Yukon River Drainage Chinook Salmon Escapement

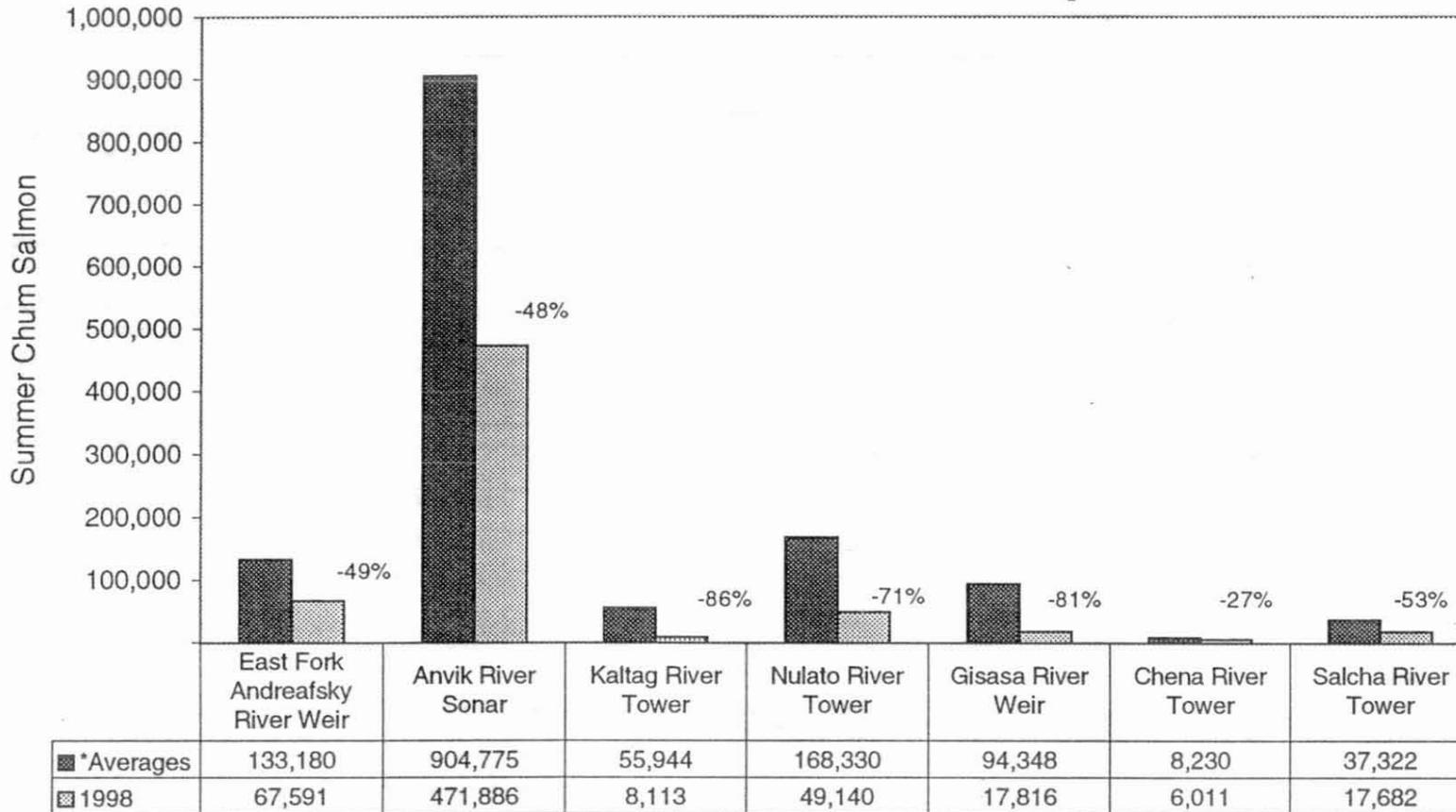


\*1994-1997 Average (East Fork Andreafsky, Nulato, Gisasa)

\*1993-1997 Average (Chena, Salcha, Canada Mainstem Tagging)

Appendix A.4. Selected chinook salmon escapements, 5-year average compared to 1998, Yukon River drainage.

## Yukon River Drainage Summer Chum Salmon Escapement



\*1994-1997 Average (East Fork Andreafsky, Kaltag, Nulato, Gisasa)

\*1993-1997 Average (Anvik River, Chena, Salcha)

Appendix A.5. Selected summer chum salmon escapements, 5-year average compared to 1998, Yukon River drainage.

Appendix A.6. Chinook salmon commercial harvest and escapement comparisons, Yukon River, 1993-1998.

King Salmon Commercial Harvest a									
District/Subdistrict	Guideline Harvest Range	1993	1994	1995	1996	1997	1998	1998 Comparison to Average	5-Year Average (1993-1997)
Y-1		49,286	62,241	76,106	56,642	66,384	25,413	-59%	62,132
Y-2		37,293	41,692	41,458	30,209	39,363	16,806	-56%	38,003
<i>Subtotal Y1 &amp; Y2</i>	60,000-120,000	86,579	103,933	117,564	86,851	105,747	42,219	-58%	100,135
Y-3	1,800-2,200	1,501	1,114	0	0	0	0		523
Y-4A		0	0	0	0	0	0		0
Y-4BC		1,577	2,443	499	137	1,457	0		1,223
<i>Subtotal Y-4</i>	2,250-2,850	1,577	2,443	499	137	1,457	0		1,223
Y-5ABC	2,400-2,800	2,608	3,294	2,753	2,309	3,071	475	-83%	2,807
Y-5D	300-500	400	450	489	448	607	42	-91%	479
<i>Subtotal Y-5</i>		3,008	3,744	3,242	2,757	3,678	517	-84%	3,286
Y-6	600-800	1,445	2,606	2,747	447	2,728	963	-52%	1,995
<i>Total Alaska</i>	67,350-129,150	94,110	113,840	124,052	90,192	113,610	43,699	-59%	107,161
Canada b	16,800-19,800	16,469	20,790	20,091	19,546	15,717	5,819	-69%	18,523

King Salmon Escapements									
Project	Spawning Escapement Goal	1993	1994	1995	1996	1997	1998	1998 Comparison to Average	5-Year Average (1993-1997)
East Fork Andreafsky River Weir			7,801	5,841	2,955	3,186	4,011	-19%	4,946 d
East Fork Andreafsky River Aerial c	>1,500	5,855	N/A	1,635		1,140	1,027		N/A
West Fork Andreafsky River Aerial c	>1,400	2,765	N/A	1,108	624	1,510	N/A f		N/A
Pilot Station Sonar		N/A	N/A	240,000	N/A	224,000	122,000		N/A
Anvik River Index Aerial c	>500	1,526	N/A	1,147	709	2,690	N/A f		N/A
Nulato River Tower			1,795	1,412	756	4,766	1,536	-30%	2,182 d
Nulato River Aerial c	>1,300	3,025	1,795	1,649	N/A		1,053		N/A
Gisasa River Weir			2,888	4,023	1,952	3,764	2,273	-28%	3,157 d
Gisasa River Aerial c	>600	1,573	2,775	410		N/A	N/A f		N/A
South Fork Koyukuk River Weir					1,232	1,642	-		N/A
Chena River Tower/MR Tagging		12,241	11,887	9,680 e	6,833 e	13,390	4,423	-59%	10,806
Chena River Index Aerial c	>1,700	2,660	1,570	3,039	2,112	3,303	N/A		N/A
Salcha River Tower/MR Tagging		10,007	18,399	13,643	7,958 e	18,396	4,990	-64%	13,681
Salcha River Index Aerial c	>2,500	3,562	11,189	3,734	4,800	N/A	N/A		N/A
Canada Mainstem Tagging	>28,000	28,558	25,890	32,262	28,409	37,683	16,769	-45%	30,560
Whitehorse Fishway		668	1,577	2,103	2,958	2,084	777	-59%	1,878

a Commercial harvest includes the estimated harvest of females to produce roe sold.

b Total harvest for all fisheries in Canadian mainstem Yukon River.

c Only aerial surveys rated good to fair are used in comparison.

d Four year average, 1994-1997.

e Mark Recapture Tagging Estimate, Tower counts are minimum/incomplete due to late installation and/or early removal of project or high water events/weather conditions.

f The 1998 aerial surveys rated poor/incomplete WF Andreafsky-1,249, Anvik-648, Gisasa-889.

Appendix A.7. Summer chum salmon commercial harvest and escapement comparisons, Yukon River, 1998.

Summer Chum Salmon Commercial Harvest a										
District/Subdistrict	Guideline Harvest Range	1993	1994	1995	1996	1997	1998	1998 Comparison to Average	5 Year Average (1993-1997)	
Y-1		73,659	42,332	142,266	92,506	59,915	21,270	-74%	82,136	
Y-2		19,332	12,869	83,817	30,727	18,242	6,848	-79%	32,997	
Subtotal Y-1 & Y-2	251,000-755,000	92,991	55,201	226,083	123,233	78,157	28,118	-76%	115,133	
Y-3	6,000-19,000	463	35	0	1,534	0	0		406	
Anvik River	# Fish lbs. Roe	0 100,000	22,574 19,532	54,744 48,477	84,663 76,318	13,548 13,067	0 0		35,106 31,479	
Y-4A	# Fish lbs. Roe	113,000-338,000 61,000-183,000	38,196 20,485	131,794 62,801	419,688 189,252	356,938 181,050	100,389 56,301	0 0	209,401 101,978	
Y-4BC	# Fish lbs. Roe	16,000-47,000	4,761 1,962	17,239 7,384	80,155 43,345	68,639 37,882	10,734 4,863	0	36,306 19,087	
Subtotal Y-4		42,957	171,607	554,587	425,577	111,123	0		261,170	
Y-5ABC		0	464	316	209	125	110	-51%	223	
Y-5D		0	0	0	127	12	0		28	
Subtotal Y-5	1,000-3,000	0	464	316	336	137	110	-56%	251	
Y-6	# Fish lbs. Roe	13,000-38,000	3,705 515	31,434 7,828	37,428 9,475	46,890 18,332	25,287 9,036	570 140	-98%	28,949 9,037
Total Alaska	400,000-1,200,000	140,116	258,741	818,414	682,233	228,252	28,798	-93%	425,551	

Summer Chum Salmon Escapements									
Project	Spawning Escapement Goal	1993	1994	1995	1996	1997	1998	1998 Comparison to Average	5 Year Average (1993-1997)
East Fork Andreafsky River Weir			200,981	172,148	108,450	51,139	67,591	-49%	133,180 c
Pilot Station Sonar		N/A	N/A	3,638,000	N/A	1,411,000	831,000		N/A
Anvik River Sonar	>500,000	517,409	1,124,689	1,339,418	933,240	609,118	471,886	-48%	904,775
Kaltag River Tower			47,295	77,193	51,269	48,018	8,113	-85%	55,944 c
Nulato River Tower			148,762	236,890	129,694	157,975	49,140	-71%	168,330 c
Gisasa River Weir			51,116	136,886	157,589	31,800	17,816	-81%	94,348 c
Clear Creek Tower				116,735	100,912	76,454	212	-100%	98,034 d
South Fork Koyukuk River Weir					37,450	9,476	N/A		N/A
Chena River Tower		5,400	9,984	3,519 e	12,810 e	9,439 e	6,011 e	-27%	8,230
Chena River Aerial b		168	1,137	N/A	2,061	N/A	N/A		N/A
Salcha River Tower		5,809	39,450	30,784	74,827 e	35,741 e	17,682 e	-53%	37,322
Salcha River Aerial b	>3,500	212	4,916	N/A	9,722	N/A	N/A		N/A

a Commercial harvest includes the estimated harvest of females to produce roe sold, except for Districts 3 and 4, which also includes the number of males harvested to produce roe sold.

b Only aerial surveys rated good to fair are used for comparison

c Four year average, 1994-1997.

d Three year average, 1995-1997.

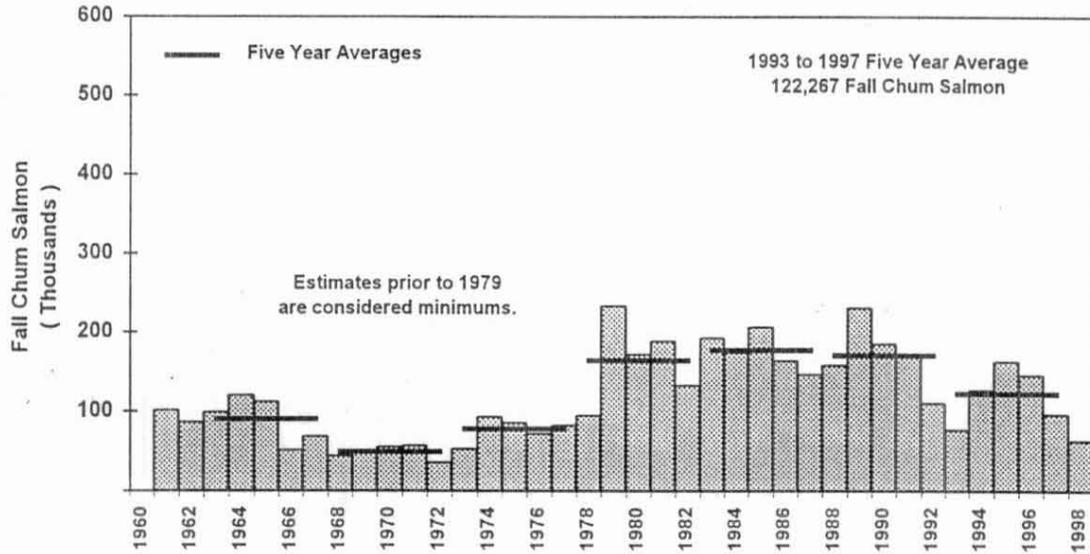
e Chena and Salcha River Tower counts are minimum/incomplete due to late installation and/or early removal of project or high water events/weather conditions.

## **Appendix B**

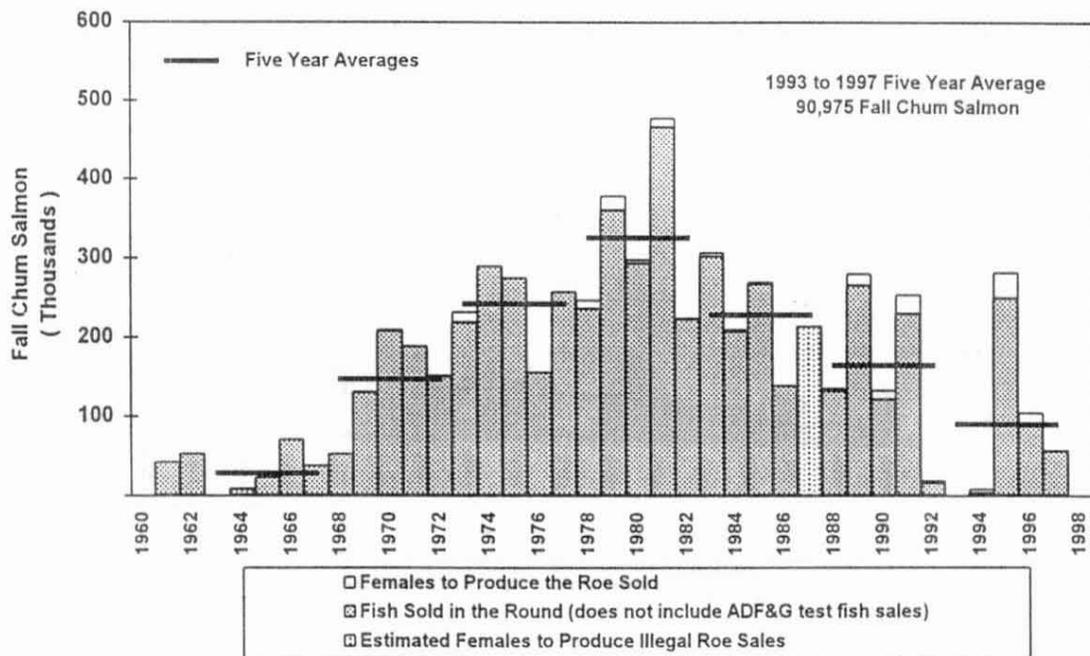
### **Historical Fall Chum and Coho Salmon Harvest and Escapement Information**

## YUKON AREA, ALASKA FALL CHUM SALMON

### SUBSISTENCE USE



### COMMERCIAL HARVEST

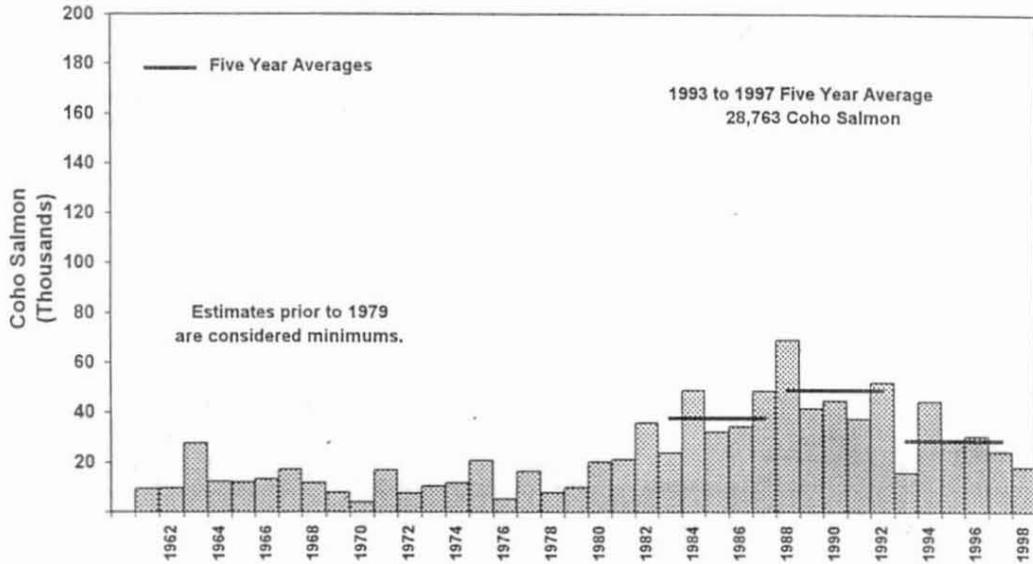


Note: Both graphs are on the same scale.

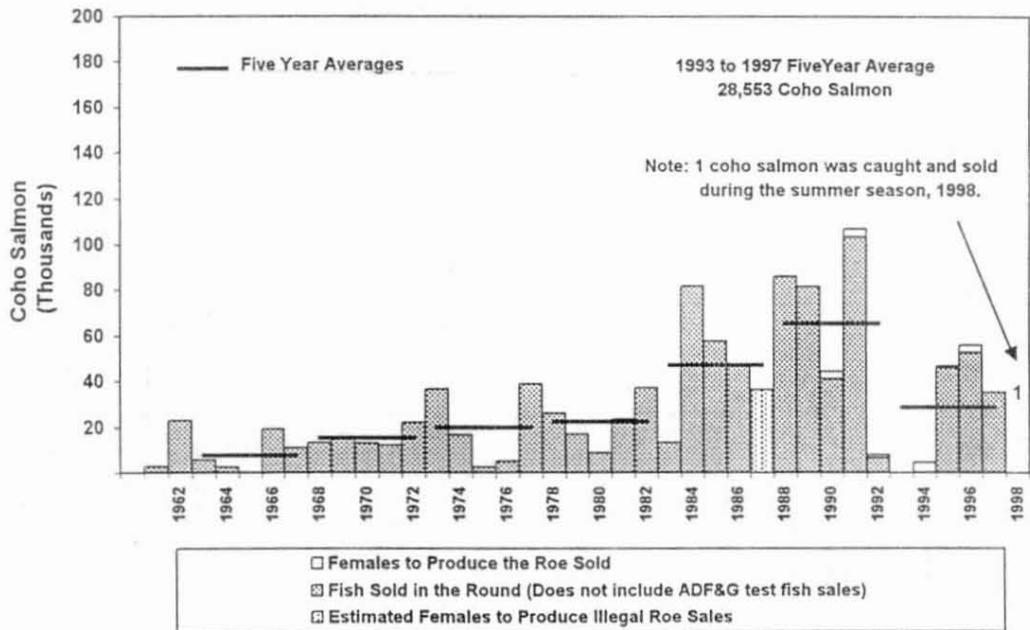
Appendix B.1. Subsistence use and commercial harvest of fall chum salmon, Yukon Area, Alaska, 1961-1998.

YUKON AREA, ALASKA  
COHO SALMON

SUBSISTENCE AND PERSONAL USE



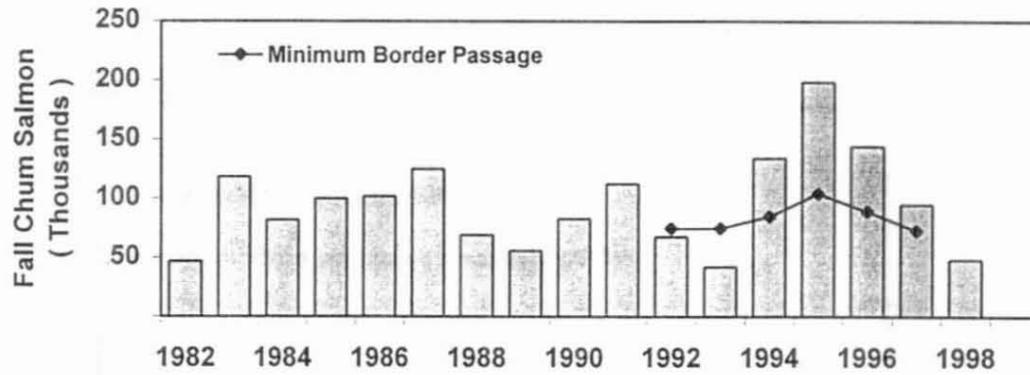
COMMERCIAL HARVEST



Note: Both graphs are on the same scale.

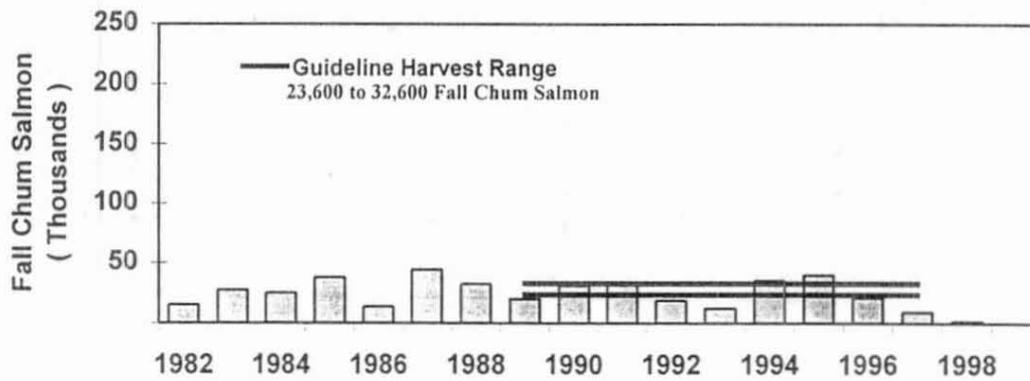
Appendix B.2. Subsistence and personal use, and commercial harvest of coho salmon, Yukon Area, Alaska, 1961-1998.

## CANADIAN MAINSTEM YUKON RIVER Fall Chum Salmon Canadian Border Passage

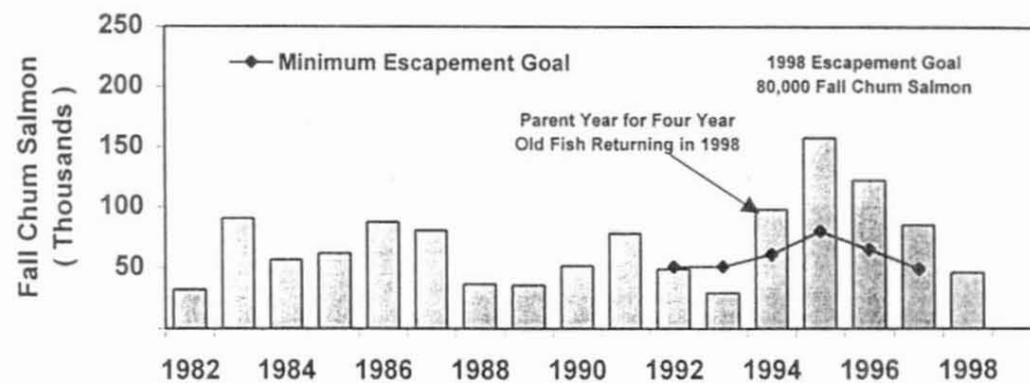


## Canadian Mainstem Harvest

(Includes aboriginal, commercial, domestic, and sport harvests)



## Canadian Spawning Escapement

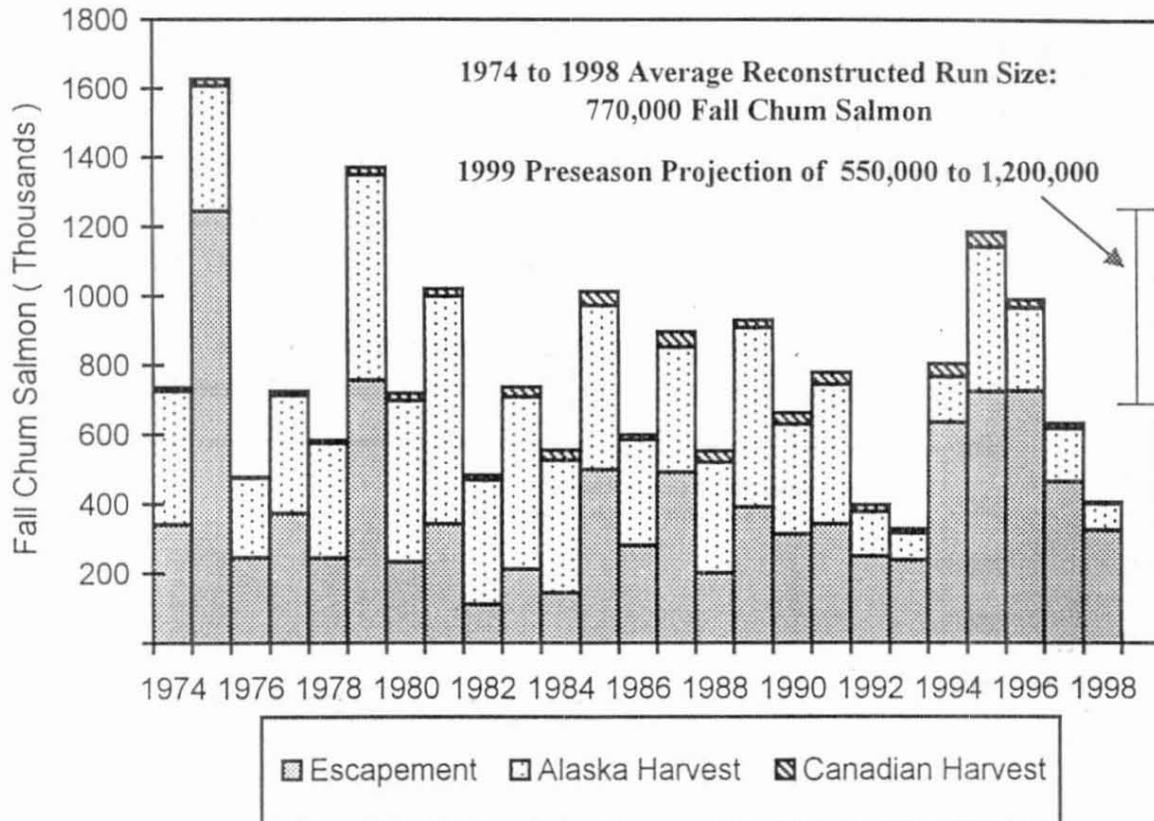


Appendix B.3. Canadian mainstem border passage, harvest and escapement estimates, 1982 to 1998, and targeted goals for the rebuilding period from 1992 through 1997.

# YUKON RIVER DRAINAGE

## ALASKA AND CANADA

### FALL CHUM SALMON HARVEST AND ESCAPEMENT



Harvest estimates from JTC Report, November 18, 1998. Historical escapement estimates as provided in the 1999 Fall Chum Salmon Run Projection Memorandum, by L. Barton, dated February 8, 1999.

Appendix B.4. Estimated harvest and escapement, fall chum salmon, Yukon River drainage, 1974 to 1998, and the 1999 preseason projection.

Appendix B.5. The Yukon River drainage fall chum salmon management plan, 1999.

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
350,001 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
600,001 to 675,000	Closure	Normal Fishing Schedules	Retention Allowed	Normal Fishing Schedules	400,000 or More
Greater Than 675,000	Commercial Fishing Considered <i>f</i>	Normal Fishing Schedules	Retention Allowed	Normal Fishing Schedules	400,000 or More

**1998**

Run Reconstruction  
405,000  
Fall Chum Salmon

→

**1999**

Preseason Projection  
550,000  
to 1,200,000  
Fall Chum Salmon

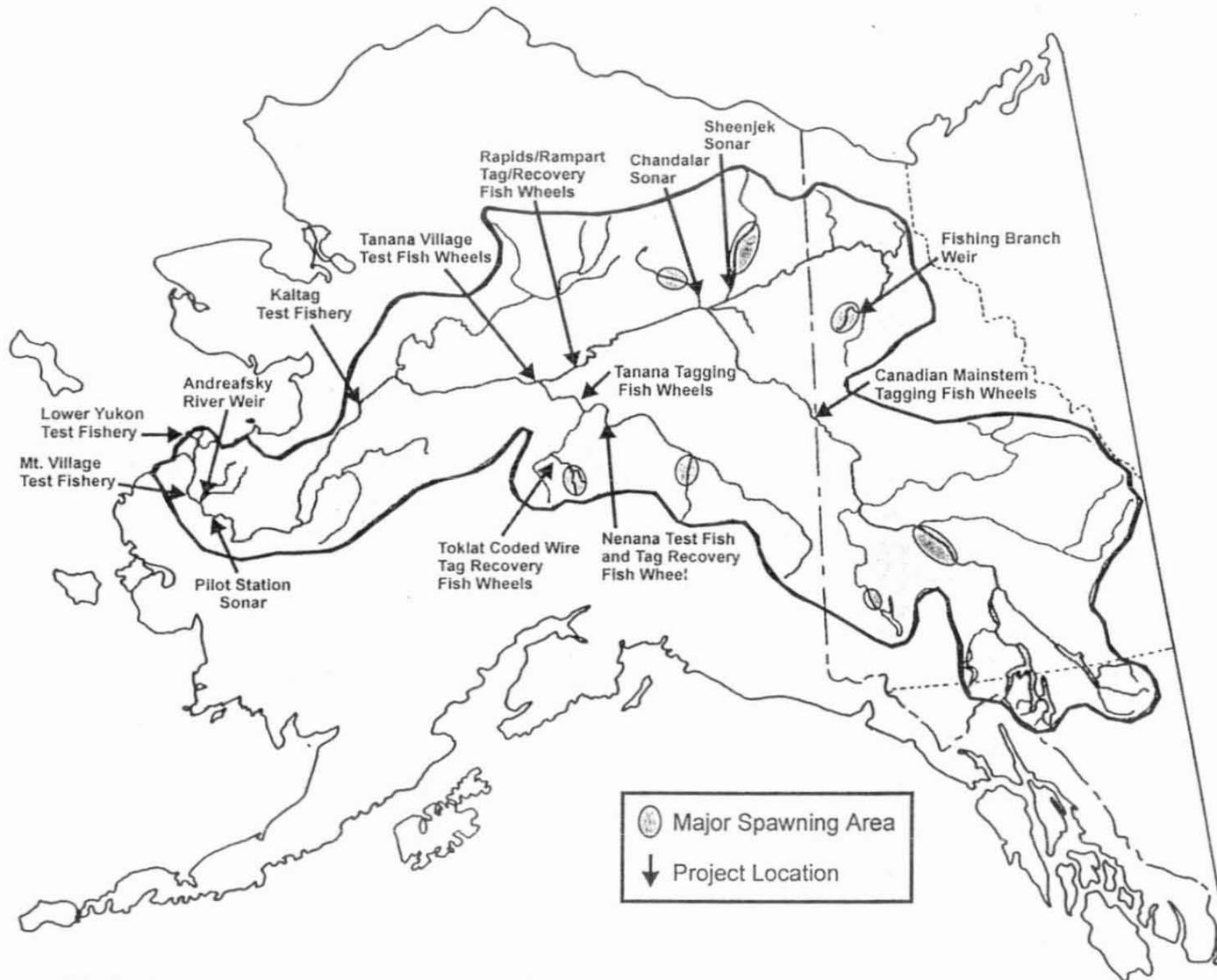
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- a* Considerations for the Toklat River and Canadian Mainstem rebuilding plans may require more restrictive management actions.
- b* The department will use the best available data including preseason projections, mainstem river sonar passage estimates, test fisheries indices, subsistence and commercial fishing reports, and passage estimates from escapement monitoring projects to assess the run size.
- 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* When the projected run size is more than 675,000 chum salmon, the department may allow for a drainage-wide commercial fishery with the targeted harvest of the surplus above 625,000 chum salmon distributed by district or subdistrict proportional to the guideline established in harvest range 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 320,500 chum salmon, distributed as follows:

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



**Appendix B.6. Select fall season monitoring projects and major fall chum salmon spawning areas, Yukon River drainage, 1999.**

Appendix B.7. Preliminary fall chum salmon commercial harvest and escapement comparison, Yukon River drainage, 1998. a

Fall Chum Salmon Commercial Harvest b									
District/Subdistrict	Guideline Harvest Range	1993	1994	1995	1996	1997	1998	Comparison to Average	5 Year Average (1993 to 1997)
Y-1		0	0	79,345	33,629	27,483	0		28,091
Y-2		0	0	90,831	29,651	24,326	0		28,962
Y-3		0	0	0	0	0	0		0
Subtotal Y-1, Y-2, & Y-3	60,000-220,000	0	0	170,176	63,280	51,809	0	-	57,053
Y-4BC	5,000-40,000	0	0	8,731	2,918	2,458	0		2,821
Subtotal Y-4	5,000-40,000	0	0	8,731	2,918	2,458	0	-	2,821
Y-5ABC	4,000-36,000	0	0	26,054	17,461	3,069	0		9,317
Y-5D	1,000-4,000	0	3,630	3,979	4,397	851	0		2,571
Subtotal Y-5	5,000-40,000	0	3,630	30,033	21,858	3,920	0	-	11,888
Y-6	2,750-20,500	0	4,369	74,117	17,574	0	0		19,212
Subtotal Y-6		0	4,369	74,117	17,574	0	0	-	19,212
Total Alaska	72,750-320,500	0	7,999	283,057	105,630	58,187	0		90,975
Canada <sup>c</sup>		12,422	35,354	40,111	21,329	9,090	0	-	23,661

Fall Chum Salmon Escapements									
Project	Spawning Escapement Goal	1993	1994	1995	1996	1997	1998	Comparison to Average	5 Year Average (1993 to 1997)
East Fork Andreafsky River Weir		-	-	2,584	2,978	2,048	1,276	-50%	2,537 <sup>d</sup>
Pilot Station Sonar		295,303	-	1,247,541	-	623,367	397,157		-
South Fork Koyukuk River Weir		-	-	19,485	21,651	11,340	-		17,492 <sup>d</sup>
Toklat River	>33,000	27,838	76,057	54,513	18,264	14,511	15,605	-59%	38,237
Delta River	>11,000	19,857	23,777	20,587	19,758	7,705	7,804	-57%	18,337
Chandalar River Sonar		-	-	280,999	208,170	199,874	75,811	-67%	229,681 <sup>d</sup>
Sheenjek River Sonar	>64,000	42,922	153,013	235,269	247,965	80,423	32,894	-78%	151,918
Canada Fishing Branch River Weir	50,000-120,000	28,707	65,247	51,971	77,278	26,959	13,248	-74%	50,032
Canada Mainstem Tagging	>80,000	29,743	98,358	158,092	122,429	85,439	46,035	-53%	98,812

a Data from the 1997 AMR used when available.

b Commercial harvest includes the estimated harvest of females to produce roe sold.

c Total harvest for all fisheries in Canadian mainstem Yukon River.

d Three year average, 1995 to 1997.

Appendix B.8. Preliminary coho salmon commercial harvest and escapement comparison, Yukon River drainage, 1998. a

Coho Salmon Commercial Harvest								
District/Subdistrict	1993	1994	1995	1996	1997	1998	Comparison to Average	5 Year Average (1993 to 1997)
Y-1	0	0	21,625	27,705	21,450	0		14,156
Y-2	0	0	18,488	20,974	13,056	1		10,504
Y-3	0	0	0	0	0	0		0
Subtotal Y-1, Y-2, & Y-3	0	0	40,113	48,679	34,506	1	-	24,660
Y-4A	0	0	0	0	0	0		0
Y-4BC	0	0	0	161	814	0		195
Subtotal Y-4	0	0	0	161	814	0	-	195
Y-5ABC	0	0	0	0	0	0		0
Y-5D	0	0	0	0	0	0		0
Subtotal Y-5	0	0	0	0	0	0	-	0
Y-6	0	4,451	6,900	7,142	0	0		3,699
Subtotal Y-6	0	4,451	6,900	7,142	0	0	-	3,699
Total Alaska	0	4,451	47,013	55,982	35,320	1	-	28,553

Coho Salmon Escapements									
Project	Spawning Escapement Goal	1993	1994	1995	1996	1997	1998	Comparison to Average	5 Year Average (1993 to 1997)
East Fork Andreafsky River Weir	-	-	-	10,901	8,037	9,462	5,417	-43%	9,467 <sup>b</sup>
Pilot Station Sonar	41,620	-	-	154,462	-	153,502	176,792		-
Geiger Creek	138	410	142	233	274	157	-34%	239	
Barton Creek Weir	141	2,000	192	0	-	-	-		583 <sup>c</sup>
Lost Slough	484	944	4,169	2,040	1,524	1,360	-26%	1,832	
Mainstem Nenana	419	1,648	2,218	2,171	1,446	2,771	75%	1,580	
Wood Creek	666	1,317	500	2,416	1,464	353	-72%	1,273	
Seventeen Mile Slough	581	2,909	2,972	3,668	1,996	1,374	-43%	2,425	
Delta Clearwater River	>9,000	10,875	62,675	20,100	14,075	11,525	11,100	-53%	23,850
Clearwater Lake & Outlet		3,525	3,425	3,625	1,125	2,775	2,775	-4%	2,895

a Data from the 1997 AMR used when available.

b Three year average, 1995 to 1997.

c Four year average, 1993 to 1996.

## Appendix C. Yukon Area Fishery Regulation Changes.

### YUKON AREA FISHERY REGULATION CHANGES

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 and actions recently taken by the Alaska Board of Fisheries. This summary of actions is limited to Yukon Area proposals and agenda change requests (ACR) addressed by the Board during November 1998 meeting in Homer and March 1999 meeting in Anchorage. For more information concerning these or other regulations, contact the office of Alaska Department of Fish and Game, Division of Commercial Fisheries in Anchorage at 907-267-2171 or in Fairbanks at 907-459-7274. *The following summary is for informational purposes only and is not intended to detail, reflect, or fully interpret reasons for the Board's actions.*

### YUKON AREA SALMON

#### ACR NO. 17

**ACTION: No Action Taken**

**DESCRIPTION:** 5 AAC 04.XXX, 5 AAC 04.100, and 5 AAC 05.100. Requests establishment of a new pink salmon directed commercial fishery within waters offshore of Stebbins and St. Michael. Area of the proposed fishery currently is within the Norton Sound-Port Clarence Area. This proposal raises the issue of intercepting salmon bound for the Yukon River.

**DISCUSSION:** The Native American Rights Fund sent a letter to the Board on behalf of the Native Villages of Stebbins and St. Michael withdrawing their proposal to establish a new commercial pink salmon fishery.

#### ACR NO. 18

**ACTION: Adopted as Amended**

**DESCRIPTION:** 5 AAC 01.xxx. Consider restricting the taking of subsistence chinook (king) salmon for dog food in the Yukon River drainage.

**DISCUSSION:** This is a policy statement, so people will not get a ticket for feeding king salmon to dogs. However, the Board record indicated that king salmon are to be used primarily for human consumption.

**5 AAC 01.240(d) is amended to read:**

**5 AAC 01.240. MARKING AND USE OF SUBSISTENCE TAKEN SALMON.**

*(d) In the Yukon River drainage, it is the policy of the Board of Fisheries that king salmon are to be used primarily for human consumption and not specifically targeted for dog food, except that whole fish that are unfit for human consumption, scraps, and small fish have been and could be fed to dogs.*

#### PROPOSAL NO. 340

**ACTION: Adopted as amended in November 1998**

**DESCRIPTION:** 5 AAC 05.367. Subdistrict 5-A is located immediately downstream of the mouth of the Tanana River. The department supported the management of Subdistrict 5-A being based on the timing and stock status of chinook, summer chum, fall chum, and coho salmon bound for the Tanana River. However, including Subdistrict 5-A into the Tanana River

management plan involves both biological and allocative issues.

**AMENDMENTS:** The allocative elements of this proposal were originally developed by the Tanana-Rampart-Manley and Minto-Nenana Advisory Committees, and supported by YRDFA (RC 86).

**DISCUSSION:** The Board adopted the recommended amendments as proposed by the Tanana-Rampart-Manley and Minto-Nenana Advisory Committees. The regulation contains the "sunset" clause of January 01, 2001.

**5 AAC 05.367 is amended by adding a new section to read:**

*5 AAC 05.367. TANANA RIVER SALMON MANAGEMENT PLAN. (a) The purpose of this management plan is to provide for the sustained yield of the Tanana River salmon resource. Except as provided in 5 AAC 01.248, the department shall manage the District 6 and Subdistrict 5-A salmon fisheries in accordance with the provisions of this section:*

*(c) The department shall manage the salmon fisheries in Subdistrict 5-A according to the stock status and timing of salmon bound for the Tanana River as follows:*

*(1) the commissioner may open, by emergency order, the commercial salmon fishing season only after August 10;*

*(2) when the District 6 fall chum salmon harvest is below the upper end of the guideline harvest range set out in 5 AAC 05.365(5), the department shall manage the fishery in Subdistrict 5-A as follows:*

*(A) a person may sell only salmon roe from fish commercially harvested in Subdistrict 5-A;*

*(B) the guideline harvest range is 0 to 4,000 pounds of fall chum salmon roe; and*

*(C) the department shall manage, to the extent practicable, the fishery to ensure that that no more than 2,000 pounds of roe removed from coho salmon incidentally taken in the fall chum salmon directed fishery are sold;*

*(3) when the District 6 fall chum salmon harvest exceeds the upper end of the guideline harvest range set out in 5 AAC 05.365, in addition to the pounds of fall chum salmon roe allowed under (2) of this section, the department shall manage, to the extent practicable, the fishery in Subdistrict 5-A to ensure that*

*(A) no more than 2,000 female fall chum salmon, or a combination of pounds of chum salmon roe and number of females equivalent to 2,000 fish, as determined by the department, are sold;*

*(B) no more than 2,000 male fall chum salmon are sold; and*

*(C) for coho salmon incidentally taken in the fall chum salmon directed fishery, no more than 4,000 pounds of coho salmon roe, or a combination of numbers of fish and pounds of roe equivalent to 4,000 fish, as determined by the department, are sold; for the purpose of this subparagraph, the poundage of roe shall include the poundage of coho salmon roe sold under (2)(C) of this subsection;*

*(4) for all salmon taken and sold under (3) of this subsection, a buyer shall report the numbers of females and males, by species, on a fish ticket at the time of the sale;*

*(5) beginning August 1, a person holding a CFEC permit who sells salmon or roe from salmon taken in*

*(A) Subdistrict 5-A may not sell salmon or roe from salmon taken in Subdistricts 5-B, 5-C, or 5-D; and*

(B) Subdistrict 5-B, 5-C, or 5-D may not sell salmon or roe from salmon taken in Subdistrict 5-A;

(6) the provisions of this subsection do not apply after January 1, 2001.

**PROPOSAL NO. 341**

**ACTION: Adopted in November 1998**

**DESCRIPTION: 5 AAC 05.XXX.** Prior to the 1999 fishing season, the fall season management plans did not allow directed coho salmon commercial fishing in the Yukon Area. The fall season was managed based on the timing and stock status of fall chum salmon. Any coho salmon sold commercially were considered incidental to the directed fall chum salmon commercial fishery. This proposal would establish a coho salmon management plan for the Yukon River drainage, which would allow directed coho salmon commercial periods only under very special and unique situations.

**DISCUSSION:** The coho salmon management plan adopted by the Board was essentially developed and recommended by YRDFA. It was recognized by the Board that in most years the commercial harvest of coho salmon will continue to be based upon the timing, frequency, and duration of periods established for the more numerous fall chum salmon. When the conditions of the coho salmon management plan were applied to past years, directed coho salmon commercial fisheries would have been allowed in only one of the past 18 years.

**5 AAC 05 is amended by adding a new section to read:**

**5 AAC 05.369. YUKON RIVER COHO SALMON MANAGEMENT PLAN.**

(a) *The goal of this plan is to provide for the management of directed commercial coho salmon fishing in the Yukon River. The majority of Yukon River coho salmon spawn in tributaries that flow into the Yukon River from the mouth of the Yukon River up to and including the Tanana River drainage. The management of directed coho salmon fishing during the fall season is complicated by an overlapping run of more abundant fall chum salmon stocks.*

(b) *For the purpose of (c) of this section, the department shall use the best available information to assess coho salmon abundance including mainstem river sonar passage estimates, test fisheries indices, subsistence and commercial fishing reports, and estimates from escapement monitoring projects.*

(c) *The department may allow a directed coho salmon fishery under this section in years when*  
(1) *the return of coho salmon measured under (b) of this section is above the average of the previous years;*  
(2) *the fall chum salmon return is assessed by the department to be more than 625,000 fish; and*  
(3) *no directed fall chum salmon commercial fishing has occurred or the department determines that it is not expected to occur.*

(d) *Fall chum salmon harvested during a directed commercial coho salmon fishery under this section will be considered incidental and may only occur on the harvestable surplus of fall chum salmon above 625,000 fish.*

(e) *In a year when a directed commercial coho salmon fishery is opened under this section in*  
(1) *Districts 1, 2, and 3, the commissioner shall close, by emergency order, the coho salmon fall season no later than September 5;*  
(2) *Subdistricts 4-B, 4-C, and 5-A, and District 6, the commissioner shall close, by emergency order, the coho salmon fall season no later than October 5;*

- (3) *Subdistrict 4-A, the commissioner may open, by emergency order, the directed commercial coho salmon fishery on or after August 20, and shall close the fishery no later than September 15.*
- (f) *In Subdistrict 5-B, 5-C, and 5-D there will be no directed commercial coho salmon fishery unless the department determines that there will be a harvestable surplus of coho salmon.*
- (g) *The department shall distribute, to the extent practicable, the harvest opportunity in the directed coho salmon fishery between districts and subdistricts as follows:*
- (1) *24 hours of combined fishing time in Districts 1, 2, and 3 will be considered equal to 32 hours of fishing time in*
- (A) *Subdistrict 4-A;*
- (B) *Subdistricts 4-B and 4-C combined;*
- (C) *Subdistrict 5-A; and*
- (D) *District 6;*
- (2) *to ensure an orderly and conservative fishery, coho salmon fishing will be managed as follows:*
- (A) *in Districts 1, 2, and 3 combined, fishing time shall not exceed 24 hours in a seven-day period;*
- (B) *in Subdistrict 4-A, fishing time shall not exceed 32 hours in a seven-day period;*
- (C) *in Subdistricts 4-B and 4-C combined, fishing time shall not exceed 32 hours in a seven-day period;*
- (D) *in Subdistrict 5-A, fishing time shall not exceed 32 hours in a seven day period;*
- (E) *in District 6, fishing time shall not exceed 32 hours in a seven-day period.*
- (h) *The provisions of this section do not apply after January 1, 2001.*