3A89-21

SUBSISTENCE HARVEST OF PACIFIC SALMON IN THE YUKON RIVER DRAINAGE, ALASKA, 1977-88

By

Robert J. Walker
Elizabeth F. Andrews
David B. Andersen
and
Neil Shishido

Regional Information Report[1] No. 3A89-21

Alaska Department of Fish and Game
Division of Commercial Fisheries, AYK Region
333 Raspberry Road
Anchorage, Alaska 99581

October 1989

[1] The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

AUTHORS

Robert J. Walker is Biometrician for the Division of Subsistence, Alaska Department of Fish and Game, 333 Raspberry Road, Anchorage, Alaska, 99518.

Elizabeth F. Andrews is Regional Supervisor for Interior and Western Regions, Division of Subsistence, Alaska Department of Fish and Game, 1300 College Road, Fairbanks, Alaska, 99701.

David B. Andersen is Subsistence Resource Specialist II for Statewide Projects, Division of Subsistence, Alaska Department of Fish and Game, 1300 College Road, Fairbanks, Alaska, 99701.

Neil Shishido is Fish and Wildlife Technician III for Interior and Arctic Regions, Division of Subsistence, Alaska Department of Fish and Game, 1300 College Road, Fairbanks, Alaska, 99701.

ACKNOWLEDGEMENTS

The collection and compilation of data for this report was made possible through the work of several other individuals. Vicky Leffingwell provided administrative support throughout. Field workers spent many hours traveling to and working in villages throughout the drainage contacting members of over 1,300 households during a two-month period. They included Jim Anderson, William Busher, Matt Keith, Suzi Lozo, and Neil Shishido. Their efforts in collecting harvest calendars and interviewing fishing households are gratefully acknowledged. In addition, Dawn Bundick, and Heather Stillwell were instrumental in entering all data onto computer files in an expeditious manner. Cheryl Scott assisted with the timely production of graphs and tables. The voluntary contributions of Daniel Mardeusz deserve special recognition. His work tracking harvest calendar and reminder letter returns greatly aided the progress of the harvest data compilation. Finally, we would like to thank Richard Randall for providing us with the opportunity to develop and test a new methodology for recording and estimating the harvest of salmon for subsistence in Yukon River drainage communities.

PROJECT SPONSORSHIP

This study was financed under Cooperative Agreement No. NA-88-ABH-00045 related to United States/Canada negotiations pertaining to Yukon River transboundary salmon.

TABLE OF CONTENTS

List of Tables v
List of Figures vii
Abstract xi

INTRODUCTION 1

Description of the Study Area 2

Description of the Subsistence Fishery 2

Objectives 4

METHODS 5

Historical Survey and Estimation Methods 5

Recording Subsistence Salmon Harvests, 1988 5

Estimating Subsistence Salmon Harvests, 1988 9

RESULTS AND DISCUSSION 12

Household and Fishing Inventory 12

Sampling Results 13

1988 Village, District, and Drainage Harvest and Gear Totals 14

Comparison of 1988 and Previous Harvest Estimation Methods 17

1988 Frequency of Harvests for Fishing Households 18

Subsistence Harvest Levels, 1977-88 19
- Chinook Salmon 19
- Summer Chum Salmon 20
- Fall Chum Salmon 21
- Coho Salmon 21

District and Drainage Harvest in Pounds, 1977-88 22

Discussion and Conclusions 23

REFERENCES CITED 25

TABLES AND FIGURES 26

APPENDIX 1. YUKON RIVER DRAINAGE SUBSISTENCE SALMON HARVEST CALENDARS,1988 112

APPENDIX 2. YUKON RIVER DRAINAGE POSTSEASON SUBSISTENCE SALMON HARVEST INTERVIEW FORMS, 1988 118

APPENDIX 3. YUKON RIVER DRAINAGE SUBSISTENCE SALMON HARVEST REMINDER LETTER, 1988 133

APPENDIX 4. YUKON MANAGEMENT AREA SUBSISTENCE SALMON FISHING PERMIT, 1988 134

APPENDIX 5. YUKON MANAGEMENT AREA SUBSISTENCE SALMON FISHING PERMIT REMINDER LETTER, 1988 136

LIST OF TABLES

Table 1. Yukon Area Communities and Dates of Community Visits for Subsistence Salmon Surveys, 1988 26

Table 2. 1988 Yukon River Subsistence Salmon Project Sampling Summary 27

Table 3. 1988 Yukon River Subsistence Salmon Project Sampling Summary for Those Households Identified as "Usually Fish" 28

Table 4. 1988 Yukon River Subsistence Salmon Project Sampling Summary for Those Households Identified as "Usually Did Not Fish: 29

Table 5. 1988 Yukon River Subsistence Harvests 30

Table 6. 1988 Yukon River Chinook Salmon Subsistence Harvests 31

Table 7. 1988 Yukon River Summer Chum Salmon Subsistence Harvests 32

Table 8. Reported Quantities of Salmon Removed from Commercial Catches for Home Uses, Selected Yukon River Communities, 1988 33

Table 9. 1988 Yukon River Fall Chum Salmon Subsistence Harvests 34

Table 10. 1988 Yukon River Coho Salmon Subsistence Harvests 35

Table 11. Number of Households Receiving Salmon and Quantities Received from ADF&G Test Fishing Projects, 1988 36

Table 12. Reported Use of Fishing Gear by Subsistence Salmon Fishers, Yukon River Area, 1988 37

Table 13. Number of People and Dogs in Surveyed Communities which Reported Information 38

Table 14. Sampling Statistics and Estimated Harvests for 1987 Fishing Families 39

Table 15. Harvest Estimates from 1987 Fishing Family Methodology as a Percentage of the Estimates Using the 1988 Methodology 40

Table 16. Yukon River Fishing Families by District, 1977-88 41

Table 17. Estimated Yukon River Chinook Salmon Subsistence Harvest by Village and District, 1977-88 42

Table 18. Average Number of Chinook Salmon Harvested per Fishing Family by District, 1977-88 46

Table 19. Estimated Yukon River Summer Chum Salmon Subsistence Harvest by Village and District, 1977-88 47

Table 20. Average Number of Summer Chum Salmon Harvested per Fishing Family by District, 1977-88 51

Table 21. Estimated Yukon River Fall Chum Salmon Subsistence Harvest by Village and District, 1977-88 52

Table 22. Average Number of Fall Chum Salmon Harvested per Fishing Family by District, 1977-88 56

Table 23. Estimated Yukon River Coho Salmon Subsistence Harvest by Village and District, 1977-88 57

Table 24. Average Number of Coho Salmon Harvested per Fishing Family by District, 1977-88 61

Table 25. Estimated Yukon River Subsistence Salmon Harvest in Pounds Round Weight of Chinook, Summer Chum, Fall Chum, and Coho Salmon Combined by Village and District, 1977-88 62

Table 26. Estimated Yukon River Subsistence Salmon Harvest in Pounds Round Weight of Chinook, Fall Chum, and Coho Salmon Combined by Village and District, 1977-88 66

LIST OF FIGURES

Fig. 1. The Yukon River drainage 70

Fig. 2. Communities and fishing districts in Alaska in the Yukon River drainage 71

Fig. 3. Frequency of Yukon River chinook salmon subsistence catch for fishing households reporting in Alaska, districts 1, 2, and 3, 1988 72

Fig. 4. Frequency of Yukon River chinook salmon subsistence catch for fishing households reporting in Alaska, districts 4, 5, and 6, 1988 75

Fig. 5. Frequency of Yukon River summer chum salmon subsistence catch for fishing households reporting in Alaska, districts 1, 2, and 3, 1988 78

Fig. 6. Frequency of Yukon River summer chum salmon subsistence catch for fishing households reporting in Alaska, districts 4, 5, and 6, 1988 81

Fig. 7. Frequency of Yukon River fall chum salmon subsistence catch for fishing households reporting in Alaska, districts 1, 2, and 3, 1988 84

Fig 8. Frequency of Yukon River fall chum salmon subsistence catch for fishing households reporting in Alaska, districts 4, 5, and 6, 1988 87

Fig. 9. Frequency of Yukon River coho salmon subsistence catch for fishing households reporting in Alaska, districts 1, 2, and 3, 1988 90

Fig. 10. Frequency of Yukon River coho salmon subsistence catch for fishing households reporting in Alaska, districts 4, 5, and 6, 1988 93

Fig. 11. Yukon River chinook salmon subsistence harvest in Alaska, by district, 1977-88 96

Fig. 12. Percentage of total Yukon River chinook salmon subsistence harvest in Alaska, by district, 1977-88 97

Fig. 13. Average Yukon River chinook salmon subsistence harvest per fishing family in Alaska, by district, 1977-88 98

Fig. 14. Yukon River summer chum salmon subsistence harvest in Alaska, by district, 1977-88 99

Fig. 15. Percentage of total Yukon River summer chum salmon subsistence harvest in Alaska, by district, 1977-88 100

Fig. 16. Average Yukon River summer chum salmon subsistence harvest per fishing family in Alaska, by district, 1977-88 101

Fig. 17. Yukon River fall chum salmon subsistence harvest in Alaska, by district, 1977-88 102

Fig. 18. Percentage of total Yukon River fall chum subsistence harvest in Alaska, by district, 1977-88 103

Fig. 19. Average Yukon River fall chum subsistence harvest per fishing family in Alaska, by district, 1977-88 104

Fig. 20. Yukon River coho salmon subsistence harvest in Alaska, by district, 1977-88 105

Fig. 21. Percentage of total Yukon River coho salmon subsistence harvest in Alaska, by district, 1977-88 106

Fig. 22. Average Yukon River coho salmon subsistence harvest per fishing family in Alaska, by district, 1977-88 107

Fig. 23. Yukon River chinook, summer chum, fall chum, and coho salmon combined subsistence harvest in pounds round weight in Alaska, by district, 1977-88 108

Fig. 24. Percentage of total Yukon River chinook, summer chum, fall chum, and coho salmon combined subsistence harvest in pounds round weight in Alaska, by district, 1977-88 109

Fig. 25. Yukon River chinook, fall chum, and coho salmon combined subsistence harvest in pounds round weight in Alaska, by district, 1977-88 110

Fig. 26. Percentage of total Yukon River chinook, fall chum, and coho salmon combined subsistence harvest in pounds round weight in Alaska, by district, 1977-88 111

LIST OF APPENDICES

APPENDIX 1. YUKON RIVER DRAINAGE SUBSISTENCE SALMON HARVEST CALENDARS, 1988.

1.1 Example of lower Yukon River (fishing districts 1, 2, and 3) harvest calendar (reduced from original 11 x 17-inch size) 112

1.2 Example of middle Yukon River (fishing district 4, Koyukuk River) harvest calendar (reduced from original 11 x 17-inch size) 114

1.3 Example of upper Yukon River (fishing districts 5, 6 [Tanana River], Chandalar River, and Black River) harvest calendar (reduced from original 11 x 17-inch size) 116

APPENDIX 2. YUKON RIVER DRAINAGE POSTSEASON SUBSISTENCE SALMON HARVEST INTERVIEW FORMS, 1988

2.1 Example of lower Yukon River (fishing districts 1, 2, and Russian Mission) postseason interview form 118

2.2 Example of Holy Cross postseason interview form 120

2.3 Example of fishing subdistrict Y4A (Grayling, Anvik, Shageluk, Kaltag, Nulato, and Koyukuk) postseason interview form 122

2.4 Example of middle Yukon (Y4B, Y4C) (Galena, Ruby) and Koyukuk (Huslia, Hughes, Allakaket, Alatna, and Bettles/Evansville) rivers postseason interview form 125

2.5 Example of upper Yukon (Y5) (Tanana, Rampart, Stevens Village, Beaver) and Tanana (Y6) (Healy, Kantishna River, Manley, Minto, Nenana) rivers postseason interview form 127

2.6 Example of upper Yukon River (Y5) (Birch Creek, Venetie, Fort Yukon, Circle, Central, Eagle) postseason interview form 129

2.7 Example of Chalkyitsik postseason interview form 131

APPENDIX 3. YUKON RIVER DRAINAGE SUBSISTENCE SALMON HARVEST REMINDER LETTER, 1988 133

APPENDIX 4. YUKON MANAGEMENT AREA SUBSISTENCE SALMON FISHING PERMIT, 1988 134

APPENDIX 5. YUKON MANAGEMENT AREA SUBSISTENCE SALMON FISHING PERMIT REMINDER LETTER, 1988 136

ABSTRACT

Salmon fishing for subsistence in the Yukon River drainage in Alaska has a long history. The harvest has been documented consistently since 1961, however, survey methods and harvest reporting have varied. Successful management of the fishery and allocation among the various uses hinge on precise estimates of subsistence harvests. A new methodology developed for improving the estimate was used to estimate the 1988 harvest.

In 1988, a comprehensive survey was implemented to create a complete list of all households in Yukon River drainage communities in Alaska. Households were stratified in order to produce an estimate of salmon harvest with less variance than by using previous methods. Stratification was based on a household's regular participation in the subsistence salmon fishery. A total of 2,700 households were identified, 1,462 of which were identified as usually fishing for salmon for subsistence. Most (72.5%) of these households were interviewed personally in their home community. Harvests of salmon by other fishing households were reported on returned harvest calendars, survey instruments or returned reminder letters, as were harvests for households which usually do not fish for salmon. The estimated Alaska Yukon River drainage subsistence harvest with approximate 95% confidence intervals were 44,564 +/- 3,546 chinook salmon (*Oncorhynchus tshawytscha*); 226,754 +/- 19,835 summer chum salmon (*O. keta*); 153,809 +/- 17,665 fall chum salmon; and 67,852 +/- 10,034 coho salmon (*O. kisutch*). The revised methodology showed a 30 percent improvement overall in harvest estimation. That is, the previous methodology would have accounted for only 70 percent of the estimated 1988 harvest, although difference varied by species and fishing district. Updating of household and fishing household lists, and intensive effort to contact most fishing households were also considered important factors in an improved estimate.

Keywords: salmon, chinook salmon, chum salmon, coho salmon, subsistence fishing, Yukon River, Alaska, harvests

INTRODUCTION

The Yukon River drainage is the largest in Alaska (Fig. 1) and has provided in recent years the largest production of salmon for subsistence use of any area in the state, nearly four million pounds in 1988. The earliest historic accounts of explorations in the area attested to the harvest of salmon and its importance for subsistence use (Zagoskin [1847] 1967; Schwatka 1893; Allen 1887) to people inhabiting the drainage. The importance of salmon for subsistence was underscored after the onset of commercial fishing operations at the mouth of the Yukon River in 1918. This caused grave concern among area residents over the continued availability of salmon for subsistence, and prompted a special investigation by the federal government (Gilbert and O'Malley 1921). From that time until about 1959 when Alaska became a state, commercial fishing was intermittent (Wolfe 1984). Since 1959, both domestic and foreign salmon fisheries increased in production and concern for the Yukon River subsistence fishery persisted.

The Alaska fish and game law (Title 16) requires that fishery resources be "conserved in a manner consistent with the sustained-yield principle" (A.S. 16) State law also requires that the highest priority be given to subsistence uses as long as sustained yield of the resource is provided (ch. 52, SLA 1986). In addition to mandating the conservation of fisheries, the state is also charged with their commercial development. These legal measures provide the framework for the allocation of fishery resources, such as Yukon River salmon, among subsistence and commercial uses. An additional consideration in the allocation of Yukon River salmon are treaty negotiations with the Canadian government that have been conducted since 1985.

Management of the Yukon River salmon fisheries requires a determination of the allowable harvest consistent with maintaining sustained-yield of the salmon stocks. After determining the necessary escapement levels, surplus salmon may be allocated among different uses. The number of salmon necessary for subsistence are considered first among these uses. As subsistence use of Yukon River drainage salmon stocks is significant, conserving, managing, and allocating salmon in the Yukon River drainage rests on having reliable data on subsistence salmon harvests.

Since 1958, the state of Alaska has collected data on subsistence salmon harvests of Yukon River salmon. Although information is available for 1958-1960, the methodologies used in these years have not been

documented. From 1961 to 1987, methods used for data collection have varied. In 1988, a new method was developed and subsequently used to achieve the objective of improving harvest reporting and the estimation of the total harvest.

This report describes the methodologies used for documenting subsistence salmon harvests and estimating the total harvest within the Alaska portion of the drainage. It concludes with an evaluation of the methodologies based on the results of the 1988 study. In addition, harvest levels of salmon used for subsistence for each year since 1977 are reported in order to provide a context within which to examine the 1988 estimated harvest.

Description of the Study Area

The Yukon River drainage in Alaska is the largest in the state and drains approximately 35 percent of Alaska's land mass. Although the river originates in the province of British Columbia in Canada, it flows approximately 1,200 miles from the United States/Canada border, 7 miles upriver from the village of Eagle, downstream to the its mouth where it empties into the Bering Sea (Fig. 1). Major tributaries of the Yukon River in Alaska include the Porcupine, Tanana, Koyukuk, and Innoko rivers. Some 40 communities which fish for Yukon River stocks of Pacific salmon are located within the area (Fig. 2). The population of these communities was approximately 11,000 people of primarily Yup'ik Eskimo and Athabaskan Indian descent in 1985 (Alaska Department of Labor 1987). These include two communities along the eastern Bering Sea coast which harvest salmon bound for the Yukon River drainage.

Description of the Subsistence Salmon Fishery

All five species of Pacific salmon occur within the Yukon River drainage in Alaska. However, their distribution and abundance varies throughout. These species are chinook salmon (*Oncorhynchus tshawytscha)*, chum salmon (*O. keta*), coho salmon (*O. kisutch*), pink salmon (*O. gorbuscha*), and sockeye (*O.*

nerka). All five species have been harvested for subsistence use by community residents in the drainage, although sockeye salmon occur in insignificant numbers and are only rarely caught[1].

Salmon fishing occurs from late May through October, although this varies throughout the drainage. Fishing activities are based either from a fish camp or the home village, however, the degree to which one or the other is more prevalent has varied from community to community. Some people from communities not situated along the Yukon River operated fish camps along it, and these have included Birch Creek, Venetie, and some residents of Chalkyitsik. Subsistence salmon fishing was often undertaken by extended family groups representing two or several households in a community. These groups, as well as members of individual households, cooperated to harvest, cut, dry, smoke, and store salmon for subsistence use. Many people who fished for subsistence also operated as commercial fishermen in districts where commercial fishing has been allowed and families had a member with a Commercial Fisheries Entry Commission (CFEC) permit.

Drift gill nets, set gill nets, beach seines, and fish wheels have been used for taking salmon in recent years, although weirs, fish traps, and dip nets were used historically. Allowable fishing gear has not included the use of weirs and fish traps for over 20 years. In more recent years the use of drift nets for subsistence fishing has been limited by regulation to areas in the lower portions of the Yukon River drainage, although the use of set nets has also occurred. In the middle and upper portions of the Yukon River drainage, subsistence salmon fishing has occurred with the use of fish wheels and set nets, depending upon the area where fishing occurred and the species targeted.

In Alaska, the Yukon River drainage was divided into six commercial fisheries management districts (Fig. 2). Since 1974, there have been five districts along the main stem of the Yukon River -- three in the lower river region (Y1, Y2, Y3), one in the middle river region (Y4), and one in the upper region (Y5) -- and a sixth

[1]In the state of Alaska, subsistence fishing is defined as "the taking of, fishing for, or possession of fish...by a resident domiciled in a rural area of the state for subsistence uses...;" subsistence uses "means the noncommercial, customary and traditional uses in Alaska of wild, renewable resources by a resident domiciled in a rural area of the state for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation...;" and rural area "means a community or area of the state in which the noncommercial, customary, and traditional use of fish or game for personal or family consumption is a principal characteristic of the economy of the community or area" (Sec. 16.05.940). The greater Fairbanks area of the Yukon River drainage has been designated as nonrural, and, therefore, the harvest of salmon by residents in that area were not included in this study.

district (Y6) in the lower and middle Tanana River area. Subsistence salmon harvests from the Koyukuk River drainage have been included with District 4, and harvests from the Chandalar and Porcupine River drainages with District 5 (Fig. 2).

In general, since the early 1960s, subsistence fishing has been managed and regulated to coincide with the commercial salmon fishing periods. The time allowed for subsistence fishing has, therefore, corresponded to fishing time restrictions in the commercial salmon fishery. Between 1961 and 1980, commercial fishing time throughout the drainage has been progressively reduced. By the mid 1970s, subsistence salmon fishing time had been reduced to two days per week in the lower Yukon River districts during the chinook and early chum salmon runs, and to five days per week in the middle and upper Yukon River districts for all species. Since then, subsistence and commercial fishing time has been further reduced to four days per week in the middle and upper river districts, and beginning in 1988 to 84 hours per week in the Tanana River district. In some areas, additional time has been added to provide for subsistence salmon fishing (a 24-hour period every other weekend in the lower Yukon districts and five days per week in a portion of the Tanana River district). Along the Koyukuk, Chandalar, and Porcupine rivers, including Black River, and in Hooper and Scammon bays, subsistence salmon fishing time has not been restricted.

Objectives

The primary objective of the 1988 subsistence salmon harvest survey was to develop and implement a revised harvest reporting and estimation procedure for determining harvest levels by species for each community in Alaska harvesting Yukon River stocks for subsistence. Secondarily, the 1988 study had additional objective to: (1) update community household lists and identify salmon fishing households in each community; (2) evaluate the precision and accuracy of the estimated harvest using the new methodology and compared to the previously used methodology; (3) compile information on fishing effort (number of households participating), gear types, and timing of the subsistence harvest; (4) identify subsistence salmon harvest issues; and (5) summarize and interpret subsistence salmon harvest data since 1977.

METHODS

Historical Survey and Estimation Methods

Since 1958, the state of Alaska has collected data on subsistence harvests of Yukon River salmon. Although information is available for 1958-60, the methodologies used in those years have not been documented. From 1961 to 1987 methods used for data collection have varied. These methods have included traveling to each fish camp to count salmon as they were being preserved in smokehouses; sending calendars to known fishing families to record their harvest on a daily basis; traveling to villages and interviewing fishing families after the fishing season to record their harvest; contacting people by mail or telephone after the season to record their harvest; issuing subsistence salmon harvest permits for certain areas; and using a combination of these methods (Alaska Department of Fish and Game 1962; Alaska Department of Fish and Game 1987; Brannian *et al.* 1987). An extrapolation method has been used to estimate total harvest of all known fishing families.

Recording Subsistence Salmon Harvests, 1988

In 1988, a new method was developed and subsequently used to achieve the objective of improving harvest reporting and the estimation of the total subsistence salmon harvest. The first step toward improving the accuracy of harvest estimates was to improve existing information on the number of households engaged in salmon fishing. That is, the total harvest estimate could be improved by having a more accurate count of the number of households participating in the fishery. The 1988 study had the objective of censusing subsistence salmon harvests of all Yukon River drainage households, excluding the non-rural areas including Fairbanks. Household members lived in 40 communities situated along 1,200 miles of the Yukon River in addition to its tributaries (Fig. 2). The total population was about 11,300 people in 1985 (Alaska Department of Labor 1987). Total number of households was previously undocumented. In 1987, there were an estimated 1,097 "fishing families" living within this area. A fishing family represented at least one household unit, but more in

some cases. Residents of these communities were predominantly Alaskan Native representing Yup'ik Eskimo near the mouth of the river and several Athabaskan Indian groups elsewhere in the drainage. Community populations ranged from 20 to 98 percent Native with only four communities having a population which was less than 50 percent Alaska Native. Existing studies had shown that in some Yukon River drainage communities, up to 78 percent of the households participated in salmon fishing in the upper reaches of the drainage (Andrews 1988a; Sumida 1988) and even a larger proportion near the mouth of the Yukon River (Wolfe 1981). Thus, the number of "fishing households" in the Yukon River drainage may far exceed the number of "fishing families."

The goal of recording harvests of all households whether or not they were included on previous lists of fishing families was a departure from the methodology used in previous surveys (since 1961). Prior to 1988, subsistence salmon harvest studies had attempted to sample community households by recording harvests only of families identified as fishing families. This measure attempted to include the harvests of all households within the fishing family group. Other studies in the 1980s had shown that there were families in some communities that fished for salmon for subsistence, but were not included on Department "fishing family" lists. These studies revealed the discrepancy between estimates based on censusing all households and those based on a sample of fishing families (Andrews 1988a; Sumida 1988). In addition, the dynamics of participation in salmon fishing indicated that often there were households in a community that did not fish for one or several seasons, but subsequently began to fish; whereas other households no longer fished. This was often a result of changes in household composition, such as the household becoming smaller when younger members marry and form new households.

In spring 1988, an inventory was made of all households in Yukon River drainage communities in Alaska that fished for salmon for subsistence. In addition, each household was identified as one that "usually fished" or "did not usually fish." Although the 1987 "fishing family" lists and village household lists previously compiled by the Division of Subsistence were used, the inventory and classification were made primarily during field visits to almost all communities (34 of 40 communities were visited). Within these communities researchers worked with key respondents to list all community households and classified them according to participation in subsistence salmon fishing. For communities where household and fishing household lists

were available from previous subsistence studies in the 1980s, these were updated. In six cases (Alatna, Allakaket, Beaver, Circle, Hughes, and Huslia), key respondents from villages were interviewed while in Fairbanks on other business. Information for four communities (Hooper Bay, Scammon Bay, Central and Birch Creek) and one area peripheral to the fishing areas of the drainage (Kantishna River) was not collected during the preseason inventory due to time and budget constraints.

Several changes were also made in the methods for recording subsistence salmon harvests. First, it was determined the study should seek data on salmon harvests from each household rather than a sample of fishing families. The household unit was selected for the purpose of systematically updating the list of participants in salmon fishing and to help reduce duplicate counts of salmon harvests or omissions. This approach also aided in maintaining a more accurate list of current fishing households given the dynamism of participation in salmon fishing. Each household identified was assigned a unique number in order to track information related to the household. Households that may not usually fish, but periodically chose to do so would not be omitted. Furthermore, this helped reduce the number of households that may have been incorrectly classified in the preseason inventory. By stratifying all households into two strata, "usually fished" and "usually did not fish," an estimate could be made of the number of fish taken by those classified as not usually fishing and included in the total estimate for the drainage. In 1988, for the first time, harvest calendars were sent to all households (2,700+) identified in the preseason inventory for collecting harvest data from all households.

A second change in data collection was made to the harvest calendar itself. Three similar, but different calendars were used for different segments of the drainage (lower, middle, and upper)[2] (Appendix 1). Each calendar, as in the past, was designed for recording the harvest of each species on a daily basis. However, the calendar was modified in three major ways. First, it indicated only those species which occurred in each of the three segments of the drainage. Second, species were identified by both their common name and the term used by local residents as these varied within the drainage. For example, along the lower Yukon River fall chum salmon[3] were generally referred to as "fall chum," but along the middle and upper portions of the

[2]The lower Yukon River includes commercial fisheries management Districts 1, 2, and 3; the middle river includes fishing District 4 and the Koyukuk River; and the upper river includes fishing Districts 5 and 6, as well as the Chandalar and Black rivers.

river, they were called "silvers." "Silvers," in turn, were distinguished from coho salmon which in some areas were referred to as "chinook." Third, the revised calendar included only those months during which people fished for salmon in each section of the drainage. For example, May through August along the lower river and July through October along the upper river. These changes were not only intended to improve accuracy of reporting, but also to facilitate the entry of data into computer files. Data entry was also facilitated by printing calendars for each of the three sections on different colored paper. The harvest calendar was the only instrument used capable of recording timing of harvest by species on a daily and monthly basis.

A third component in data collection was the postseason field survey. Following the fishing season, field workers were sent to each of the communities to pick up harvest calendars and administer a short questionnaire to each household. Table 1 identifies the dates of community visits. The questionnaire (Appendix 2) served to collect harvest information if the salmon harvest calendar had not been used or was partially used, and also to record information on fishing gear used, household size, number of dogs fed salmon, and number of salmon fed to dogs[4]. Questions regarding fishing with other households were specifically designed to avoid duplicate counting of fish caught cooperatively and shared between households. Comments on salmon runs, fishing conditions, and regulations were also requested. In addition to this core set of questions which were asked in all locations, other questions suggested by fishery managers were asked in certain communities. For example, the questionnaire used in Holy Cross and Shageluk contained questions to determine if subsistence salmon were caught in the Innoko River or the Yukon River.

Postseason work was staggered to coincide with the close of the salmon fishing season in each section. Lower Yukon River communities were surveyed in September, the middle river section in late September and early October, and the upper river section in October (Table 1). Field researchers attempted to contact all

[3] Summer and fall chum salmon are two distinct runs of chum salmon which enter the Yukon River. Summer chum salmon are chiefly characterized by earlier run timing (early June - mid-July), rapid maturation in freshwater, smaller size (average 6-7 pounds) and larger population. Summer chum salmon spawn primarily in run-off streams in the lower 500 miles of the drainage and in the Tanana River system. Fall chum salmon are mainly distinguished by later run timing (mid-July - early September), robust body shape and bright silvery appearance, larger size (average 7-8 pounds) and smaller population. Fall chum salmon spawn in the upper portion of the drainage in streams which are spring fed, usually remaining ice-free during the winter.

[4] As subsistence uses of wild resources includes uses for "transportation," salmon taken and used for feeding dogs which are used for other subsistence activities are included in the salmon harvest estimates. Salmon species used for feeding dogs included chum and coho.

households identified as "usually fished" first. If time permitted, other households were contacted about their salmon fishing activities, if any. During these village visits, the preseason inventory of households was updated also. In 1988, questionnaires were administered to households in all communities except Hooper Bay, Scammon Bay, and Birch Creek. Harvests of households in these communities were determined by mail from the return of harvest calendars or "reminder letters" described below (Appendix 3).

The fourth important and additional source of harvest data for the 1988 fishing season was from the return of reminder letters. In November and December, these letters (Appendix 3) were mailed to approximately 1,500 households that had not reported a harvest by means of returning a harvest calendar, through a postseason personal interview, or a 1988 Yukon River subsistence salmon fishing permit (required for fishing households in subdistricts 6A and 6B and certain areas in District 5 [Appendix 4], but similar to the voluntary harvest calendar). The letter (with a prepaid preaddressed envelope enclosed) simply requested information as to whether or not a household member fished for salmon for subsistence, and, if so, the number caught of each species. Similarly, a reminder letter was sent to permit holders for recording harvests (Appendix 5).

Estimating Subsistence Salmon Harvests

Ideally, salmon harvest information from every household in a community would be collected. However, due to manpower and fiscal constraints, this was not possible and information from a subset of households must be used. If the information from the subset of households can be considered to be a representative sample of the population, inferences about the larger defined population can be made from the information gathered.

However, this use of "random" information is often very inefficient. For a heterogeneous population statistical estimates for characteristics (means, totals, percentages) of the population provided by the "random sample" may be very imprecise. Perhaps only a few households are involved in a certain harvest activity, or a few households harvest the majority of salmon within a community. Under these conditions it would take a large sample fraction to guarantee that these households would be included in the sample, and care must be

taken that an overemphasis on sampling these households not be made so that the "random sample" assumption not be violated.

One relatively straightforward sampling alternative to the random sample approach is the stratified sample. Under this design households within the community are precategorized into groups, or strata. For the Yukon River drainage subsistence salmon project, households were identified preseason as "usually fished" or "usually did not fish". Information was gathered from households in each of the groups, but an emphasis was made on contacting households in the "usually fished" group during village surveys. In order to calculate community level statistics, strata level statistics are calculated and combined after adjusting for disproportionate sampling intensity within each stratum. In effect, an overemphasis on contacting households more likely to participate in subsistence salmon harvesting can be made and information thus gathered can be used in the correct perspective in order to calculate community level statistics.

A further refinement to previously used methodologies is the use of a "finite population correction factor" in the calculation of variances associated with sample statistics. Variance is a measure of the imprecision of a statistical estimate (i.e., the reliability of the estimate). The effect of the finite population correction factor is to reduce the variance of an estimate as the relative sample size increases. As the sample size approaches the size of the population, the variance approaches zero, which is intuitively correct as there is no variation associated with a statistic calculated from a censused population. Cochran (1977) suggests this adjustment factor be used when 10 percent or more of the population is sampled. For the Yukon River drainage subsistence salmon project, information was collected from 74 percent of the households defined within the drainage, and between 25 and 100 percent of the households within individual communities.

Data from the four information sources (subsistence salmon harvest calendars, community surveys, reminder letters and subsistence salmon permits) were entered into a microcomputer database. Data were verified against source documents, and several logic checks of the data were made. The master list of names and addresses of resident households was updated to reflect changes in household composition and number

of households residing in each community. The unique household numbering system was maintained on the master list and on the database tables containing information from each of the four information sources.

Harvest information was collected by each of the information sources and information for a single household may have been available from more than one source. In order to provide a single best estimate for a household's harvest of a salmon species during 1988, information was composited from the various information sources. To ensure data consistency, this process was conducted by a single researcher on the project. In most cases, there were few discrepancies between information available from the different sources. In those cases where a household survey was conducted and indicated that the household fished for subsistence salmon, but no salmon harvest could be quantified through any information source, the harvest was identified as "missing."

Guidelines developed during the course of the process to compile harvest information included:

(1) the assumption that the salmon harvest calendar would be the most accurate means of recording a household's harvest;

(2) that information from the different sources for various species needed to be evaluated concurrently in order to identify the harvest for a particular species;

(3) that information from the different sources for a particular species may be different due to the timing of the collection of this information;

(4) that information on the use of salmon to feed dogs be used as a minimum estimate of the household's harvest if no other information is available.

The average community catch (C_k) was estimated by fish species and run of chum salmon from the composite catch per household data. Mean community catch (C_k) was estimated by

$$C_k = \sum_{i=0}^{1} (N_{ki} * C_{ki}) / \sum_{i=0}^{1} N_{ki}$$

where

k = community

i = indicates whether the group usually fishes (1) or does not usually fish (0)

N_{ki} = number of families that usually fish/usually do not fish

C_{ki} = mean harvest for families that usually fish/usually do not fish

The total community catch (T_k) was estimated by

$$T_k = \sum_{i=0}^{1} (N_{ki} * C_{ki})$$

and its variance (V_k) includes a finite population correction factor

$$V_k = \sum_{i=0}^{1} ((N_{ki}^2) (1 - (n_{ki} / N_{ki})) (s_{ki}^2 / n_{ki}))$$

where

n_{ki} = number of families for which information is available that usually fish/usually do not fish

s_{ki}^2 = variance for the amount harvested for the usually fish/usually do not fish groups.

Community catch estimates and their variances were summed across communities for district or fishing area subtotals and across all districts and fishing areas for drainage totals. Community catches were considered strata and the drainage wide variance was the sum of the variances of community catches. Calculated variances do not account for any form of measurement error.

Total estimates for community, district, fishing area and total drainage harvests are reported with approximate 95 percent confidence intervals (two standard errors of the totals).

RESULTS AND DISCUSSION

Household and Fishing Inventory

The preseason inventory identified a total of 2,536 households in 40 Yukon River drainage communities. Of these, 1,495 households, or 59 percent of the total, usually fished for salmon for subsistence purposes (Andrews 1988b). The inventory indicated that up to 398 (36 percent) additional households fished for salmon for subsistence than previous records indicated. In addition, 170 households were identified in communities peripheral to the Yukon River drainage (Central, Healy, Hooper Bay, Kantishna River, Scammon Bay) which subsistence fish Yukon River salmon stocks. Since some households worked together to harvest and process salmon for subsistence use, there was not a direct correlation between fishing households and fishing families. Identifying all households in the community not only served to determine

the percentage of fishing households per community and drainage-wide, but also was deemed necessary for implementing a new methodology for estimating total harvest as described in the section below. Postseason survey work included updating household and fishing household lists that had been compiled prior to the season. The total number of Yukon River drainage households (excluding peripheral communities) remained nearly the same (2,521 households), as did the number of identified fishing households (1,451), between preseason and postseason surveys.

Sampling Results

Surveys were conducted with 1,328 households. Households that were surveyed included 73 percent of households that usually fished and 49 percent of all households in the drainage (Tables 2 and 3). Previous records of the Division of Commercial Fisheries indicated there were 162 fishing households in the three communities (Hooper Bay, Scammon Bay, and Birch Creek) not visited of which 29 percent (48 households) contributed 1988 harvest data by return mail. Approximately 33 percent of these fishing households to whom reminder letters were sent returned them with the requested information (529 of approximately 1500). This data collection method was an important source of harvest information for households in the stratum "usually did not fish." Fifty-eight percent of the households in this group for which there is postseason information were contacted by mail (Table 4). Among households contacted, fewer households (38 percent) in this category than those that usually fish (86 percent) were contacted during field visits. The data from the field visits and reminder letters contributed to estimating harvests of households that usually do not fish as described in the following section. It was also an important source of harvest data for households in the three communities not visited by field workers.

Of the 1,929 households for which there is any harvest information, 950 (49 percent) fished for salmon for subsistence purposes in 1988. This included 63 percent of those households that usually fish for salmon.

1988 Village, District, and Drainage Harvest and Gear Totals

The 1988 harvest estimates for the Yukon River area were 44,564 chinook salmon; 226,754 summer chum; 153,809 fall chum; and 67,852 coho (Table 5). The harvest estimate for each species is discussed separately below.

Sample information, harvest estimates and confidence intervals by community and fishing area for chinook salmon are presented in Table 6. The 1988 harvest estimate was 44,564 chinook with an approximate 95 percent confidence interval of +/- 3,546 fish (or +/- 8 percent of the estimated total). Harvest estimates for 5 of the 6 fishing districts had levels of precision within 15 percent of the estimated totals. The reported harvest was 75 percent of the expanded estimated total. Over one-third of the chinook harvest was made by households residing in fishing District 5, and one-fifth by households residing in fishing District 4. These districts contained 43 percent of the defined households in the study area. Tanana (3,232 fish), Rampart (3,145), Stevens Village (2,845), and Nenana (3,841) were the main chinook salmon harvesting communities.

Households that usually fish accounted for 90 percent of the reported chinook salmon harvest and 84 percent of the expanded estimated total. About one-half of the households that usually fish and for which there was harvest information harvested chinook salmon, while only seven percent of the households that usually do not fish and for which there was harvest information harvested this species.

Sample information, harvest estimates and confidence intervals by community and fishing area for summer chum salmon are presented in Table 7. The 1988 harvest estimate was 226,754 summer chum with an approximate 95 percent confidence interval of +/- 19,835 fish (or +/- 9 percent of the estimated total). Harvest estimates for fishing Districts 1, 2, and 3 had levels of precision within 15 percent of the estimated totals. The reported harvest was 71 percent of the expanded estimated total. Households residing in fishing District 4 accounted for 31 percent of the estimated total summer chum harvest. Harvests in fishing Districts 1 (24,731 fish) 2 (27,122), and 5 (26,796), the Hooper and Scammon Bay areas (31,230), and in the Koyukuk River area (25,883) were similar to each other in magnitude.

Households that usually fish accounted for 89 percent of the reported summer chum salmon harvest and 79 percent of the expanded estimated total. About one-half of the households that usually fish and for

which there was harvest information harvested summer chum salmon, but only 5 percent of the households that usually do not fish and for which there was harvest information harvested this species.

In addition to the summer chum salmon harvests noted above, survey questionnaires were used to collect information on salmon removed from commercial catches by residents of selected communities in District 4. These salmon were thought to be predominantly summer chum, and are primarily the result of commercial roe sales. Thirty-four households in Anvik, Grayling, Kaltag, Koyukuk, and Nulato were identified to have used salmon from their commercial catches. These households used over 100,000 salmon for dog food, and an additional 3,260 were used for human consumption (Table 8).

Sample information, harvest estimates and confidence intervals by community and fishing area for fall chum salmon are presented in Table 9. The 1988 harvest estimate was 153,809 fall chum with an approximate 95 percent confidence interval of +/- 17,665 fish (or +/- 12 percent of the estimated total). Harvest estimates for fishing Districts 2, 3, and 4 had levels of precision within approximately 15 percent of the estimated totals. The reported harvest was 71 percent of the expanded estimated total. Over one-half of the fall chum was harvested by households residing in fishing District 5, while only one-fifth of the defined households resided in this area. Residents of Tanana harvested over one-third of the total estimated fall chum salmon harvest.

Households that usually fish accounted for 90 percent of the reported fall chum salmon harvest and 80 percent of the expanded estimated total. About one-third of the households that usually fish and for which there was harvest information harvested fall chum salmon, but only 6 percent of the households that usually do not fish and for which there was harvest information harvested this species.

Sample information, harvest estimates and confidence intervals by community and fishing area for coho salmon are presented in Table 10. The 1988 harvest estimate was 67,852 coho with an approximate 95 percent confidence interval of +/- 10,034 fish (or +/- 15 percent of the estimated total). Harvest estimates for only one fishing district (District 2, 16 percent) had a level of precision within approximately 15 percent of the estimated totals. The reported harvest was 72 percent of the expanded estimated total. Households residing in fishing District 6 harvested 45 percent of the estimated total coho harvest. The combined harvests

of residents of two communities, Tanana and Nenana, account for over 50 percent of the total estimated harvest.

Households that usually fish accounted for 77 percent of the reported coho salmon harvest and 69 percent of the expanded estimated total. One-fifth of the households that usually fish and for which there was harvest information harvested coho salmon while only 6 percent of the households that usually do not fish and for which there was harvest information harvested coho salmon.

In addition to salmon harvested with their own nets, residents of certain lower river communities benefitted from fish received from Department of Fish and Game test fishing projects. These fish were made available to households as by-products of Division of Commercial Fisheries test fishing projects which monitored salmon run strength in those areas. Households in Emmonak, Kotlik, and Pilot Station which were surveyed and could recall amounts of salmon received, reported that over 500 chinook salmon; 3,800 summer chum; 400 fall chum; and 150 coho were received from test fishing projects (Table 11). These fish were not included in the community harvest estimates for salmon.

Table 12 presents information on the gear used to harvest subsistence salmon. This information was collected only during community surveys and was not available for all fishing households. The majority of households that fished for subsistence salmon (87 percent, or 605 of 695 households that fished and for which gear information was known) used gill nets, while nearly one-fifth used fish wheels. Over one-half of the fishing households used set gill nets, while over one-third used drift gill nets. Individual households may have fished both set and drift gill nets. The majority of gill nets used had mesh sizes of 6 inches or smaller.

The postseason interviews also yielded information on household size and number of dogs per household (Table 13). This information was recorded for 1,051 households. Overall, these households included 4,616 people and 4,803 dogs, approximately 4.4 people and 4.6 dogs per household. Largest household sizes were in Districts 1 and 2 (greater than 5 per household) and smallest were in District 6 (3.2 per household). The fewest number of dogs (2.1) per household was in District 1 and the largest (10.9 per household) in District 6. Communities along the Koyukuk, Chandalar, and Black rivers had about 7 dogs per household.

Comparison of 1988 and Previous Harvest Estimation Methods

The estimation procedure resulted in an improvement in subsistence harvest estimates compared to the methodology used in previous years. This was determined by using the earlier methodology and applying it to the 1988 data (Table 14). This test showed, overall, that the previous method would have accounted for 70 percent of the estimated 1988 subsistence harvest. However, the results varied by species and by fishing district (Table 15). For example, the former method would have accounted for 33 to 89 percent of the chinook salmon harvest estimates; 51 to 92 percent of summer chum harvested; and 29 to 92 percent of fall chum harvested depending upon the fishing district in which the fish were taken. Overall, 74 percent of the chinook harvest would have been estimated using the previous method, 82 percent of the summer chum harvest, and 62 percent of the fall chum harvest.

The methodologies used in 1988 led to relatively precise harvest estimates. The one-sided approximate 95 percent confidence interval (2 standard errors) for chinook salmon was 8 percent of the estimated total harvest. For other species comparable levels of precision were observed. For summer chum it was 8.7 percent of the estimated total harvest, 11.5 percent for fall chum, and 14.8 percent for coho. These levels of precision are possible through the use of the variety of information sources, the intensity of sampling, and the use of the stratified sampling design.

Results also indicated the dynamics of participation in subsistence salmon fishing. Thirty-five percent of all households for which there was information harvested salmon in 1988. Among households that usually fish for salmon, 53 percent harvested these fish in 1988. Households in this group that did not fish in 1988 indicated that illness or cash-earning opportunities precluded their fishing for salmon. Nevertheless, households in this group that did fish accounted for significant amounts of the salmon harvest. They accounted for 90 percent of the reported chinook salmon harvest, 89 percent of the summer chum harvest, 90 percent of the fall chum harvest, and 77 percent of the coho harvest.

Finally, 14 percent of households that usually do not fish for salmon, or whose fishing status could not be determined prior to the fishing season, harvested salmon in 1988. In 1989, field workers will attempt to contact these households during community visits.

1988 Frequency of Harvests for Fishing Households

Harvest levels for fishing households were grouped into ranges for each species. Data are presented only for households that actually reported fishing. In 1988, chinook salmon harvests ranged from 0 to over 380, although this varied by district. In District 1 fishing households reported harvesting up to 139 chinook salmon, up to 119 in District 2, up to 259 in District 3, and over 380 in some cases in Districts 4, 5, and 6 (Figs. 3 and 4). In Districts 1 and 2, most fishing households harvested up to 19 chinook salmon; in District 3 up to 59; up to 20 in Districts 4 and 5; and none in District 6.

In 1988, summer chum harvests ranged from 0 to over 950 (Figs. 5 and 6). The most cases of fishing households harvesting more than 950 summer chum for subsistence use were in District 4 (Fig. 6). In contrast to chinook harvests, a larger number of fishing households in Districts 4, 5, and 6 reported that they did not fish for summer chum in 1988. However, a number of fishing households did remove summer chum salmon for subsistence from their commercial catch (Table 8). Secondarily, households in these districts harvested up to 49 summer chum. In Districts 1, 2, and 3, the largest number of households, as in the upriver districts, harvested up to 49 summer chum. Summer chum do not occur in most portions of District 5.

Fall chum harvests by fishing households extended up to 349 in Districts 1 and 2, up to 299 in District 3, and greater than 950 in Districts 4, 5, and 6 (Figs. 7 and 8). In 1988, a minority of fishing households in all districts, except 6, fished for fall chum salmon. In District 6, most fishing households harvested up to 49 or greater than 950 fall chum salmon (Fig. 8). Similarly, in District 5, fishing households harvested up to 49 or greater than 950 fall chum. In Districts 1, 2, 3, and 4 most households harvested up to 19 fall chum.

The harvest of coho by fishing households showed a similar pattern as fall chum. With the exception of District 6, a minority of households in each district harvested coho (Figs. 9 and 10). Harvests ranged from 0 to greater than 380. In District 6, most households harvested more than 380 coho. In all other districts, most fishing households harvested up to 49 coho salmon.

Subsistence Harvest Levels, 1977-88

Subsistence salmon harvests for Yukon River drainage communities have been estimated since 1961 by the state of Alaska. Through 1976, harvests were reported for chinook salmon and "other" or "small" salmon. In 1977, harvest data for chinook as well as both runs of chum salmon (termed "summer" and "fall" chum) and coho have been separately recorded and estimated for each community. In 1988, as noted earlier, the harvest recording calendar and postseason interviews sought to further improve on the accuracy of reporting by species by using terms used by local residents when referring to each species or run of salmon.

In general, harvest levels of all species increased from 1977 through 1988 compared to harvest estimations for the 1963-76 period (Brannian *et al.*). However, it is unclear what the actual harvest levels were prior to the 1960s when dog team transportation and the sale, trade, and barter of dried salmon were common. In addition, changes in subsistence activities which have come about primarily since the 1950s due to factors associated with centralization of the Native population, probably contributed to some level of harvest reduction observed in the 1960s (Andrews 1989). Therefore, the increasing trend in harvests beginning in the late 1970s may, in part, reflect a return to earlier harvest levels.

Since 1977, the number of fishing families has only slightly increased, with the exception of those in District 3 (Table 16). Increases since 1986 are viewed primarily as reflecting a change in recording harvest information by household rather than "fishing family" which sometimes included several households.

Estimating future subsistence harvest levels has become particularly important in management and allocation decisions in order to provide for adequate escapement and to comply with state law providing for subsistence uses. Annual harvest estimates are necessary to provide for future uses which must be estimated based on past harvest levels, as it is very difficult to collect accurate harvest information in season.

Chinook Salmon

Since 1977, subsistence harvest of chinook salmon has ranged from 17,033 in 1977 to high of 48,722 in 1987 (Table 17). However, harvests have fluctuated by as much as 26,000 fish from one year to the next. Only

since 1986 has the harvest level drainage wide remained above 40,000 chinook. Similarly, chinook harvests show an overall increase in each fishing district since 1977, however, the harvest has fluctuated from year to year (Table 17, Fig. 11). Harvests have fluctuated most in Districts 1, 2, and 4, whereas Districts 3, 5, and 6 show considerably less fluctuation. District 5 has consistently accounted for the largest percentage of the chinook harvest accounting for about 30 to 40 percent of the total (Fig. 12). Secondarily, District 4 has accounted for about 20 to 30 percent of the total harvest. These two districts, therefore, have generally accounted for 50 to 70 percent of the total chinook harvest for subsistence.

Average harvest per fishing family for each district shows a different pattern. Since 1977, average family harvests have generally been highest in District 3 (Table 18, Fig. 13). District 3 harvest has ranged from 75 to 108 chinook per family. Secondarily, District 5 average family harvests have ranged from about 41 to 98. Average family harvests in the other districts generally has been between 20 and 50 chinook.

Summer Chum Salmon

Summer chum harvests have ranged from a low of 157,791 in 1977 to 276,485 in 1986 (Table 19). In most years, the harvest has exceeded 200,000 fish. With the exception of District 4, summer chum harvests have been less than 42,000 fish in each district since 1977 and show little variability from year to year (Table 19, Fig. 14). Summer chum harvests in District 4 have ranged between about 70,000 and 220,000 fish and showed the most fluctuation from year to year between 1979 and 1984. District 4 harvests have accounted for about 50 to 80 percent of the total harvest (Fig. 15).

As noted earlier, the large summer chum harvest in District 4 has been largely attributed to the commercial salmon roe fishery in the district. Carcasses cut for roe and hung to dry have typically been counted in the subsistence catch. In 1988, fishing households in District 4 were explicitly asked to indicate the number of such salmon that were to be used for subsistence purposes (Appendix 2). The 1988 reported harvest for these fish in selected communities appears in Table 8. As a result, the subsistence harvest was the lowest of any year since 1978, and is likely a more accurate reflection of the actual subsistence harvest in that district.

Average fishing family harvests, with the exception of District 4, have generally been less than 200 summer chum (Table 20, Fig. 16). In District 6, average family harvests since 1983, have ranged between about 100 and 400. Although District 4 average family harvests have ranged between about 400 and 1,100 fish since 1977, the 1988 average family harvest was about 400. This apparent reduction, again, is attributed to recording the harvest used for subsistence in District 4 communities. Overall, with the exception of District 6, there has been no definite trend toward increasing average family harvests of summer chum (Fig. 16).

Fall Chum Salmon

The harvest of fall chum salmon for subsistence has ranged from 81,256 in 1977 to 222,835 in 1979 (Table 21). Similar to chinook harvests, there has been a relatively large fluctuation from year to year, on a drainage wide basis. Most fluctuation in harvest has been in District 5 where harvests have ranged between about 30,000 and 110,000 fish (Table 21, Fig. 17). Fall chum harvests in Districts 4 and 6 have generally been between 20,000 and 40,000. Districts 1, 2, and 3 have had relatively consistent harvests of fall chum since 1977, all less than about 20,000 in each year. Districts 5 and 6 combined have accounted for about 65 to 90 percent of the total fall chum harvests since 1977 (Fig. 18).

Correspondingly, average fishing family harvests have been greatest in Districts 5 and 6. Since 1981, family harvests in both districts have ranged between about 300 and 800, whereas in District 4 average family harvests have been between about 100 and 200, and in Districts 1, 2, and 3, average family harvests have been less than 100 (Table 22, Fig. 19). In all districts since 1981, there has been no definite trend in the average family harvest of fall chum.

Coho Salmon

The harvest of coho salmon for subsistence has ranged from 6,984 in 1978 to 66,003 in 1988 (Table 23). Since 1980, coho harvests have steadily increased, although these have fluctuated. Some of the increase in the 1980s is attributed to improved reporting of coho salmon, which often have been reported by local residents

with fall chum harvests. As noted earlier, in 1988, the harvest calendar and survey questionnaires were designed to employ local terms for this species and to distinguish them from fall chum, as the two species tend to run concurrently. This probably accounts, in large part, for the increased reported harvest from about 46,000 in 1987 to 66,000 in 1988 (Table 23). In addition, improved run strength may be another factor.

Since 1980, coho harvests have been slightly increasing in all districts except Districts 3 and 4. Harvests in those districts and District 1 have generally been less than 5,000 fish (Fig. 20). District 5 and 6 harvests have ranged between about 5,000 and 30,000 during the same period. Since 1984, Districts 5 and 6 have accounted for at least 50 percent of the total harvest (Fig. 21).

Average family harvests have been greatest in District 6 in all years, ranging between about 100 and 300 since 1977 (Table 24, Fig. 22). In most years, District 5 average family harvests have been less than 100 coho, and generally less than 50 in the remainder of the districts. As with other species, the variability of the subsistence harvest among districts is related to several factors, such as abundance, distribution of the species, fishing methods, and subsistence fishing patterns.

District and Drainage Harvest in Pounds, 1977-88

This is the first report which has converted into pounds round weight the total number of salmon harvested for subsistence use in the Yukon River drainage. Harvest information was converted into pounds round weight by multiplying the total number of each salmon species harvested by the average weight of salmon caught in the commercial fishery reported in each annual management report for each fishing season since 1977 (Alaska Department of Fish and Game 1977-88). Conversion factor differences between salmon caught in the lower and upper sections of the river were maintained.

Total pounds harvested has ranged from about 2 million pounds in 1977 to nearly 5 millions pounds in 1987 (Table 25, Fig. 23). Harvests have been highest in Districts 4 and 5 where more than 1 million pounds has been harvested in each district in most of the past 12 years. These two districts combined have accounted for 60 to 70 percent of the total pounds harvested during the past 12 years (Fig. 24).

Because of the preponderance of summer chum harvested in the commercial salmon roe fishery in subdistrict 4A, harvest was also computed less summer chum. This was deemed appropriate given that the cut and dried carcasses of fish caught in the commercial roe fishery have typically been attributed to the subsistence fishery when, in fact, they were not caught or processed for subsistence use. Pounds of salmon harvested for subsistence, less summer chum, was nearly one-half of total pounds for all species combined. It has ranged from about 1 million pounds in 1977 to about 2.75 million pounds in 1987 (Table 26, Fig. 25). The largest percentage has occurred in District 5, which has accounted for 35 to 55 percent of the harvest since 1977 (Fig. 26). District 5 nearly consistently accounted from about 46 percent of the total pounds harvested (less summer chum). Districts 4 and 6 have accounted for the second largest percentage of salmon harvested in pounds round weight (Fig. 26).

Discussion and Conclusions

Salmon harvest statistics are essential for fisheries management purposes and are of ever-increasing importance in the applied social and biological sciences (cf. Usher and Wenzel 1987). The harvest of salmon in the Yukon River drainage in Alaska has been and continues to be important both in the subsistence economy and also in the market economy. Subsistence and commercial fishermen, often the same individuals, have a real interest in the maintenance of the sustained yield of salmon stocks in the Yukon River drainage. This can be accomplished best when there is reliable data on the biological status of salmon stocks, including accurate information on the level of subsistence harvests.

The Yukon River drainage is large and communities which depend upon the harvest of salmon for subsistence are situated throughout 1,200 river miles and associated tributaries. In 1988, there were over 2,700 households in these communities, most of which use salmon for subsistence. Not all households actually fished for salmon as the harvest was shared among community households. However, it was important to identify all fishing households in order to be able to record their harvests.

Overall, the methodology developed and used in 1988 provided a 30 percent improvement in the harvest estimate compared to the method previously used. The estimated 1988 subsistence harvest was 44,564

chinook; 226,754 summer chum; 153,809 fall chum; and 67,852 coho. The degree of improvement was greater for some salmon species harvested and for certain fishing districts than for others. Levels of confidence for estimated total salmon harvest were within 15 percent of the estimated totals.

The application of a refined methodology in 1988 demonstrated the importance of having a current list of fishing households and the need to contact households during community visits after the fishing season. Because the estimate was derived from a sample of households, it was critical to be able to accurately describe both the population from which the sample was selected and the sample itself. Secondly, the best means for recording harvests came from field work in communities, rather than the return from fishermen of harvest calendars or reminder letters requesting harvest information. However, the postseason reminder letter was an efficient and cost-effective method of contacting households that were not likely to have fished for salmon for subsistence.

In our opinion, the success of the revised methodology resulted from the derivation of a statistically-valid sample and the emphasis on the field work component for collecting harvest data. The broad-based approach of personally contacting most households which fished for salmon also contributed to the reliability of the data. Fishermen voluntarily answered a series of questions about their fishing activities and were also interested to learn of the effort to improve subsistence harvest estimates. In addition, using a sampling method which can accommodate the dynamism in fishing participation by maintaining current household lists helps to insure that all fishing households will be contacted for harvest information. Finally, the improved accuracy of the subsistence harvest estimate can go a long way toward bringing together fishermen and managers through a mutual appreciation of the relevance of accurate subsistence harvest data in managing and allocating the salmon resource.

REFERENCES CITED

Alaska Department of Fish and Game. 1963. 1963 Annual Report Arctic-Yukon-Kuskokwim Area. Division of Commercial Fisheries, Anchorage.

_____. 1977 through 1988. Annual Management Report, Yukon Area. Division of Commercial Fisheries, Anchorage.

_____. 1987. Annual Management Report, 1986, Yukon Area. Division of Commercial Fisheries, Anchorage.

Alaska Department of Labor. 1987. Alaska Population Overview 1985. Juneau.

Allen, Henry T. 1887. Report of an Expedition to the Copper, Tanana, and Koyukuk Rivers, in the Territory of Alaska, in the Year 1885. Washington: Government Printing Office.

Andrews, Elizabeth F. 1988a. The Harvest of Fish and Wildlife for Subsistence by Residents of Minto, Alaska. Division of Subsistence, Alaska Department of Fish and Game, Juneau, Technical Paper No. 137.

_____. 1988b. Yukon River Subsistence Salmon Catch Documentation. Part I: Pre-Season Fishing Family Inventory, Spring 1988. Division of Subsistence, Alaska Department of Fish and Game, Fairbanks.

Brannian, Linda K., Dennis G. Gnath, and Jim Swingle. 1987. Subsistence Harvest of Pacific Salmon in the Yukon River Drainage, Alaska, 1986. Division of Commercial Fisheries, Alaska Department of Fish and Game, Anchorage.

Cochran, William G. 1977. Sampling Techniques. New York: John Wiley & Sons.

Gilbert, Charles H. and Henry O'Malley. 1921. Investigation of the Salmon Fisheries of the Yukon River. *In* Alaska Fishery and Fur-Seal Industries in 1920. Ward T. Bower, Agent. Bureau of Fisheries Document No. 909. Washington: Government Printing Office.

Schwatka, Frederick. 1893. A Summer in Alaska. St. Louis: J.W. Henry.

Sumida, Valerie A. 1988. Land and Resource Use Patterns in Stevens Village, Alaska. Division of Subsistence, Alaska Department of Fish and Game, Juneau, Technical Paper No. 129.

Usher, Peter J. and George Wenzel. 1987. Native Harvest Surveys and Statistics: A Critique of Their Construction and Use. Arctic 40(2):145-160.

Wolfe, Robert J. 1981. Norton Sound/Yukon Delta Sociocultural Systems Baseline Analysis. Alaska Outer Continental Shelf Socioeconomic Studies Program, Anchorage, Technical Paper No. 72.

_____. 1984. Commercial Fishing in the Hunting-Gathering Economy of a Yukon River Yup'ik Society. Etudes/Inuit/ Studies 8 (Supplementary Issue):159-183.

Zagoskin, Lavrentiy A. [1847] 1967. Lieutenant Zagoskin's Travels in Russian America, 1842-44. Arctic Institute of North America, Anthropology of the North: Translations from Russian Sources, No. 7. Edited by Henry N. Michael. Toronto: University of Toronto Press.

TABLE 1. YUKON AREA COMMUNITIES AND DATES OF COMMUNITY VISITS FOR SUBSISTENCE SALMON SURVEYS, 1988.

Community	Dates of Visit(s)
Hooper Bay	Not Surveyed
Scammon Bay	Not Surveyed
Sheldon Point	September 8
Alakanuk	September 2 and 6
Emmonak	September 9 and 12
Kotlik	September 7
Mountain Village	September 21-22
Pitkas Point	September 20
St. Mary's	September 15-16
Pilot Station	September 14-15
Marshall	September 27
Russian Mission	September 28
Holy Cross	October 11-12
Anvik	October 12-13
Shageluk	October 25-26
Grayling	October 13-14
Kaltag	September 21-22; September 25
Nulato	September 22-23
Koyukuk	September 24
Galena	October 5-8
Ruby	October 8
Huslia	October 3
Hughes	October 5
Allakaket	September 29
Alatna	September 29
Bettles	September 28
Tanana	October 12-13
Rampart	October 12
Stevens Village	October 14
Beaver	October 12
Fort Yukon	October 26-31
Birch Creek	Not Surveyed
Circle	October 20
Central	October 19
Eagle	November 2-3
Venetie	October 24-25
Chalkyitsik	October 22
Manley	October 24-25
Minto	October 27-28
Nenana	October 11-12; November 2-4
Healy	November 2-4[1]
Kantishna River	November 2-4[1]

[1]Households associated with Healy and Kantishna River were surveyed while in Nenana.

TABLE 2. 1988 YUKON RIVER SUBSISTENCE SALMON PROJECT SAMPLING SUMMARY. (PROPORTIONS ARE BASED ON TOTAL HOUSEHOLDS IN THE COMMUNITY, WHETHER THEY WERE CONTACTED OR NOT.)

Community	Total Households	Calendar Return	Survey	Mail Out	Permit	Any Information	Subsistence Fished
Hooper Bay	102	1 (1.0%)	0 (0.0%)	30 (29.4%)	0 (0.0%)	31 (30.4%)	29 (28.4%)
Scammon Bay	52	0 (0.0%)	0 (0.0%)	15 (28.8%)	0 (0.0%)	15 (28.8%)	13 (25.0%)
Hooper & Scammon Bay Totals	154	1 (0.6%)	0 (0.0%)	45 (29.2%)	0 (0.0%)	46 (29.9%)	42 (27.3%)
Sheldon's Point	23	2 (8.7%)	13 (56.5%)	2 (8.7%)	0 (0.0%)	17 (73.9%)	11 (47.8%)
Alakanuk	117	19 (16.2%)	95 (81.2%)	6 (5.1%)	0 (0.0%)	102 (87.2%)	55 (47.0%)
Emmonak	137	11 (8.0%)	98 (71.5%)	9 (6.6%)	0 (0.0%)	107 (78.1%)	41 (29.9%)
Kotlik	91	14 (15.4%)	56 (61.5%)	7 (7.7%)	0 (0.0%)	66 (72.5%)	44 (48.4%)
Fishing District 1 Totals	368	46 (12.5%)	262 (71.2%)	24 (6.5%)	0 (0.0%)	292 (79.3%)	151 (41.0%)
Mountain Village	134	20 (14.9%)	119 (88.8%)	5 (3.7%)	0 (0.0%)	125 (93.3%)	68 (50.7%)
Pitkas Point	19	2 (10.5%)	14 (73.7%)	0 (0.0%)	0 (0.0%)	14 (73.7%)	10 (52.6%)
St. Mary's	63	20 (31.7%)	52 (82.5%)	5 (7.9%)	0 (0.0%)	59 (93.7%)	43 (68.3%)
Pilot Station	95	11 (11.6%)	80 (84.2%)	4 (4.2%)	0 (0.0%)	85 (89.5%)	39 (41.1%)
Marshall	51	15 (29.4%)	44 (86.3%)	1 (2.0%)	0 (0.0%)	45 (88.2%)	34 (66.7%)
Fishing District 2 Totals	362	68 (18.8%)	309 (85.4%)	15 (4.1%)	0 (0.0%)	328 (90.6%)	194 (53.6%)
Russian Mission	54	13 (24.1%)	51 (94.4%)	2 (3.7%)	0 (0.0%)	54 (100.0%)	31 (57.4%)
Holy Cross	35	6 (17.1%)	29 (82.9%)	3 (8.6%)	0 (0.0%)	33 (94.3%)	26 (74.3%)
Fishing District 3 Totals	89	19 (21.3%)	80 (89.9%)	5 (5.6%)	0 (0.0%)	87 (97.8%)	57 (64.0%)
Anvik	25	4 (16.0%)	18 (72.0%)	3 (12.0%)	0 (0.0%)	21 (84.0%)	12 (48.0%)
Shageluk	26	4 (15.4%)	21 (80.8%)	2 (7.7%)	0 (0.0%)	23 (88.5%)	16 (61.5%)
Grayling	47	6 (12.8%)	33 (70.2%)	4 (8.5%)	0 (0.0%)	40 (85.1%)	23 (48.9%)
Kaltag	51	2 (3.9%)	27 (52.9%)	8 (15.7%)	0 (0.0%)	35 (68.6%)	26 (51.0%)
Nulato	87	9 (10.3%)	42 (48.3%)	16 (18.4%)	0 (0.0%)	58 (67.8%)	30 (34.5%)
Koyukuk	41	1 (2.4%)	27 (65.9%)	4 (9.8%)	0 (0.0%)	31 (75.6%)	15 (36.6%)
Galena	177	18 (10.2%)	69 (39.0%)	56 (31.6%)	0 (0.0%)	126 (71.2%)	50 (28.2%)
Ruby	79	7 (8.9%)	19 (24.1%)	34 (43.0%)	0 (0.0%)	53 (67.1%)	21 (26.6%)
Fishing District 4 Totals	533	51 (9.6%)	258 (48.0%)	127 (23.8%)	0 (0.0%)	388 (72.8%)	193 (36.2%)
Huslia	55	4 (7.3%)	24 (43.6%)	14 (25.5%)	0 (0.0%)	38 (70.9%)	18 (32.7%)
Hughes	25	3 (12.0%)	14 (56.0%)	6 (24.0%)	0 (0.0%)	20 (80.0%)	12 (48.0%)
Allakaket	35	8 (22.9%)	19 (54.3%)	6 (17.1%)	0 (0.0%)	25 (71.4%)	14 (40.0%)
Alatna	9	0 (0.0%)	4 (44.4%)	3 (33.3%)	0 (0.0%)	7 (77.8%)	5 (55.6%)
Bettles	30	2 (6.7%)	6 (20.0%)	16 (53.3%)	0 (0.0%)	22 (73.3%)	2 (6.7%)
Koyukuk River Totals	154	17 (11.0%)	67 (43.5%)	45 (29.2%)	0 (0.0%)	113 (73.4%)	51 (33.1%)
Tanana	132	15 (11.4%)	83 (62.9%)	5 (3.8%)	0 (0.0%)	97 (73.5%)	35 (26.5%)
Rampart	22	1 (4.5%)	7 (31.8%)	7 (31.8%)	1 (4.5%)	14 (63.6%)	8 (36.4%)
Stevens Village	37	10 (27.0%)	15 (40.5%)	11 (29.7%)	12 (32.4%)	29 (78.4%)	15 (40.5%)
Beaver	35	6 (17.1%)	16 (45.7%)	6 (17.1%)	0 (0.0%)	22 (62.9%)	10 (28.6%)
Fort Yukon	217	10 (4.6%)	64 (29.5%)	58 (26.7%)	0 (0.0%)	127 (58.5%)	39 (18.0%)
Birch Creek	12	0 (0.0%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	3 (25.0%)	0 (0.0%)
Circle	22	3 (13.6%)	8 (36.4%)	5 (22.7%)	10 (45.5%)	16 (72.7%)	11 (50.0%)
Circle Vicinity	2	1 (50.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	1 (50.0%)
Central	4	3 (75.0%)	3 (75.0%)	0 (0.0%)	4 (100.0%)	4 (100.0%)	4 (100.0%)
Eagle	77	8 (10.4%)	38 (49.4%)	21 (27.3%)	29 (37.7%)	64 (83.1%)	32 (41.6%)
Eagle Vicinity	10	2 (20.0%)	2 (20.0%)	3 (30.0%)	0 (0.0%)	6 (60.0%)	2 (20.0%)
Eagle Village	20	2 (10.0%)	6 (30.0%)	5 (25.0%)	6 (30.0%)	11 (55.0%)	7 (35.0%)
Fishing District 5 Totals	590	61 (10.3%)	242 (41.0%)	124 (21.0%)	63 (10.7%)	394 (66.8%)	164 (27.8%)
Venetie	58	0 (0.0%)	16 (27.6%)	11 (19.0%)	0 (0.0%)	27 (46.6%)	6 (10.3%)
Chalkyitsik	35	1 (2.9%)	12 (34.3%)	1 (2.9%)	0 (0.0%)	13 (37.1%)	6 (17.1%)
Chandalar R. & Black R. Totals	93	1 (1.1%)	28 (30.1%)	12 (12.9%)	0 (0.0%)	40 (43.0%)	12 (12.9%)
Manley	43	5 (11.6%)	20 (46.5%)	19 (44.2%)	24 (55.8%)	39 (90.7%)	17 (39.5%)
Minto	74	2 (2.7%)	24 (32.4%)	17 (23.0%)	39 (52.7%)	53 (71.6%)	14 (18.9%)
Nenana	219	14 (6.4%)	33 (15.1%)	90 (41.1%)	36 (16.4%)	132 (60.3%)	44 (20.1%)
Healy	14	2 (14.3%)	5 (35.7%)	3 (21.4%)	7 (50.0%)	11 (78.6%)	7 (50.0%)
Kantishna River	7	2 (28.6%)	2 (28.6%)	3 (42.9%)	4 (57.1%)	6 (85.7%)	4 (57.1%)
Fishing District 6 Totals	357	25 (7.0%)	84 (23.5%)	132 (37.0%)	110 (30.8%)	241 (67.5%)	86 (24.1%)
Total	2700	289 (10.7%)	1328 (49.2%)	529 (19.6%)	173 (6.4%)	1929 (71.4%)	950 (35.2%)

TABLE 3. 1988 YUKON RIVER SUBSISTENCE SALMON PROJECT SAMPLING SUMMARY FOR THOSE HOUSEHOLDS IDENTIFIED AS "USUALLY FISH". (PROPORTIONS ARE BASED ON TOTAL HOUSEHOLDS IN THE COMMUNITY, WHETHER THEY WERE CONTACTED OR NOT.)

Community	Total Households	Calendar Return	Survey	Mail Out	Permit	Any Information	Subsistence Fished
Hooper Bay	0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Scammon Bay	0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Hooper & Scammon Bay Totals	0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Sheldon's Point	20	2 (10.0%)	10 (50.0%)	2 (10.0%)	0 (0.0%)	14 (70.0%)	11 (55.0%)
Alakanuk	88	18 (20.5%)	71 (80.7%)	5 (5.7%)	0 (0.0%)	77 (87.5%)	51 (58.0%)
Emmonak	86	10 (11.6%)	62 (72.1%)	6 (7.0%)	0 (0.0%)	67 (77.9%)	35 (40.7%)
Kotlik	74	13 (17.6%)	52 (70.3%)	6 (8.1%)	0 (0.0%)	60 (81.1%)	43 (58.1%)
Fishing District 1 Totals	268	43 (16.0%)	195 (72.8%)	19 (7.1%)	0 (0.0%)	218 (81.3%)	140 (52.2%)
Mountain Village	121	18 (14.9%)	109 (90.1%)	4 (3.3%)	0 (0.0%)	114 (94.2%)	65 (53.7%)
Pitkas Point	18	2 (11.1%)	13 (72.2%)	0 (0.0%)	0 (0.0%)	13 (72.2%)	10 (55.6%)
St. Mary's	54	20 (37.0%)	44 (81.5%)	5 (9.3%)	0 (0.0%)	51 (94.4%)	39 (72.2%)
Pilot Station	68	11 (15.9%)	61 (88.4%)	2 (2.9%)	0 (0.0%)	64 (92.8%)	37 (53.6%)
Marshall	43	14 (32.6%)	38 (88.4%)	1 (2.3%)	0 (0.0%)	39 (90.7%)	32 (74.4%)
Fishing District 2 Totals	305	65 (21.3%)	265 (86.9%)	12 (3.9%)	0 (0.0%)	281 (92.1%)	183 (60.0%)
Russian Mission	42	11 (26.2%)	41 (97.6%)	1 (2.4%)	0 (0.0%)	42 (100.0%)	28 (66.7%)
Holy Cross	33	6 (18.2%)	28 (84.8%)	3 (9.1%)	0 (0.0%)	32 (97.0%)	25 (75.8%)
Fishing District 3 Totals	75	17 (22.7%)	68 (92.0%)	4 (5.3%)	0 (0.0%)	74 (98.7%)	53 (70.7%)
Anvik	21	4 (19.0%)	16 (76.2%)	2 (9.5%)	0 (0.0%)	18 (85.7%)	10 (47.6%)
Shageluk	21	4 (19.0%)	17 (81.0%)	2 (9.5%)	0 (0.0%)	19 (90.5%)	13 (61.9%)
Grayling	35	6 (17.1%)	24 (68.6%)	3 (8.6%)	0 (0.0%)	30 (85.7%)	21 (60.0%)
Kaltag	34	2 (5.9%)	27 (79.4%)	2 (5.9%)	0 (0.0%)	29 (85.3%)	25 (73.5%)
Nulato	55	9 (16.4%)	42 (76.4%)	4 (7.3%)	0 (0.0%)	47 (85.5%)	27 (49.1%)
Koyukuk	29	1 (3.4%)	26 (89.7%)	0 (0.0%)	0 (0.0%)	26 (89.7%)	14 (48.3%)
Galena	74	15 (20.3%)	64 (86.5%)	4 (5.4%)	0 (0.0%)	69 (93.2%)	37 (50.0%)
Ruby	32	5 (15.6%)	14 (43.8%)	10 (31.3%)	0 (0.0%)	24 (75.0%)	15 (46.9%)
Fishing District 4 Totals	301	46 (15.3%)	230 (76.4%)	27 (9.0%)	0 (0.0%)	262 (87.0%)	162 (53.8%)
Huslia	45	4 (8.9%)	22 (48.9%)	9 (20.0%)	0 (0.0%)	32 (71.1%)	18 (40.0%)
Hughes	18	3 (16.6%)	14 (87.5%)	1 (6.3%)	0 (0.0%)	15 (93.8%)	10 (62.5%)
Allakaket	29	8 (27.6%)	18 (62.1%)	3 (10.3%)	0 (0.0%)	21 (72.4%)	13 (44.8%)
Alatna	7	0 (0.0%)	4 (57.1%)	2 (28.6%)	0 (0.0%)	6 (85.7%)	5 (71.4%)
Bettles	6	2 (33.3%)	6 (100.0%)	0 (0.0%)	0 (0.0%)	6 (100.0%)	2 (33.3%)
Koyukuk River Totals	103	17 (16.5%)	64 (62.1%)	15 (14.6%)	0 (0.0%)	80 (77.7%)	48 (46.6%)
Tanana	79	14 (17.7%)	34 (43.0%)	5 (6.3%)	0 (0.0%)	47 (59.5%)	34 (43.0%)
Rampart	15	1 (6.7%)	7 (46.7%)	3 (20.0%)	0 (0.0%)	9 (60.0%)	7 (46.7%)
Stevens Village	20	9 (45.0%)	14 (70.0%)	2 (10.0%)	10 (50.0%)	17 (85.0%)	12 (60.0%)
Beaver	18	6 (33.3%)	15 (83.3%)	2 (11.1%)	0 (0.0%)	17 (94.4%)	9 (50.0%)
Fort Yukon	76	5 (6.6%)	57 (75.0%)	2 (2.6%)	0 (0.0%)	63 (82.9%)	34 (44.7%)
Birch Creek	8	0 (0.0%)	0 (0.0%)	2 (25.0%)	0 (0.0%)	2 (25.0%)	0 (0.0%)
Circle	16	3 (18.8%)	7 (43.8%)	4 (25.0%)	8 (50.0%)	13 (81.3%)	9 (56.3%)
Circle Vicinity	2	1 (50.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	1 (50.0%)
Central	2	1 (50.0%)	1 (50.0%)	0 (0.0%)	2 (100.0%)	2 (100.0%)	2 (100.0%)
Eagle	38	7 (18.4%)	28 (73.7%)	7 (18.4%)	19 (50.0%)	35 (92.1%)	22 (57.9%)
Eagle Vicinity	8	2 (25.0%)	2 (25.0%)	2 (25.0%)	0 (0.0%)	5 (62.5%)	2 (25.0%)
Eagle Village	10	2 (20.0%)	6 (60.0%)	1 (10.0%)	5 (50.0%)	7 (70.0%)	6 (60.0%)
Fishing District 5 Totals	292	51 (17.5%)	171 (58.6%)	30 (10.3%)	45 (15.4%)	218 (74.7%)	138 (47.3%)
Venetie	22	0 (0.0%)	16 (72.7%)	1 (4.5%)	0 (0.0%)	17 (77.3%)	6 (27.3%)
Chalkyitsik	15	1 (6.7%)	6 (40.0%)	0 (0.0%)	0 (0.0%)	6 (40.0%)	5 (33.3%)
Chandalar R. & Black R. Totals	37	1 (2.7%)	22 (59.5%)	1 (2.7%)	0 (0.0%)	23 (62.2%)	11 (29.7%)
Manley	20	5 (25.0%)	11 (55.0%)	5 (25.0%)	19 (95.0%)	20 (100.0%)	13 (65.0%)
Minto	33	2 (6.1%)	18 (54.5%)	7 (21.2%)	28 (84.8%)	31 (93.9%)	9 (27.3%)
Nenana	20	3 (15.0%)	13 (65.0%)	4 (20.0%)	14 (70.0%)	19 (95.0%)	15 (75.0%)
Healy	6	1 (16.7%)	1 (16.7%)	2 (33.3%)	1 (16.7%)	3 (50.0%)	1 (16.7%)
Kantishna River	2	1 (50.0%)	1 (50.0%)	1 (50.0%)	1 (50.0%)	2 (100.0%)	2 (100.0%)
Fishing District 6 Totals	81	12 (14.8%)	44 (54.3%)	19 (23.5%)	63 (77.8%)	75 (92.6%)	40 (49.4%)
Total	1462	252 (17.2%)	1060 (72.5%)	127 (8.7%)	108 (7.4%)	1231 (84.2%)	775 (53.0%)

TABLE 4. 1988 YUKON RIVER SUBSISTENCE SALMON PROJECT SAMPLING SUMMARY FOR THOSE HOUSEHOLDS IDENTIFIED AS "USUALLY DID NOT FISH". (PROPORTIONS ARE BASED ON TOTAL HOUSEHOLDS IN THE COMMUNITY, WHETHER THEY WERE CONTACTED OR NOT.)

Community	Total Households	Calendar Return	Survey	Mail Out	Permit	Any Information	Subsistence Fished
Hooper Bay	102	1 (1.0%)	0 (0.0%)	30 (29.4%)	0 (0.0%)	31 (30.4%)	28 (28.4%)
Scammon Bay	52	0 (0.0%)	0 (0.0%)	15 (28.8%)	0 (0.0%)	15 (28.8%)	13 (25.0%)
Hooper & Scammon Bay Totals	154	1 (0.6%)	0 (0.0%)	45 (29.2%)	0 (0.0%)	46 (29.9%)	42 (27.3%)
Sheldon's Point	3	0 (0.0%)	3 (100.0%)	0 (0.0%)	0 (0.0%)	3 (100.0%)	0 (0.0%)
Alakanuk	29	1 (3.4%)	24 (82.8%)	1 (3.4%)	0 (0.0%)	25 (86.2%)	4 (13.8%)
Emmonak	51	1 (2.0%)	36 (70.6%)	3 (5.9%)	0 (0.0%)	40 (78.4%)	6 (11.8%)
Kotlik	17	1 (5.9%)	4 (23.5%)	1 (5.9%)	0 (0.0%)	6 (35.3%)	1 (5.9%)
Fishing District 1 Totals	100	3 (3.0%)	67 (67.0%)	5 (5.0%)	0 (0.0%)	74 (74.0%)	11 (11.0%)
Mountain Village	13	2 (15.4%)	10 (76.9%)	1 (7.7%)	0 (0.0%)	11 (84.6%)	3 (23.1%)
Pitkas Point	1	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
St. Mary's	9	0 (0.0%)	8 (88.9%)	0 (0.0%)	0 (0.0%)	8 (88.9%)	4 (44.4%)
Pilot Station	28	0 (0.0%)	18 (73.1%)	2 (7.7%)	0 (0.0%)	21 (80.8%)	2 (7.7%)
Marshall	8	1 (12.5%)	6 (75.0%)	0 (0.0%)	0 (0.0%)	6 (75.0%)	2 (25.0%)
Fishing District 2 Totals	57	3 (5.3%)	44 (77.2%)	3 (5.3%)	0 (0.0%)	47 (82.5%)	11 (19.3%)
Russian Mission	12	2 (16.7%)	10 (83.3%)	1 (8.3%)	0 (0.0%)	12 (100.0%)	3 (25.0%)
Holy Cross	2	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)
Fishing District 3 Totals	14	2 (14.3%)	11 (78.6%)	1 (7.1%)	0 (0.0%)	13 (92.9%)	4 (28.6%)
Anvik	4	0 (0.0%)	2 (50.0%)	1 (25.0%)	0 (0.0%)	3 (75.0%)	2 (50.0%)
Shageluk	5	0 (0.0%)	4 (80.0%)	0 (0.0%)	0 (0.0%)	4 (80.0%)	3 (60.0%)
Grayling	12	0 (0.0%)	9 (75.0%)	1 (8.3%)	0 (0.0%)	10 (83.3%)	2 (16.7%)
Kaltag	17	0 (0.0%)	0 (0.0%)	6 (35.3%)	0 (0.0%)	6 (35.3%)	1 (5.9%)
Nulato	32	0 (0.0%)	0 (0.0%)	12 (37.5%)	0 (0.0%)	12 (37.5%)	3 (9.4%)
Koyukuk	12	0 (0.0%)	1 (8.3%)	4 (33.3%)	0 (0.0%)	5 (41.7%)	1 (8.3%)
Galena	103	3 (2.9%)	5 (4.9%)	52 (50.5%)	0 (0.0%)	57 (55.3%)	13 (12.6%)
Ruby	47	2 (4.3%)	5 (10.6%)	24 (51.1%)	0 (0.0%)	29 (61.7%)	6 (12.8%)
Fishing District 4 Totals	232	5 (2.2%)	26 (11.2%)	100 (43.1%)	0 (0.0%)	126 (54.3%)	31 (13.4%)
Huslia	10	0 (0.0%)	2 (20.0%)	5 (50.0%)	0 (0.0%)	7 (70.0%)	0 (0.0%)
Hughes	9	0 (0.0%)	0 (0.0%)	5 (55.6%)	0 (0.0%)	5 (55.6%)	2 (22.2%)
Allakaket	6	0 (0.0%)	1 (16.7%)	3 (50.0%)	0 (0.0%)	4 (66.7%)	1 (16.7%)
Alatna	2	0 (0.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)
Bettles	24	0 (0.0%)	0 (0.0%)	16 (66.7%)	0 (0.0%)	16 (66.7%)	0 (0.0%)
Koyukuk River Totals	51	0 (0.0%)	3 (5.9%)	30 (58.8%)	0 (0.0%)	33 (64.7%)	3 (5.9%)
Tanana	53	1 (1.9%)	48 (92.5%)	0 (0.0%)	0 (0.0%)	50 (94.3%)	1 (1.9%)
Rampart	7	0 (0.0%)	0 (0.0%)	4 (57.1%)	1 (14.3%)	5 (71.4%)	1 (14.3%)
Stevens Village	17	1 (5.9%)	1 (5.9%)	9 (52.9%)	2 (11.8%)	12 (70.6%)	3 (17.6%)
Beaver	17	0 (0.0%)	1 (5.9%)	4 (23.5%)	0 (0.0%)	5 (29.4%)	1 (5.9%)
Fort Yukon	141	5 (3.5%)	7 (5.0%)	56 (39.7%)	0 (0.0%)	64 (45.4%)	5 (3.5%)
Birch Creek	4	0 (0.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)
Circle	6	0 (0.0%)	1 (16.7%)	1 (16.7%)	2 (33.3%)	3 (50.0%)	2 (33.3%)
Circle Vicinity	0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Central	2	2 (100.0%)	2 (100.0%)	0 (0.0%)	2 (100.0%)	2 (100.0%)	2 (100.0%)
Eagle	39	1 (2.6%)	10 (25.6%)	14 (35.9%)	10 (25.6%)	29 (74.4%)	10 (25.6%)
Eagle Vicinity	2	0 (0.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)
Eagle Village	10	0 (0.0%)	0 (0.0%)	4 (40.0%)	1 (10.0%)	4 (40.0%)	1 (10.0%)
Fishing District 5 Totals	298	10 (3.4%)	71 (23.8%)	94 (31.5%)	18 (6.0%)	176 (59.1%)	26 (8.7%)
Venetie	36	0 (0.0%)	0 (0.0%)	10 (27.8%)	0 (0.0%)	10 (27.8%)	0 (0.0%)
Chalkyitsik	20	0 (0.0%)	6 (30.0%)	1 (5.0%)	0 (0.0%)	7 (35.0%)	1 (5.0%)
Chandalar R. & Black R. Totals	56	0 (0.0%)	6 (10.7%)	11 (19.6%)	0 (0.0%)	17 (30.4%)	1 (1.8%)
Manley	23	0 (0.0%)	9 (39.1%)	14 (60.9%)	5 (21.7%)	19 (82.6%)	4 (17.4%)
Minto	41	0 (0.0%)	6 (14.6%)	10 (24.4%)	11 (26.8%)	22 (53.7%)	5 (12.2%)
Nenana	199	11 (5.5%)	20 (10.1%)	86 (43.2%)	22 (11.1%)	113 (56.8%)	29 (14.6%)
Healy	8	1 (12.5%)	4 (50.0%)	1 (12.5%)	6 (75.0%)	8 (100.0%)	6 (75.0%)
Kantishna River	5	1 (20.0%)	1 (20.0%)	2 (40.0%)	3 (60.0%)	4 (80.0%)	2 (40.0%)
Fishing District 6 Totals	276	13 (4.7%)	40 (14.5%)	113 (40.9%)	47 (17.0%)	166 (60.1%)	46 (16.7%)
Total	1238	37 (3.0%)	268 (21.6%)	402 (32.5%)	65 (5.3%)	698 (56.4%)	175 (14.1%)

TABLE 5. 1988 YUKON RIVER SUBSISTENCE HARVESTS.

	Total		Chinook		Summer Chum		Fall Chum		Coho	
	Total HH's	HH's Contactd	Reported Harvest	Est. Total	Reported Harvest	Est. Total	Reported Harvest	Est. Total	Reported Harvest	Est. Total
Hooper Bay	102	31	334	1099	7008	23059	520	1711	463	1523
Scammon Bay	52	15	141	489	2357	8171	159	551	94	326
Hooper & Scammon Bay Totals	154	46	475	1588	9365	31230	679	2262	557	1849
Sheldon's Point	23	18	196	302	1683	2589	188	289	110	169
Alakanuk	117	98	612	738	5803	6992	984	1194	535	634
Emmonak	137	103	429	585	5877	7922	877	1169	755	1018
Kotlik	91	64	599	764	5665	7228	557	725	946	1221
Fishing District 1 Totals	368	281	1636	2388	19028	24731	2616	3377	2346	3042
Mountain Village	134	122	671	740	8431	9248	1725	1880	1205	1314
Pitkas Point	19	12	224	367	1457	2384	380	622	620	1015
St. Mary's	63	59	948	1011	7632	8117	1767	1911	2011	2132
Pilot Station	95	83	447	490	2353	2578	188	206	363	398
Marshall	51	43	887	1031	4100	4796	2419	2815	1517	1767
Fishing District 2 Totals	362	319	3177	3639	23973	27122	6499	7434	5716	6625
Russian Mission	54	53	1809	1850	2736	2794	1134	1151	594	604
Holy Cross	35	31	2349	2593	2748	3036	539	596	848	935
Fishing District 3 Totals	89	84	4158	4443	5484	5830	1673	1746	1442	1538
Anvik	25	20	179	211	10549	12607	116	136	82	97
Shageluk	26	21	88	104	7482	8779	0	0	110	128
Grayling	47	38	1301	1571	18743	22634	1455	1780	568	692
Kaltag	51	31	846	1168	2641	3592	1686	2293	0	0
Nulato	87	50	1364	1966	7048	10201	1138	1673	115	234
Koyukuk	41	25	490	711	192	284	397	587	4	10
Galena	177	124	1679	1982	6413	7413	3726	4308	832	1029
Ruby	79	53	1040	1402	2949	4010	3878	5171	1626	2169
Fishing District 4 Totals	533	362	6985	9134	56017	69518	12396	15927	3317	4359
Huslia	55	37	59	89	9930	14695	1131	1697	134	201
Hughes	25	19	23	29	2138	2445	272	311	82	104
Allakaket	35	25	237	339	5065	7066	236	326	116	160
Alatna	9	7	23	27	1250	1458	100	117	15	18
Bettles	30	22	0	0	18	18	0	0	0	0
Koyukuk River Totals	154	110	342	483	18401	25683	1739	2450	347	482
Tanana	132	97	1923	3232	8316	13972	32048	53443	10074	16922
Rampart	22	14	1919	3145	2350	3383	2400	3600	505	842
Stevens Village	37	29	2330	2845	735	865	1159	1451	493	604
Beaver	35	22	777	940	147	214	91	96	100	164
Fort Yukon	217	124	1269	1621	4836	6217	2006	2766	285	370
Birch Creek	12	3	0	0	0	0	0	0	0	0
Circle	22	18	1210	1493	488	718	2592	3190	33	41
Circle Vicinity	2	1	140	280	12	24	228	456	0	0
Central	4	4	261	261	129	129	750	750	0	0
Eagle	77	64	1218	1393	1079	1273	7287	8301	10	11
Eagle Vicinity	10	6	211	338	0	0	822	1315	0	0
Eagle Village	20	10	361	602	0	0	3055	5184	0	0
Fishing District 5 Totals	590	390	11619	16150	18092	26796	52438	80552	11500	18954
Venetie	58	28	88	121	510	701	25	34	0	0
Chalkyitsik[1]	35	12	500	1429	1609	4613	356	1068	267	801
Chandalar R./Black R. Totals	93	38	588	1550	2119	5314	381	1102	267	801
Manley	43	39	875	877	3718	3731	8916	9454	1912	2103
Minto	74	52	336	466	773	947	2415	2615	2480	2729
Nenana	218	128	2955	3841	4432	5654	13291	19535	12308	18280
Healy	14	10	0	0	0	0	2561	2969	3538	4048
Kantishna River	7	6	5	5	0	0	3820	4385	2776	3041
Fishing District 6 Totals	357	235	4171	5189	8923	10331	31023	38958	23014	30201
Total	2700	1865	33351	44564	181402	226754	109444	153809	48506	67852

[1]One household in Chalkyitsik harvested 500 chinook and 1,500 summer chum salmon in the Fort Yukon area.

TABLE 6. 1988 YUKON RIVER CHINOOK SALMON SUBSISTENCE HARVESTS. (CONFIDENCE INTERVALS ARE REPORTED AT THE APPROXIMATE 95% LEVEL.)

	Usually Do Not Fish				Usually Fish				Total					
	Total HH's	HH's Contctd	Mean	Std. Dev.	Total HH's	HH's Contctd	Mean	Std. Dev.	Total HH's	HH's Contctd	Reported Harvest	Est. Total	+/-	+/- %
Hooper Bay	102	31	10.8	11.5	0	0	0.0	0.0	102	31	334	1099	352	32.0%
Scammon Bay	52	15	9.4	9.8	0	0	0.0	0.0	52	15	141	469	222	45.4%
Hooper & Scammon Bay Totals	154	46	10.3		0	0	0.0		154	46	475	1568	416	26.2%
Sheldon's Point	3	3	0.0	0.0	20	13	15.1	26.7	23	16	196	302	175	58.2%
Alakanuk	29	25	0.1	0.4	88	73	8.3	13.3	117	98	612	738	113	15.3%
Emmonak	51	40	0.2	0.8	86	63	6.7	18.8	137	103	429	585	210	35.9%
Kotlik	17	6	0.0	0.0	74	58	10.3	15.4	91	64	599	764	139	18.2%
Fishing District 1 Totals	100	74	0.1		268	207	8.9		368	281	1638	2388	327	13.7%
Mountain Village	13	11	8.4	17.3	121	111	5.2	10.9	134	122	671	740	90	12.1%
Pitkas Point	1	1	0.0	0.0	18	11	20.4	32.8	19	12	224	387	222	60.6%
St. Mary's	9	8	14.1	34.8	54	51	18.4	24.9	63	59	946	1011	115	11.4%
Pilot Station	28	20	0.0	0.0	69	63	7.1	10.1	95	83	447	490	52	10.6%
Marshall	8	6	0.5	1.2	43	37	23.9	25.1	51	43	867	1031	132	12.8%
Fishing District 2 Totals	57	46	4.2		305	273	11.1		362	319	3177	3639	301	8.3%
Russian Mission	12	12	10.5	24.1	42	41	41.0	53.9	54	53	1800	1850	109	5.9%
Holy Cross	2	1	10.0	0.0	33	30	78.0	74.6	35	31	2349	2593	271	10.5%
Fishing District 3 Totals	14	13	10.4		75	71	57.3		89	84	4158	4443	292	6.6%
Anvik	5	3	0.0	0.0	20	17	10.5	15.3	25	20	179	211	58	27.4%
Shageluk	5	3	2.3	2.5	21	18	4.4	5.7	28	21	80	104	23	22.4%
Grayling	12	9	1.1	3.3	35	29	44.5	62.6	47	38	1301	1571	337	21.5%
Kaltag	17	6	2.0	4.9	34	25	33.4	47.8	51	31	846	1168	339	29.0%
Nulato	32	12	0.8	2.9	55	38	35.8	51.8	87	50	1384	1986	515	26.0%
Koyukuk	12	5	0.0	0.0	29	20	24.5	67.9	41	25	490	711	490	69.0%
Galena	103	57	3.2	9.4	74	67	22.4	65.3	177	124	1679	1982	402	20.3%
Ruby	47	29	1.8	6.1	32	24	41.1	90.0	79	53	1040	1402	591	42.2%
Fishing District 4 Totals	233	124	2.1		300	238	28.8		533	362	6985	9134	1118	12.2%
Huslia	10	7	0.0	0.0	45	30	2.0	3.8	55	37	59	89	36	40.6%
Hughes	9	5	0.8	1.8	16	14	1.4	3.0	25	19	23	29	13	45.5%
Allakaket	6	4	25.0	50.0	29	21	6.5	12.6	35	25	237	339	193	56.8%
Alatna	2	1	0.0	0.0	7	6	3.8	4.8	9	7	23	27	10	36.9%
Bettles	24	16	0.0	0.0	6	6	0.0	0.0	30	22	0	0	0	0.0%
Koyukuk River Totals	51	33	3.1		103	77	3.2		154	110	342	483	197	40.7%
Tanana	53	50	0.0	0.0	79	47	40.9	83.8	132	97	1923	3232	1229	38.0%
Rampart	7	5	40.0	89.4	15	9	191.0	172.6	22	14	1919	3145	1132	36.0%
Stevens Village	17	12	35.9	83.6	20	17	111.7	119.7	37	29	2330	2845	633	22.2%
Beaver	17	5	10.0	22.4	18	17	42.8	81.7	35	22	777	940	313	33.3%
Fort Yukon	141	84	0.2	1.0	76	60	20.9	41.9	217	124	1289	1621	378	23.3%
Birch Creek	4	1	0.0	0.0	8	2	0.0	0.0	12	3	0	0	0	0.0%
Circle	6	3	1.7	2.9	16	13	92.7	103.6	22	16	1210	1493	398	26.7%
Circle Vicinity	0	0	0.0	0.0	2	1	140.0	0.0	2	1	140	280	0	0.0%
Central	2	2	66.0	91.9	2	2	64.5	50.2	4	4	261	261	0	0.0%
Eagle	39	29	9.4	21.2	38	35	27.0	54.3	77	64	1218	1393	250	18.0%
Eagle Vicinity	2	1	0.0	0.0	8	5	42.2	94.4	10	6	211	338	413	122.5%
Eagle Village	10	4	0.0	0.0	10	6	60.2	102.2	20	10	361	602	528	87.7%
Fishing District 5 Totals	298	176	5.4		292	214	48.8		590	390	11619	18150	2026	12.5%
Venetie	36	10	0.0	0.0	22	16	5.5	17.6	58	26	88	121	102	84.4%
Chalkyitsik[1]	20	7	71.4	189.0	15	5	0.0	0.0	35	12	500	1429	2304	161.2%
Chandalar R./Black R. Totals	56	17	25.5		37	21	3.3		93	38	588	1550	2306	148.8%
Manley	23	19	0.5	2.3	20	20	43.3	97.3	43	39	875	877	10	1.2%
Minto	41	21	5.8	18.0	33	31	6.9	35.9	74	52	336	466	248	53.3%
Nenana	198	111	5.3	31.7	20	17	138.1	224.9	218	128	2955	3841	1161	30.2%
Healy	8	7	0.0	0.0	6	3	0.0	0.0	14	10	0	0	0	0.0%
Kantishna River	5	4	0.0	0.0	2	2	2.5	3.5	7	6	5	5	0	0.0%
Fishing District 6 Totals	276	162	4.7		81	73	47.9		357	235	4171	5189	1188	22.9%
Total	1239	691	5.6		1461	1174	25.7		2700	1865	33351	44584	3546	8.0%

[1]One household in Chalkyitsik harvested 500 chinook salmon in the Fort Yukon area.

TABLE 7. 1988 YUKON RIVER SUMMER CHUM SALMON SUBSISTENCE HARVESTS. (CONFIDENCE INTERVALS ARE REPORTED AT THE APPROXIMATE 95% LEVEL.)

	-Do Not Usually Fish-------				Usually Fish----------				Total----------					
	Total HH's	HH's Contctd	Mean	Std. Dev.	Total HH's	HH's Contctd	Mean	Std. Dev.	Total HH's	HH's Contctd	Reported Harvest	Est. Total	+/-	+/- %
Hooper Bay	102	31	228.1	151.0	0	0	0.0	0.0	102	31	7008	23059	4615	20.0%
Scammon Bay	52	15	157.1	104.9	0	0	0.0	0.0	52	15	2357	8171	2375	29.1%
Hooper & Scammon Bays	154	46	202.8		0	0	0.0		154	46	9365	31230	5191	16.6%
Sheldon's Point	3	3	0.0	0.0	20	13	129.5	152.7	23	16	1683	2589	1002	38.7%
Alakanuk	29	25	3.1	14.0	88	73	78.4	88.1	117	98	5803	8992	751	10.7%
Emmonak	51	40	28.0	93.8	86	63	75.5	155.5	137	103	5877	7922	1878	23.7%
Kotlik	17	8	0.0	0.0	74	58	97.7	134.3	91	64	5865	7228	1214	16.8%
Fishing District 1	100	74	15.2		268	207	86.8		368	281	18028	24731	2563	10.4%
Mountain Village	13	11	56.8	121.5	121	111	70.3	104.6	134	122	8431	9248	785	8.5%
Pitkas Point	1	1	0.0	0.0	18	11	132.5	154.3	19	12	1457	2384	1044	43.8%
St. Mary's	9	8	87.5	108.6	54	51	138.1	187.9	63	59	7632	8117	642	7.9%
Pilot Station	28	20	0.2	0.9	68	63	37.3	61.1	95	83	2353	2578	313	12.1%
Marshall	8	6	30.0	84.2	43	37	105.8	171.0	51	43	4100	4796	927	19.3%
Fishing District 2	57	46	27.9		305	273	69.7		362	319	23973	27122	1754	6.5%
Russian Mission	12	12	29.8	70.5	42	41	58.0	82.0	54	53	2736	2794	166	5.9%
Holy Cross	2	1	15.0	0.0	33	30	91.1	198.4	35	31	2746	3036	721	23.7%
Fishing District 3	14	13	27.6		75	71	72.8		89	84	5484	5830	740	12.7%
Anvik	5	3	133.3	230.9	20	17	597.0	1609.9	25	20	10549	12607	6107	48.4%
Shageluk	5	3	33.3	57.7	21	18	410.1	608.8	26	21	7482	8779	2288	26.1%
Grayling	12	9	11.1	33.3	35	29	642.9	1869.4	47	38	18743	22634	10062	44.5%
Kaltag	17	6	0.0	0.0	34	25	105.6	373.7	51	31	2641	3592	2615	72.8%
Nulato	32	12	0.0	0.0	55	38	185.5	711.5	87	50	7046	10201	7059	69.2%
Koyukuk	12	5	1.2	2.7	29	20	9.3	23.8	41	25	192	284	174	61.3%
Galena	103	57	8.2	53.1	74	67	88.7	360.2	177	124	6413	7413	2224	30.0%
Ruby	47	29	9.3	48.2	32	24	111.6	225.0	79	53	2948	4010	1563	39.0%
Fishing District 4	233	124	9.7		300	238	224.2		533	362	56017	69518	14417	20.7%
Huslia	10	7	0.0	0.0	45	30	331.0	592.0	55	37	9830	14895	5616	37.7%
Hughes	9	5	0.6	1.3	16	14	152.5	279.8	25	19	2138	2445	846	34.6%
Allakaket	6	4	150.0	300.0	29	21	212.6	308.2	35	25	5065	7066	2297	32.5%
Alatna	2	1	0.0	0.0	7	6	208.3	210.8	9	7	1250	1458	455	31.2%
Bettles	24	16	0.0	0.0	6	6	3.0	5.8	30	22	18	18	0	0.0%
Koyukuk River Totals	51	33	17.8		103	77	242.5		154	110	18401	25883	8144	23.7%
Tanana	53	50	0.2	1.3	79	47	176.7	457.7	132	97	8316	13972	6714	48.1%
Rampart	7	5	400.0	894.4	15	9	38.9	99.3	22	14	2350	3383	3059	90.4%
Stevens Village	17	12	0.0	0.0	20	17	43.2	98.6	37	29	735	865	374	43.3%
Beaver	17	5	5.0	11.2	18	17	7.2	23.0	35	22	147	214	150	70.3%
Fort Yukon	141	64	1.5	12.3	76	60	79.0	200.2	217	124	4836	6217	1831	29.4%
Birch Creek	4	1	0.0	0.0	8	2	0.0	0.0	12	3	0	0	0	0.0%
Circle	6	3	50.7	86.0	16	13	25.8	50.5	22	16	488	718	464	64.7%
Circle Vicinity	0	0	0.0	0.0	2	1	12.0	0.0	2	1	12	24	0	0.0%
Central	2	2	63.5	77.1	2	2	1.0	1.4	4	4	129	129	0	0.0%
Eagle	39	29	13.5	50.7	38	35	19.6	68.8	77	64	1079	1273	486	38.2%
Eagle Vicinity	2	1	0.0	0.0	8	5	0.0	0.0	10	6	0	0	0	0.0%
Eagle Village	10	4	0.0	0.0	10	6	0.0	0.0	20	10	0	0	0	0.0%
Fishing District 5	298	176	13.7		292	214	77.8		590	390	18092	26798	7642	28.5%
Venetie	36	10	0.0	0.0	22	16	31.8	85.2	58	26	510	701	489	69.8%
Chalkyitsik	20	7	214.3	568.9	15	5	21.8	43.8	35	12	1508	4613	6927	150.2%
Chandalar R. & Black R. Totals	56	17	76.5		37	21	27.8		93	38	2119	5314	6944	130.7%
Manley	23	19	3.2	13.8	20	20	182.9	420.0	43	39	3718	3731	61	1.6%
Minto	41	21	6.7	15.9	33	31	20.4	47.5	74	52	773	947	243	25.6%
Nenana	198	111	6.4	37.4	20	17	218.8	470.1	219	128	4432	5654	2000	35.4%
Healy	8	7	0.0	0.0	6	3	0.0	0.0	14	10	0	0	0	0.0%
Kantishna River	5	4	0.0	0.0	2	2	0.0	0.0	7	6	0	0	0	0.0%
Fishing District 6	278	162	5.9		81	73	107.5		357	235	8923	10331	2016	19.5%
All Districts	1239	691	38.6		1461	1174	122.4		2700	1865	161402	226754	19835	8.7%

[1]One household in Chalkyitsik harvested 1,500 summer chum salmon in the Fort Yukon area.

TABLE 8. REPORTED QUANTITIES OF SALMON REMOVED FROM COMMERCIAL CATCHES FOR HOME USES, SELECTED YUKON RIVER COMMUNITIES, 1988.

Community	Total Households	Surveyed Households	Households Remove from Commercial	Salmon Removed Dog Food	Salmon Removed Cut to to Eat
Anvik	25	18	6	37850	345
Grayling	47	33	3	2650	90
Kaltag	51	27	15	41126	2425
Koyukuk	41	27	4	11640	200
Nulato	87	42	6	10275	200
Total	251	147	34	103541	3260

TABLE 9. 1988 YUKON RIVER FALL CHUM SALMON SUBSISTENCE HARVESTS. (CONFIDENCE INTERVALS ARE REPORTED AT THE APPROXIMATE 95% LEVEL.)

	Do Not Usually Fish				Usually Fish				Total					
	Total HH's	HH's Contctd	Mean	Std. Dev.	Total HH's	HH's Contctd	Mean	Std. Dev.	Total HH's	HH's Contctd	Reported Harvest	Est. Total	+/-	+/- %
Hooper Bay	102	31	16.8	49.9	0	0	0.0	0.0	102	31	520	1711	1526	89.2%
Scammon Bay	52	15	10.6	17.5	0	0	0.0	0.0	52	15	159	551	397	72.1%
Hooper & Scammon Bay Totals	154	46	14.7		0	0	0.0		154	46	679	2262	1577	69.7%
Sheldon's Point	3	3	0.0	0.0	20	13	14.5	29.7	23	16	188	289	195	67.4%
Alakanuk	29	25	3.9	14.8	88	73	12.3	39.1	117	98	994	1194	339	28.4%
Emmonak	51	40	7.8	47.4	86	63	9.0	34.7	137	103	877	1169	527	45.0%
Kotlik	17	6	1.5	3.7	74	58	9.4	31.3	91	64	557	725	286	39.5%
Fishing District 1 Totals	100	74	5.3		268	207	10.6		368	281	2616	3377	715	21.2%
Mountain Village	13	11	0.0	0.0	121	111	15.5	40.6	134	122	1725	1880	269	14.3%
Pitkas Point	1	1	0.0	0.0	18	11	34.5	43.2	19	12	380	622	292	47.0%
St. Mary's	9	6	36.3	87.5	54	51	29.4	58.6	63	59	1787	1911	282	14.8%
Pilot Station	26	20	0.1	0.2	69	63	3.0	11.4	95	83	188	208	59	28.5%
Marshall	8	6	3.3	8.2	43	37	54.8	87.4	51	43	2419	2815	462	16.4%
Fishing District 2 Totals	57	46	6.2		305	273	23.2		362	319	6498	7434	674	9.1%
Russian Mission	12	12	37.8	89.1	42	41	16.6	34.7	54	53	1134	1151	70	6.1%
Holy Cross	2	1	3.0	0.0	33	30	17.9	38.2	35	31	539	598	139	23.3%
Fishing District 3 Totals	14	13	32.9		75	71	17.1		89	84	1673	1748	156	8.9%
Anvik	5	3	0.0	0.0	20	17	6.8	15.8	25	20	116	136	59	43.4%
Shageluk	5	3	0.0	0.0	21	18	0.0	0.0	26	21	0	0	0	0.0%
Grayling	12	9	3.3	10.0	35	29	49.1	74.4	47	38	1455	1760	403	22.9%
Kaltag	17	8	0.0	0.0	34	25	67.4	106.8	51	31	1686	2293	747	32.6%
Nulato	32	12	1.8	6.1	55	38	29.4	64.5	87	50	1138	1673	646	38.6%
Koyukuk	12	5	2.4	5.4	29	20	19.3	67.4	41	25	397	587	489	83.3%
Galena	103	57	4.8	26.7	74	67	51.5	175.0	177	124	3726	4308	1089	25.3%
Ruby	47	29	0.0	0.0	32	24	161.8	287.0	79	53	3878	5171	1875	36.3%
Fishing District 4 Totals	233	124	2.7		300	238	51.0		533	362	12396	15027	2466	15.5%
Huslia	10	7	0.0	0.0	45	30	37.7	109.6	55	37	1131	1697	1040	61.3%
Hughes	9	5	0.0	0.0	16	14	19.4	41.6	25	19	272	311	128	40.5%
Allakaket	6	4	0.0	0.0	29	21	11.2	39.6	35	25	236	328	263	80.8%
Alatna	2	1	0.0	0.0	7	6	18.7	40.8	9	7	100	117	88	75.6%
Bettles	24	16	0.0	0.0	6	6	0.0	0.0	30	22	0	0	0	0.0%
Koyukuk River Totals	51	33	0.0		103	77	23.6		154	110	1739	2450	1083	44.2%
Tanana	53	50	13.7	96.9	79	47	667.3	1020.3	132	97	32048	53443	14970	28.0%
Rampart	7	5	300.0	670.8	15	9	108.0	180.3	22	14	2400	3600	2518	69.9%
Stevens Village	17	12	30.3	74.9	20	17	46.8	117.3	37	29	1159	1451	584	40.9%
Beaver	17	5	0.0	0.0	18	17	5.4	21.8	35	22	91	96	45	46.6%
Fort Yukon	141	64	3.8	22.1	76	60	29.4	115.8	217	124	2006	2766	1190	43.0%
Birch Creek	4	1	0.0	0.0	8	2	0.0	0.0	12	3	0	0	0	0.0%
Circle	6	3	0.0	0.0	16	13	199.4	366.3	22	16	2592	3190	1408	44.1%
Circle Vicinity	0	0	0.0	0.0	2	1	228.0	0.0	2	1	228	456	0	0.0%
Central	2	2	75.0	106.1	2	2	300.0	424.3	4	4	750	750	0	0.0%
Eagle	39	29	51.8	172.8	38	35	165.3	366.3	77	64	7287	8301	1831	22.1%
Eagle Vicinity	2	1	0.0	0.0	8	5	184.4	309.3	10	6	822	1315	1355	103.1%
Eagle Village	10	4	27.8	55.5	10	6	490.7	827.8	20	10	3055	5184	4296	82.9%
Fishing District 5 Totals	298	178	21.2		292	214	254.2		590	390	52438	80552	16058	19.9%
Venetie	38	10	0.0	0.0	22	16	1.6	6.3	58	26	25	34	36	104.4%
Chalkyitsik	20	7	0.0	0.0	15	5	71.2	158.2	35	12	356	1068	1744	163.3%
Chandalar R./Black R. Totals	58	17	0.0		37	21	29.6		93	38	381	1102	1744	158.2%
Manley	23	19	134.5	498.4	20	20	316.1	610.0	43	39	8916	9454	2193	23.2%
Minto	41	21	2.4	10.9	33	31	76.3	277.4	74	52	2415	2615	821	31.4%
Nenana	199	111	57.0	206.1	20	17	409.8	446.6	219	128	13291	19535	5492	28.1%
Healy	8	7	365.6	728.8	6	3	7.3	12.7	14	10	2581	2969	1555	52.4%
Kantishna River	5	4	565.3	687.2	2	2	779.5	395.3	7	6	3820	4385	1537	35.0%
Fishing District 6 Totals	276	162	73.5		81	73	230.6		357	235	31023	38958	6358	16.3%
Total	1239	691	24.9		1461	1174	84.2		2700	1865	109444	153809	17665	11.5%

TABLE 10. 1988 YUKON RIVER COHO SALMON SUBSISTENCE HARVESTS. (CONFIDENCE INTERVALS ARE REPORTED AT THE APPROXIMATE 95% LEVEL.)

	Usually Do Not Fish				Usually Fish				Total					
	Total HH's	HH's Contctd	Mean	Std. Dev.	Total HH's	HH's Contctd	Mean	Std. Dev.	Total HH's	HH's Contctd	Reported Harvest	Est. Total	+/-	+/- %
Hooper Bay	102	31	14.9	40.9	0	0	0.0	0.0	102	31	463	1523	1250	82.0%
Scammon Bay	52	15	6.3	15.2	0	0	0.0	0.0	52	15	94	326	343	105.4%
Hooper & Scammon Bay Totals	154	46	12.0		0	0	0.0		154	46	557	1849	1296	70.1%
Sheldon's Point	3	3	0.0	0.0	20	13	8.5	15.8	23	16	110	189	103	60.7%
Alakanuk	29	25	9.7	40.4	88	73	4.0	10.3	117	98	535	634	195	30.8%
Emmonak	51	40	3.6	14.8	86	63	9.7	54.6	137	103	755	1018	622	61.1%
Kotlik	17	6	1.5	3.7	74	58	16.2	45.1	91	64	946	1221	409	33.5%
Fishing District 1 Totals	100	74	4.9		288	207	9.5		368	281	2346	3042	777	25.5%
Mountain Village	13	11	0.8	0.0	121	111	10.9	38.1	134	122	1205	1314	258	19.7%
Pitkas Point	1	1	0.0	0.0	18	11	56.4	122.7	19	12	620	1015	830	81.8%
St. Mary's	9	8	5.0	10.7	54	51	38.6	96.9	63	59	2011	2132	346	16.2%
Pilot Station	20	20	0.0	0.0	69	63	5.8	26.6	89	83	363	398	137	34.4%
Marshall	8	6	4.2	10.2	43	37	40.3	77.1	51	43	1517	1767	408	23.1%
Fishing District 2 Totals	57	46	1.4		305	273	21.5		362	319	5716	6625	1030	15.5%
Russian Mission	12	12	18.4	42.4	42	41	9.7	25.5	54	53	584	604	52	8.5%
Holy Cross	2	1	2.0	0.0	33	30	28.2	74.9	35	31	848	935	272	29.1%
Fishing District 3 Totals	14	13	14.4		75	71	17.8		89	84	1442	1538	277	18.0%
Anvik	5	3	18.7	28.9	20	17	0.7	2.9	25	20	62	97	106	108.7%
Shageluk	5	3	0.0	0.0	21	18	6.1	14.6	26	21	110	129	55	42.6%
Grayling	12	9	5.6	16.7	35	29	17.9	44.6	47	38	568	692	249	36.0%
Kaltag	17	6	0.0	0.0	34	25	0.0	0.0	51	31	0	0	0	0.0%
Nulato	32	12	4.6	11.5	55	38	1.6	7.6	87	50	115	234	185	79.1%
Koyukuk	12	5	0.8	1.8	29	20	0.0	0.0	41	25	4	10	15	152.8%
Galena	103	37	2.7	10.8	74	67	10.1	37.5	177	124	832	1029	286	27.8%
Ruby	47	29	0.2	0.9	32	24	67.5	198.0	79	53	1628	2168	1280	59.0%
Fishing District 4 Totals	233	124	2.6		300	238	12.5		533	362	3317	4358	1353	31.0%
Huslia	10	7	0.0	0.0	45	30	4.5	11.1	55	37	134	201	106	52.6%
Hughes	9	5	3.0	6.7	16	14	4.8	8.1	25	19	82	104	44	42.1%
Allakaket	6	4	0.0	0.0	29	21	5.5	21.8	35	25	116	180	145	80.4%
Alatna	2	1	0.0	0.0	7	6	2.5	5.6	9	7	15	18	12	68.7%
Bettles	24	16	0.0	0.0	6	6	0.0	0.0	30	22	0	0	0	0.0%
Koyukuk River Totals	51	33	0.5		103	77	4.4		154	110	347	482	185	38.3%
Tanana	53	50	0.3	2.4	79	47	214.0	516.0	132	97	10074	16922	7589	44.7%
Rampart	7	5	0.0	0.0	15	9	56.1	133.1	22	14	505	842	842	100.0%
Stevens Village	17	12	8.3	28.9	20	17	23.1	81.2	37	29	493	834	341	56.5%
Beaver	17	5	5.0	11.2	18	17	4.4	12.5	35	22	100	164	145	88.3%
Fort Yukon	141	84	0.2	1.3	76	60	4.6	20.8	217	124	285	370	190	51.4%
Birch Creek	4	1	0.0	0.0	8	2	0.0	0.0	12	3	0	0	0	0.0%
Circle	6	3	0.0	0.0	16	13	2.5	7.1	22	16	33	41	27	67.2%
Circle Vicinity	0	0	0.0	0.0	2	1	0.0	0.0	2	1	0	0	0	0.0%
Central	2	2	0.0	0.0	2	2	0.0	0.0	4	4	0	0	0	0.0%
Eagle	39	29	0.0	0.0	38	35	0.3	1.7	77	64	10	11	6	56.2%
Eagle Vicinity	2	1	0.0	0.0	8	5	0.0	0.0	10	6	0	0	0	0.0%
Eagle Village	10	4	0.0	0.0	10	6	0.0	0.0	20	10	0	0	0	0.0%
Fishing District 5 Totals	298	176	0.9		292	214	64.0		590	390	11500	18954	7627	40.2%
Venetie	38	10	0.0	0.0	22	16	0.0	0.0	58	26	0	0	0	0.0%
Chalkyitsik	20	7	0.0	0.0	15	5	53.4	118.3	35	12	267	801	1296	161.8%
Chandalar R./Black R. Totals	58	17	0.0		37	21	21.6		93	38	267	801	1296	161.8%
Manley	23	19	47.8	182.6	20	20	50.2	107.4	43	39	1912	2103	804	38.2%
Minto	41	21	4.8	21.8	33	31	76.8	215.9	74	52	2480	2729	686	25.2%
Nenana	199	111	55.5	208.4	20	17	361.3	464.9	219	128	12308	18286	5519	30.2%
Healy	8	7	504.7	813.6	6	3	1.7	2.9	14	10	3538	4048	1740	43.0%
Kantishna River	5	4	265.3	432.2	2	2	857.5	908.6	7	6	2776	3041	988	31.8%
Fishing District 6 Totals	276	162	64.2		81	73	154.2		357	235	23014	30201	5961	19.7%
Total	1239	691	17.1		1461	1174	31.9		2700	1865	48506	67852	10034	14.8%

TABLE 11. NUMBER OF HOUSEHOLDS RECEIVING SALMON AND QUANTITIES RECEIVED FROM ADF&G TEST FISHING PROJECTS, 1988.

	Total HH's	HH's Srvyd	HH's Srvyd/ Rcvd	HH's Recall Amount	Amount Received				
					Chinook	Summer Chum	Fall Chum	Coho	Pinks
Emmonak	137	98	43	31	311	1199	116	58	3
Kotlik	91	56	19	14	113	1311	54	4	0
Pilot Station	95	80	47	39	132	1356	237	88	0
Total	323	234	109	84	556	3866	407	150	3

TABLE 12. REPORTED USE OF FISHING GEAR BY SUBSISTENCE SALMON FISHERS, YUKON RIVER AREA, 1988.

Community	Total Surveys	Subsist Fish	No Gear Info[1]	Gill Nets (Set & Drift) Large[2]	Small[3]	Total[4]	Set Gill Nets Large[2]	Small[3]	Total[4]	Drift Gill Nets Large[2]	Small[3]	Total[4]	Fish Wheels
Hooper Bay	0	-	-	-	-	-	-	-	-	-	-	-	-
Scammon Bay	0	-	-	-	-	-	-	-	-	-	-	-	-
Hooper & Scammon Bay	0	-	-	-	-	-	-	-	-	-	-	-	-
Sheldon's Point	13	8	1	0	7	7	0	7	8	0	3	3	0
Alakanuk	95	51	7	5	32	44	5	19	25	0	20	28	0
Emmonak	98	36	5	5	17	31	2	8	11	3	12	22	0
Kotlik	56	38	3	3	28	35	3	17	21	0	12	16	0
Fishing District 1	262	133	16	13	85	117	10	49	63	3	47	69	0
Mountain Village	119	84	3	12	45	61	3	10	14	12	39	54	0
Pitkas Point	14	10	0	1	8	10	1	6	7	0	3	3	0
St. Mary's	52	38	1	7	30	38	1	6	8	7	27	33	0
Pilot Station	80	36	1	8	25	35	2	5	8	4	20	30	0
Marshall	44	33	0	9	23	33	1	3	6	9	22	30	0
Fishing District 2	309	182	5	35	131	177	8	20	41	32	111	150	0
Russian Mission	51	29	0	8	18	29	5	7	17	0	0	13	0
Holy Cross	29	22	2	18	3	20	9	2	12	8	1	10	0
Fishing District 3	80	51	2	24	19	49	14	9	29	8	1	23	0
Anvik	18	11	0	4	7	9	4	5	8	0	2	2	2
Shageluk	21	15	0	2	12	15	0	12	13	2	0	2	0
Grayling	33	19	1	8	10	15	6	7	12	3	4	5	5
Kaltag	27	24	1	8	13	18	0	8	6	6	7	14	9
Nulato	42	24	7	7	9	13	1	6	6	6	6	10	6
Koyukuk	27	15	3	5	9	11	4	4	7	1	5	5	3
Galena	69	37	1	16	11	23	14	11	20	2	0	3	14
Ruby	19	18	2	5	5	10	5	5	10	0	0	0	7
Alatna	4	4	0	0	4	4	0	4	4	0	0	0	0
Bettles	6	2	0	0	2	2	0	2	2	0	0	0	0
Fishing District 4	266	169	15	55	82	120	34	62	88	22	24	41	46
Huslia	24	13	0	3	12	12	3	12	12	0	0	0	2
Hughes	14	10	0	2	9	10	2	9	10	0	0	0	0
Allakaket	19	14	0	2	14	14	2	14	14	0	0	0	0
Koyukuk River Totals	57	37	0	7	35	36	7	35	36	0	0	0	2
Tanana	83	24	2	8	8	15	8	8	15	0	0	0	11
Rampart	7	5	0	5	0	5	5	0	5	0	0	0	1
Stevens Village	15	11	1	4	4	8	4	4	8	0	0	0	3
Fort Yukon	64	31	2	7	12	19	7	13	19	0	0	0	12
Beaver	16	8	0	4	1	6	4	1	6	0	0	0	1
Birch Creek	0	-	-	-	-	-	-	-	-	-	-	-	-
Circle	8	6	0	1	1	2	1	1	2	0	0	0	4
Circle Vicinity	0	-	-	-	-	-	-	-	-	-	-	-	-
Central	3	3	0	1	3	3	1	3	3	0	0	0	0
Eagle	38	22	5	10	6	15	10	6	15	0	0	0	3
Eagle Vicinity	2	1	1	0	0	0	0	0	0	0	0	0	0
Eagle Village	6	6	2	1	1	2	1	1	2	0	0	0	2
Fishing District 5	242	115	13	41	36	75	41	37	75	3	9	0	37
Venetie	16	6	0	1	5	6	1	5	6	0	0	0	0
Chalkyitsik	12	6	1	0	4	4	0	4	4	0	0	0	1
Chandalar/Black River	28	12	1	1	9	10	1	9	10	0	0	0	1
Manley	20	7	1	1	2	5	1	2	5	0	0	0	3
Minto	24	10	1	0	1	6	0	1	6	0	0	0	5
Nenana	33	32	5	0	2	9	0	2	9	0	0	0	20
Healy	5	5	1	0	1	1	0	1	1	0	0	0	3
Kantishna River	2	2	0	0	0	0	0	0	0	0	0	0	2
Fishing District 6	84	56	8	1	6	21	1	6	21	0	0	0	33
Total	1328	755	60	177	403	605	116	237	363	68	192	233	119

[1]"No Gear Info" indicates number of households that fished for subsistence salmon, but for which no gear information is known.
[2]Large mesh is greater than six inches.
[3]Small mesh is six inches or less.
[4]"Total" includes counts of all households using a gear type, even if mesh size is unknown. Note that individual households may have fished more than one mesh size within a gear type.

TABLE 13. NUMBER OF PEOPLE AND DOGS IN SURVEYED COMMUNITIES WHICH REPORTED INFORMATION, 1988.

	Total Households	Surveyed Households	Surveyed Households with Info	People	Dogs
Hooper Bay	102	0	-	-	-
Scammon Bay	52	0	-	-	-
Hooper & Scammon Bay Totals	154	0	-	-	-
Sheldon's Point	23	13	13	56	26
Alakanuk	117	95	84	415	166
Emmonak	137	98	78	371	104
Kotlik	91	56	53	299	191
Fishing District 1 Totals	368	262	228	1141	487
Mountain Village	134	119	100	509	210
Pitkas Point	19	14	12	61	85
St. Mary's	63	52	40	226	157
Pilot Station	95	80	66	330	133
Marshall	51	44	39	190	304
Fishing District 2 Totals	362	309	257	1316	889
Russian Mission	54	51	44	202	162
Holy Cross	35	29	29	107	69
Fishing District 3 Totals	89	80	73	309	231
Anvik	25	18	17	50	73
Shageluk	26	21	20	88	98
Grayling	47	33	33	147	243
Kaltag	51	27	27	137	155
Nulato	87	42	32	151	113
Koyukuk	41	27	19	70	79
Galena	177	69	54	197	162
Ruby	79	19	18	59	151
Fishing District 4 Totals	533	256	220	899	1074
Huslia	55	24	24	94	202
Hughes	25	14	14	35	47
Allakaket	35	19	19	85	184
Alatna	9	4	4	12	23
Bettles	30	6	6	11	24
Koyukuk River Totals	154	67	67	237	480
Tanana	132	83	24	80	269
Rampart	22	7	7	27	10
Stevens Village	37	15	12	40	101
Beaver	35	16	10	42	47
Fort Yukon	217	64	35	135	264
Birch Creek	12	0	-	-	-
Circle	22	8	8	24	56
Circle Vicinity	2	0	-	-	-
Central	4	3	3	7	4
Eagle	77	38	28	76	142
Eagle Vicinity	10	2	1	1	2
Eagle Village	20	6	3	11	4
Fishing District 5 Totals	590	242	131	443	899
Venetie	58	16	14	69	73
Chalkyitsik	35	12	7	26	83
Chandalar R./Black R. Totals	93	28	21	95	156
Manley	43	20	10	29	178
Minto	74	24	22	74	219
Nenana	219	33	21	72	190
Healy	14	5	1	1	0
Kantishna River	7	2	0	-	-
Fishing District 6 Totals	357	84	54	176	587
Total	2700	1328	1051	4616	4803

TABLE 14. SAMPLING STATISTICS AND ESTIMATED HARVESTS FOR 1987 FISHING FAMILIES.

	Total HH's	HH's Contactd	Chinook Mean	Chinook Std. Dev.	Chinook Est. Total	Summer Chum Mean	Summer Chum Std. Dev.	Summer Chum Est. Total	Fall Chum Mean	Fall Chum Std. Dev.	Fall Chum Est. Total	Coho Mean	Coho Std. Dev.	Coho Est. Total
Hooper Bay	102	31	10.8	11.5	1098	226.1	151.0	23058	16.8	49.9	1711	14.9	40.9	1523
Scammon Bay	52	15	9.4	9.8	489	157.1	104.9	8171	10.6	17.5	551	6.3	15.2	326
Hooper & Scammon Bay Totals	154	46	10.3		1588	202.8		31230	14.7		2262	12.0		1849
Sheldon's Point	18	13	13.4	27.0	241	125.8	155.5	2265	13.5	30.0	244	7.8	15.8	141
Alakanuk	77	65	9.3	13.7	716	87.9	88.8	6770	13.8	41.2	1063	4.5	10.8	347
Emmonak	68	56	4.3	10.8	293	74.2	158.6	5045	3.8	16.1	255	7.3	51.8	498
Kotlik	55	46	12.7	18.4	699	118.7	142.4	6526	11.9	34.8	655	19.9	50.0	1094
Fishing District 1 Totals	218	180	8.9		1951	94.5		20607	10.2		2217	8.5		2080
Pitkas Point	12	10	22.4	33.8	268	86.1	110.4	7145	18.7	44.7	1553	62.0	127.8	744
St. Mary's	52	50	18.9	24.9	877	145.7	155.9	1748	38.0	43.9	456	40.0	97.6	2081
Pilot Station	50	47	8.8	10.8	441	144.8	167.2	7529	35.7	67.3	1858	7.2	30.6	360
Mountain Village	83	75	6.5	12.0	537	44.9	64.6	2244	4.0	13.1	198	14.8	46.7	1232
Marshall	45	39	22.7	25.0	1020	100.5	188.1	4523	61.5	86.3	2766	38.3	75.6	1722
Fishing District 2 Totals	242	221	13.0		3144	95.8		23188	28.2		6834	25.4		6138
Russian Mission	37	36	41.5	56.6	1534	60.1	88.3	2222	18.5	49.0	683	12.5	34.4	461
Holy Cross	32	29	75.3	76.6	2410	84.1	187.8	2692	18.6	38.7	595	29.1	76.0	932
Fishing District 3 Totals	69	65	57.2		3944	71.2		4914	18.5		1278	20.2		1394
Anvik	18	17	10.5	15.3	200	620.5	1603.6	11790	6.8	15.8	130	3.6	12.3	69
Shageluk	16	14	4.9	6.0	79	512.9	656.6	8206	0.0	0.0	0	7.1	16.4	114
Grayling	29	24	51.9	66.4	1506	776.0	2036.4	22503	58.5	78.7	1698	21.5	48.4	624
Kaltag	21	16	44.8	55.5	940	150.4	463.9	3158	87.7	122.8	1841	0.0	0.0	0
Nulato	28	21	52.0	52.2	1456	333.8	940.7	9345	51.6	80.5	1444	4.8	13.0	133
Koyukuk	15	11	38.0	89.1	570	16.9	30.7	254	35.0	89.6	525	0.0	0.0	0
Galena	38	36	37.8	86.2	1435	165.0	481.3	6271	84.8	232.6	3222	17.7	50.0	671
Ruby	28	22	31.2	74.1	874	97.3	218.6	2725	113.1	230.5	3168	65.0	205.3	1819
Fishing District 4 Totals	194	161	36.4		7060	331.2		64252	62.0		12028	17.7		3430
Huslia	22	19	2.5	3.9	54	501.3	690.2	11029	33.2	81.6	731	7.1	13.4	155
Hughes	15	12	1.9	3.2	29	178.2	295.8	2673	21.8	44.7	327	5.4	8.6	81
Allakaket	18	16	14.8	28.6	267	316.6	327.2	5698	14.8	45.1	266	7.3	24.9	131
Alatna	3	3	7.7	3.8	23	316.7	256.6	950	33.3	57.7	100	5.0	7.8	15
Bettles	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0
Koyukuk River Totals	58	50	6.4		373	350.9		20350	24.5		1424	6.6		382
Tanana	45	34	53.6	95.5	2414	166.9	343.7	7508	794.6	1091.7	35756	288.1	591.2	12967
Rampart	12	8	214.9	167.9	2579	43.8	105.0	525	112.5	188.5	1350	83.1	140.5	758
Stevens Village	22	18	105.5	119.0	2321	40.6	97.2	898	44.2	114.3	972	21.8	76.9	480
Beaver	11	10	60.5	72.3	666	12.1	29.6	133	9.1	28.4	100	7.5	15.9	83
Fort Yukon	39	32	35.1	52.8	1370	141.7	258.9	5525	55.2	154.6	2152	4.3	15.8	169
Birch Creek	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0
Circle	13	11	95.4	107.7	1240	23.1	51.6	300	218.0	395.8	2834	2.3	7.5	30
Circle Vicinity	2	1	140.0	0.0	280	12.0	0.0	24	228.0	0.0	456	0.0	0.0	0
Central	4	4	65.3	60.5	261	32.3	57.3	129	187.5	283.9	750	0.0	0.0	0
Eagle	45	41	23.0	51.0	1036	16.8	80.3	754	141.1	342.9	6350	0.2	1.6	11
Eagle Vicinity	6	3	70.3	121.8	422	0.0	0.0	0	237.0	410.5	1422	0.0	0.0	0
Eagle Village	10	6	60.2	102.2	602	0.0	0.0	0	490.7	827.8	4907	0.0	0.0	0
Fishing District 5 Totals	209	168	63.1		13189	75.6		15797	273.0		57050	69.4		14497
Venetie	15	11	8.0	21.3	120	46.4	100.7	695	2.3	7.5	34	0.0	0.0	0
Chalkyitsik	12	8	0.0	0.0	0	13.6	35.0	164	44.5	125.9	534	33.4	93.6	401
Chandalar R./Black R. Totals	27	19	4.4		120	31.8		859	21.0		568	14.8		401
Manley	13	13	11.9	27.4	155	77.1	149.2	1002	244.7	499.3	3181	70.3	129.5	914
Minto	34	29	9.3	38.3	315	21.8	48.9	742	81.6	286.4	2773	82.1	222.4	2790
Nenana	13	11	96.1	143.7	1249	272.7	560.6	3545	251.7	282.3	3272	259.4	423.1	3372
Healy	2	2	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0
Kantishna River	5	4	1.3	2.5	6	0.0	0.0	0	389.8	504.6	1949	428.8	721.3	2144
Fishing District 6 Totals	67	59	25.8		1726	78.9		5290	166.8		11175	137.8		9220
Total	1238	969	26.7		33094	150.6		186465	76.6		94835	31.8		39391

TABLE 15. HARVEST ESTIMATES FROM 1987 FISHING FAMILY METHODOLOGY AS A PERCENTAGE OF THE ESTIMATES USING THE 1988 METHODOLOGY.

	Chinook	Summer Chum	Fall Chum	Coho
Hooper & Scammon Bay Totals	100.0	100.0	100.0	100.0
Fishing District 1 Totals	81.7	83.3	65.7	68.4
Fishing District 2 Totals	86.4	85.5	91.9	92.7
Fishing District 3 Totals	88.7	84.3	73.2	90.6
Fishing District 4 Totals	77.3	91.8	75.6	78.7
Koyukuk River Totals	76.6	79.5	56.8	78.9
Fishing District 5 Totals	81.7	59.0	70.8	76.5
Chandalar R./Black R. Totals	7.7	16.2	51.5	50.0
Fishing District 6 Totals	33.3	51.2	28.7	30.5
Total	74.3	82.2	61.7	58.1

TABLE 16. YUKON RIVER DRAINAGE FISHING FAMILIES BY DISTRICT, 1977-88.

		1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988[a]
DISTRICT 1		126	190	196	176	175	205	226	211	212	206	223	368
DISTRICT 2		124	117	191	183	163	205	239	196	191	249	257	362
DISTRICT 3		34	36	37	45	43	42	48	44	42	50	59	89
DISTRICT 4		186	202	222	203	181	182	174	163	163	187	199	687
DISTRICT 5		138	176	185	175	190	144	162	156	153	167	173	683
DISTRICT 6		36	42	41	53	55	40	50	52	8	45	71	357
GRAND TOTAL		644	763	872	835	761	818	899	822	769	904	1041	842
Other Places:	District												
Fairbanks Fish Camp	5	15	42	34	42	24	44	41	30	35	48	39	
Fairbanks/Tanana R. Above Wood River	6	31	126	199	254	228	209	147	212	155	211	/b	
Hooper and Scammon Bays													42

/a Data include only fishing households reporting.

TABLE 17. ESTIMATED YUKON RIVER CHINOOK SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88.

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Sheldon Point	302	546	91	427	163	79	1021	802	143	592	1173	302
Alakanuk	213	1125	893	1595	423	336	1582	1028	517	1027	1180	738
Emmonak	62	2738	1362	1175	1021	1328	2436	2099	1382	1754	2518	585
Kotlik	173	773	533	472	675	568	1224	695	1029	1902	2407	764
District 1 Total	750	5182	2879	3669	2282	2311	6263	4624	3071	5275	7278	2388
Mountain Village	172	817	1025	843	811	218	1875	1217	672	1367	2252	740
Pitka's Point	87	/a	390	241	312	373	254	996	83	274	380	367
St. Marys / Andreafsky	489	/a	1328	1056	1068	612	2178	1667	695	1443	2077	1011
Pilot Station	556	1027	804	433	399	428	2703	1116	896	1452	2593	490
Marshall	364	806	721	1101	990	478	2055	2176	1122	1947	2564	1031
District 2 Total	1668	2650	4268	3674	3580	2109	9065	7172	3468	6483	9866	3639
Russian Mission	639	1498	1476	1660	1689	1628	2634	1938	974	1747	2036	1850
Holy Cross	1920	2404	1787	3123	2312	1731	2276	2456	2368	2505	2625	2593
District 3 Total	2559	3902	3263	4783	4001	3359	4910	4394	3342	4252	4661	4443

continued

TABLE 17. ESTIMATED YUKON RIVER CHINOOK SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Anvik	67	180	261	161	191	354	744	576		959	428	211
Grayling	149	292	391	3664	222	294	951	879	903	1837	47	1571
Shageluk			62	35	10					53	47	104
Kaltag	216	127	435	694	179	344	652	487	669	1080	1117	1168
Nulato	1531	1354	1245	2297	1117	811	1135	966	1063	1835	1573	1986
Koyukuk	752	518	495	699	541	493	1099	1009	194	569	609	711
Galena	1155	945	1591	1205	570	735	1477	1226	1329	1046	1270	1982
Ruby	735	1539	2221	1736	964	1168	2346	1107	1657	1263	927	1402
Total District 4	4605	4955	6701	10491	3794	4199	8404	6250	5815	8642	6018	9134
Huslia	50	132	146	154	61	125	459	169	144	82	182	89
Hughes	72	216	180	226	402	479	318	856	778	296	177	29
Allakaket	172	239	236	197	185	268	700	373	283			339
Alatna	1	7	2	20	0	6	6	2				27
Bettles												0
Koyukuk River Total	295	594	564	597	648	878	1483	1400	1205	378	359	483

continued

TABLE 17. ESTIMATED YUKON RIVER CHINOOK SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Tanana	858	1851	1604	5711	2517	2230	5547	2682	1248	1672	4021	3232
Rampart	1194	987	1820	1169	488	887	1070	876	1302	1700	2815	3145
Stevens Village	775	1845	1295	2612	1292	1810	2531	2177	2763	2839	2076	2845
Beaver	299	558	394	506	552	250	220	553		708	466	940
Birch Creek												0
Fort Yukon	1061	2642	1922	2527	2794	1894	1887	3608	2900	3083	3950	1621
Circle	304	212	1175	769	728	969	648	545	2259	2233	1614	1493
Circle Vicinity												280
Central												261
Eagle	1171	963	2888	2880	3782	2864	2183	1998	2247	1915	2020	1393
Eagle Village												602
Eagle Vicinity												338
District 5 Total	5662	9058	11098	16174	12153	10904	14086	12439	12719	14150	16962	16150
Venetie	0	14	0	160	52	20	22	51		32	13	121
Chalkyitsik												1429
Chandalar lack River Total	0	14	0	160	52	20	22	51	0	32	13	1550
Manley Hot Springs	752	298	269	410	367	386	990	282	744	621	40	877
Kantishna River												5
Minto				354	344	411	275	440	1386	350	374	466
Nenana	742	807	800	771	974	1195	966	2556	4919	2093	3151	3841
Healy												0
District 6 Total	1494	1105	1069	1535	1685	1992	2231	3278	7049	3064	3565	5189

continued

/a Data not reported by individual village.

TABLE 17. ESTIMATED YUKON RIVER CHINOOK SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

TOTAL BY DISTRICT:

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DISTRICT 1	750	5182	2879	3669	2282	2311	6263	4624	3071	5275	7278	2388
DISTRICT 2	1668	2650	4268	3674	3580	2109	9065	7172	3468	6483	9866	3639
DISTRICT 3	2559	3902	3263	4783	4001	3359	4910	4394	3342	4252	4661	4443
DISTRICT 4	4900	5549	7265	11088	4442	5077	9887	7650	7020	9020	6377	9618
DISTRICT 5	5662	9072	11098	16334	12205	10924	14108	12490	12719	14182	16975	17700
DISTRICT 6	1494	1105	1069	1535	1685	1992	2231	3278	7049	3064	3565	5189
GRAND TOTAL	17033	27460	29842	41083	28195	25772	46464	39608	36669	42276	48722	42976

Other Places:	District												
Fairbanks Fish Camp	5	467	1333	899	1350	1095	1935	2672	2499	1865	1762	2287	
Fairbanks/Tanana R. above Wood River	6	67	126	264	291	400	451	475	321	326	637	531	
Hooper Bay													1099
Scammon Bay													489

TABLE 18. AVERAGE NUMBER OF CHINOOK SALMON HARVESTED PER FISHING FAMILY BY DISTRICT, 1977-88

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988[a]
District 1	6	27	15	21	13	11	28	22	14	26	33	13
District 2	13	23	22	20	22	10	38	37	18	26	38	17
District 3	75	108	88	106	93	80	102	100	80	85	79	77
District 4	26	27	33	55	25	28	57	47	43	48	32	34
District 5	41	52	60	93	64	76	87	80	83	85	98	73
District 6	42	26	26	29	31	50	45	63	93	68	50	53

[a] Data include only fishing households reporting.

TABLE 19. ESTIMATED YUKON RIVER SUMMER CHUM SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88.

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Sheldon Point	842	3385	610	907	2495	885	1690	2701	1717	4755	2460	2589
Alakanuk	5569	9408	4615	3343	2263	5225	9347	10095	7702	11280	9913	6992
Emmonak	4345	9601	6084	4915	4907	8426	8401	10053	8742	12618	11177	7922
Kotlik	4278	8035	4835	6807	1645	3916	5241	5610	6188	10201	721	7228
District 1 Total	15034	30429	16144	15972	11310	18452	24679	28459	24349	38854	24271	24731
Mountain Village	5959	6362	8043	3090	3383	3854	10183	8665	6745	11468	12456	9248
Pitka's Point	2904	/a	2131	289	586	1418	982	2129	945	1973	1184	2384
St. Marys / Andreafsky	7055	/a	6167	3327	4113	7987	7587	8890	6611	13013	11218	8117
Pilot Station	4226	3810	3193	2545	2859	2135	4683	3236	3133	7870	4279	2578
Marshall	1850	2018	3742	4430	3277	3048	3961	4076	2361	7172	397	4796
District 2 Total	21994	12190	23276	13681	14218	18442	27396	26996	19795	41496	29534	27122
Russian Mission	1801	856	913	628	2628	1419	1576	2227	1817	3136	2283	2794
Holy Cross	5041	850	2033	2614	2301	4421	3033	5124	1870	2392	1878	3036
District 3 Total	6842	1706	2946	3242	4929	5840	4609	7351	3687	5528	4161	5830

continued

TABLE 19. ESTIMATED YUKON RIVER SUMMER CHUM SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Anvik	23394	15883	12714	28051	26588	27087	20592	22433		41581	28887	12607
Grayling	16275	18365	18418	29894	15836	47006	22958	28060	23937	35284	21264	22634
Shageluk			6585	2485	2501					6710	8015	8779
Kaltag	15043	18127	22928	53470	28121	37125	27674	1800	26965	24667	28550	3592
Nulato	9444	8589	6054	29657	7534	19740	11130	232	16315	10349	16299	10201
Koyukuk	2752	4857	5570	14416	11788	18149	14440	5215	9666	6250	9718	284
Galena	3226	8930	4218	13102	15089	20434	5789	19480	16212	6618	11776	7413
Ruby	2204	11568	8305	15084	5542	7539	8804	4282	13556	7883	8786	4010
District 4 Total	72338	86319	84792	186159	112999	177080	111387	81502	106651	139342	133295	69518
Huslia	2949	8556	19805	15063	12550	6809	18588	12550	13430	10516	11042	14895
Hughes	4081	6387	11664	10545	6196	8409	1905	14744	12788	7280	4369	2445
Allakaket	3540	8125	7421	9134	7534	7277	3840	3964	7564	/a	/a	7066
Alatna	210	672	58	300	293	410	325	205		/a	/a	1458
Bettles												18
Koyukuk River Total	10780	23740	38948	35042	26573	22905	24658	31463	33782	17796	15408	25883

continued

TABLE 19. ESTIMATED YUKON RIVER SUMMER CHUM SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Tanana	8915	9297	5964	5109	7873	3214	5552	10620	11148	11646	10876	13972
Rampart	6327	1135	15300	109	1946	0	3698	7650	5133	1450	2434	3383
Stevens Village	1257	1766	16	520	2576	666	5051	5952	3046	3116	1446	865
Beaver	694	102	34	263	146	534	100	167		0	657	214
Birch Creek												0
Fort Yukon	6390	2471	749	1291	8149	1434	7142	3032	4410	3264	1187	6217
Circle	1	39	433	48	2009	0	73	0	930	459	2078	718
Circle Vicinity												24
Central												129
Eagle	888	163	180	27	108	1887	133	49	39	516	417	1273
Eagle Village												0
Eagle Vicinity												0
District 5 Total	24472	14973	22676	7367	22807	7735	21749	27470	24706	20451	19095	26796
Venetie												701
Chalkyitsik												4613
Chandalar/Black River Total												5314
Manley Hot Springs	3615	3601	1939	564	2972	971	7245	1260	856	604	267	3731
Kantishna River												0
Minto				450	367	808	7414	5042	5291	1587	1383	947
Nenana	2716	5440	1880	4945	4369	3972	6779	13962	15825	10827	21214	5654
Healy												0
District 6 Total	6331	9041	3819	5959	7708	5751	21438	20264	21972	13018	22864	10331

continued

/a Data not reported by individual village.

TABLE 19. ESTIMATED YUKON RIVER SUMMER CHUM SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

TOTAL BY DISTRICT

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DISTRICT 1	15034	30429	16144	15972	11310	18452	24679	28459	24349	38854	24271	24731
DISTRICT 2	21994	12190	23276	13681	14218	18442	27396	26996	19795	41496	29534	27122
DISTRICT 3	6842	1706	2946	3242	4929	5840	4609	7351	3687	5528	4161	5830
DISTRICT 4	83118	110059	123740	221201	139572	199985	136045	112965	140433	157138	148703	95401
DISTRICT 5	24472	14973	22676	7367	22807	7735	21749	27470	24706	20451	19095	32110
DISTRICT 6	6331	9041	3819	5959	7708	5751	21438	20264	21972	13018	22864	10331
GRAND TOTAL	157791	178398	192601	267422	200544	256205	235916	223505	234942	276485	248628	195525

Other Places:	District												
Fairbanks Fish Camp	5	1568	6055	1202	1227	4501	2056	2194	4065	2027	1382	5755	
Fairbanks/Tanana R. above Wood River	6	118	2729	2384	3749	3239	2708	2276	3177	2646	4024	2739	
Hooper Bay													23059
Scammon Bay													8171

TABLE 20. AVERAGE NUMBER OF SUMMER CHUM SALMON HARVESTED PER FISHING FAMILY BY DISTRICT, 1977-88

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988[a]
District 1	119	160	82	91	65	90	109	135	115	189	109	136
District 2	177	104	122	75	87	90	115	138	104	167	115	130
District 3	201	47	80	72	115	139	96	167	88	111	71	102
District 4	447	545	557	1090	771	1099	782	693	862	840	747	345
District 5	185	90	128	44	129	59	141	201	161	142	116	120
District 6	176	215	93	112	140	144	429	390	107	289	322	113

[a] Data include only fishing households reporting.

TABLE 21. ESTIMATED YUKON RIVER FALL CHUM SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88.

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Sheldon Point	285	0	1072	1249	490	886	233	555	713	259	882	289
Alakanuk	634	148	5841	1227	4913	1336	903	1219	2603	2030	3748	1194
Emmonak	2099	83	5182	2016	4375	4458	2715	3329	4539	2746	8160	1169
Kotlik	2067	159	3693	2941	5762	3336	4387	3782	5420	3965	5677	725
District 1 Total	5085	390	15788	7433	15540	10016	8238	8885	13275	9000	18467	3377
Mountain Village	3532	556	5144	5719	3794	2810	4065	3497	3591	2947	4897	1880
Pitka's Point	8	/a	1197	608	319	901	342	1186	621	156	1143	622
St. Marys / Andreafsky	1309	/a	2332	2660	3003	1485	2796	2741	2694	5245	2823	1911
Pilot Station	552	189	2949	1187	1764	1568	1302	832	1957	1663	583	206
Marshall	588	241	3040	2261	2890	2747	1836	3138	2681	3472	4008	2815
District 2 Total	5989	986	14662	12435	11770	9511	10341	11394	11544	13483	13454	7434
Russian Mission	300	177	1002	226	497	630	773	860	1266	637	1255	1151
Holy Cross	161	89	1441	2094	2396	1029	2090	1373	1024	1148	1598	596
District 3 Total	461	266	2443	2320	2893	1659	2863	2233	2290	1785	2853	1746

continued

TABLE 21. ESTIMATED YUKON RIVER FALL CHUM SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Anvik	309	118	2203	2750	2167	4088	902	720		913	394	136
Grayling	299	459	2199	1904	890	2972	3847	1950	3106	4204	4750	1760
Shageluk			0	0	150					370	434	0
Kaltag	329	1149	8454	2111	2329	812	2833	1330	1570	2024	7474	2293
Nulato	807	477	5280	1134	621	217	3159	1675	4240	1762	2200	1673
Koyukuk	556	411	4515	2319	700	1355	1120	1560	798	2195	2492	587
Galena	2287	3013	2597	2652	3142	2164	4259	7270	4476	4819	10509	4308
Ruby	2145	3033	8367	4557	7984	6662	12319	8505	6717	7101	11000	5171
District 4 Total	6732	8660	33615	17427	17983	18270	28439	23010	20907	23388	39253	15927
Huslia	804	100	1950	1104	119	102	3528	6306	276	808	585	1697
Hughes	775	175	1201	2265	611	1231	327	1280	1260	1422	586	311
Allakaket	146	1708	1084	2829	1410	708	1829	556	707	/a	/a	326
Alatna	0	9	46	50	0	8	86	0		/a	/a	117
Bettles												0
Koyukuk River Total	1725	1992	4281	6248	2140	2049	5770	8142	2243	2230	1171	2450

continued

TABLE 21. ESTIMATED YUKON RIVER FALL CHUM SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Tanana	10282	12682	32842	32834	30820	31470	41630	42690	28113	32049	41825	53443
Rampart	3654	1584	9710	5977	5370	5495	5627	4395	19619	3950	5092	3600
Stevens Village	1080	4947	4125	3233	8356	7392	3502	4932	11679	4150	7538	1451
Beaver	22	1591	1792	190	735	1878	6004	0		3321	5750	96
Birch Creek												0
Fort Yukon	7224	18932	21487	6537	16143	1926	3967	7525	12719	8543	15200	2766
Circle	132	820	3108	1737	5219	290	3687	3107	4096	3650	7491	3190
Circle Vicinity												456
Central												750
Eagle	6542	4863	26754	16740	30997	13255	20021	18519	25264	16027	19678	8301
Eagle Village												5184
Eagle Vicinity												1315
District 5 Total	28936	45419	99818	67248	97640	61706	84438	81168	101490	71690	102574	80552
Venetie	1660	2606	3943	2730	6400	850	7800	4345		3193	2774	34
Chalkyitsik	600									1533	2686	1068
Chandalar/Black River Total	2260	2606	3943	2730	6400	850	7800	4345	0	4726	5460	1102
Manley Hot Springs	9966	10620	18855	7653	9419	4444	11400	2196	6560	5905	4267	2615
Kantishna River												4385
Minto				9500	3182	3568	6489	4025	4642	545	5419	9454
Nenana	20102	19255	29430	29742	10176	9034	11685	13520	22901	15902	26909	19535
Healy												2969
District 6 Total	30068	29875	48285	46895	22777	17046	29574	19741	34103	22352	36595	38958

continued

/a Data not reported by individual village.

TABLE 21. ESTIMATED YUKON RIVER FALL CHUM SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

TOTAL BY DISTRICT

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DISTRICT 1	5085	390	15788	7433	15540	10016	8238	8885	13275	9000	18467	3377
DISTRICT 2	5989	986	14662	12435	11770	9511	10341	11394	11544	13483	13454	7434
DISTRICT 3	461	266	2443	2320	2893	1659	2863	2233	2290	1785	2853	1746
DISTRICT 4	8457	10652	37896	23675	20123	20319	34209	31152	23150	25618	40424	1877
DISTRICT 5	31196	48025	103761	69978	104040	62556	92238	85513	101490	76416	108034	81654
DISTRICT 6	30068	29875	48285	46895	22777	17046	29574	19741	34103	22352	36595	38958
GRAND TOTAL	81256	90194	222835	162736	177143	121107	177463	158918	185852	148654	219827	135046

Other Places:	District												
Fairbanks Fish Camp	5	979	3680	7031	6488	7527	9272	12865	12920	13874	11708	21014	
Fairbanks/Tanana R. above Wood River	6	536	682	3481	3433	3855	2518	2600	2985	2860	2803	3316	
Hooper Bay													551
Scammon Bay													1711

TABLE 22. AVERAGE NUMBER OF FALL CHUM SALMON HARVESTED PER FISHING FAMILY BY DISTRICT, 1977-88.

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988[a]
District 1	40	2	81	42	89	49	36	42	63	44	83	19
District 2	48	8	77	68	72	46	43	58	60	54	52	35
District 3	14	7	66	52	67	40	60	51	55	36	48	31
District 4	46	53	184	119	112	112	197	192	142	137	203	65
District 5	226	273	561	400	548	434	569	566	663	458	624	314
District 6	835	711	1178	885	414	426	591	380	820	497	515	393

[a] Data include only fishing households reporting.

TABLE 23. ESTIMATED YUKON RIVER COHO SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88.

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Sheldon Point	200	35	495	389	215	1770	170	245	49	237	308	169
Alakanuk	388	27	796	521	508	1313	438	776	894	1518	1116	634
Emmonak	1057	142	1368	789	1295	4795	1290	3659	1552	732	3497	1018
Kotlik	807	933	525	109	1751	3314	1692	1415	751	238	1475	1221
District 1 Total	2452	1137	3184	1808	3769	11192	3590	6095	3246	2725	6396	3042
Mountain Village	1877	2	117	1739	1055	3025	2500	982	1527	828	2481	1314
Pitka's Point	576	/a	150	32	306	826	481	600	175	71	273	1015
St. Marys / Andreafsky	495	/a	298	982	877	1957	1048	1424	938	4761	1467	2132
Pilot Station	930	1	347	1510	431	2644	638	1114	710	1514	300	398
Marshall	458	303	220	538	1067	1777	1405	2946	1484	1966	2373	1767
District 2 Total	4336	306	1132	4801	3736	10229	6072	7066	4834	9140	6894	6625
Russian Mission	161	223	12	26	434	156	540	740	276	679	423	604
Holy Cross	202	0	0	65	56	519	377	0	100	102	259	935
District 3 Total	363	223	12	91	590	675	917	740	376	781	681	1538

continued

TABLE 23. ESTIMATED YUKON RIVER COHO SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Anvik	144	20	33	625	385	58	250	40		296	405	97
Grayling	528	0	13	510	172	1014	1275	97	0	860	599	692
Shageluk			62	0	20						173	72
128												
Kaltag	1216	15	42	1758	102	62	0	0	0	229	0	0
Nulato	1814	0	2	271	140	76	0	0	510	69	85	234
Koyukuk	638	0	48	710	142	187	40	200	120	154	894	10
Galena	14	2	0	945	333	347	759	452	1072	465	1349	1029
Ruby	0	108	59	1376	746	867	1122	1631	1719	339	0	2169
District 4 Total	4354	145	259	6195	2040	2611	3446	2420	3421	2585	3404	4359
Huslia	0	/c	/c	633	146	17	475	12	0	31	124	201
Hughes	0	/c	/c	645	42	0	0	400	138	0	0	104
Allakaket	0	/c	/c	241	20	304	0	0	118	/a	/a	160
Alatna	0	/c	/c	20	11	20	25	35		/a	/a	18
Bettles												0
Koyukuk River Total	0	0	0	1539	219	404	500	447	256	31	124	483

continued

TABLE 23. ESTIMATED YUKON RIVER COHO SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Tanana	593	704	412	318	1373	3260	2312	16898	7384	4691	6680	16922
Rampart	75	52	0	15	169	0	47	120	513	110	81	842
Stevens Village	22	12	0	181	95	23	0	145	182	67	0	604
Beaver	0	24	0	5	0	0	0	0		124	0	164
Birch Creek												0
Fort Yukon	16	177	30	0	70	125	11	33	3	118	41	370
Circle	70	0	0	0	0	0	0	0	0	37	0	41
Circle Vicinity												0
Central												0
Eagle	2	1	114	6	0	0	0	17	2	6	0	11
Eagle Village												0
Eagle Vicinity												0
District 5 Total	778	970	556	525	1707	3408	2370	17213	8079	5153	6802	18954
Venetie	0	0	0	0	0	0	0	0		0	17	0
Chalkyitsik	0	0	0	0	0	0	0	0	0	8	2	801
Chandalar/Black R.	0	0	0	0	0	0	0	0	0	8	19	801
Manley Hot Springs	2610	1273	1419	1454	3723	837	1350	1566	1926	538	1467	2103
Kantishna River												3041
Minto				180	267	1500	0	800	1144	1058	671	2729
Nenana	1349	2930	2215	2862	3356	3078	4352	10270	7614	10090	19592	18280
Healy												4048
District 6 Total	3959	4203	3634	4496	7346	5415	5702	12636	10684	11686	21730	30201

continued

/a Data not reported by individual village.

/b No catch reported.

/c Data not collected by species.

TABLE 23. ESTIMATED YUKON RIVER COHO SALMON SUBSISTENCE HARVEST BY VILLAGE AND DISTRICT, 1977-88. (continued)

TOTAL BY DISTRICT

Year	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DISTRICT 1	2452	1137	3184	1808	3769	11192	3590	6095	3246	2725	6396	3042
DISTRICT 2	4336	306	1132	4801	3736	10229	6072	7066	4834	9140	6894	6625
DISTRICT 3	363	223	12	91	590	675	917	740	376	781	681	1538
DISTRICT 4	4354	145	259	7734	2259	2952	3946	2867	3677	2616	3528	4841
DISTRICT 5	778	970	556	525	1707	3408	2370	17213	8074	5161	6821	19755
DISTRICT 6	3959	4203	3634	4496	7346	5415	5702	12636	10684	11686	21730	30201
GRAND TOTAL	16242	6984	8777	19455	19407	33871	22597	46617	30891	32109	46050	66003

Other Places:	District												
Fairbanks Fish Camp	5	20	0	39	36	6	20	78	254	13	709	64	
Fairbanks/Tanana R. above Wood River	6	71	506	978	667	1915	2003	1230	2149	1077	1635	2465	
Hooper Bay													1523
Scammon Bay													326

TABLE 24. AVERAGE NUMBER OF COHO SALMON HARVESTED PER FISHING FAMILY BY DISTRICT, 1977-88

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988[a]
District 1	19	9	25	14	30	89	28	48	26	22	51	17
District 2	35	3	6	26	23	50	25	36	25	37	27	31
District 3	11	12	1	2	14	16	19	34	9	16	12	27
District 4	29	1	2	39	12	17	36	22	45	15	23	17
District 5	6	8	4	4	18	46	34	130	56	32	78	70
District 6	110	100	89	85	134	135	139	243	241	260	306	291

[a] Data include only fishing households reporting.

TABLE 25. ESTIMATED YUKON RIVER SUBSISTENCE SALMON HARVEST IN POUNDS ROUND WEIGHT OF CHINOOK, SUMMER CHUM, FALL CHUM, AND COHO SALMON COMBINED BY VILLAGE AND DISTRICT, 1977-88.

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Sheldon Point	16892	37383	17962	26974	28137	26782	36129	40685	20260	48126	50473	26876
Alakanuk	52056	95125	101849	70755	70221	63910	109929	104295	88757	122757	127031	75579
Emmonak / Kwiguk	56616	135512	121821	79311	105929	156822	140904	161970	133061	146878	211427	81495
Kotlik / Hamilton	56669	83356	78079	78579	87080	88759	109328	90666	109640	138855	107302	77870
Total District 1	182233	351376	319712	255618	291368	336272	396290	397616	351718	456616	496233	261820
Mountain Village	88157	69073	119860	90879	83011	74282	161369	116972	97784	133177	184458	101097
Pitka's Point	26791	0	33873	11817	16765	31119	18346	47990	14093	20719	26247	34877
St. Marys / Andreafsky	75257	0	92823	71355	87322	95330	128700	125151	86087	186697	150921	103984
Pilot Station	54261	53161	64788	45157	48381	54791	103881	58921	59503	105145	91453	31146
Marshall	29789	37649	66862	74384	79505	65693	94986	116482	70221	126200	102146	86173
Total District 2	274255	159883	378206	293592	314984	321214	507282	465516	327687	571938	555225	357277
Russian Mission	31487	44954	45107	43409	68524	53415	75231	66503	43737	65792	71407	66764
Holy Cross	83978	64416	63056	103169	94144	82603	87646	95489	69224	76014	82870	80052
Total District 3	115465	109370	108163	146578	162668	136018	162877	161991	112961	141806	154277	146816

continued

TABLE 25. ESTIMATED YUKON RIVER SUBSISTENCE SALMON HARVEST IN POUNDS ROUND WEIGHT OF CHINOOK, SUMMER CHUM, FALL CHUM, AND COHO SALMON COMBINED BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Anvik	156648	112642	106362	212950	211532	230930	158563	160361	0	281616	210574	94164
Grayling	114234	134177	146474	273900	125263	368915	206959	211639	185926	290213	187129	208188
Shageluk	0	0	45116	16961	19218	0	0	0	0	45973	59346	64425
Kaltag	112117	134428	225481	391688	221717	277442	216916	30774	188571	189311	276272	66154
Nulato	106579	89286	105774	242981	85358	159631	119461	32646	154145	113788	160403	125260
Koyukuk	39718	46533	81839	128801	102506	150786	125159	65760	69285	67818	103562	20622
Galena	59684	102122	79974	132316	145790	179296	103766	204530	163778	102318	197643	132266
Ruby	44422	132886	164487	171363	125529	134123	204503	121138	174559	131809	166285	112229
District 4 Total	633402	752073	955507	1570960	1036913	1501123	1135327	826849	936264	1222846	1361214	823308
Huslia	26481	61587	148677	114495	92264	51894	161463	129739	86643	72413	84150	120869
Hughes	33994	49090	89866	94846	58280	79187	21165	122923	102655	61615	37937	20896
Allakaket	27205	72717	62093	86786	68424	64688	52797	36739	57405	0	0	59854
Alatna	1383	4778	777	2815	2143	3229	3072	1565	0	0	0	11784
Bettles												126
Koyukuk River Total	89062	188172	301413	298942	221110	198999	238497	290966	246703	134028	122087	213529

continued

TABLE 25. ESTIMATED YUKON RIVER SUBSISTENCE SALMON HARVEST IN POUNDS ROUND WEIGHT OF CHINOOK, SUMMER CHUM, FALL CHUM, AND COHO SALMON COMBINED BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Tanana	159159	198962	327325	379984	351445	327756	477014	535250	349071	388517	529057	706889
Rampart	91859	39710	212511	65544	66084	59095	88454	98945	205694	74595	114073	119909
Stevens Village	30594	85962	58027	71295	111286	99052	108644	117650	158177	108538	111657	77681
Beaver	9949	23892	21982	11327	19558	23226	51093	11908	0	38105	59788	21880
Birch Creek												0
Fort Yukon	118105	211401	209413	99288	243933	65971	113791	145255	175673	149698	208918	99855
Circle	6868	10616	50524	25996	70138	22854	41249	31965	77959	76212	106338	59786
Circle Vicinity												9258
Central												11944
Eagle	78731	56554	266272	175195	319778	174100	196735	174767	231075	169125	200660	101875
Eagle Village												52748
Eagle Vicinity												17007
District 5 Total	495265	627097	1146054	828628	1182222	772054	1076979	1115740	1197649	1004790	1330491	1278832
Venetie	12035	18785	28192	22080	47632	6633	56190	30763	0	23141	20890	7552
Chalkyitsik	4350	0	0	0	0	0	0	0	0	10856	19888	74574
Chandalar\Black River Total	16385	18785	28192	22080	47632	6633	56190	30763	0	33997	40778	82125
Manley Hot Springs	133426	117242	172638	78662	120721	53925	162606	39175	80438	66386	45554	133346
Kantishna River												56943
Minto	0	0	0	82954	35827	51042	104150	75155	99914	27284	64262	56344
Nenana	200298	214532	269576	292589	148535	141536	179278	300797	407529	295033	540099	402623
Healy												53000
Total District 6	333724	331774	442214	454205	305083	246503	446034	415127	587881	388703	649915	702255

continued

TABLE 25. ESTIMATED YUKON RIVER SUBSISTENCE SALMON HARVEST IN POUNDS ROUND WEIGHT OF CHINOOK, SUMMER CHUM, FALL CHUM, AND COHO SALMON COMBINED BY VILLAGE AND DISTRICT, 1977-88. (continued)

TOTAL BY DISTRICT

YEAR	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DISTRICT 1	182233	351376	319712	255618	291368	336272	396290	397616	351718	456616	496233	261819
DISTRICT 2	274255	159883	378206	293592	314984	321214	507282	465516	327687	571938	555225	357277
DISTRICT 3	115465	109370	108163	146578	162668	136018	162877	161991	112961	141806	154277	146815
DISTRICT 4	722464	940245	1256920	1869902	1258023	1700122	1373824	1117814	1182967	1356875	1483301	1036837
DISTRICT 5	511650	645882	1174247	850707	1229854	778687	1133169	1146503	1197649	1038786	1371269	1360957
DISTRICT 6	333724	331774	442214	454205	305083	246503	446034	415127	587881	388703	649915	702255
Grand Total	2139791	2538530	3679461	3870602	3561980	3518816	4019476	3704567	3760862	3954723	4710219	3865960

Other Places:	District												
Fairbanks Fish Camp	5	26373	95333	80485	79890	113643	125677	165044	170862	150819	141060	253370	
Fairbanks/Tanana R. above Wood River	6	6696	29388	54228	60169	71919	60783	51494	61524	50482	69329	70563	
Hooper Bay													203116
Scammon Bay													71976

TABLE 26. ESTIMATED YUKON RIVER SUBSISTENCE SALMON HARVEST IN POUNDS ROUND WEIGHT OF CHINOOK, FALL CHUM, AND COHO SALMON COMBINED BY VILLAGE AND DISTRICT, 1977-88.

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Sheldon Point	10998	13349	13448	20715	9424	20498	23961	22319	8756	15316	33745	9010
Alakanuk	13073	28329	67698	47688	53249	26812	42631	35649	37154	44925	59622	27335
Emmonak	26201	67345	76799	45398	69127	96997	80417	93610	74490	59814	135424	26836
Kotlik	26723	26307	42300	31611	74743	60955	71593	52518	68180	68468	102399	27998
District 1 Total	76995	135330	200246	145411	206543	205263	218602	204095	188579	188523	331190	91179
Mountain Village	46444	23903	60342	69558	57639	46919	88051	58050	52592	54048	99757	37287
Pitka's Point	6463	0	18104	9823	12370	21051	11276	33513	7762	7105	18196	18426
St. Marys / Andreafsky	25872	0	47187	48399	56474	38622	74073	64699	41794	96907	74639	47979
Pilot Station	24679	26110	41159	27597	26938	39632	70163	36916	38512	50842	62356	13358
Marshall	16839	23321	39171	43817	54928	44052	66467	88765	54402	76714	99446	53083
District 2 Total	120297	73334	205964	199193	208349	190276	310030	281943	195061	285616	354393	170133
Russian Mission	18880	38876	38351	39076	48814	43340	63884	51359	31563	44154	55882	47485
Holy Cross	48691	58381	48012	85132	76886	51214	65808	60646	56695	59509	70100	59102
District 3 Total	67571	97257	86363	124208	125701	94554	129692	112005	88258	103663	125982	106586

continued

TABLE 26. ESTIMATED YUKON RIVER SUBSISTENCE SALMON HARVEST IN POUNDS ROUND WEIGHT OF CHINOOK, FALL CHUM, AND COHO SALMON COMBINED BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Anvik	4587	4637	22450	27814	22757	38613	22656	16790	0	27972	14142	5917
Grayling	8446	9295	24915	76600	12828	35173	55436	32055	39910	74981	42534	49753
Shageluk	0	0	1655	560	1461	0	0	0	0	5042	4844	2972
Kaltag	14338	11164	74156	38786	22058	13855	34267	19254	24085	38842	82132	41012
Nulato	45193	30881	65818	47245	31866	19477	46003	31161	54623	50660	49570	53852
Koyukuk	21830	13505	45077	33655	18811	21928	29855	32384	10323	29693	37480	18634
Galena	38715	41398	52135	45843	38658	34215	65559	79858	64884	61948	117566	80378
Ruby	30096	54223	109674	71809	86181	80596	146397	93733	91868	83723	106540	84162
District 4 Total	163205	165103	395880	342311	234620	243855	400173	305235	285693	372861	454808	336681
Huslia	7312	3406	17964	15079	3159	3551	38783	49419	4720	8265	9064	16604
Hughes	7467	5658	12884	25249	14288	19483	8592	28562	24648	17207	8228	3779
Allakaket	4195	17467	13114	26502	14933	13021	27453	11370	11265	0	0	10392
Alatna	18	208	395	835	63	318	927	253	0	0	0	1575
Bettles												0
Koyukuk River Total	18992	26740	44357	67665	32442	36373	75754	89603	40633	25473	17292	32350

continued

TABLE 26. ESTIMATED YUKON RIVER SUBSISTENCE SALMON HARVEST IN POUNDS ROUND WEIGHT OF CHINOOK, FALL CHUM, AND COHO SALMON COMBINED BY VILLAGE AND DISTRICT, 1977-88. (continued)

Village	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Tanana	101211	135743	287962	346265	295547	304937	440371	467282	281068	317476	455100	609083
Rampart	50734	31992	111531	64824	52267	60194	64047	49985	174382	65750	97522	96226
Stevens Village	22423	73954	57922	67863	92996	94324	75308	79557	139596	89530	101824	71628
Beaver	5438	23199	21757	9592	18521	19435	50433	10839	0	41260	55320	20381
Birch Creek												0
Fort Yukon	76570	194598	204469	90767	186075	55789	66654	125851	148772	129787	200846	56333
Circle	6861	10350	47667	25679	55874	22912	40767	33363	72286	73412	92208	54763
Circle Vicinity												9090
Central												11041
Eagle	72959	55445	265084	175017	319011	160702	195857	174453	230838	165978	197824	92964
Eagle Village												52748
Eagle Vicinity												17007
District 5 Total	336196	525281	996391	780006	1020292	718293	933436	941330	1046942	883193	1200644	1091263
Venetie	13280	19567	30361	23581	48592	6803	60480	32718	0	26174	22554	2643
Chalkyitsik	4800	0	0	0	0	0	0	0	0	12312	21500	42285
Chandalar/Black River Total	18080	19567	30361	23581	48592	6803	60480	32718	0	38486	44054	44928
Manley Hot Springs	109928	92755	159841	74939	99620	47031	114789	31111	75216	62702	43738	107232
Kantishna River												56943
Minto	0	0	0	79984	33222	45305	55218	42887	67639	17603	54858	49714
Nenana	182644	177540	257168	259952	117515	113335	134537	211441	310997	228988	395844	363048
Healy												53000
District 6 Total	292572	270295	417009	414875	250356	205671	304544	285438	453852	309293	494440	629936

continued

TABLE 26. ESTIMATED YUKON RIVER SUBSISTENCE SALMON HARVEST IN POUNDS ROUND WEIGHT OF CHINOOK, FALL CHUM, AND COHO SALMON COMBINED BY VILLAGE AND DISTRICT, 1977-88. (continued)

TOTAL BY DISTRICT

YEAR	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DISTRICT 1	5929	10830	38494	35426	48923	41556	36473	41191	34341	44783	51938	91179
DISTRICT 2	120297	73334	205964	199193	208349	190276	310030	281943	195061	285616	354393	170133
DISTRICT 3	67571	97257	86363	124208	125701	94554	129692	112005	88258	103663	125982	106586
DISTRICT 4	182197	191843	440236	409977	267062	280228	475927	394838	326326	398334	472100	369031
DISTRICT 5	354276	544848	1026752	803587	1068884	725096	993916	974048	1046942	921679	1244698	1136191
DISTRICT 6	292572	270295	417009	414875	250356	205671	304544	285438	453852	309293	494440	629936
GRAND TOTAL	1022841	1188407	2214817	1987265	1969274	1537381	2250581	2089463	2144779	2063368	2743551	2503056

Other Places:	District												
Fairbanks Fish Camp	5	16181	54159	72552	71792	81686	111079	150564	144846	138454	132629	214236	
Fairbanks/Tanana R. above Wood River	6	5929	10830	38494	35426	48923	41556	36473	41191	34341	44783	51938	
Hooper Bay													44012
Scammon Bay													15597

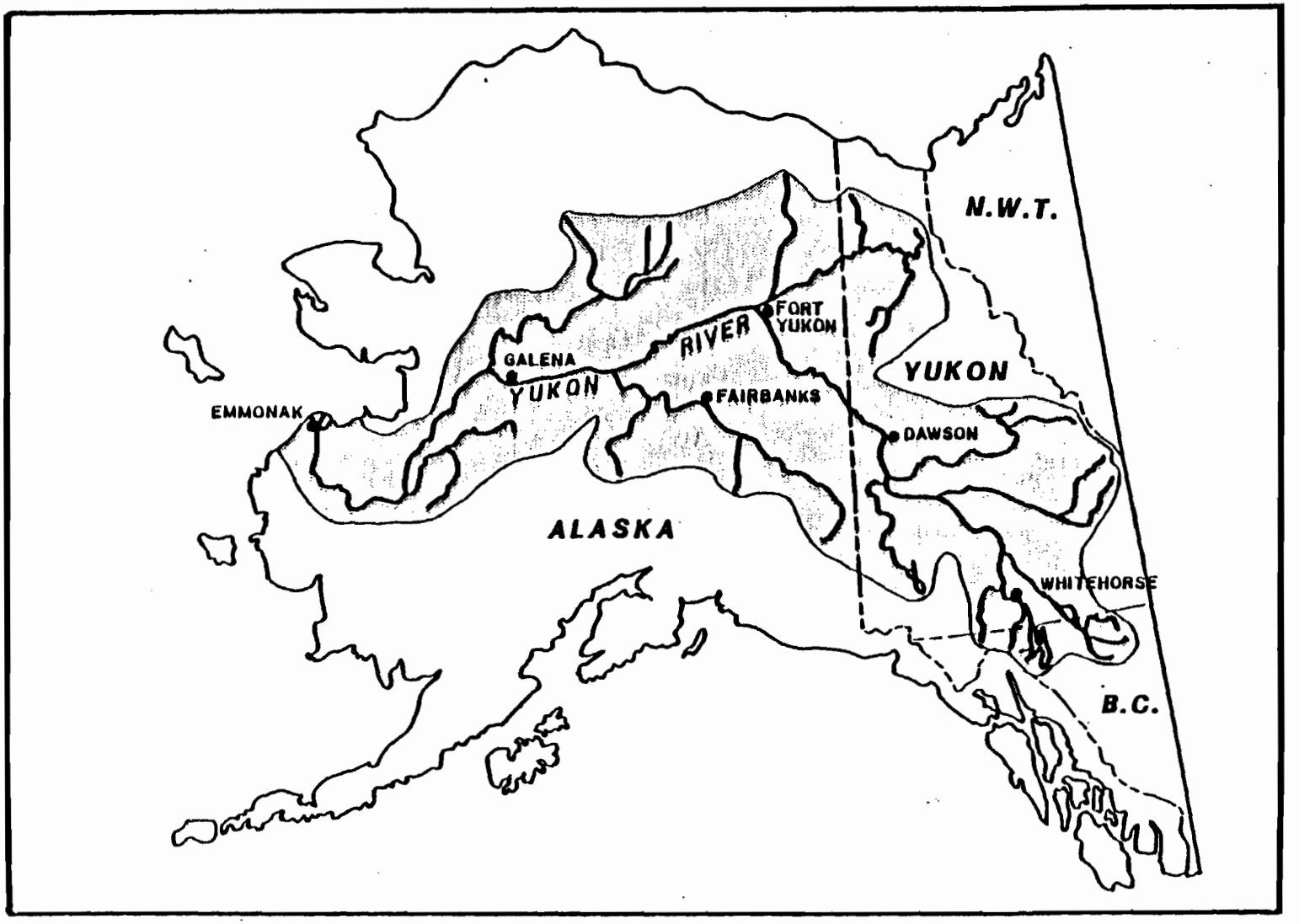


Fig. 1. The Yukon River drainage.

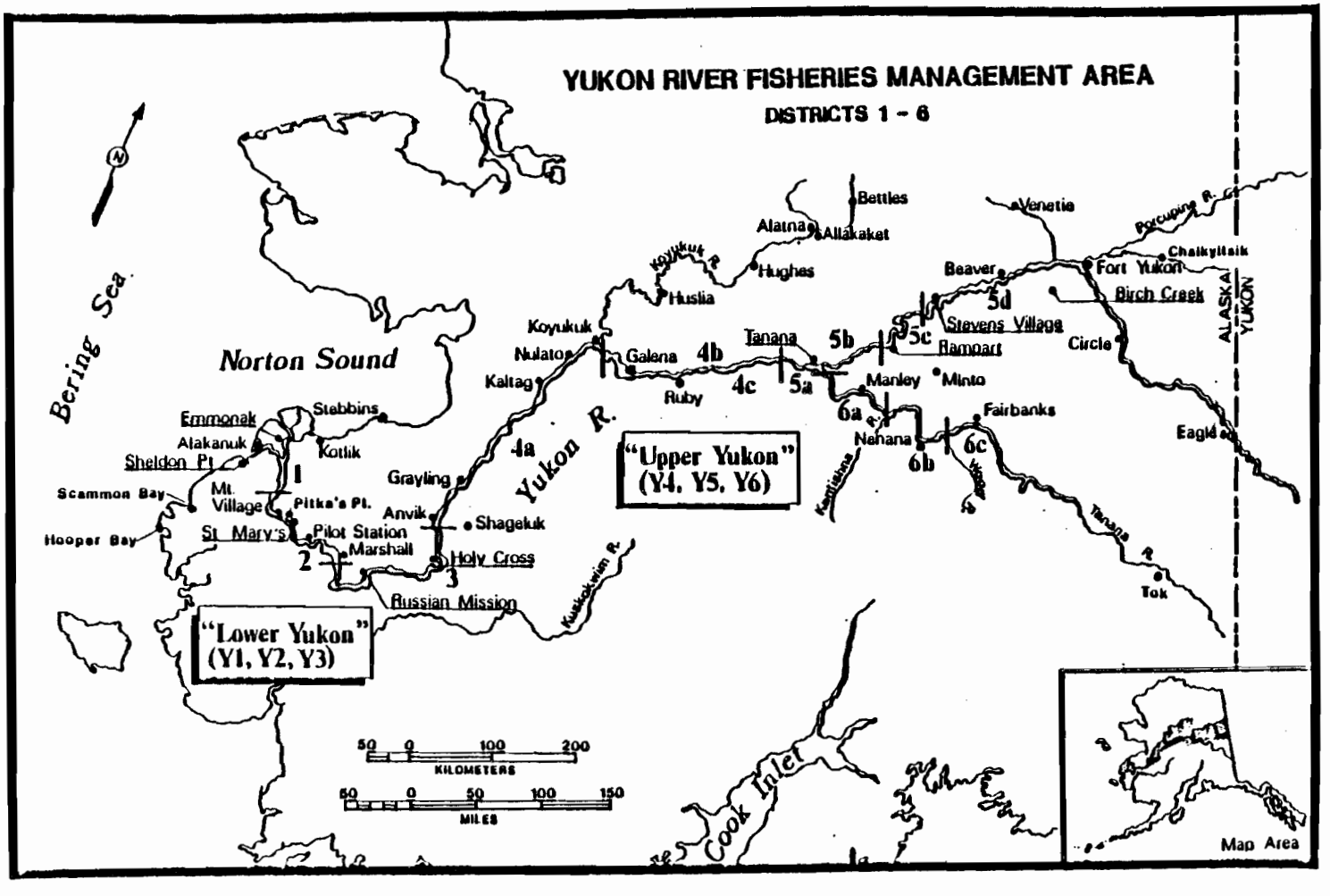


Fig. 2. Communities and fishing districts in Alaska in the Yukon River drainage.

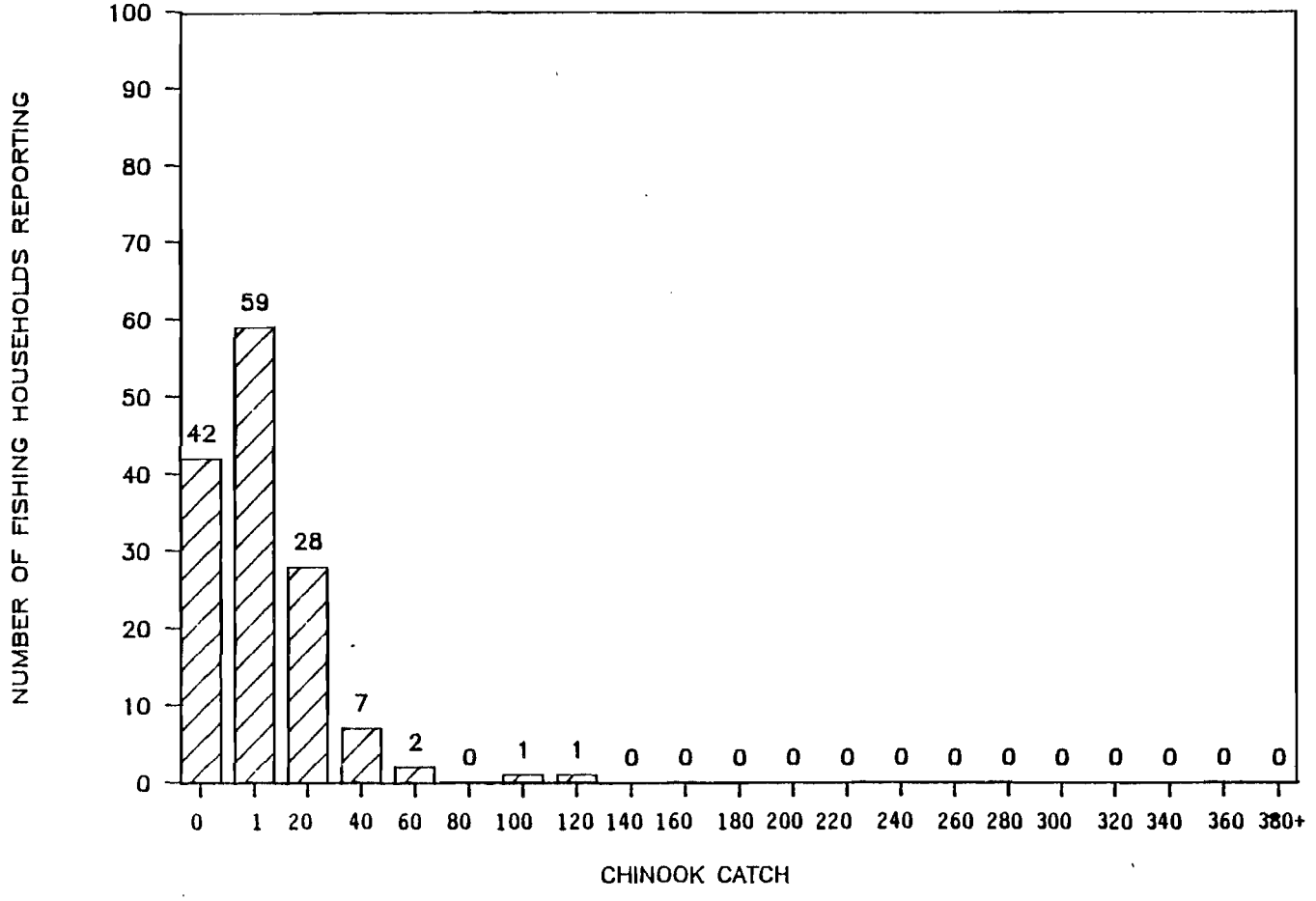


Fig. 3A. Frequency of Yukon River chinook salmon subsistence catch for fishing households reporting in Alaska, district 1, 1988.

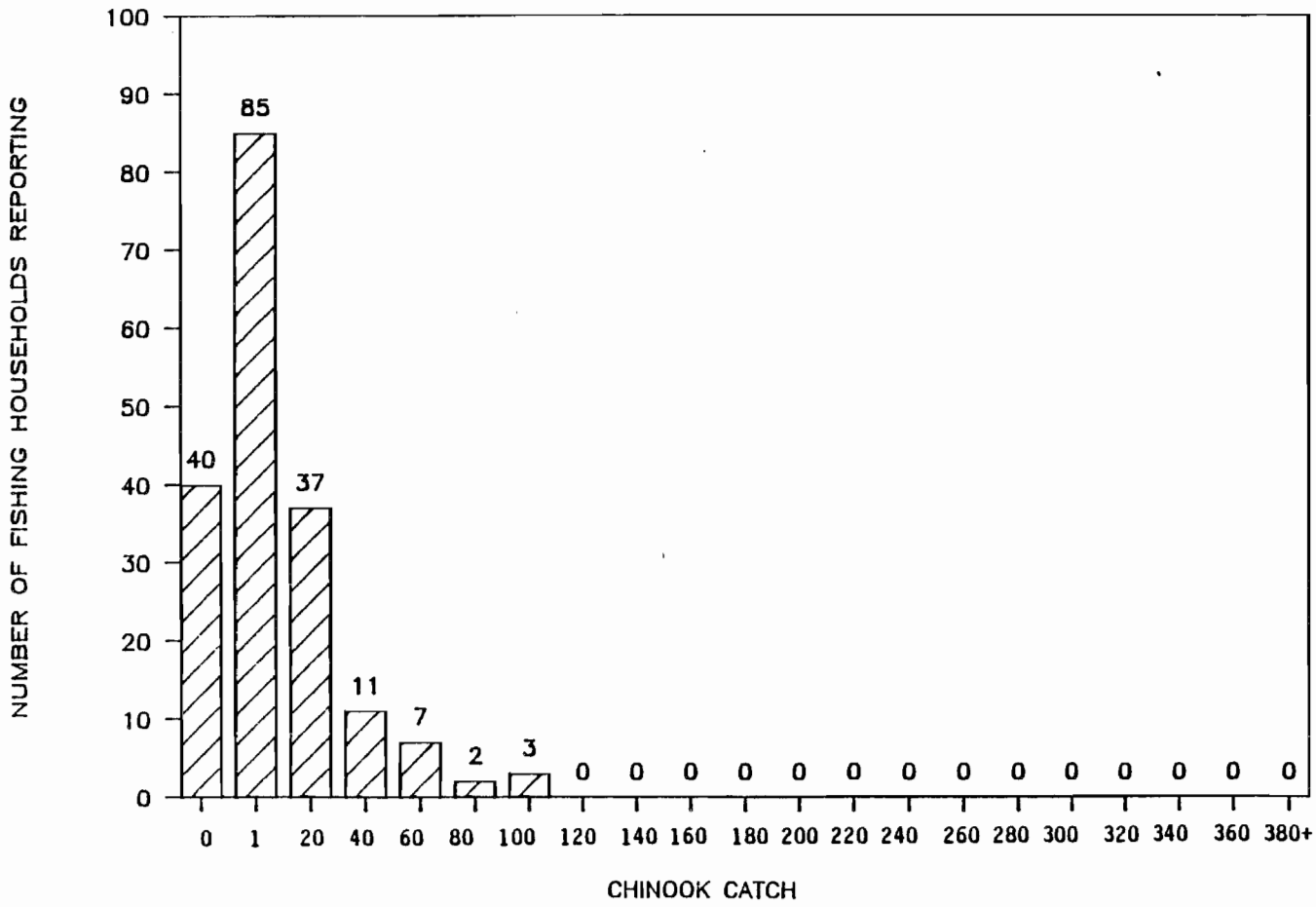


Fig. 3B. Frequency of Yukon River chinook salmon subsistence catch for fishing households reporting in Alaska, district 2, 1988.

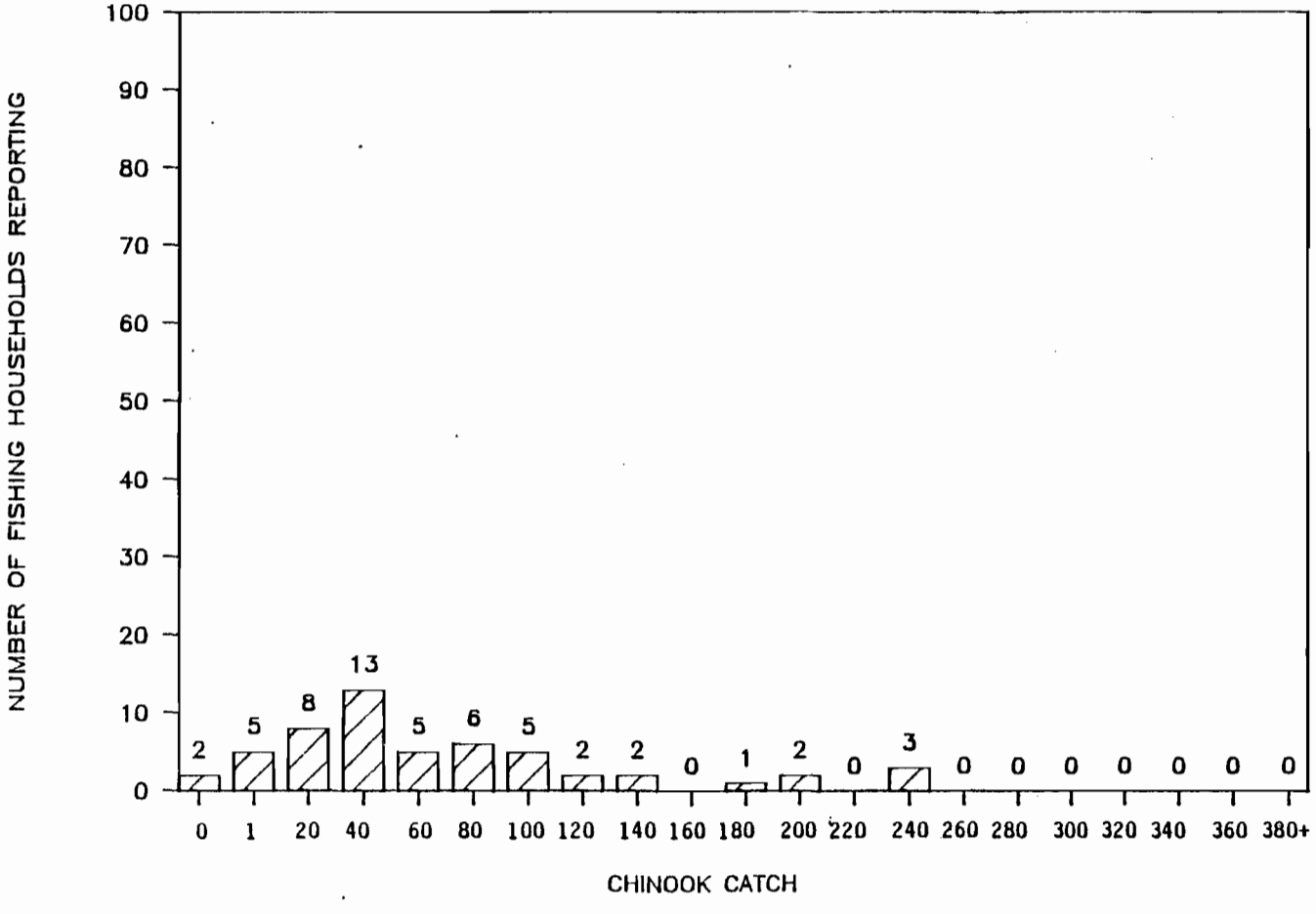


Fig. 3C. Frequency of Yukon River chinook salmon subsistence catch for fishing households reporting in Alaska, district 3, 1988.

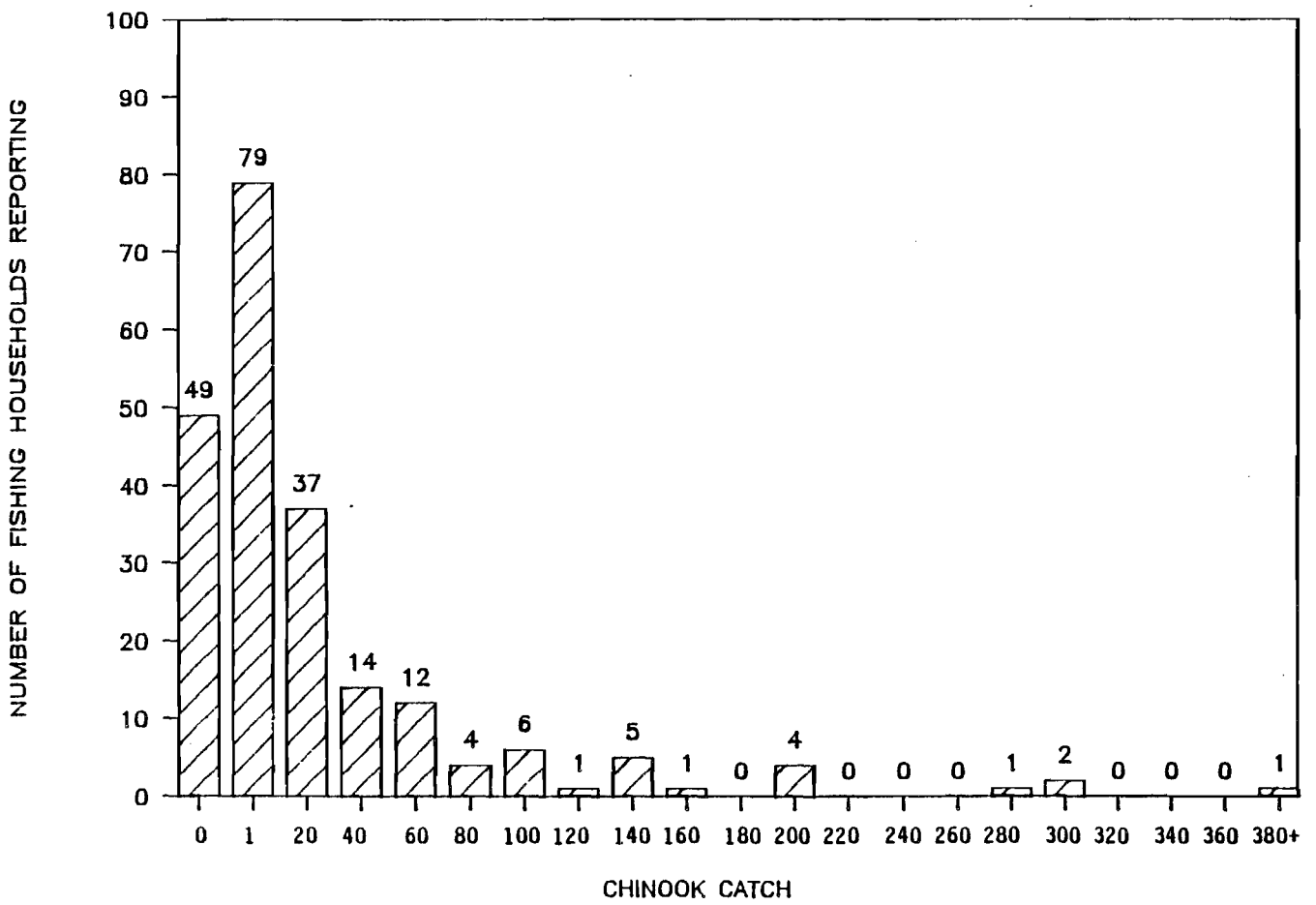


Fig. 4A. Frequency of Yukon River chinook salmon subsistence catch for fishing households reporting in Alaska, district 4, 1988.

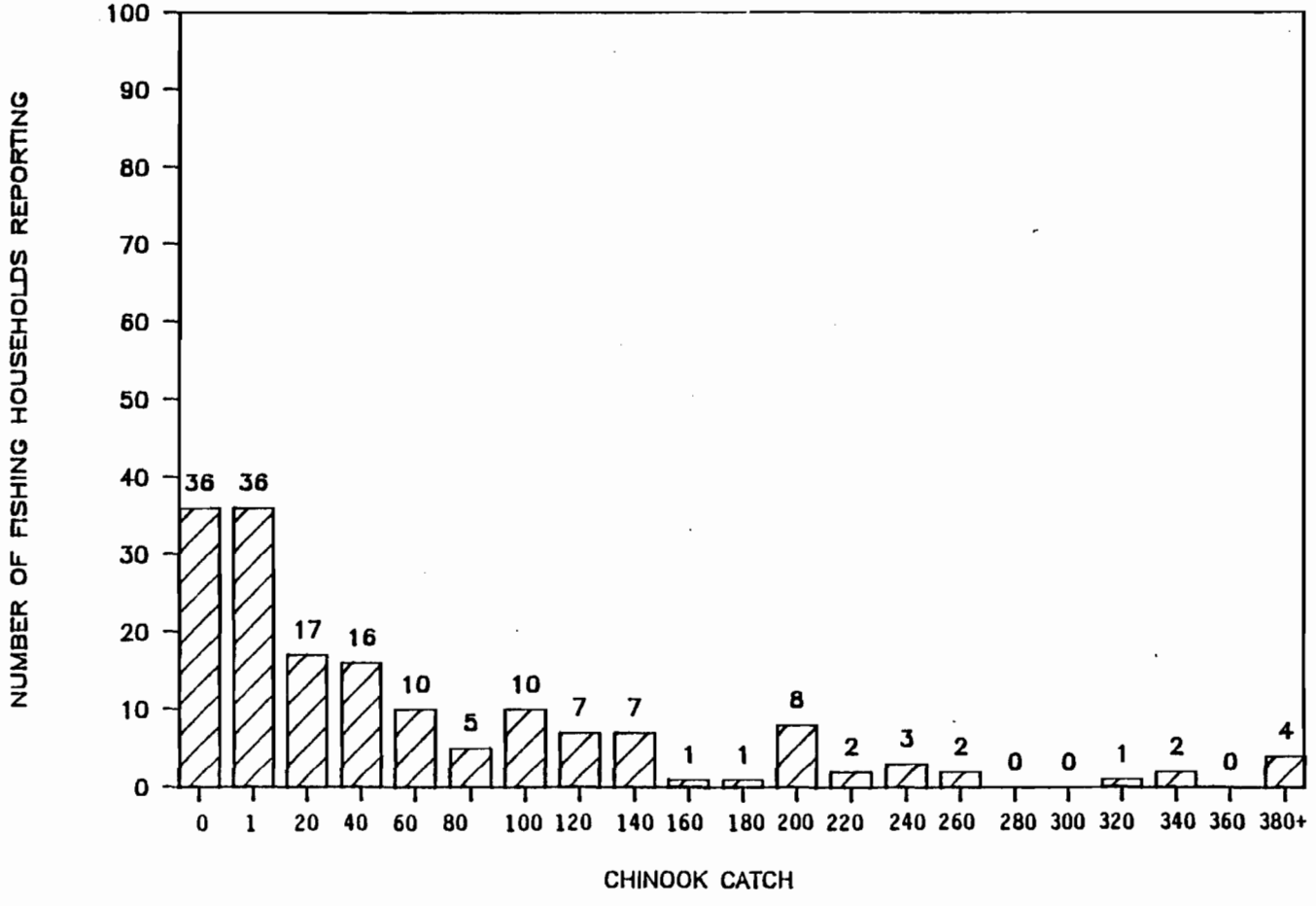


Fig. 4B. Frequency of Yukon River chinook salmon subsistence catch for fishing households reporting in Alaska, district 5, 1988.

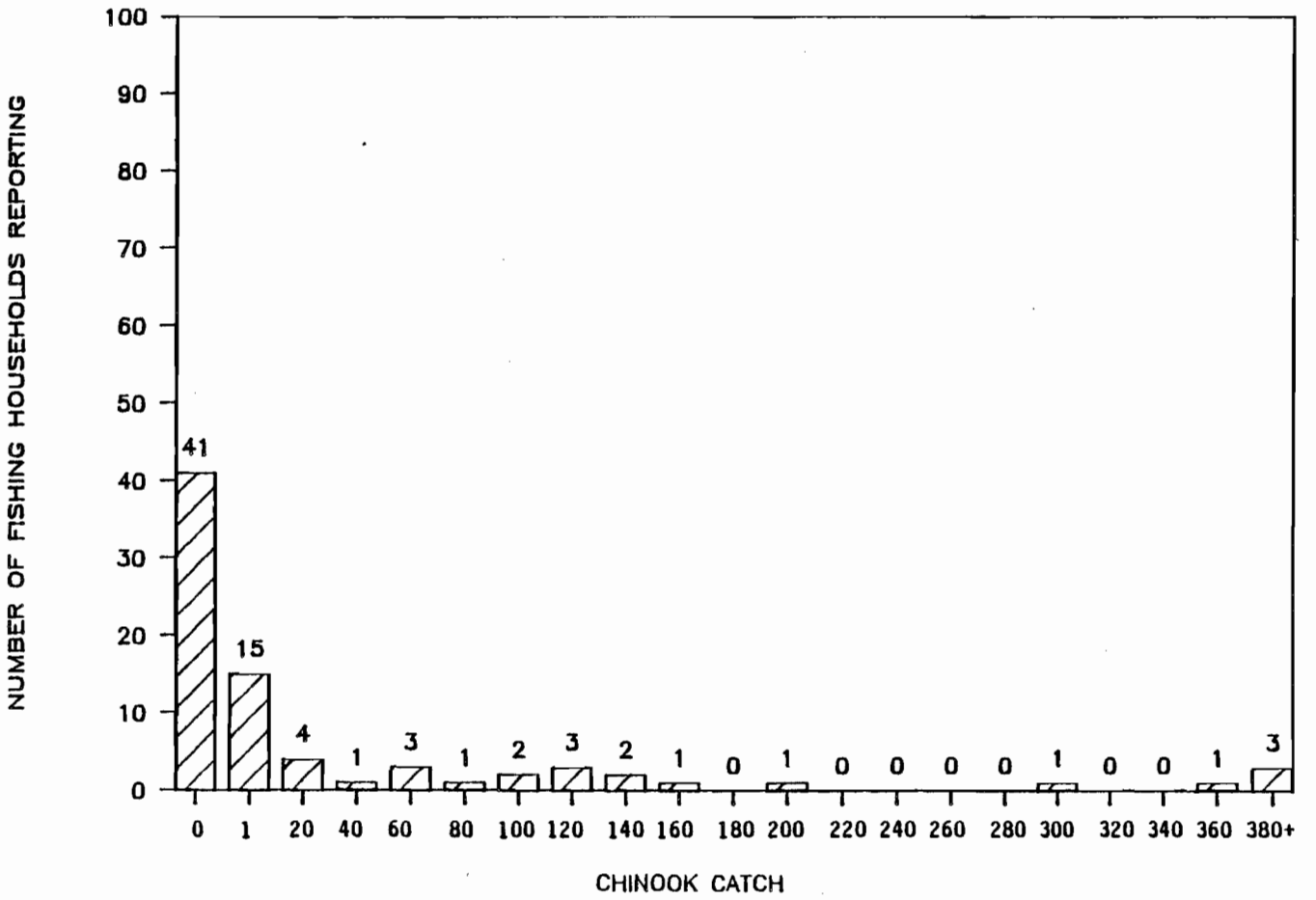


Fig. 4C. Frequency of Yukon River chinook salmon subsistence catch for fishing households reporting in Alaska, district 6, 1988.

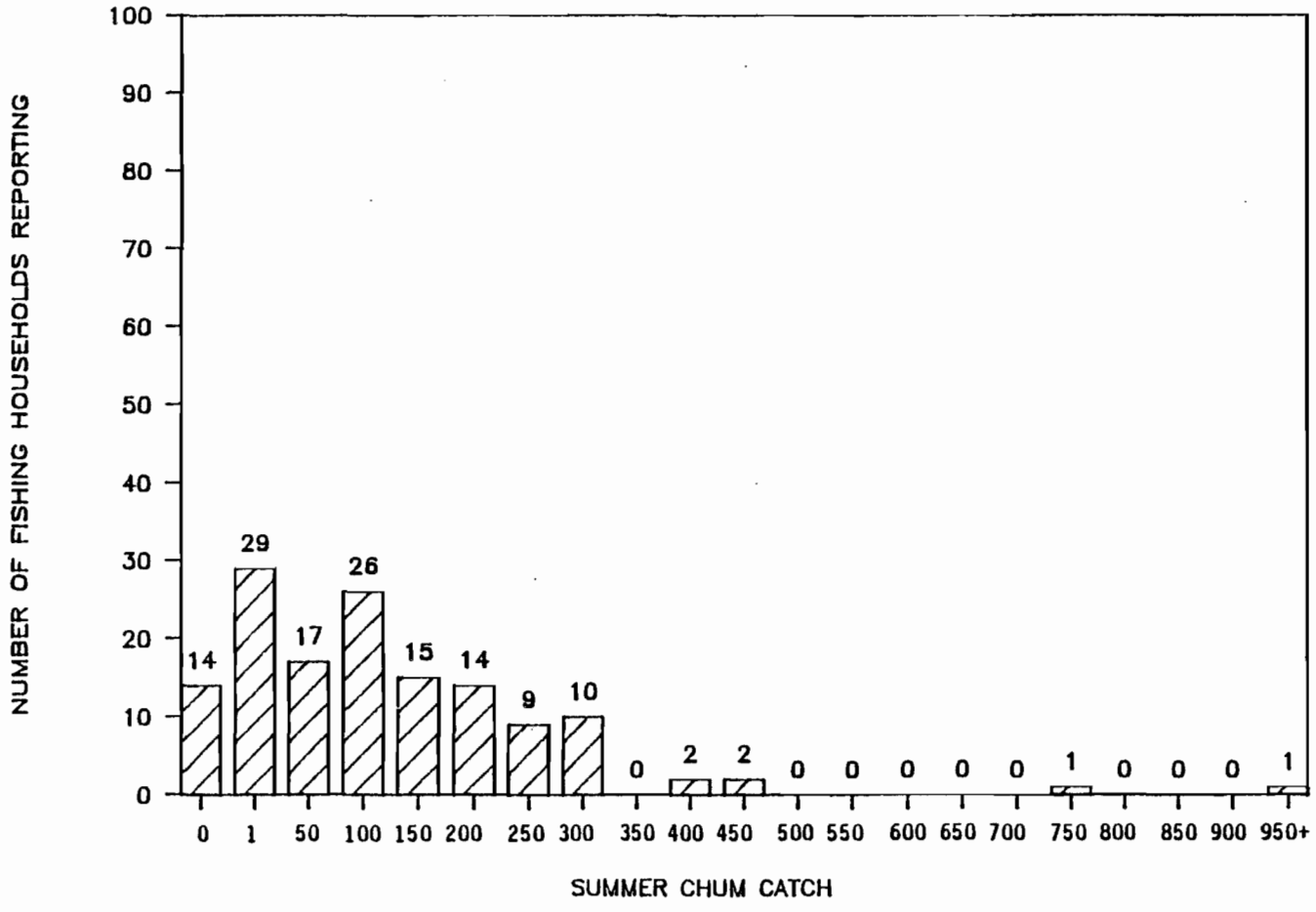


Fig. 5A. Frequency of Yukon River summer chum salmon subsistence catch for fishing households reporting in Alaska, district 1, 1988.

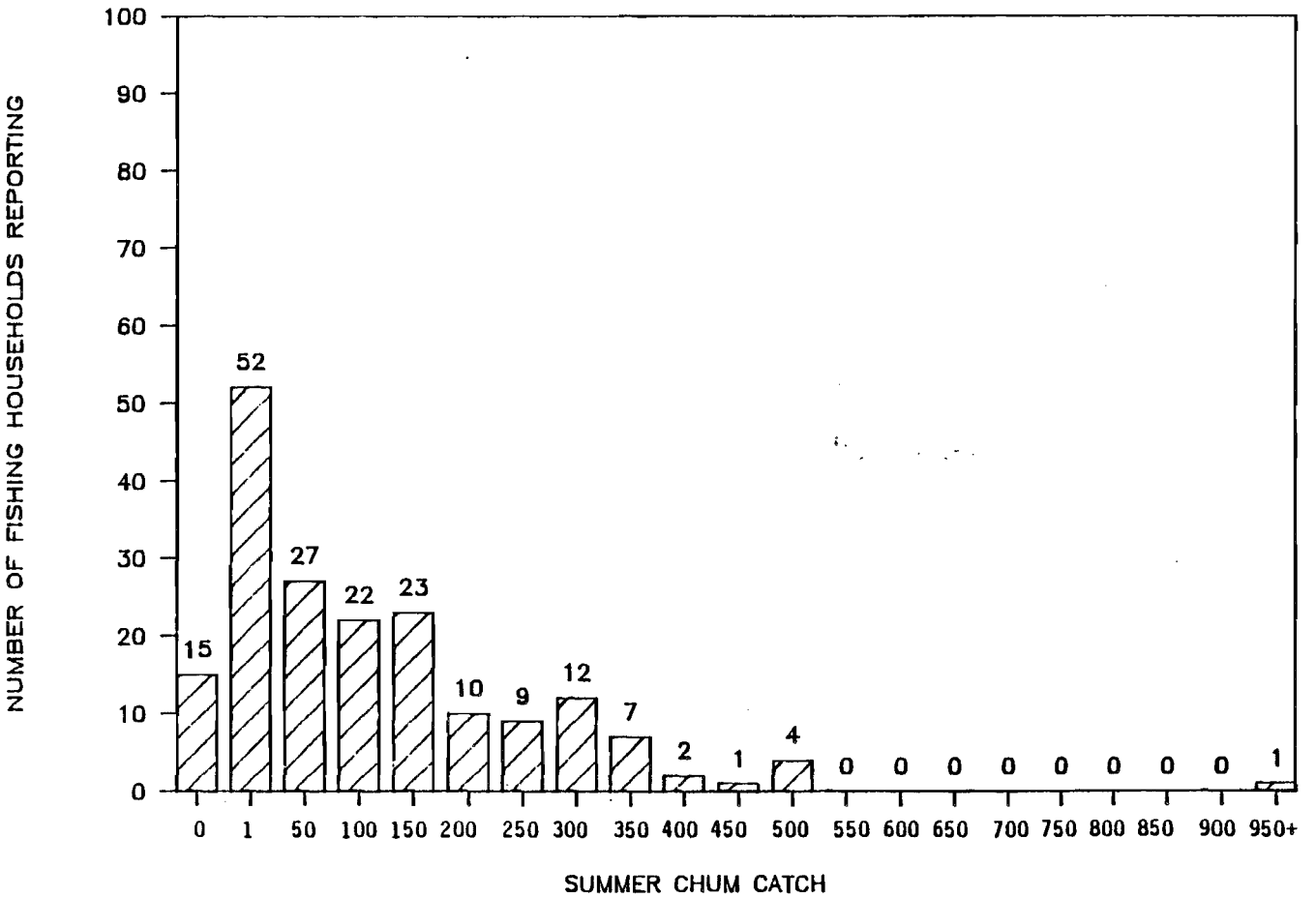


Fig. 5B. Frequency of Yukon River summer chum salmon subsistence catch for fishing households reporting in Alaska, district 2, 1988.

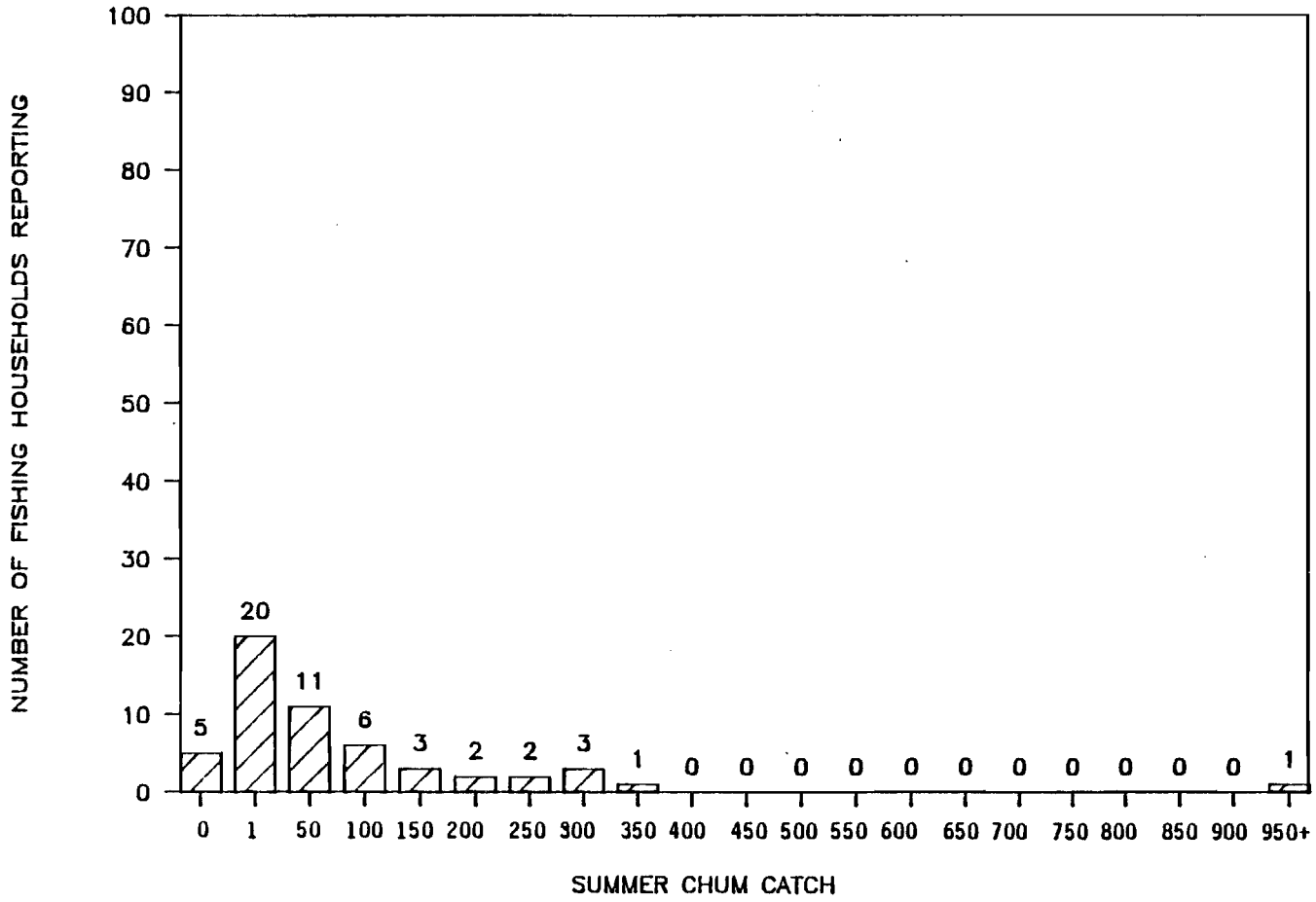


Fig. 5C. Frequency of Yukon River summer chum salmon subsistence catch for fishing households reporting in Alaska, district 3, 1988.

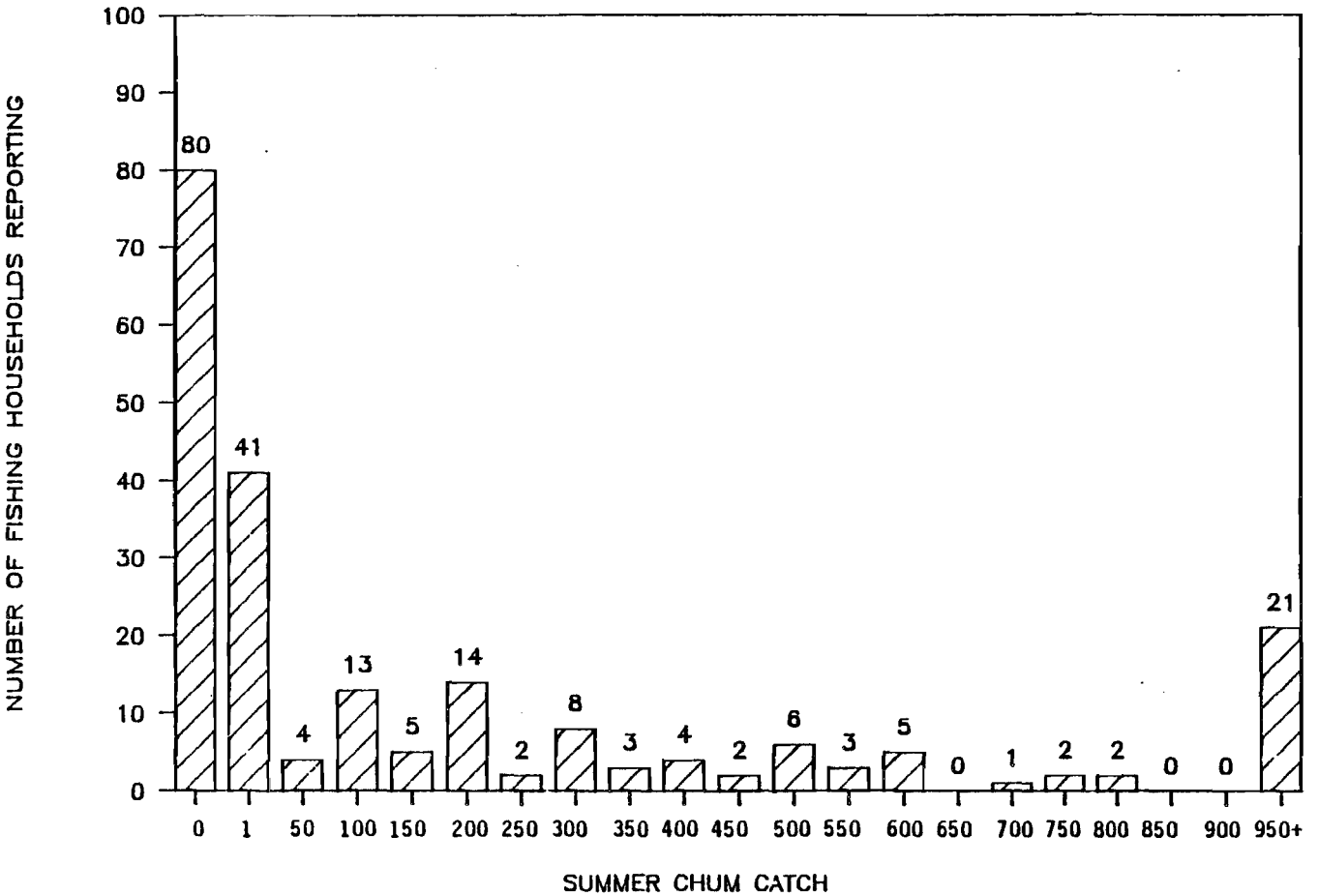


Fig. 6A. Frequency of Yukon River summer chum subsistence catch for fishing households reporting in Alaska, district 4, 1988.

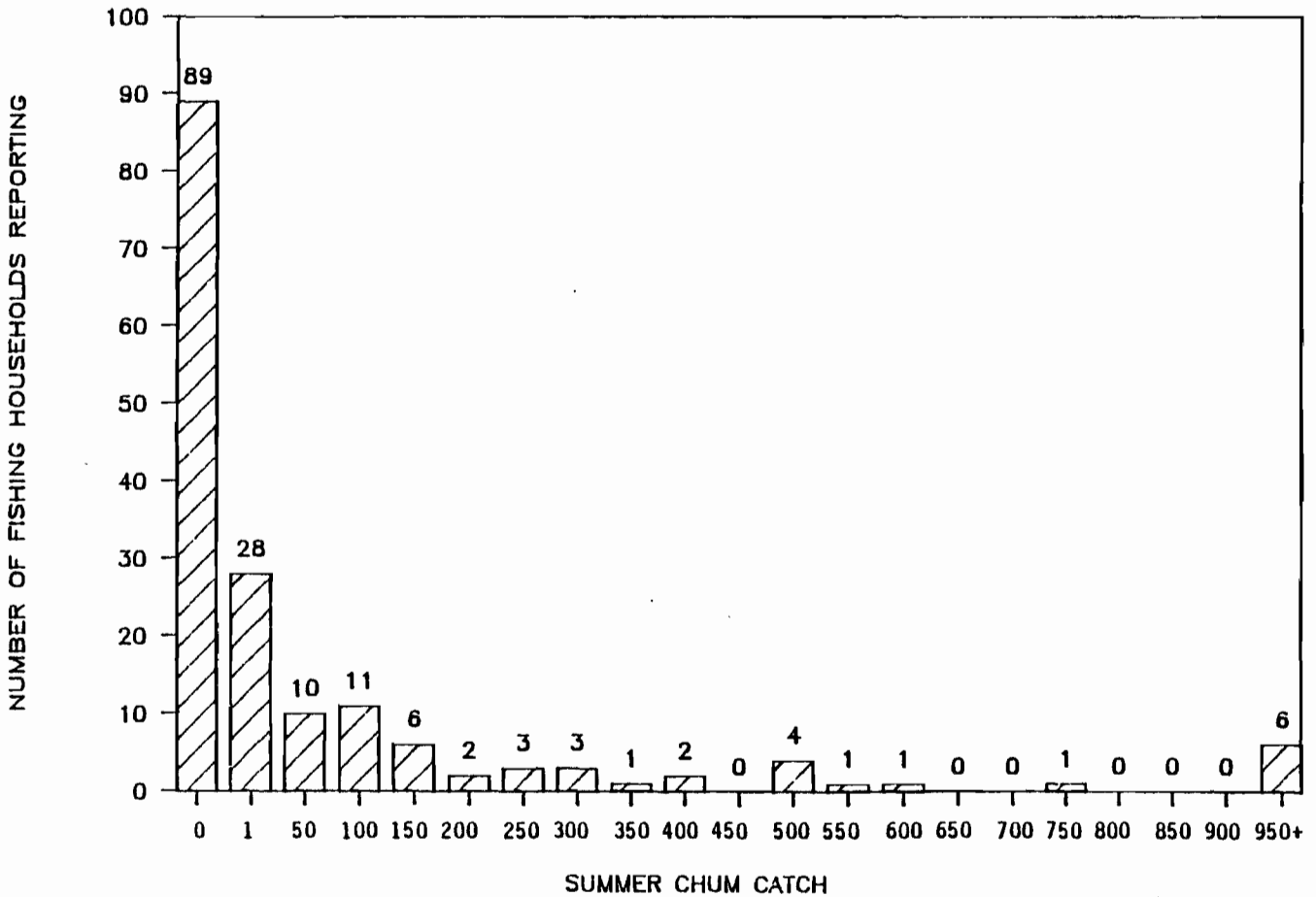


Fig. 6B. Frequency of Yukon River summer chum subsistence catch for fishing households reporting in Alaska, district 5, 1988.

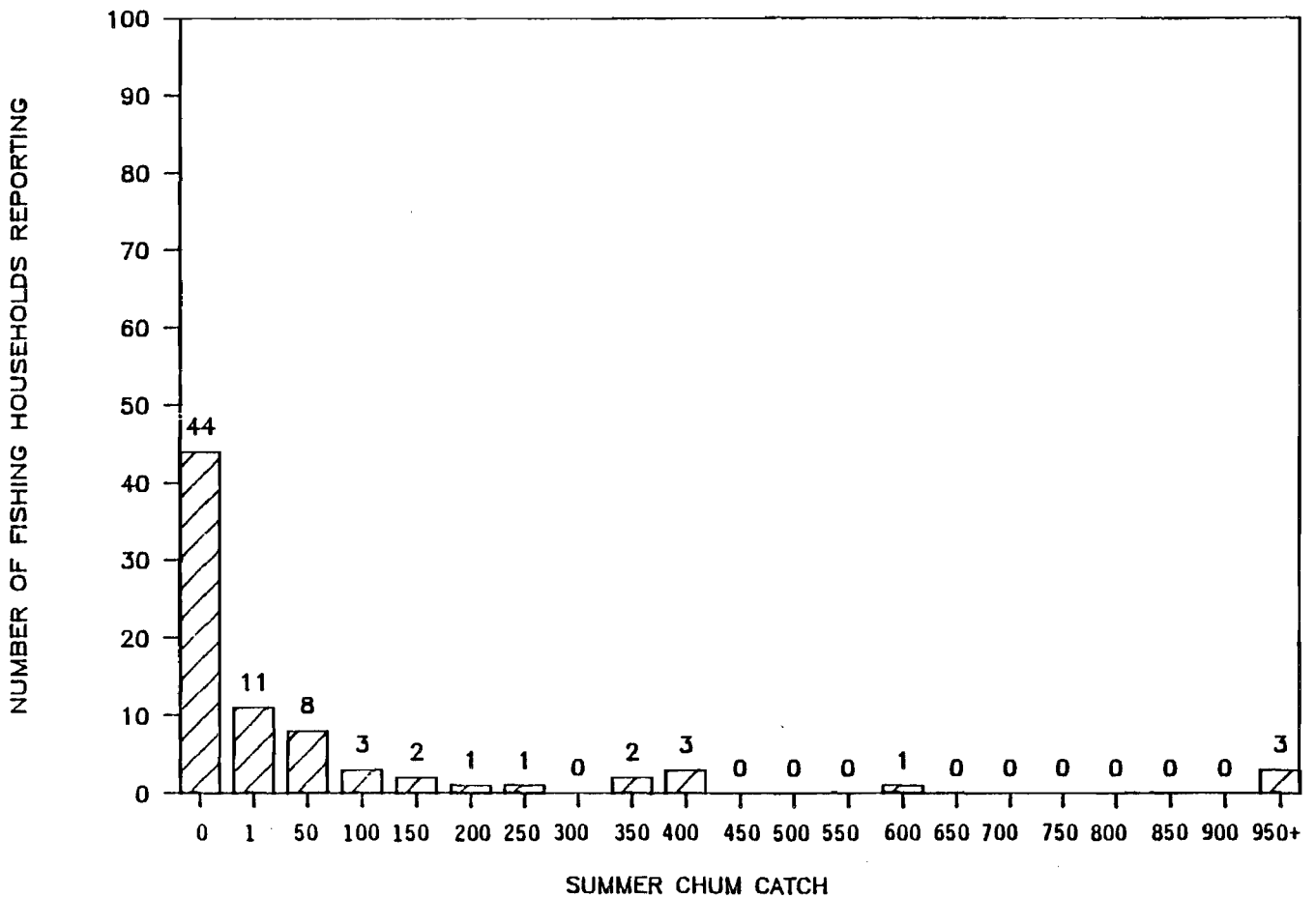


Fig. 6C. Frequency of Yukon River summer chum subsistence catch for fishing households reporting in Alaska, district 6, 1988.

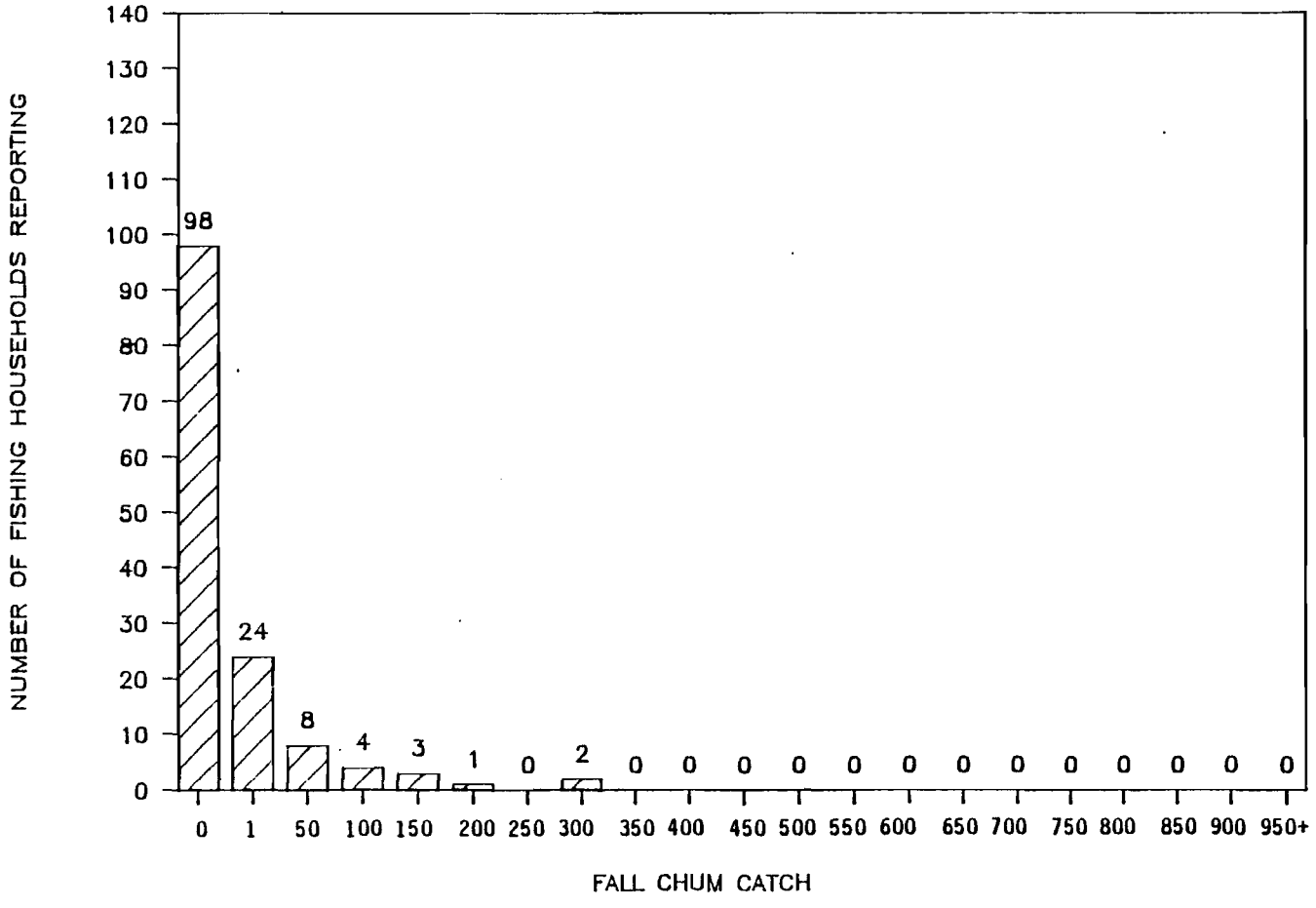


Fig. 7A. Frequency of Yukon River fall chum salmon subsistence catch for fishing households reporting in Alaska, district 1, 1988.

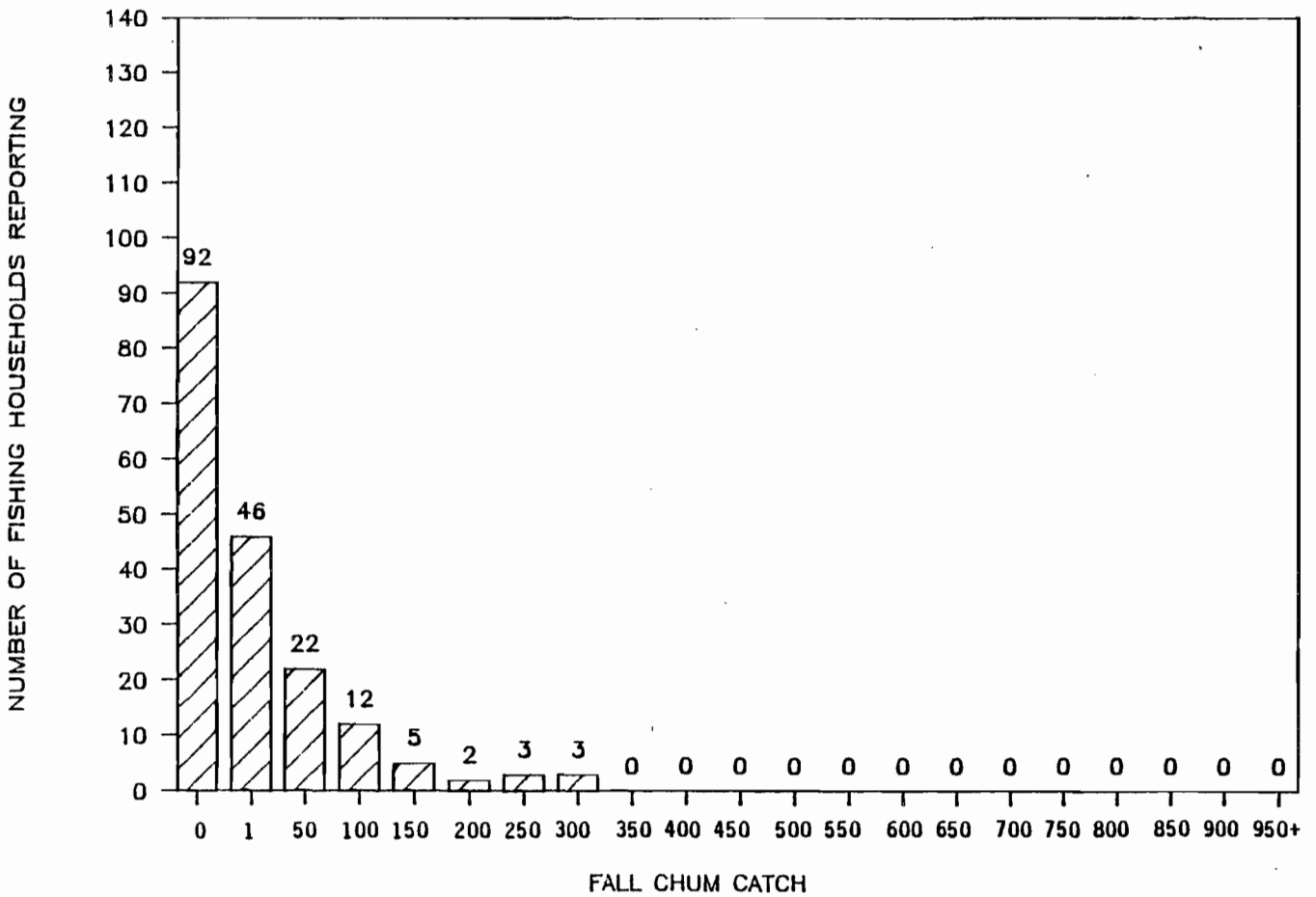


Fig. 7B. Frequency of Yukon River fall chum salmon subsistence catch for fishing households reporting in Alaska, district 2, 1988.

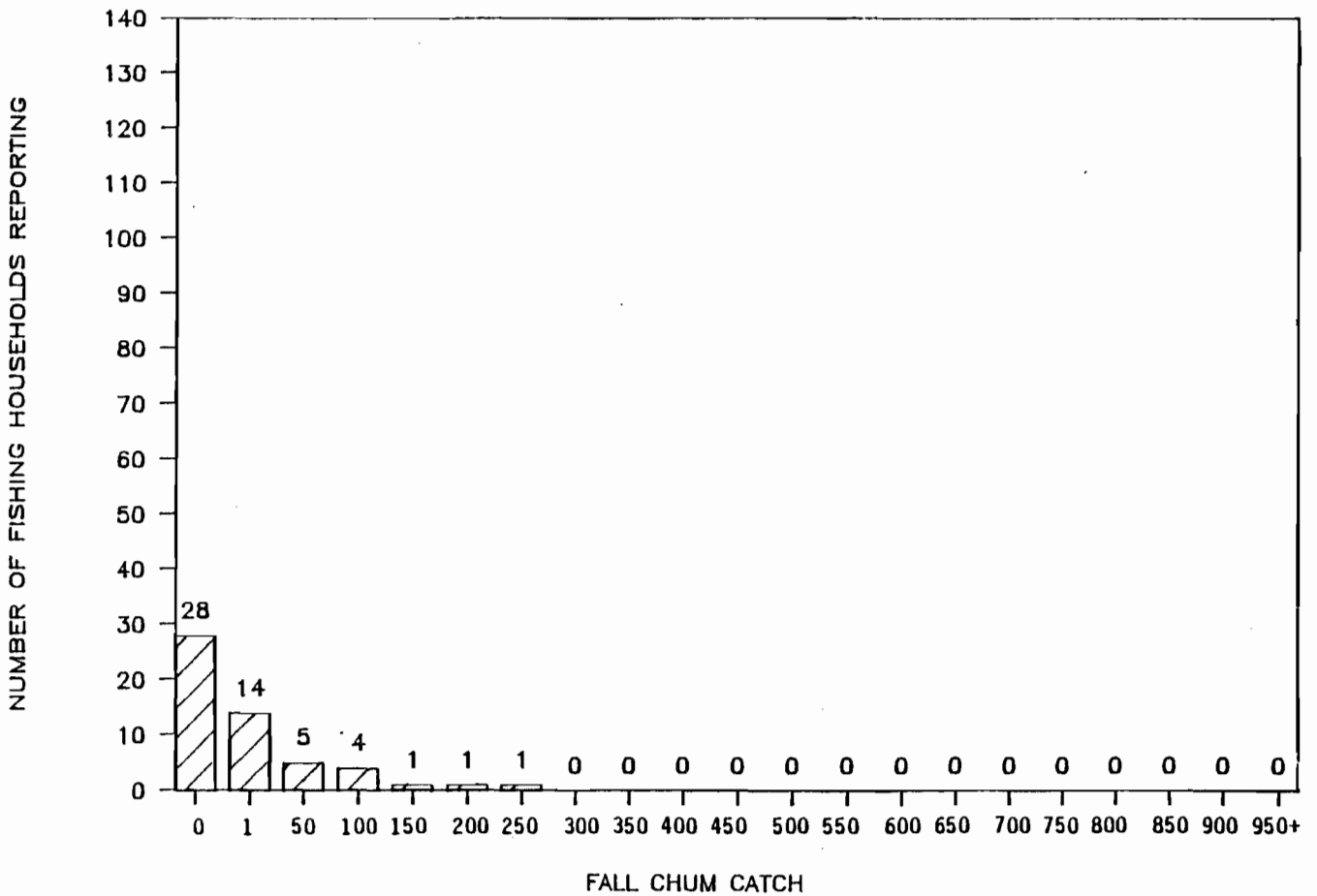


Fig. 7C. Frequency of Yukon River fall chum salmon subsistence catch for fishing households reporting in Alaska, district 3, 1988.

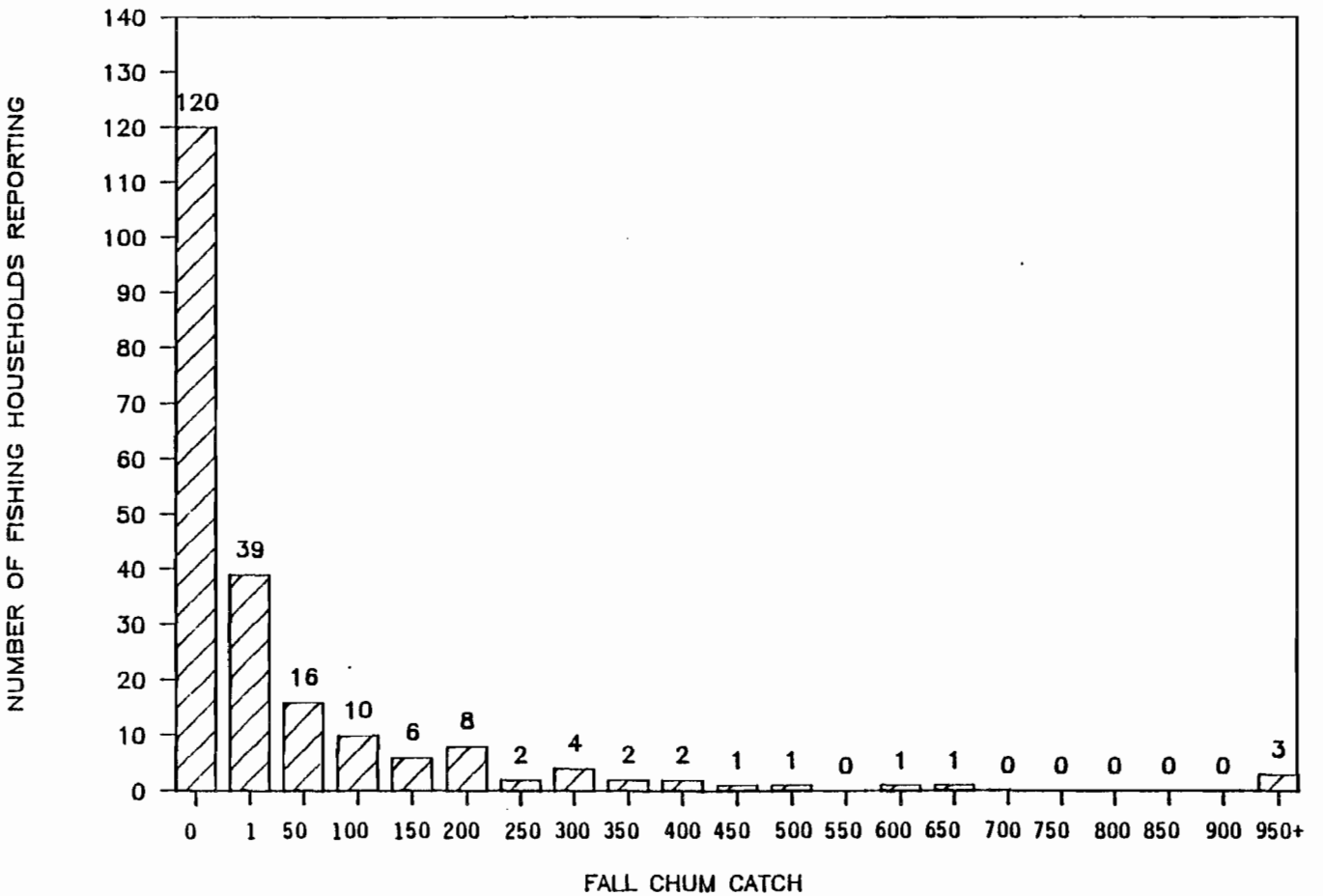


Fig. 8A. Frequency of Yukon River fall chum salmon subsistence catch for fishing households reporting in Alaska, district 4, 1988.

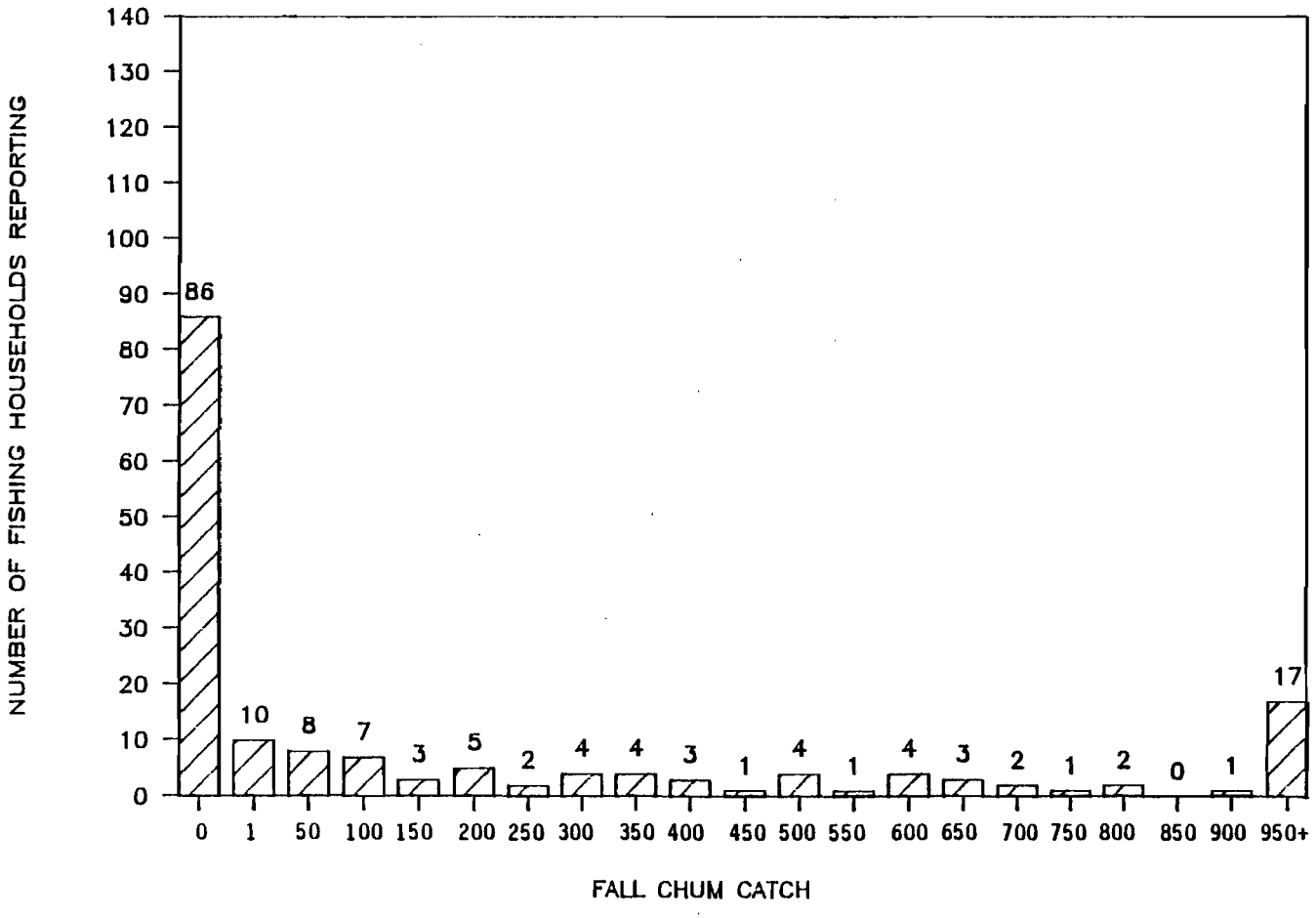


Fig. 8B. Frequency of Yukon River fall chum salmon subsistence catch for fishing households reporting in Alaska, district 5, 1988.

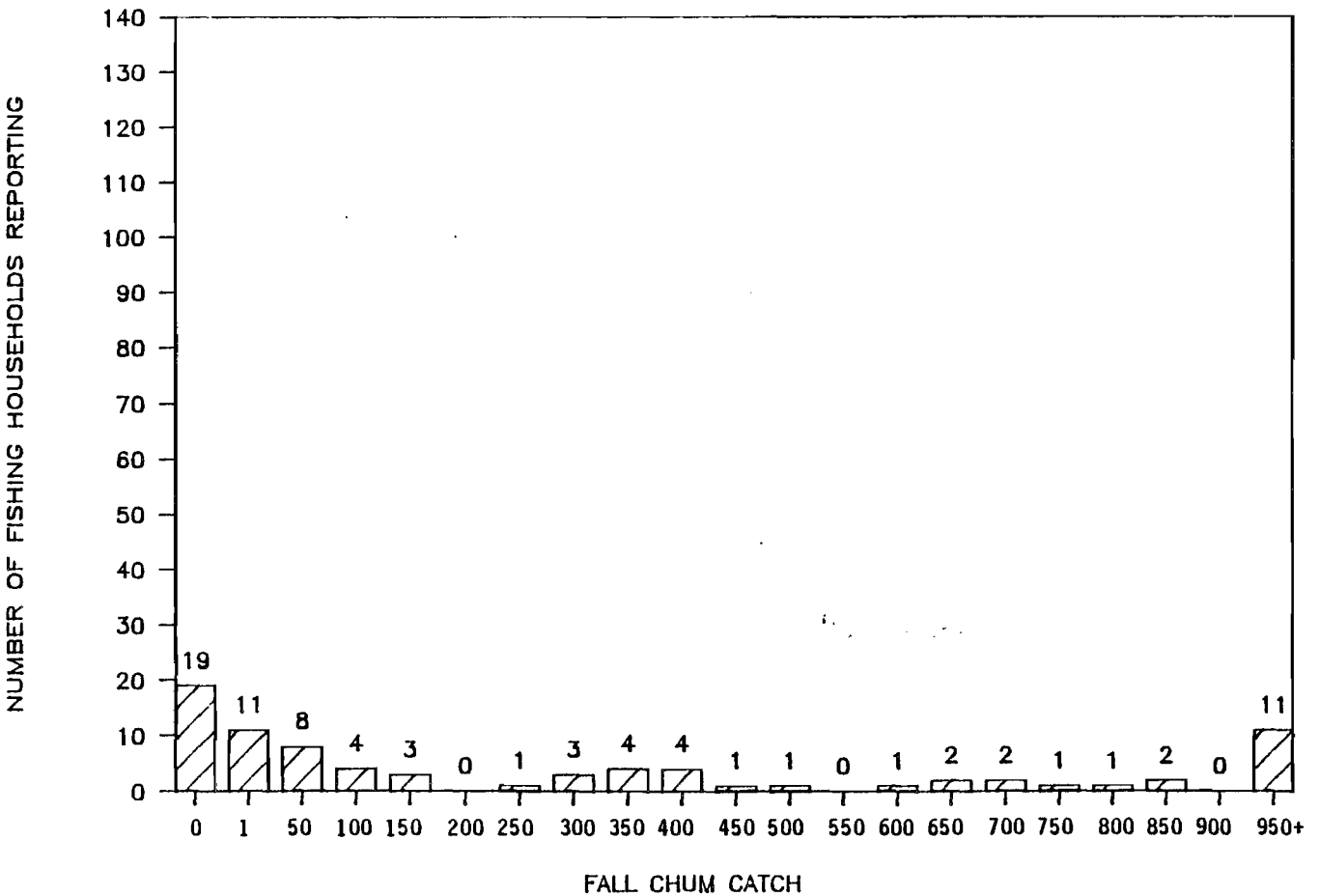


Fig. 8C. Frequency of Yukon River fall chum salmon subsistence catch for fishing households reporting in Alaska, district 6, 1988.

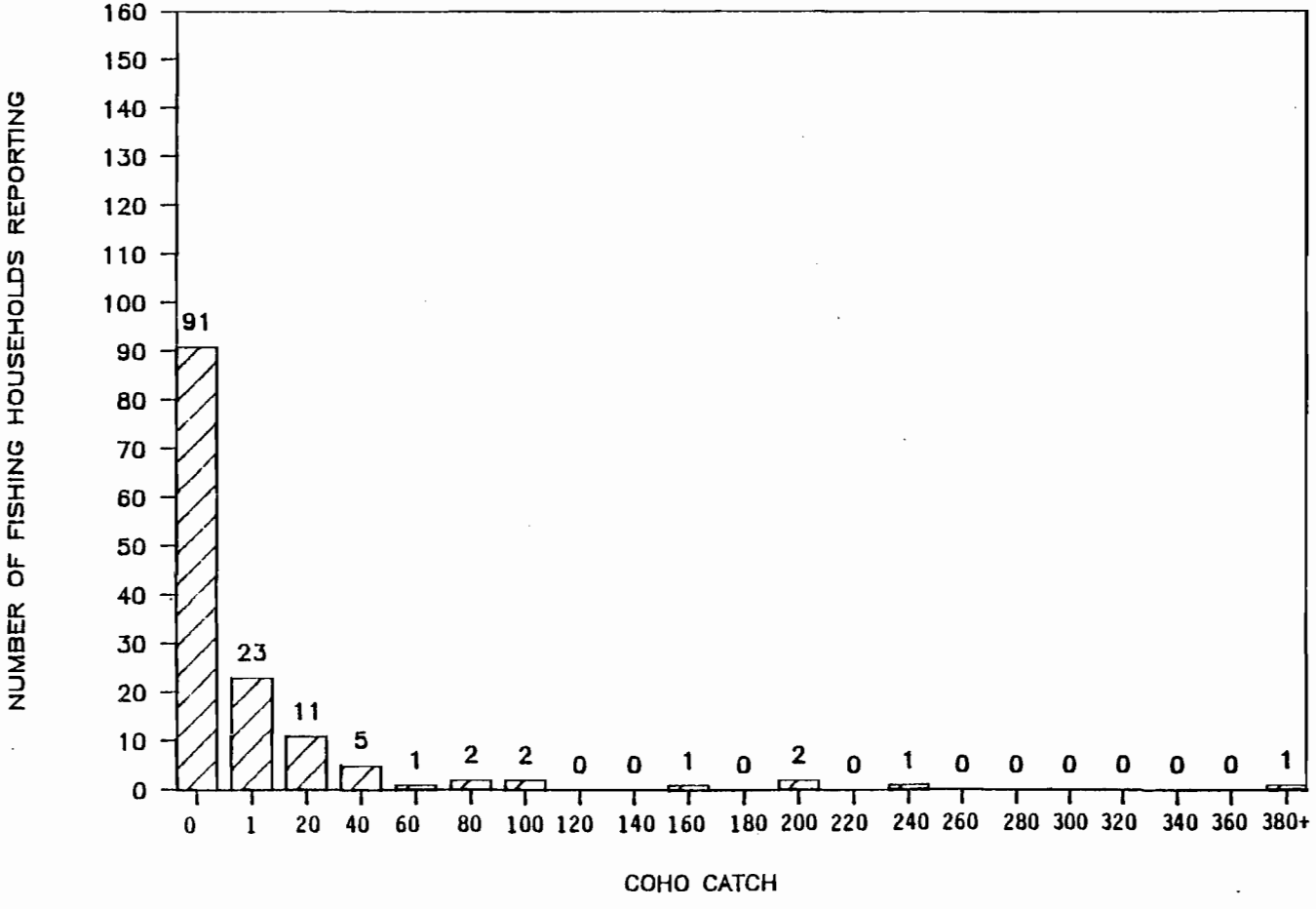


Fig. 9A. Frequency of Yukon River coho salmon subsistence catch for fishing households reporting in Alaska, district 1, 1988.

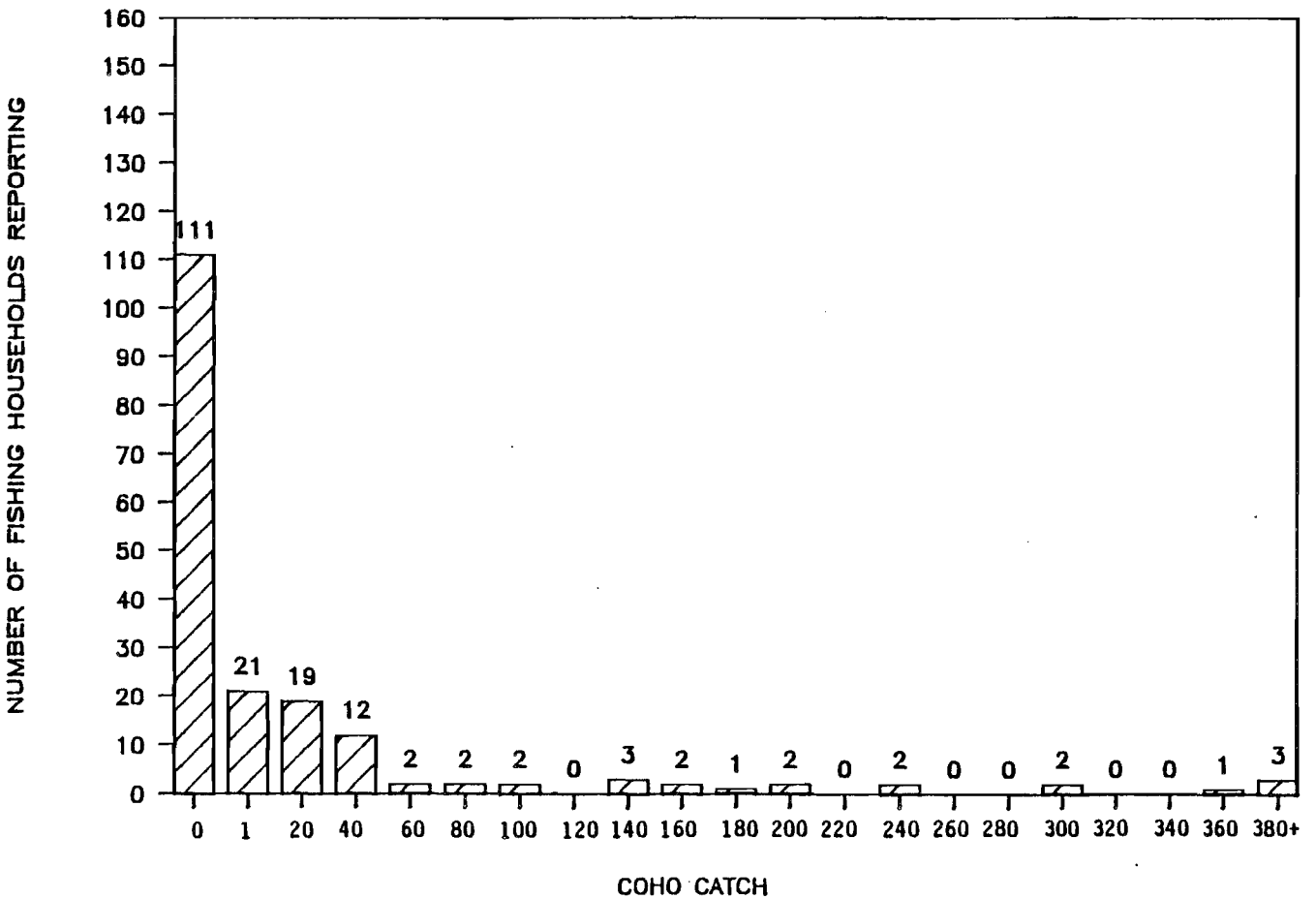


Fig. 9B. Frequency of Yukon River coho salmon subsistence catch for fishing households reporting in Alaska, district 2, 1988.

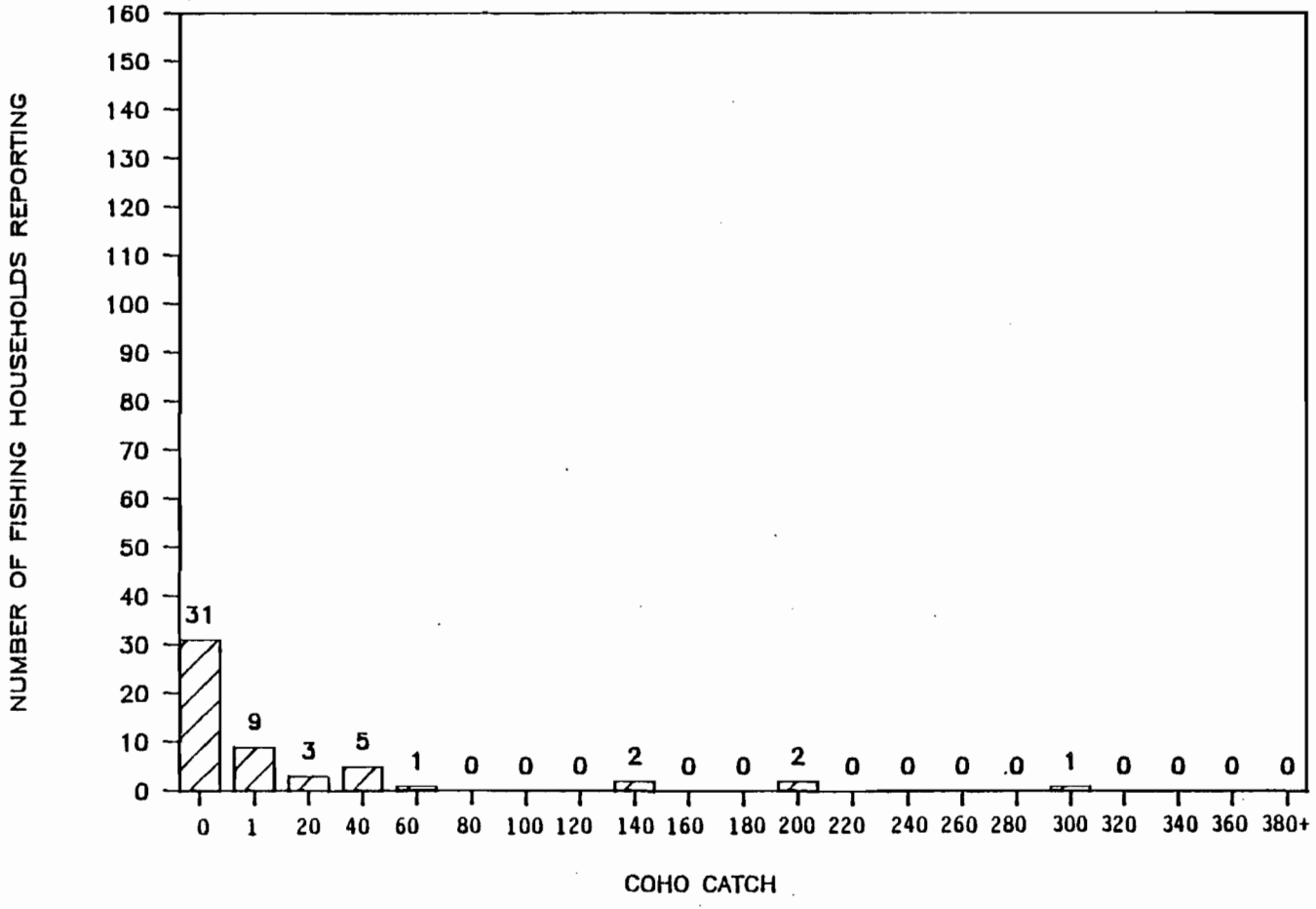


Fig. 9C. Frequency of Yukon River coho salmon subsistence catch for fishing households reporting in Alaska, district 3, 1988.

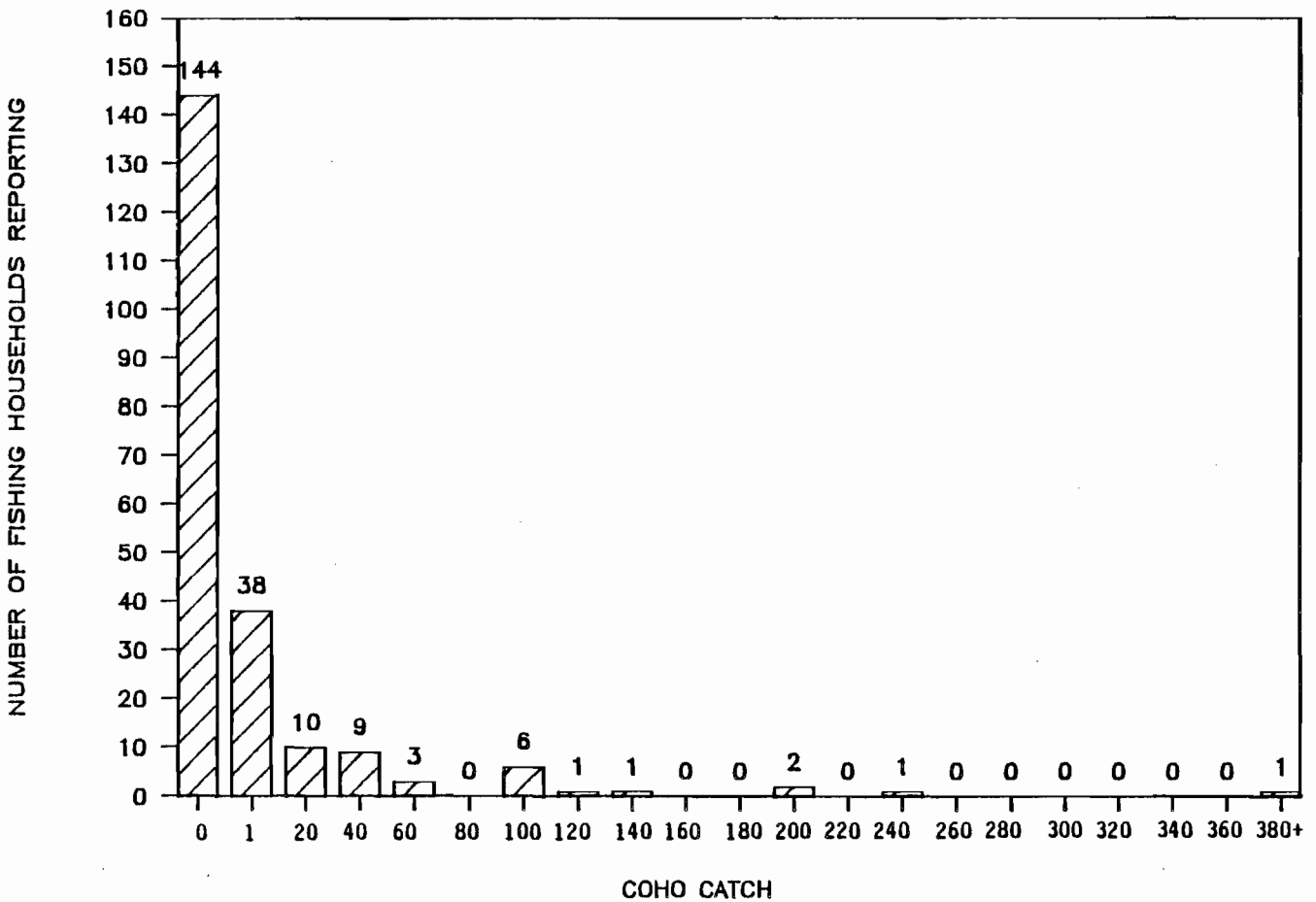


Fig. 10A. Frequency of Yukon River coho salmon subsistence catch for fishing households reporting in Alaska, district 4, 1988.

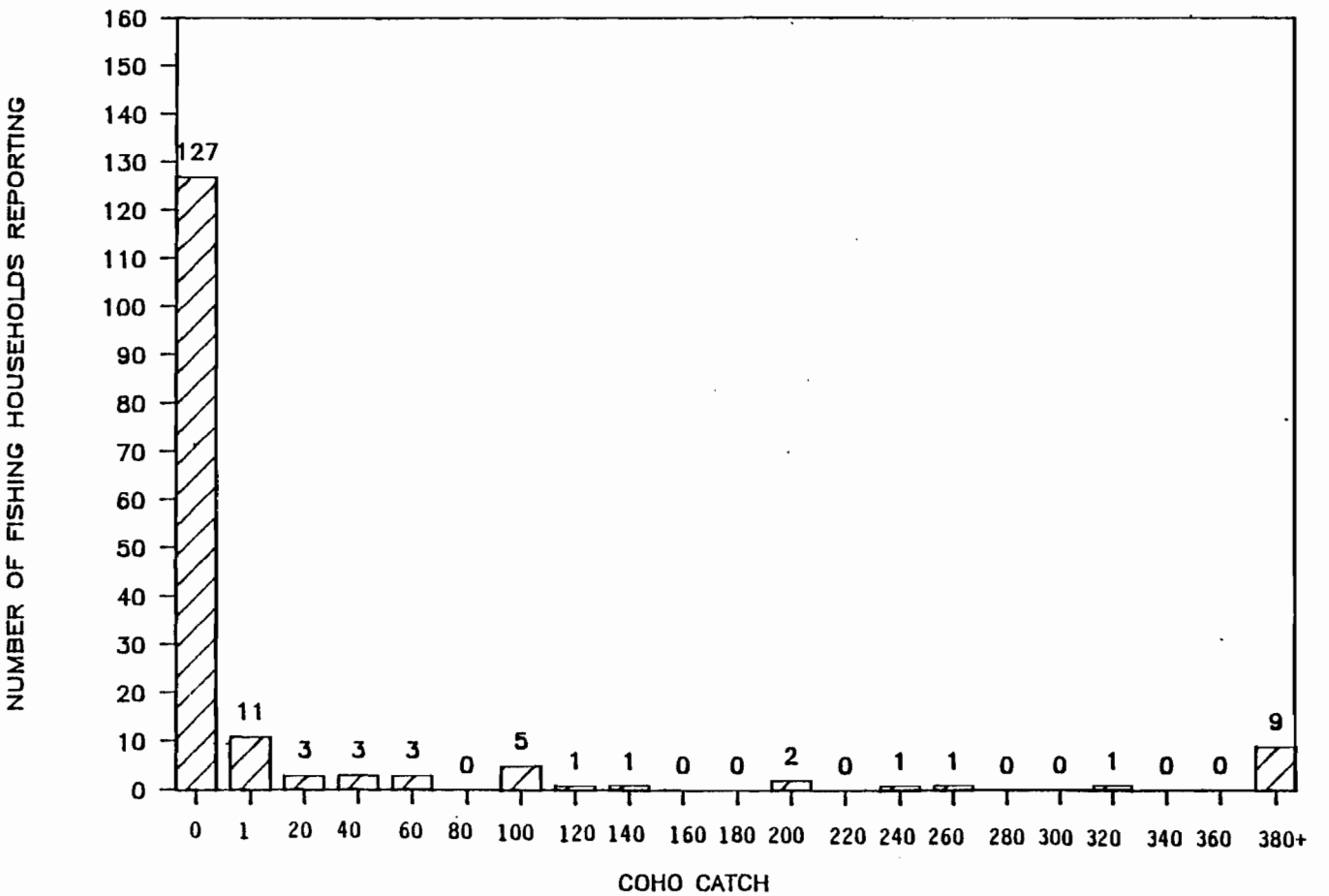


Fig. 10B. Frequency of Yukon River coho salmon subsistence catch for fishing households reporting in Alaska, district 5, 1988.

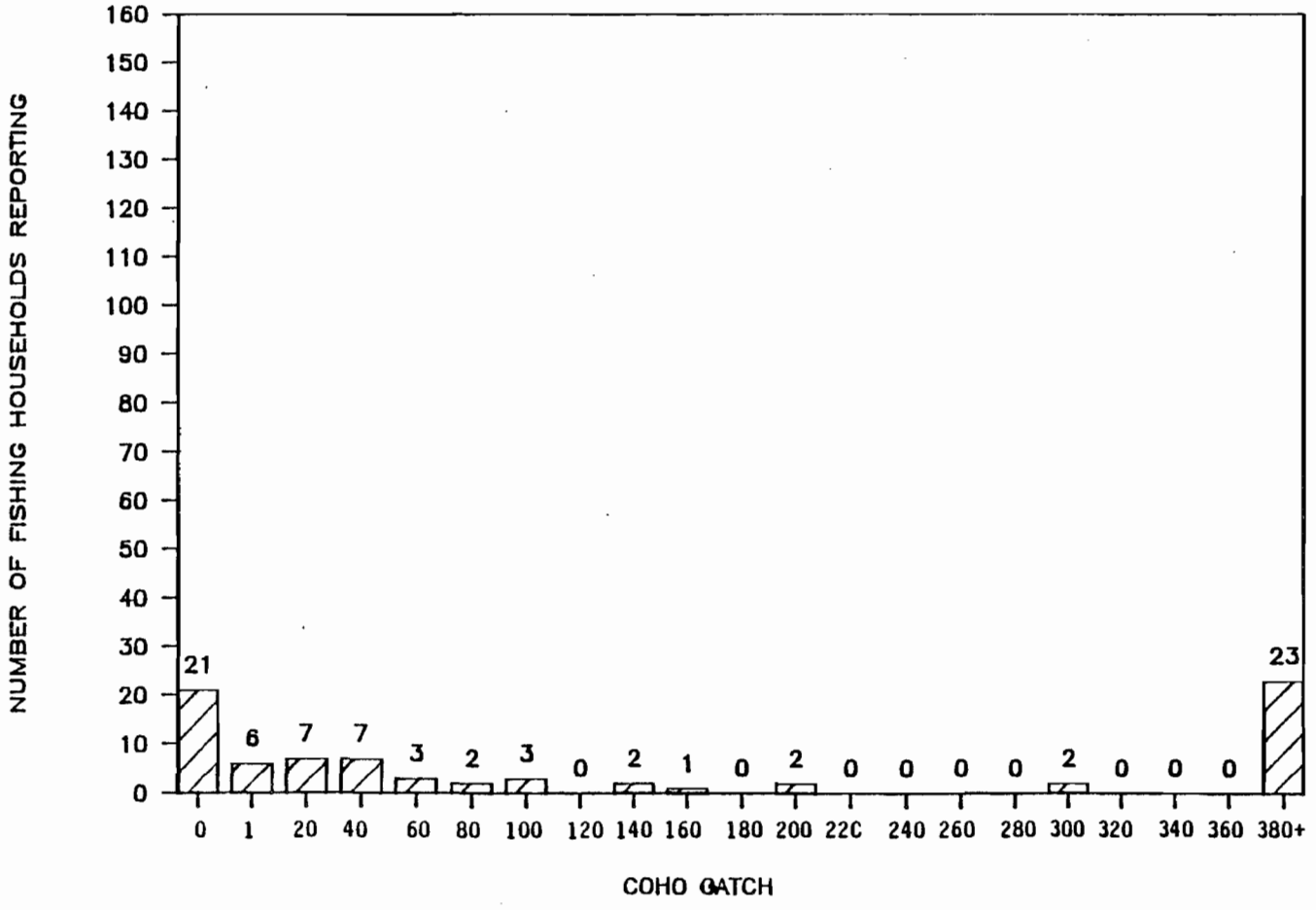


Fig. 10C. Frequency of Yukon River coho salmon subsistence catch for fishing households reporting in Alaska, district 6, 1988.

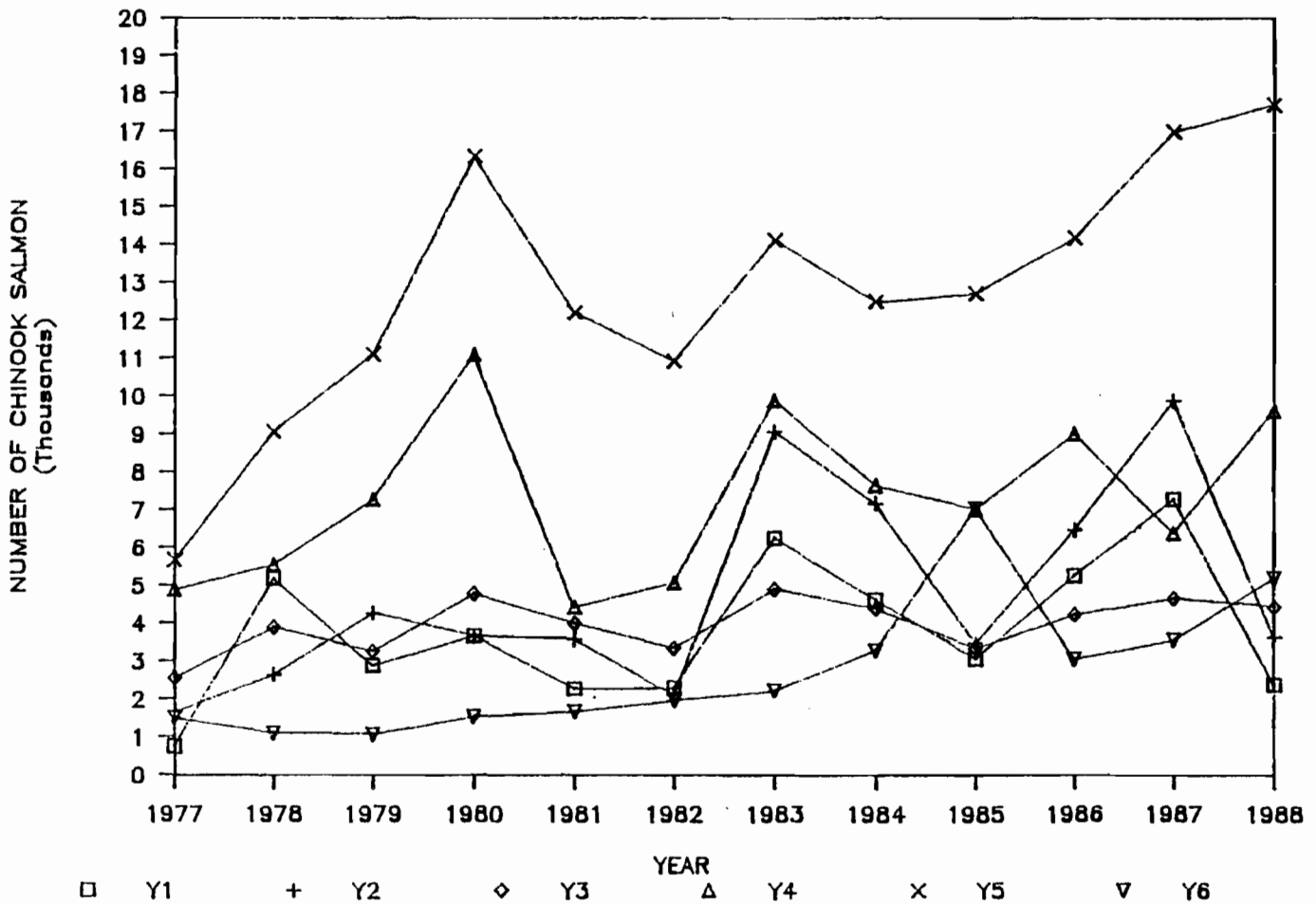


Fig. 11. Yukon River chinook salmon subsistence harvest in Alaska, by district, 1977-88.

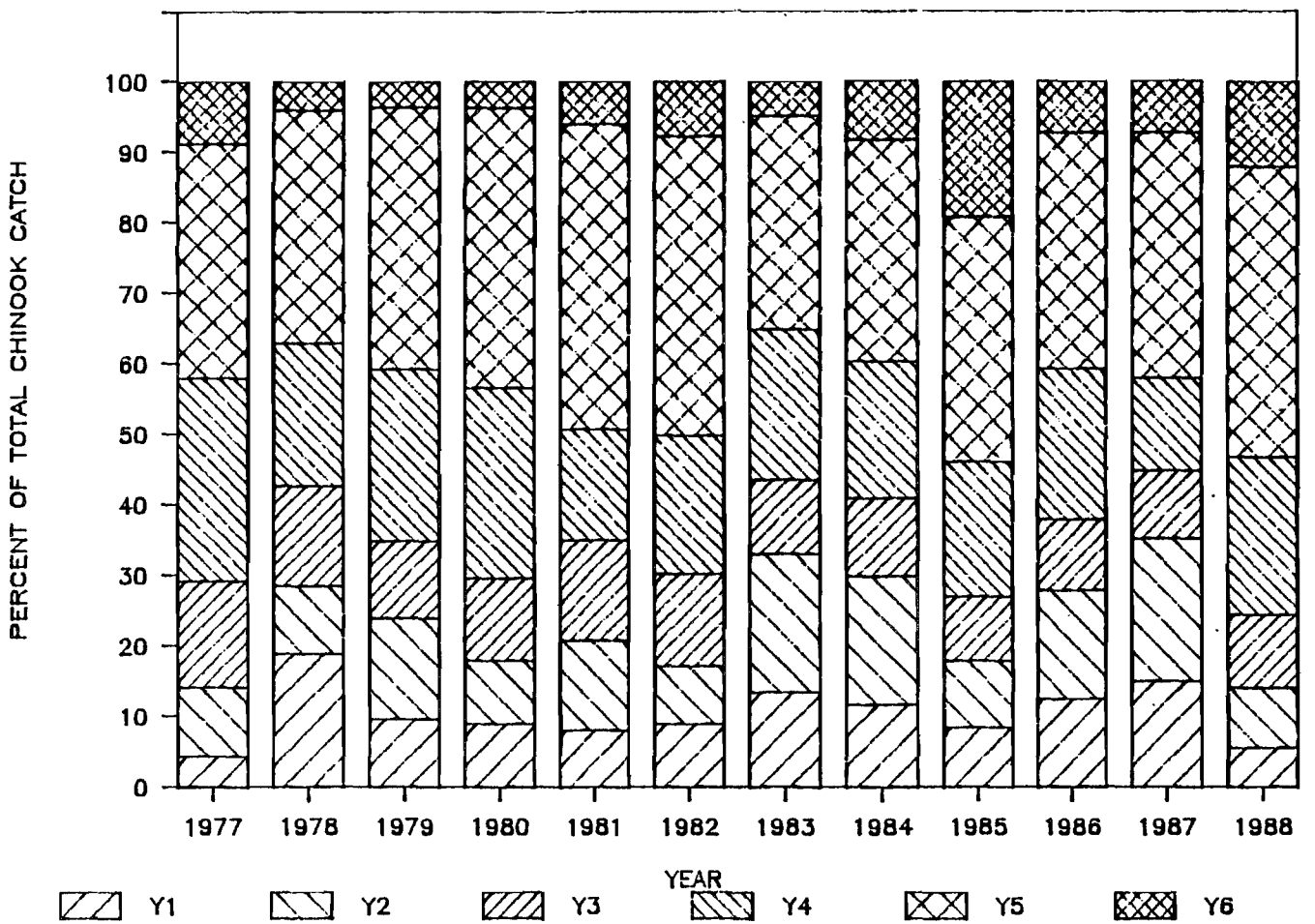


Fig. 12. Percentage of total Yukon River chinook salmon subsistence harvest in Alaska, by district, 1977-88.

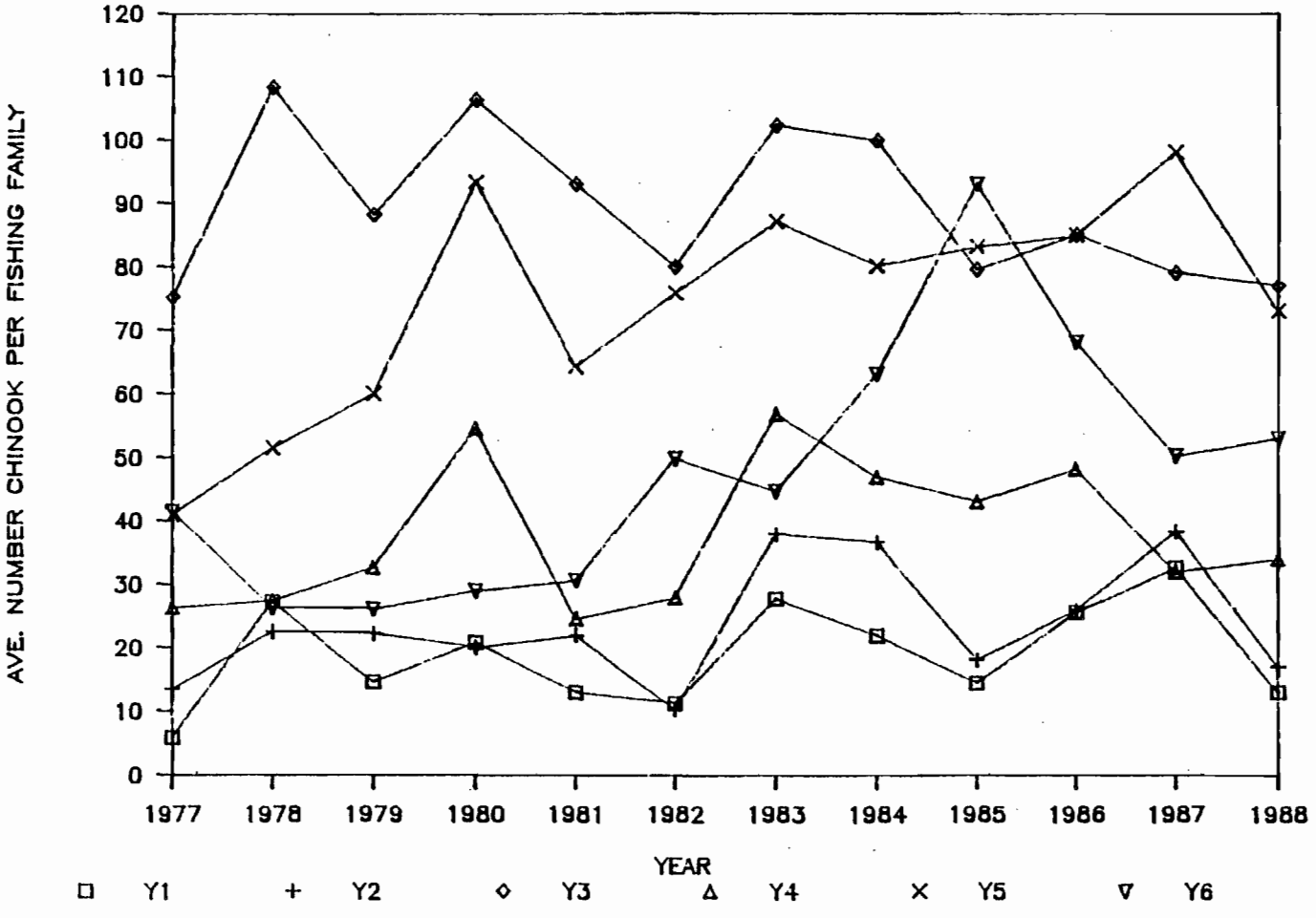


Fig. 13. Average Yukon River chinook salmon subsistence harvest per fishing family in Alaska, by district, 1977-88. (Data for 1988 are per fishing household.)

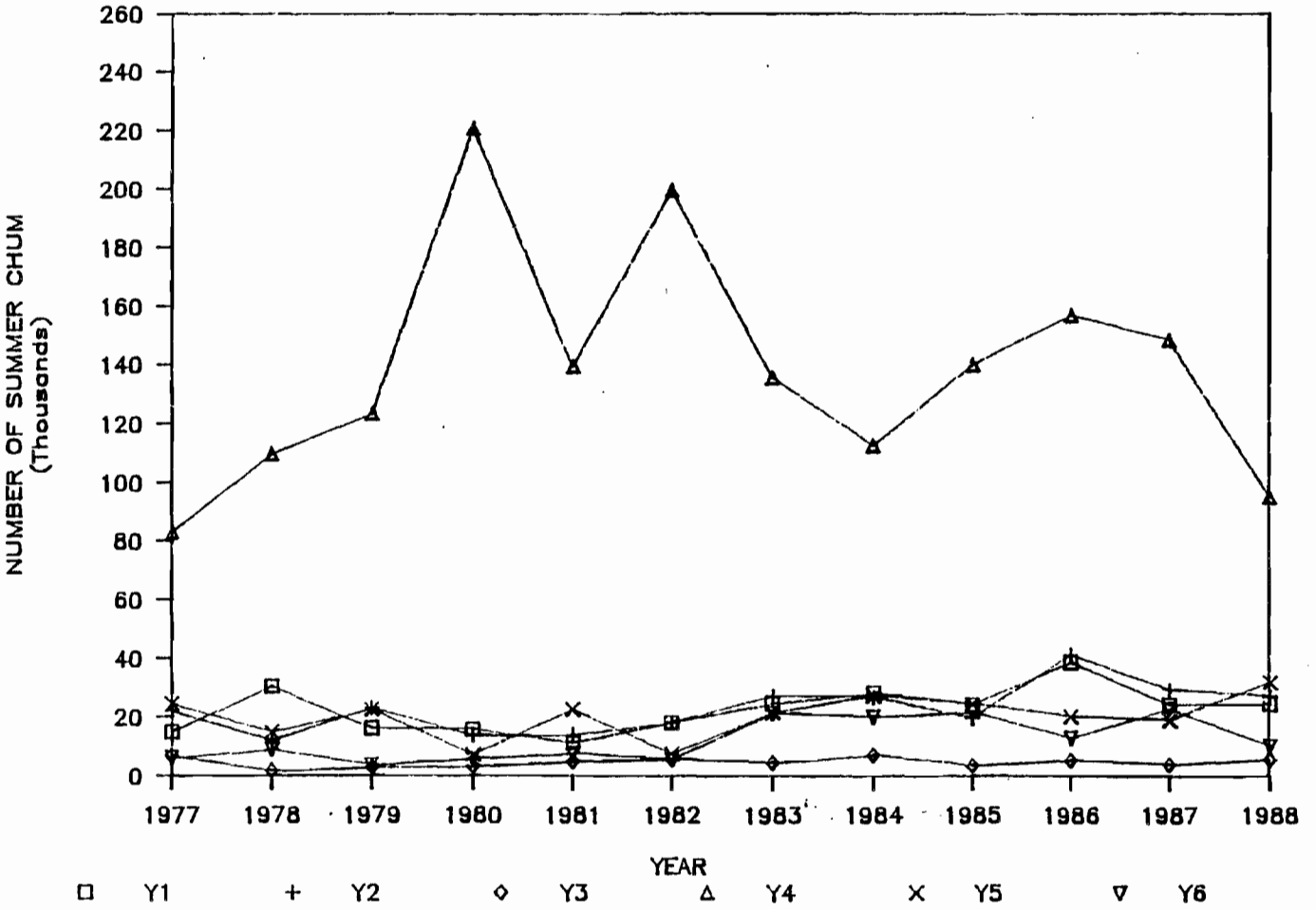


Fig. 14. Yukon River summer chum salmon subsistence harvest in Alaska, by district, 1977-88.

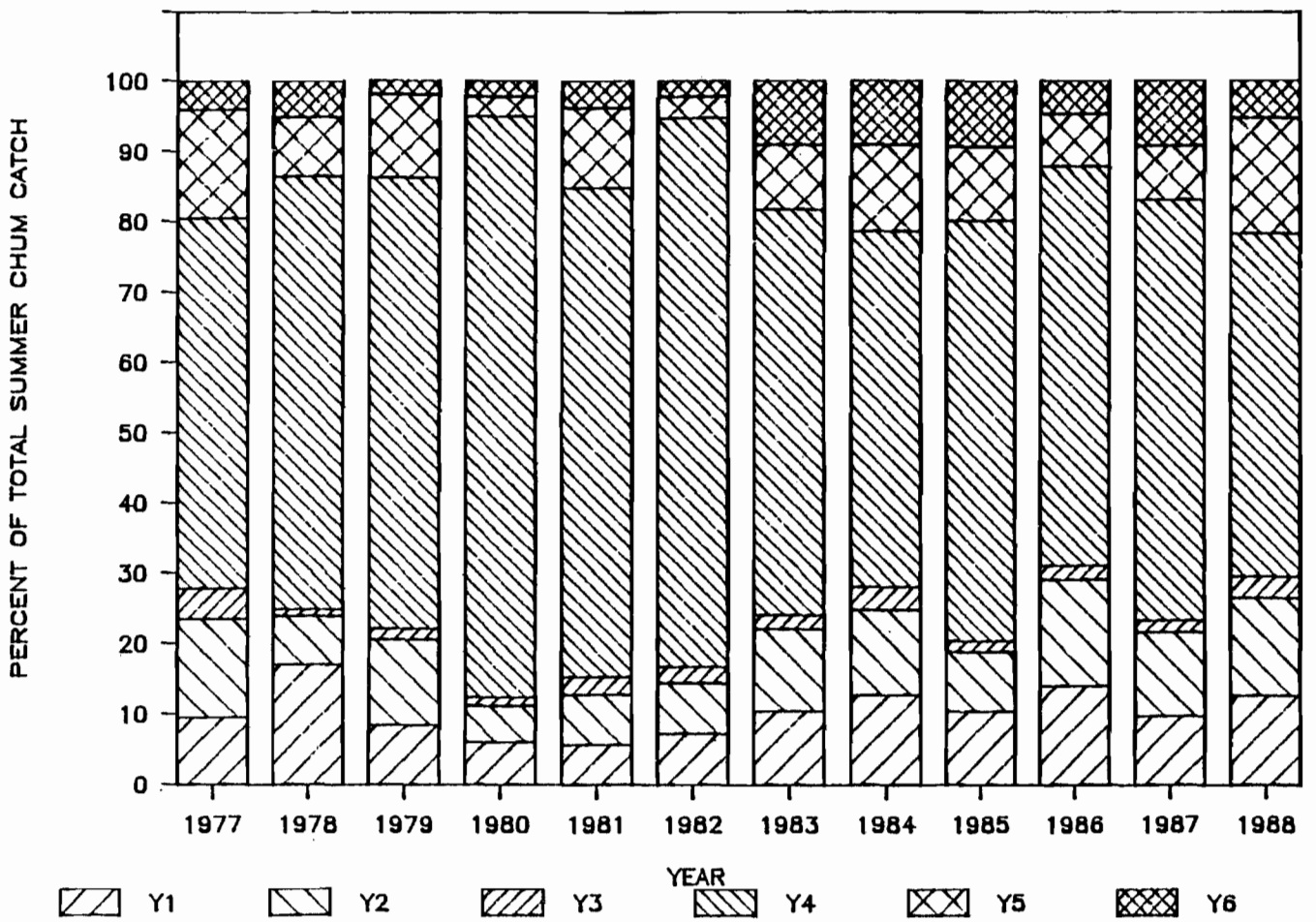


Fig. 15. Percentage of total Yukon River summer chum salmon subsistence harvest in Alaska, by district, 1977-88.

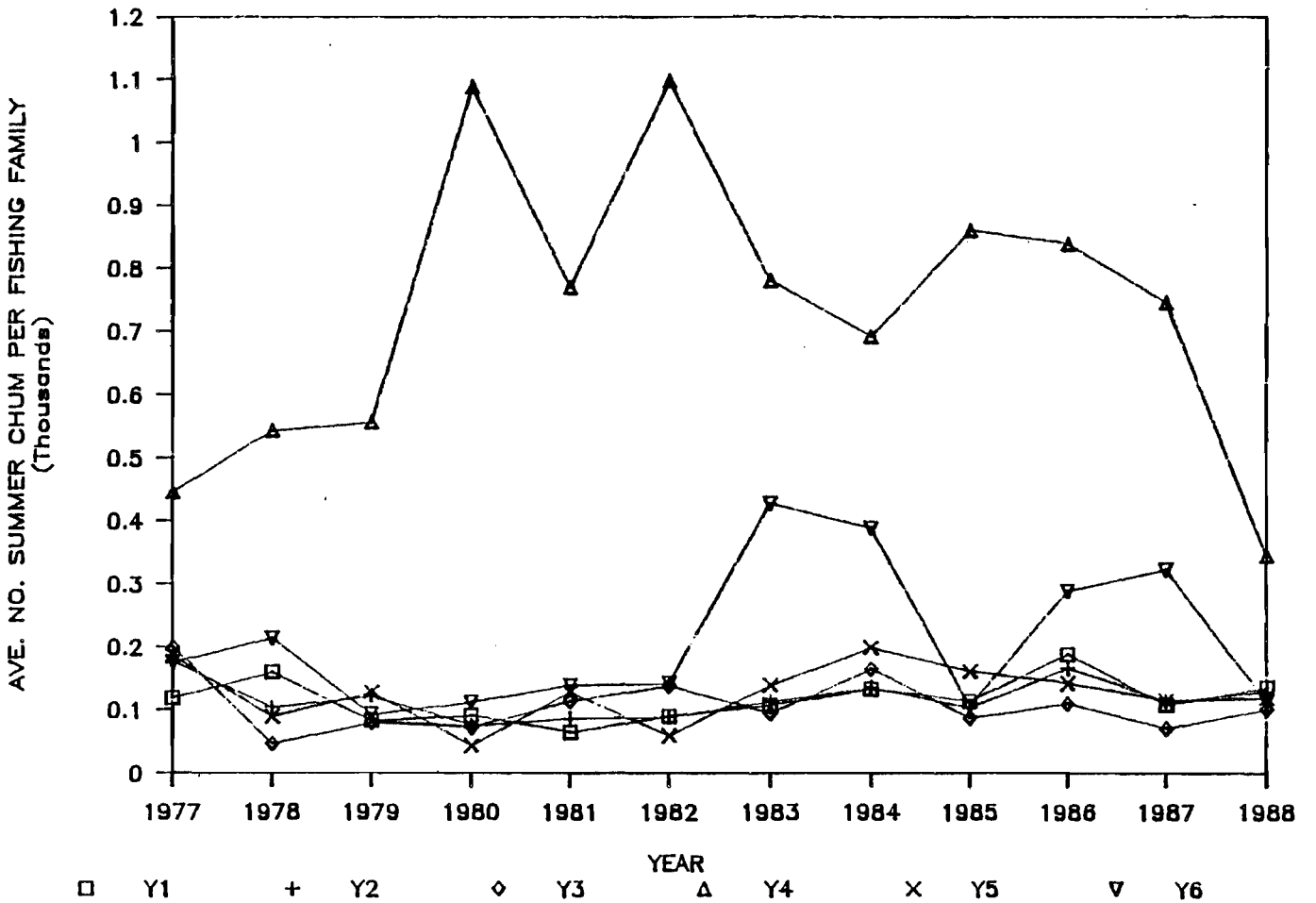


Fig. 16. Average Yukon River summer chum salmon subsistence harvest per fishing family in Alaska, by district, 1977-88. (Data for 1988 are per fishing household.)

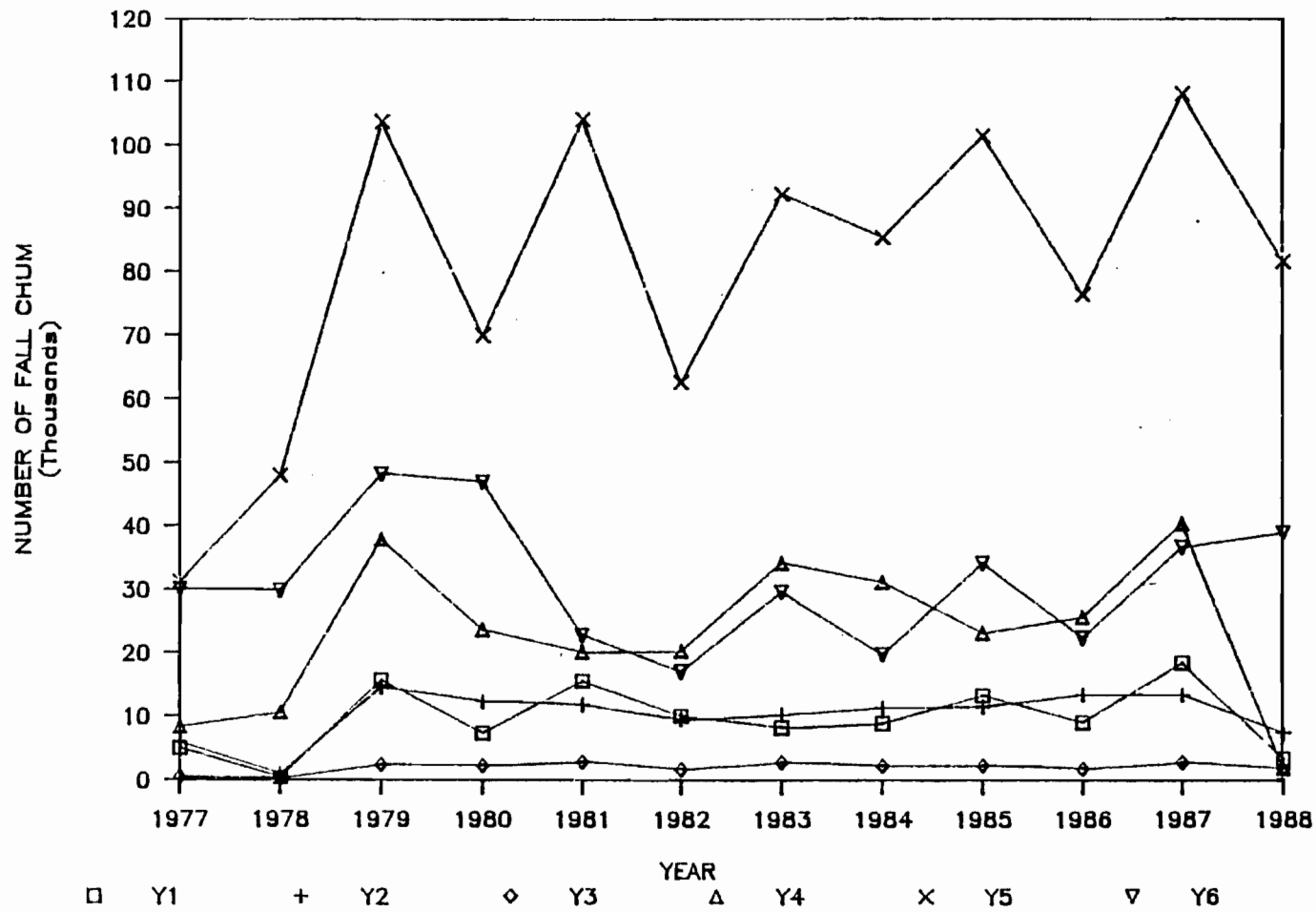


Fig. 17. Yukon River fall chum salmon subsistence harvest in Alaska, by district, 1977-88.

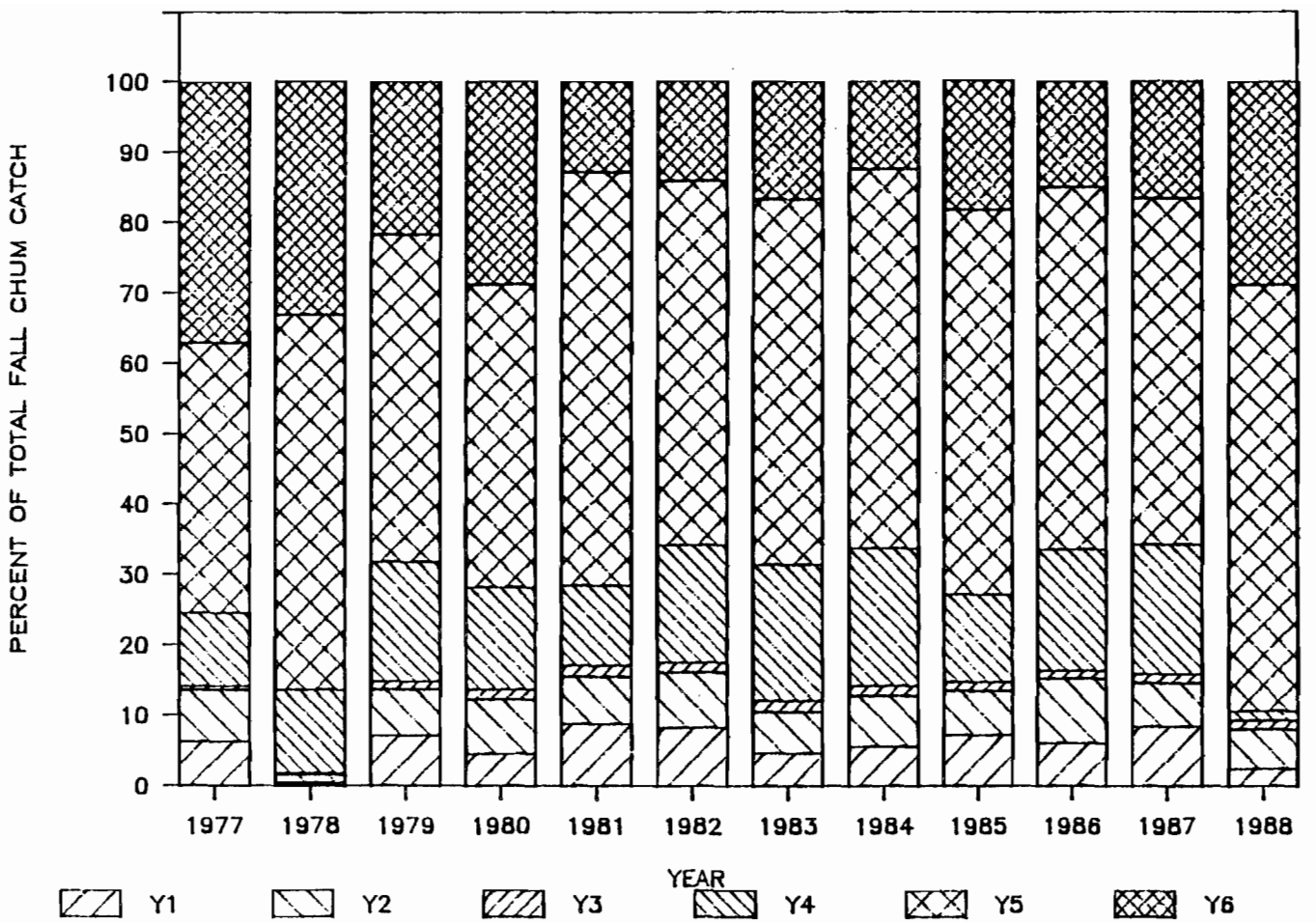


Fig. 18. Percentage of total Yukon River fall chum subsistence harvest in Alaska, by district, 1977-88.

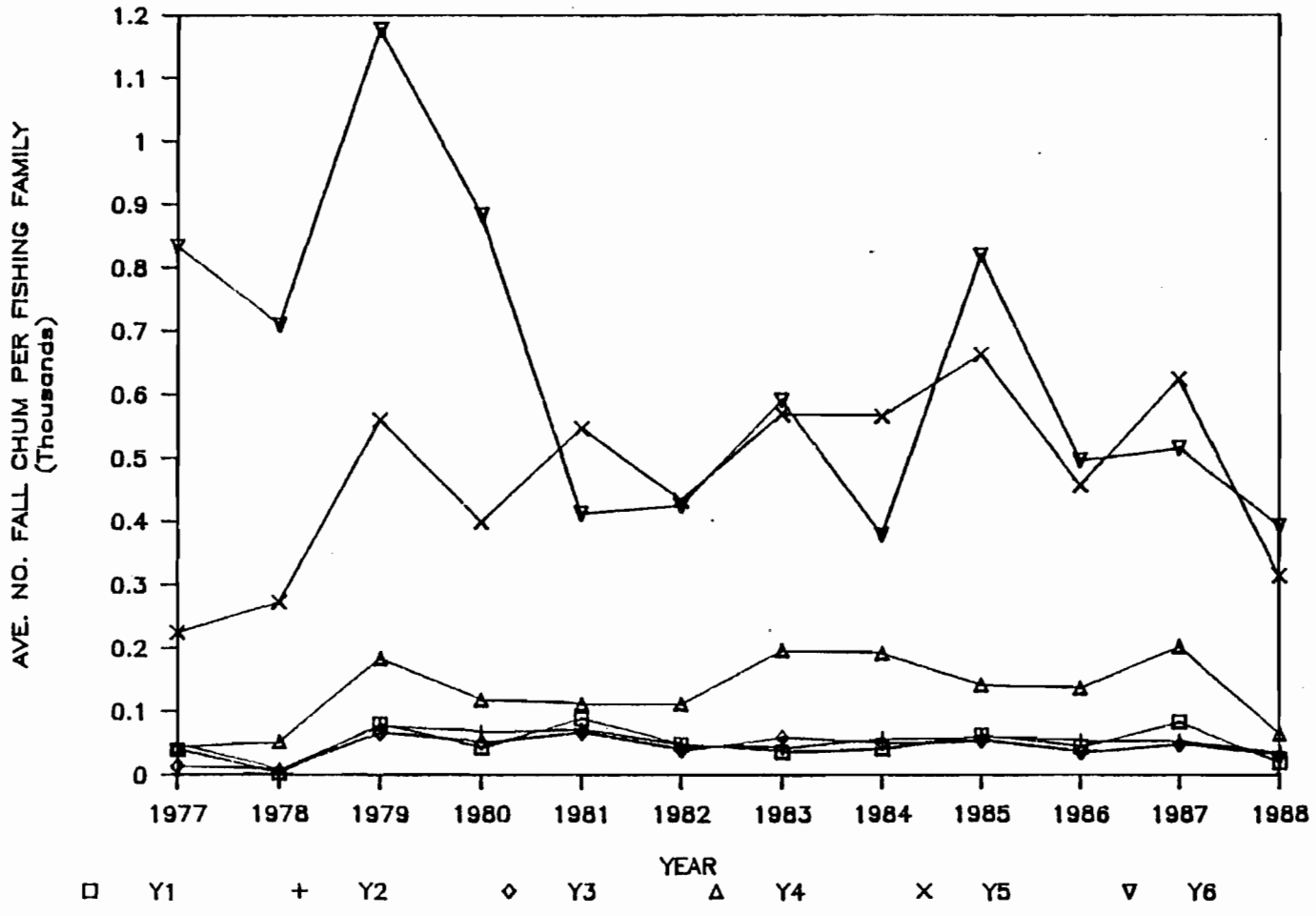


Fig. 19. Average Yukon River fall chum salmon subsistence harvest per fishing family in Alaska, by district, 1977-88. (Data for 1988 are per fishing household.)

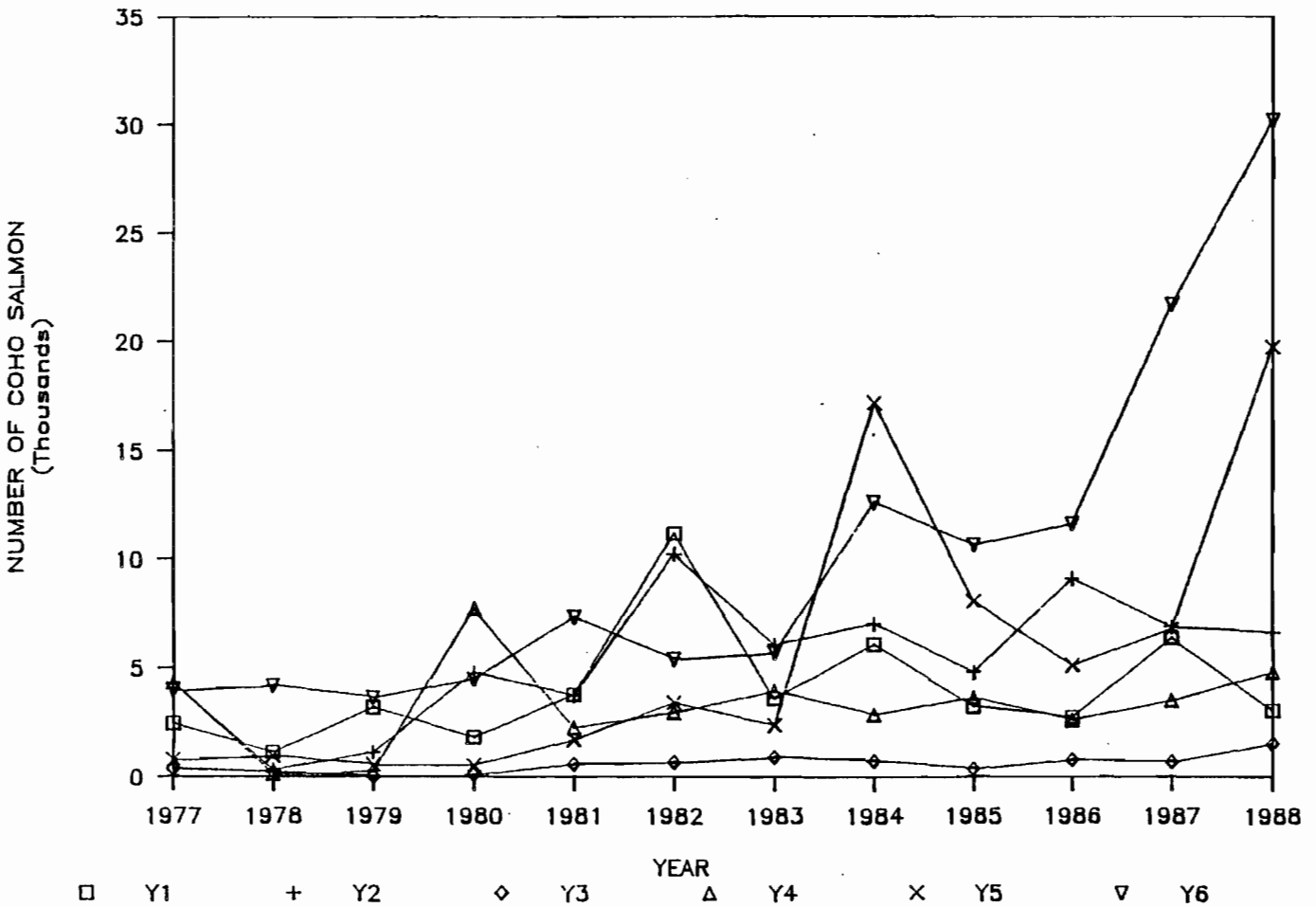


Fig. 20. Yukon River coho salmon subsistence harvest in Alaska, by district, 1977-88.

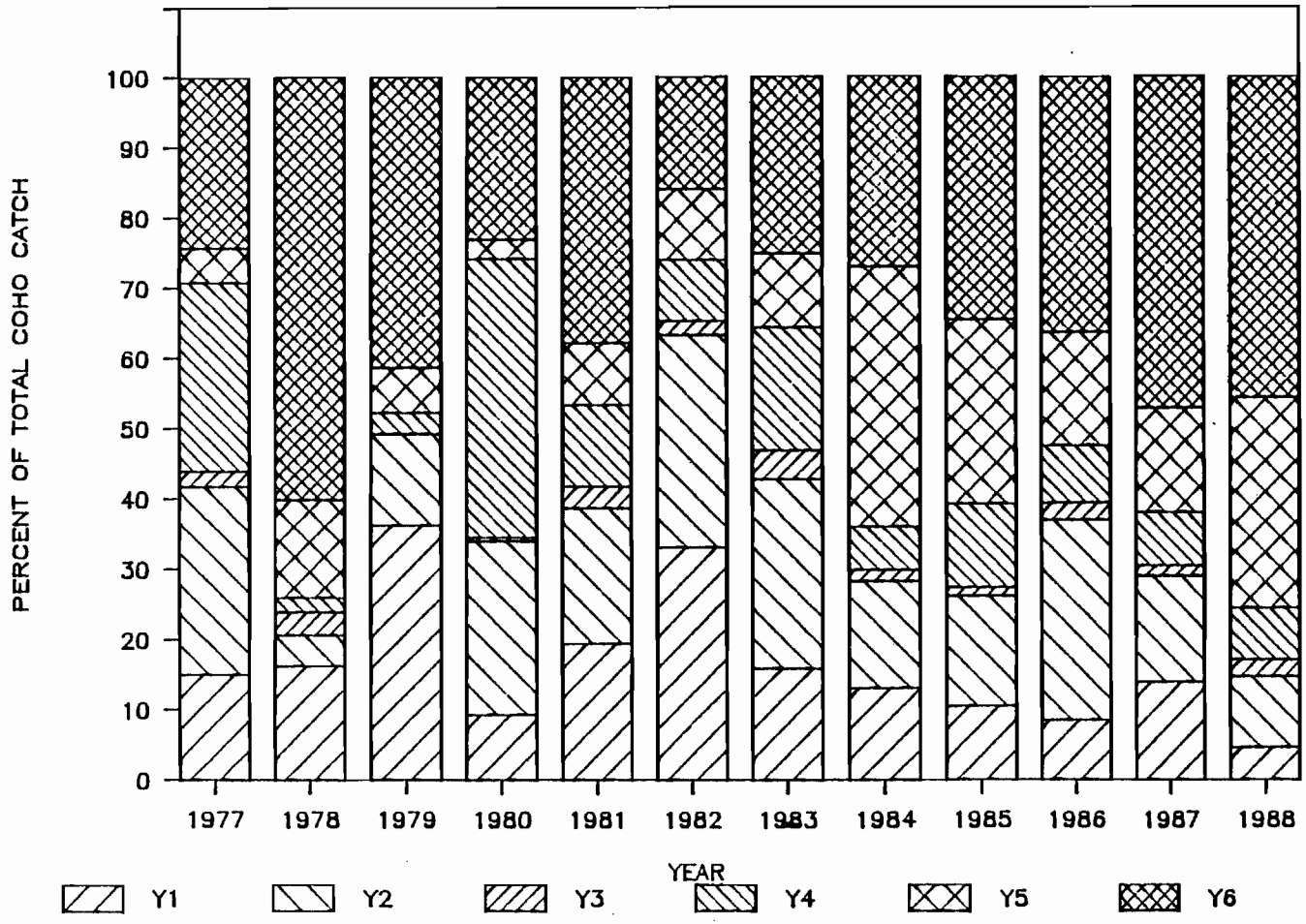


Fig. 21. Percentage of total Yukon River coho salmon subsistence harvest in Alaska, by district, 1977-88.

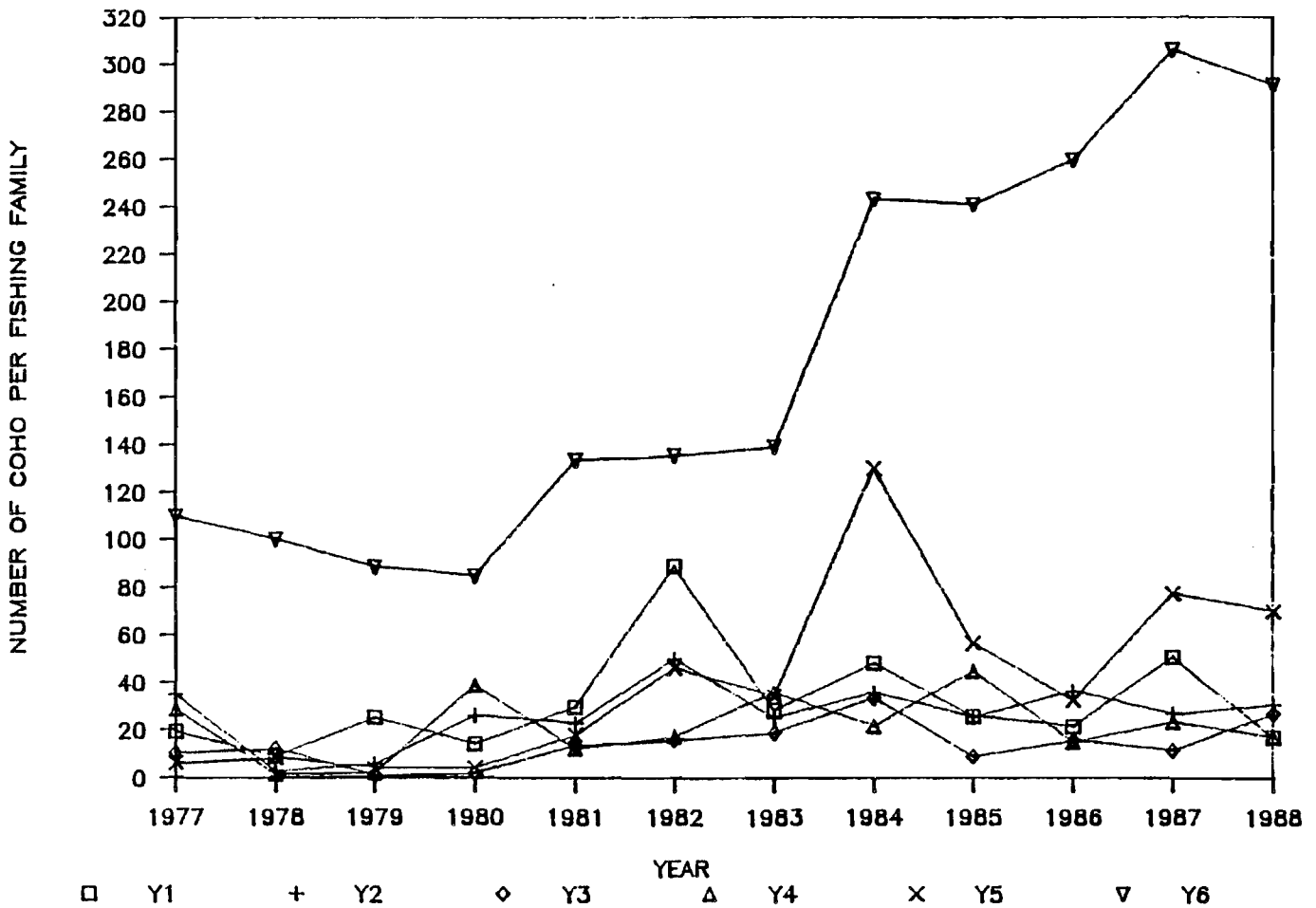


Fig. 22. Average Yukon River coho salmon subsistence harvest per fishing family in Alaska, by district, 1977-88. (Data for 1988 are per fishing household.)

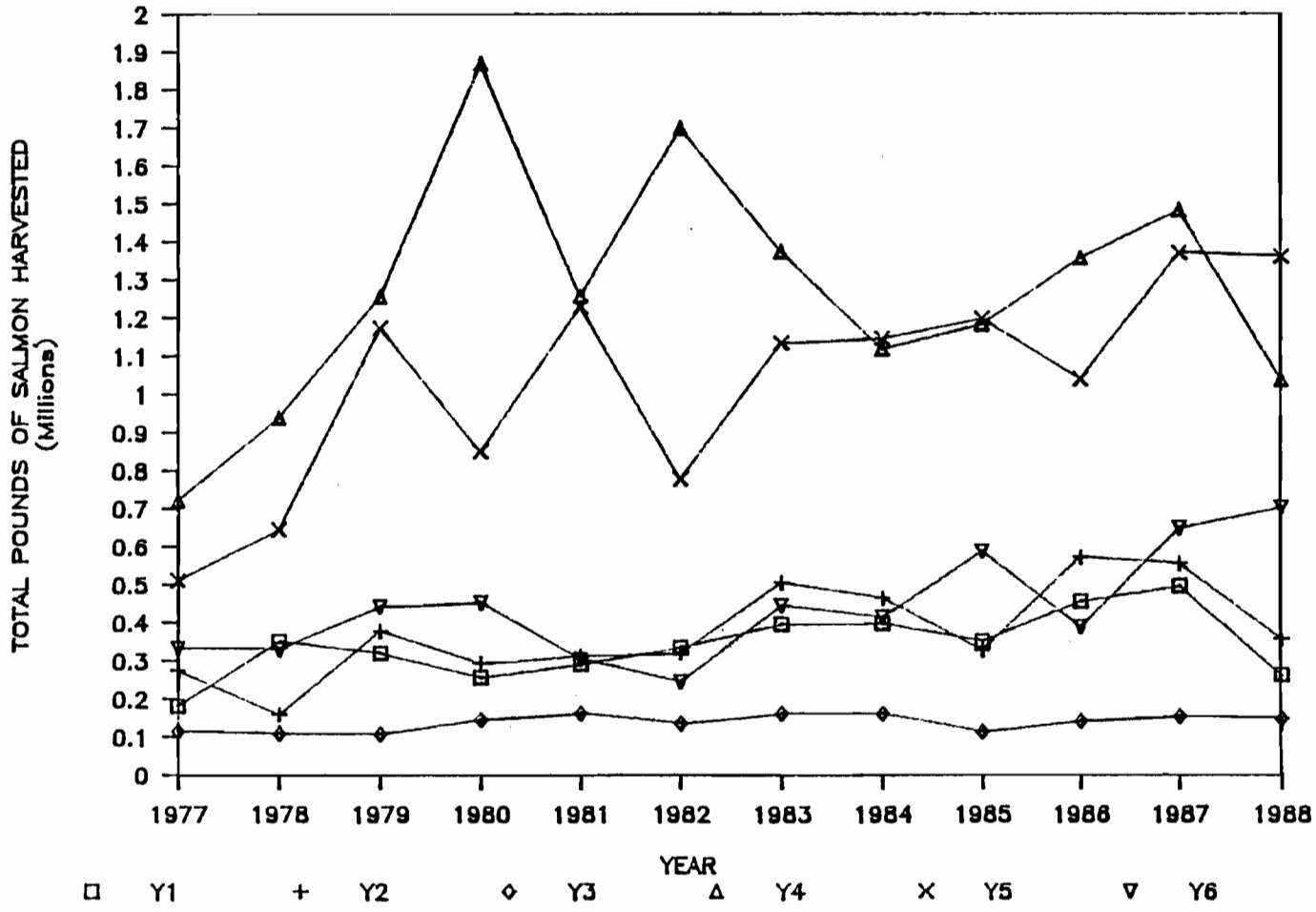


Fig. 23. Yukon River chinook, summer chum, fall chum, and coho salmon combined subsistence harvest in pounds round weight in Alaska, by district, 1977-88.

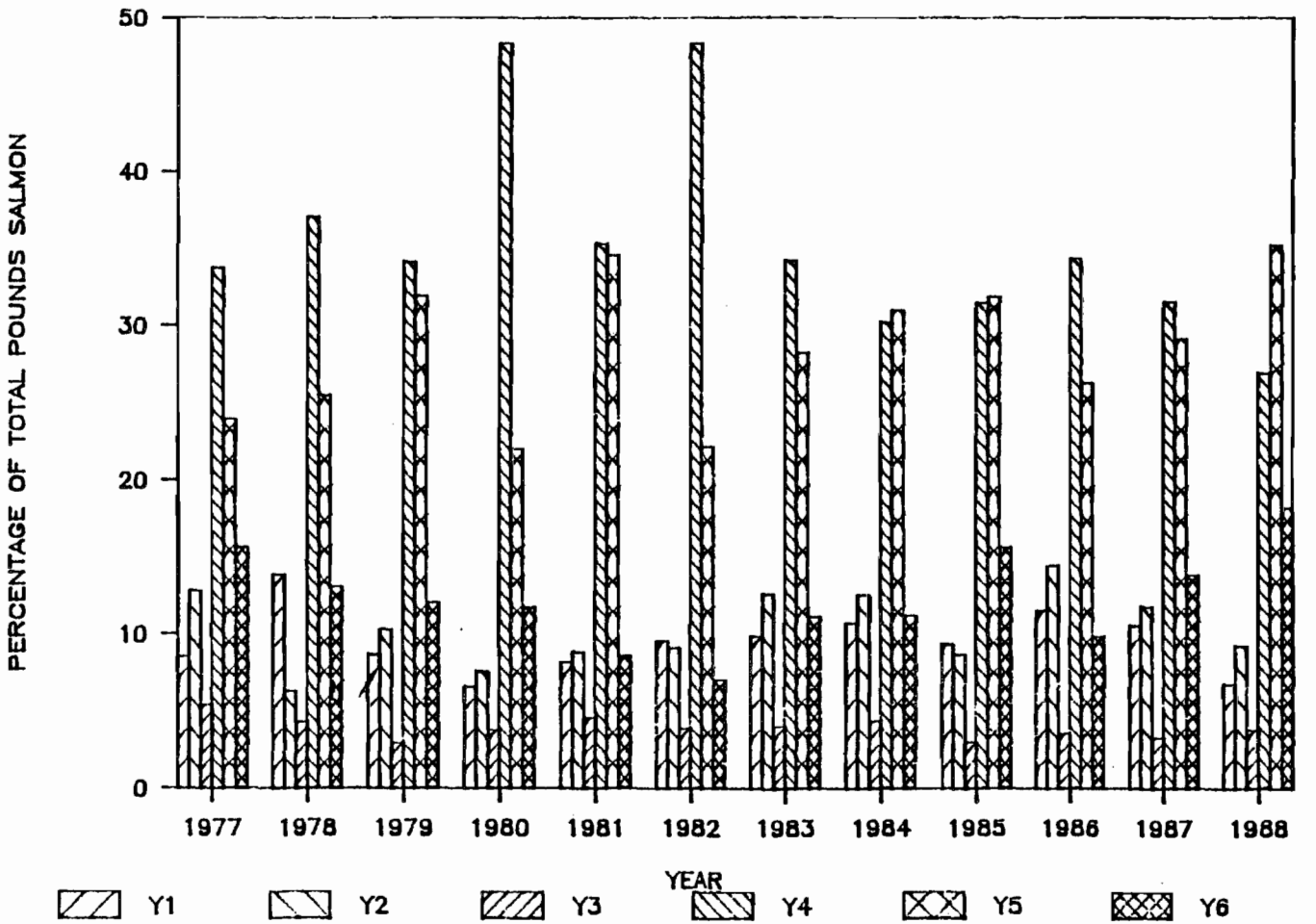


Fig. 24. Percentage of total Yukon River chinook, summer chum, fall chum, and coho salmon combined subsistence harvest in pounds round weight in Alaska, by district, 1977-88.

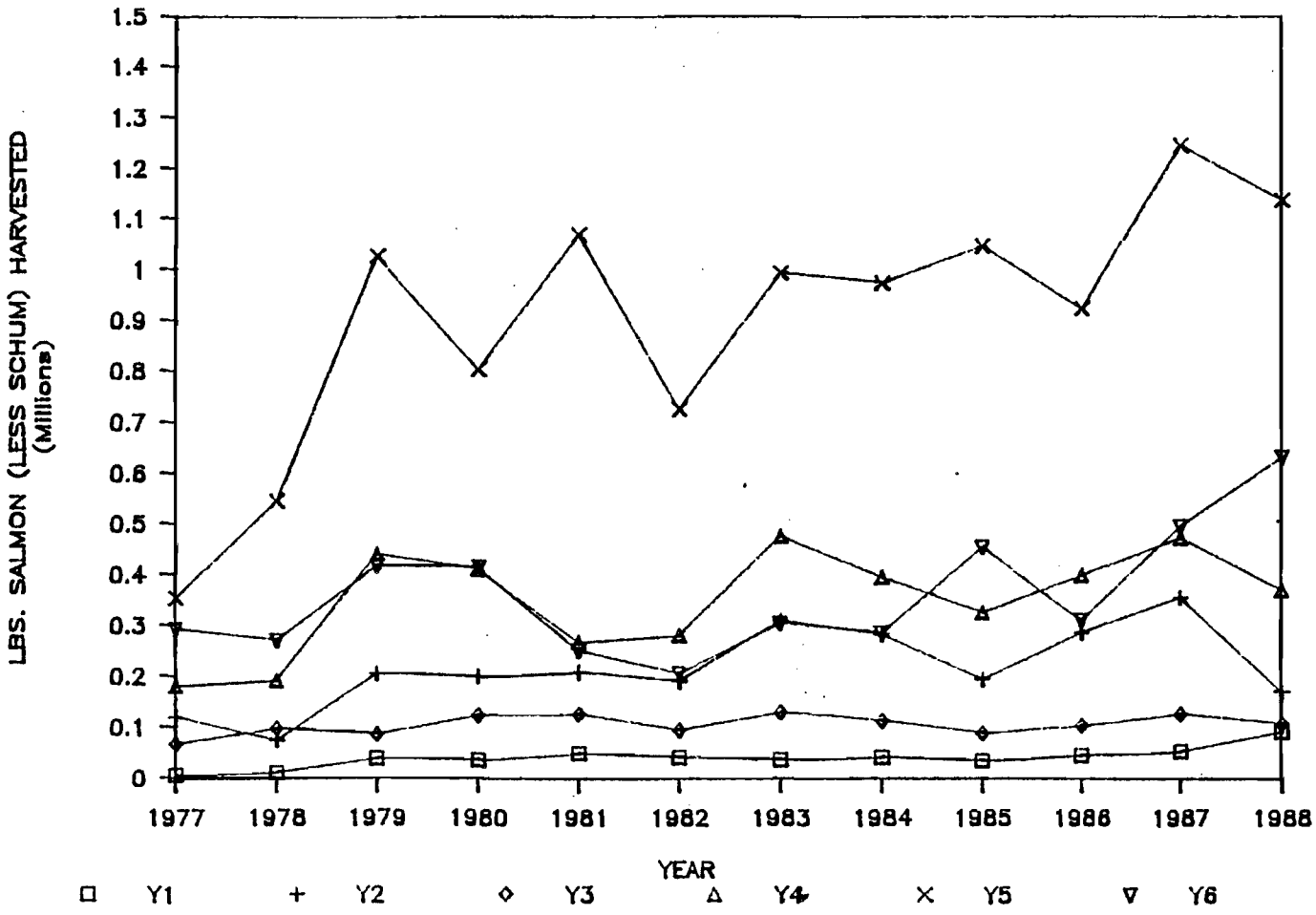


Fig. 25. Yukon River chinook, fall chum, and coho salmon combined subsistence harvest in pounds round weight in Alaska, by district, 1977-88.

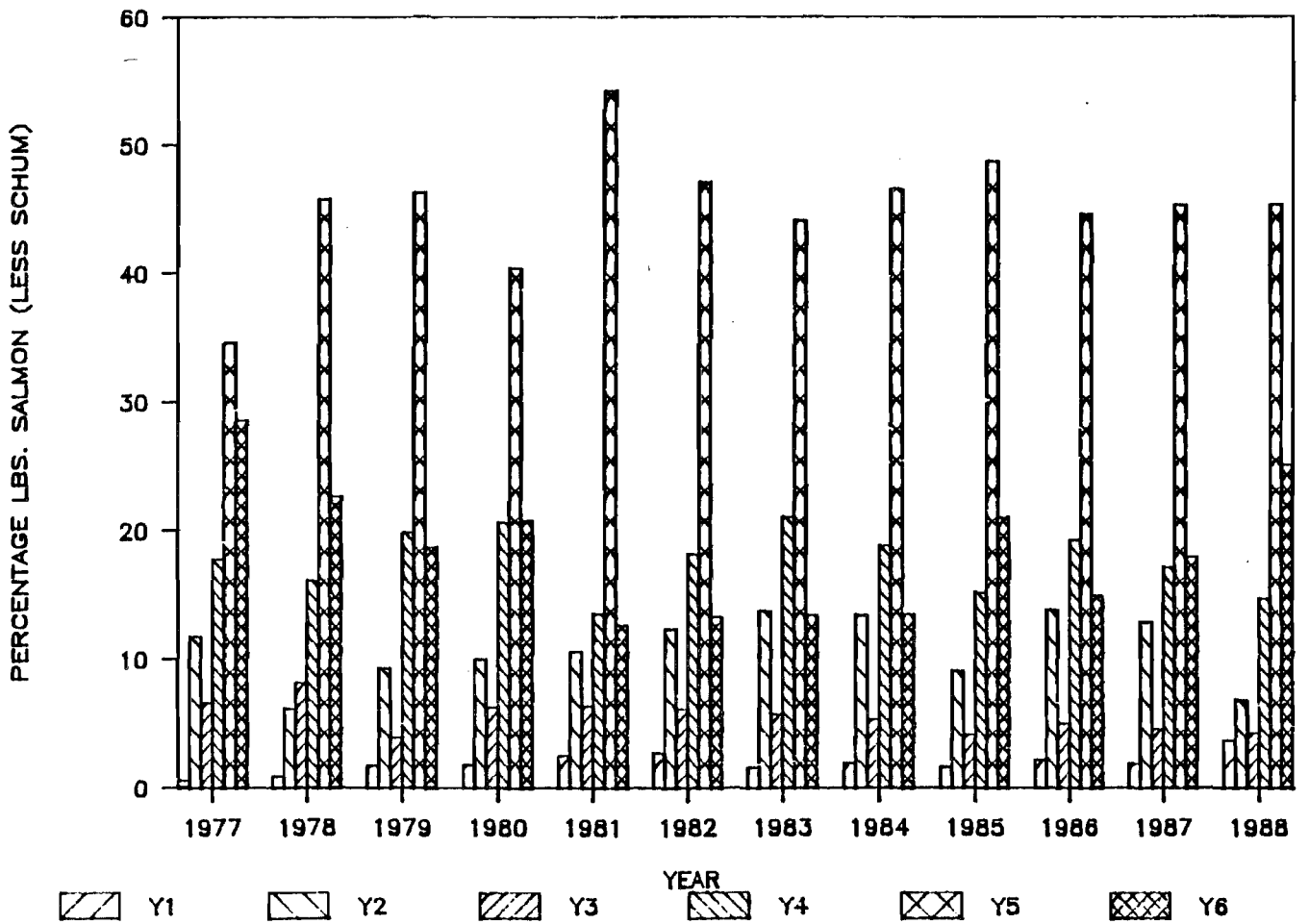


Fig. 26. Percentage of total Yukon River chinook, fall chum, and coho salmon combined subsistence harvest in pounds round weight in Alaska, by district, 1977-88.

APPENDIX 1.1. Example of lower Yukon River (fishing districts 1, 2, and 3) harvest calendar.

NAME

THANK YOU for filling out this catch calendar.

Please complete this if

1) You catch fish for your household or dogs

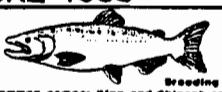
or 2) You catch fish for another household

PLEASE MARK IN THE NUMBER OR FISH CAUGHT EACH DAY BY ALL FISHERMEN IN YOUR HOUSE.

DO NOT MARK IN FISH YOU DID NOT CATCH OR WERE GIVEN TO YOU.

DO NOT MARK IN FISH THAT ARE SOLD.

JUNE 1988 SUBSISTENCE SALMON CALENDAR



Breeding male

Common names: King and Chinook salmon

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 KING ___ DOG ___ HUMPY ___	2 KING ___ DOG ___ HUMPY ___	3 KING ___ DOG ___ HUMPY ___	4 KING ___ DOG ___ HUMPY ___
5 KING ___ DOG ___ HUMPY ___	6 KING ___ DOG ___ HUMPY ___	7 KING ___ DOG ___ HUMPY ___	8 KING ___ DOG ___ HUMPY ___	9 KING ___ DOG ___ HUMPY ___	10 KING ___ DOG ___ HUMPY ___	11 KING ___ DOG ___ HUMPY ___
12 KING ___ DOG ___ HUMPY ___	13 KING ___ DOG ___ HUMPY ___	14 KING ___ DOG ___ HUMPY ___	15 KING ___ DOG ___ HUMPY ___	16 KING ___ DOG ___ HUMPY ___	17 KING ___ DOG ___ HUMPY ___	18 KING ___ DOG ___ HUMPY ___
19 KING ___ DOG ___ HUMPY ___	20 KING ___ DOG ___ HUMPY ___	21 KING ___ DOG ___ HUMPY ___	22 KING ___ DOG ___ HUMPY ___	23 KING ___ DOG ___ HUMPY ___	24 KING ___ DOG ___ HUMPY ___	25 KING ___ DOG ___ HUMPY ___
26 KING ___ DOG ___ HUMPY ___	27 KING ___ DOG ___ HUMPY ___	28 KING ___ DOG ___ HUMPY ___	29 KING ___ DOG ___ HUMPY ___	30 KING ___ DOG ___ HUMPY ___	Mature female King and Chinook salmon	

Summer Chum — Pink —

JULY 1988 SUBSISTENCE SALMON CALENDAR

Breeding male Mature female

Common names: Chum, Summer Chum, Dog salmon

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	2 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___
3 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	4 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	5 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	6 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	7 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	8 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	9 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___
10 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	11 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	12 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	13 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	14 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	15 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	16 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___
17 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	18 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	19 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	20 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	21 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	22 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	23 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___
24 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	25 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	26 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	27 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	28 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	29 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	30 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___
31 KING ___ DOG ___ FALL CHUM ___ SILVER ___ HUMPY ___	THANK YOU, AGAIN. This information is used to try to make sure there will be enough salmon for subsistence for Yukon River families.					

Summer Chum — Coho — Pink —

IF NOT PICKED UP BY SEPTEMBER 30:
PLEASE RETURN IN ENCLOSED ENVELOPE TO: Division of Subsistence
Alaska Department of Fish and Game
1300 College Rd.
Fairbanks, Alaska 99701

(reduced from original 11 x 17-inch size)

APPENDIX 1.1. continued

NAME

THANK YOU for filling out this catch calendar.

Please complete this if

1) You catch fish for your household or dogs

or 2) You catch fish for another household

PLEASE MARK IN THE NUMBER OR FISH CAUGHT EACH DAY BY ALL FISHERMEN IN YOUR HOUSE.

DO NOT MARK IN FISH YOU DID NOT CATCH OR WERE GIVEN TO YOU.

DO NOT MARK IN FISH THAT ARE SOLD.

AUGUST 1988 SUBSISTENCE SALMON CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 FALL CHUM ___ SILVER ___	2 FALL CHUM ___ SILVER ___	3 FALL CHUM ___ SILVER ___	4 FALL CHUM ___ SILVER ___	5 FALL CHUM ___ SILVER ___	6 FALL CHUM ___ SILVER ___
7 FALL CHUM ___ Coho = SILVER ___	8 FALL CHUM ___ SILVER ___	9 FALL CHUM ___ SILVER ___	10 FALL CHUM ___ SILVER ___	11 FALL CHUM ___ SILVER ___	12 FALL CHUM ___ SILVER ___	13 FALL CHUM ___ SILVER ___
14 FALL CHUM ___ SILVER ___	15 FALL CHUM ___ SILVER ___	16 FALL CHUM ___ SILVER ___	17 FALL CHUM ___ SILVER ___	18 FALL CHUM ___ SILVER ___	19 FALL CHUM ___ SILVER ___	20 FALL CHUM ___ SILVER ___
21 FALL CHUM ___ SILVER ___	22 FALL CHUM ___ SILVER ___	23 FALL CHUM ___ SILVER ___	24 FALL CHUM ___ SILVER ___	25 FALL CHUM ___ SILVER ___	26 FALL CHUM ___ SILVER ___	27 FALL CHUM ___ SILVER ___
28 FALL CHUM ___ SILVER ___	29 FALL CHUM ___ SILVER ___	30 FALL CHUM ___ SILVER ___	31 FALL CHUM ___ SILVER ___	Breeding male Common names: Silver and Coho salmon		

SEPTEMBER 1988 SUBSISTENCE SALMON CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 FALL CHUM ___ SILVER ___	2 FALL CHUM ___ SILVER ___	3 FALL CHUM ___ SILVER ___
4 FALL CHUM ___ Coho = SILVER ___	5 FALL CHUM ___ SILVER ___	6 FALL CHUM ___ SILVER ___	7 FALL CHUM ___ SILVER ___	8 FALL CHUM ___ SILVER ___	9 FALL CHUM ___ SILVER ___	10 FALL CHUM ___ SILVER ___
11 FALL CHUM ___ SILVER ___	12 FALL CHUM ___ SILVER ___	13 FALL CHUM ___ SILVER ___	14 FALL CHUM ___ SILVER ___	15 FALL CHUM ___ SILVER ___	16 FALL CHUM ___ SILVER ___	17 FALL CHUM ___ SILVER ___
18 FALL CHUM ___ SILVER ___	19 FALL CHUM ___ SILVER ___	20 FALL CHUM ___ SILVER ___	21 FALL CHUM ___ SILVER ___	22 FALL CHUM ___ SILVER ___	23 FALL CHUM ___ SILVER ___	24 FALL CHUM ___ SILVER ___
25 FALL CHUM ___ SILVER ___	26 FALL CHUM ___ SILVER ___	27 FALL CHUM ___ SILVER ___	28 FALL CHUM ___ SILVER ___	29 FALL CHUM ___ SILVER ___	30 FALL CHUM ___ SILVER ___	

IF NOT PICKED UP BY SEPTEMBER 30;
PLEASE RETURN IN ENCLOSED ENVELOPE TO: Division of Subsistence
Alaska Department of Fish and Game
1300 College Rd.
Fairbanks, Alaska 99701

THANK YOU, AGAIN.

This information is used to try to make sure there will be enough salmon for subsistence for Yukon River families.

(reduced from original 11 x 17-inch size)

APPENDIX 1.2. Example of middle Yukon River (fishing district 4, Koyukuk River) harvest calendar.

NAME

THANK YOU for filling out this catch calendar.

Please complete this if

1) You catch fish for your household or dogs

or 2) You catch fish for another household

PLEASE MARK IN THE NUMBER OF FISH CAUGHT EACH DAY BY ALL FISHERMEN IN YOUR HOUSE.

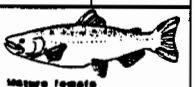
DO NOT MARK IN FISH YOU DID NOT CATCH OR WERE GIVEN TO YOU.

DO NOT MARK IN FISH THAT ARE SOLD.

JUNE 1988 SUBSISTENCE SALMON CALENDAR

Breeding male

Common names: King and Chinook salmon

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 KING DOG HUMPY	2 KING DOG HUMPY	3 KING DOG HUMPY	4 KING DOG HUMPY
5 KING DOG HUMPY	6 KING DOG HUMPY	7 KING DOG HUMPY	8 KING DOG HUMPY	9 KING DOG HUMPY	10 KING DOG HUMPY	11 KING DOG HUMPY
12 KING DOG HUMPY	13 KING DOG HUMPY	14 KING DOG HUMPY	15 KING DOG HUMPY	16 KING DOG HUMPY	17 KING DOG HUMPY	18 KING DOG HUMPY
19 KING DOG HUMPY	20 KING DOG HUMPY	21 KING DOG HUMPY	22 KING DOG HUMPY	23 KING DOG HUMPY	24 KING DOG HUMPY	25 KING DOG HUMPY
26 KING DOG HUMPY	27 KING DOG HUMPY	28 KING DOG HUMPY	29 KING DOG HUMPY	30 KING DOG HUMPY	 Mature female King and Chinook salmon	

Summer Chum =
Pink =

JULY 1988 SUBSISTENCE SALMON CALENDAR

Breeding male

Mature female

Common names: Chum, Summer Chum, Dog salmon

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 KING DOG FALL CHUM SILVER HUMPY	2 KING DOG FALL CHUM SILVER HUMPY
3 KING DOG FALL CHUM SILVER HUMPY	4 KING DOG FALL CHUM SILVER HUMPY	5 KING DOG FALL CHUM SILVER HUMPY	6 KING DOG FALL CHUM SILVER HUMPY	7 KING DOG FALL CHUM SILVER HUMPY	8 KING DOG FALL CHUM SILVER HUMPY	9 KING DOG FALL CHUM SILVER HUMPY
10 KING DOG FALL CHUM SILVER HUMPY	11 KING DOG FALL CHUM SILVER HUMPY	12 KING DOG FALL CHUM SILVER HUMPY	13 KING DOG FALL CHUM SILVER HUMPY	14 KING DOG FALL CHUM SILVER HUMPY	15 KING DOG FALL CHUM SILVER HUMPY	16 KING DOG FALL CHUM SILVER HUMPY
17 KING DOG FALL CHUM SILVER HUMPY	18 KING DOG FALL CHUM SILVER HUMPY	19 KING DOG FALL CHUM SILVER HUMPY	20 KING DOG FALL CHUM SILVER HUMPY	21 KING DOG FALL CHUM SILVER HUMPY	22 KING DOG FALL CHUM SILVER HUMPY	23 KING DOG FALL CHUM SILVER HUMPY
24 KING DOG FALL CHUM SILVER HUMPY	25 KING DOG FALL CHUM SILVER HUMPY	26 KING DOG FALL CHUM SILVER HUMPY	27 KING DOG FALL CHUM SILVER HUMPY	28 KING DOG FALL CHUM SILVER HUMPY	29 KING DOG FALL CHUM SILVER HUMPY	30 KING DOG FALL CHUM SILVER HUMPY
31 KING DOG FALL CHUM SILVER HUMPY	THANK YOU, AGAIN. This information is used to try to make sure there will be enough salmon for subsistence for Yukon River families.					

Summer Chum =
Coho =
Pink =

IF NOT PICKED UP BY SEPTEMBER 30:
PLEASE RETURN IN ENCLOSED ENVELOPE TO: Division of Subsistence
Alaska Department of Fish and Game
1300 College Rd.
Fairbanks, Alaska 99701

(reduced from original 11 x 17-inch size)

APPENDIX 1.2. continued

NAME

THANK YOU for filling out this catch calendar.

Please complete this if

1) You catch fish for your household or dogs

or 2) You catch fish for another household

PLEASE MARK IN THE NUMBER OF FISH CAUGHT EACH DAY BY ALL FISHERMEN IN YOUR HOUSE.

DO NOT MARK IN FISH YOU DID NOT CATCH OR WERE GIVEN TO YOU.

DO NOT MARK IN FISH THAT ARE SOLD.

AUGUST 1988 SUBSISTENCE SALMON CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 FALL CHUM ___ SILVER ___	2 FALL CHUM ___ SILVER ___	3 FALL CHUM ___ SILVER ___	4 FALL CHUM ___ SILVER ___	5 FALL CHUM ___ SILVER ___	6 FALL CHUM ___ SILVER ___
7 FALL CHUM ___ SILVER ___	8 FALL CHUM ___ SILVER ___	9 FALL CHUM ___ SILVER ___	10 FALL CHUM ___ SILVER ___	11 FALL CHUM ___ SILVER ___	12 FALL CHUM ___ SILVER ___	13 FALL CHUM ___ SILVER ___
14 FALL CHUM ___ SILVER ___	15 FALL CHUM ___ SILVER ___	16 FALL CHUM ___ SILVER ___	17 FALL CHUM ___ SILVER ___	18 FALL CHUM ___ SILVER ___	19 FALL CHUM ___ SILVER ___	20 FALL CHUM ___ SILVER ___
21 FALL CHUM ___ SILVER ___	22 FALL CHUM ___ SILVER ___	23 FALL CHUM ___ SILVER ___	24 FALL CHUM ___ SILVER ___	25 FALL CHUM ___ SILVER ___	26 FALL CHUM ___ SILVER ___	27 FALL CHUM ___ SILVER ___
28 FALL CHUM ___ SILVER ___	29 FALL CHUM ___ SILVER ___	30 FALL CHUM ___ SILVER ___	31 FALL CHUM ___ SILVER ___			

Coho =

Spawning male
Common names: Silver and Coho salmon

SEPTEMBER 1988 SUBSISTENCE SALMON CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 FALL CHUM ___ SILVER ___	2 FALL CHUM ___ SILVER ___	3 FALL CHUM ___ SILVER ___
4 FALL CHUM ___ SILVER ___	5 FALL CHUM ___ SILVER ___	6 FALL CHUM ___ SILVER ___	7 FALL CHUM ___ SILVER ___	8 FALL CHUM ___ SILVER ___	9 FALL CHUM ___ SILVER ___	10 FALL CHUM ___ SILVER ___
11 FALL CHUM ___ SILVER ___	12 FALL CHUM ___ SILVER ___	13 FALL CHUM ___ SILVER ___	14 FALL CHUM ___ SILVER ___	15 FALL CHUM ___ SILVER ___	16 FALL CHUM ___ SILVER ___	17 FALL CHUM ___ SILVER ___
18 FALL CHUM ___ SILVER ___	19 FALL CHUM ___ SILVER ___	20 FALL CHUM ___ SILVER ___	21 FALL CHUM ___ SILVER ___	22 FALL CHUM ___ SILVER ___	23 FALL CHUM ___ SILVER ___	24 FALL CHUM ___ SILVER ___
25 FALL CHUM ___ SILVER ___	26 FALL CHUM ___ SILVER ___	27 FALL CHUM ___ SILVER ___	28 FALL CHUM ___ SILVER ___	29 FALL CHUM ___ SILVER ___	30 FALL CHUM ___ SILVER ___	

Coho =

IF NOT PICKED UP BY SEPTEMBER 30:
PLEASE RETURN IN ENCLOSED ENVELOPE TO:
Division of Subsistence
Alaska Department of Fish and Game
1300 College Rd.
Fairbanks, Alaska 99701

THANK YOU, AGAIN.

This information is used to try to make sure there will be enough salmon for subsistence for Yukon River families.

(reduced from original 11 x 17-inch size)

APPENDIX 1.3. Example of upper Yukon River (fishing districts 5, 6, Chandalar River and Black River) harvest calendar.

NAME

THANK YOU for filling out this catch calendar.

Please complete this if

1) You catch fish for your household or dogs

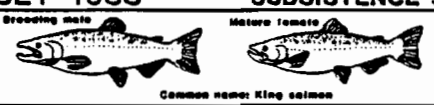
or 2) You catch fish for another household

PLEASE MARK IN THE NUMBER OR FISH CAUGHT EACH DAY BY ALL FISHERMEN IN YOUR HOUSE.

DO NOT MARK IN FISH YOU DID NOT CATCH OR WERE GIVEN TO YOU.

DO NOT MARK IN FISH THAT ARE SOLD.

JULY 1988 SUBSISTENCE SALMON CALENDAR



Common name: King salmon

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 KING DOG SILVER	2 KING DOG SILVER
	3 KING DOG SILVER	4 KING DOG SILVER	5 KING DOG SILVER	6 KING DOG SILVER	7 KING DOG SILVER	8 KING DOG SILVER	9 KING DOG SILVER
Summer Chum Fall Chum	10 KING DOG SILVER	11 KING DOG SILVER	12 KING DOG SILVER	13 KING DOG SILVER	14 KING DOG SILVER	15 KING DOG SILVER	16 KING DOG SILVER
	17 KING DOG SILVER	18 KING DOG SILVER	19 KING DOG SILVER	20 KING DOG SILVER	21 KING DOG SILVER	22 KING DOG SILVER	23 KING DOG SILVER
	24 KING DOG SILVER	25 KING DOG SILVER	26 KING DOG SILVER	27 KING DOG SILVER	28 KING DOG SILVER	29 KING DOG SILVER	30 KING DOG SILVER
	31 KING DOG SILVER	THANK YOU, AGAIN. This information is used to try to make sure there will be enough salmon for subsistence for Yukon River families.					

AUGUST 1988 SUBSISTENCE SALMON CALENDAR

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 KING DOG SILVER COHO ("Chinook")	2 KING DOG SILVER COHO ("Chinook")	3 KING DOG SILVER COHO ("Chinook")	4 KING DOG SILVER COHO ("Chinook")	5 KING DOG SILVER COHO ("Chinook")	6 KING DOG SILVER COHO ("Chinook")
	7 KING DOG SILVER COHO ("Chinook")	8 KING DOG SILVER COHO ("Chinook")	9 KING DOG SILVER COHO ("Chinook")	10 KING DOG SILVER COHO ("Chinook")	11 KING DOG SILVER COHO ("Chinook")	12 KING DOG SILVER COHO ("Chinook")	13 KING DOG SILVER COHO ("Chinook")
Summer Chum Fall Chum	14 KING DOG SILVER COHO ("Chinook")	15 KING DOG SILVER COHO ("Chinook")	16 KING DOG SILVER COHO ("Chinook")	17 KING DOG SILVER COHO ("Chinook")	18 KING DOG SILVER COHO ("Chinook")	19 KING DOG SILVER COHO ("Chinook")	20 KING DOG SILVER COHO ("Chinook")
	21 KING DOG SILVER COHO ("Chinook")	22 KING DOG SILVER COHO ("Chinook")	23 KING DOG SILVER COHO ("Chinook")	24 KING DOG SILVER COHO ("Chinook")	25 KING DOG SILVER COHO ("Chinook")	26 KING DOG SILVER COHO ("Chinook")	27 KING DOG SILVER COHO ("Chinook")
	28 KING DOG SILVER COHO ("Chinook")	29 KING DOG SILVER COHO ("Chinook")	30 KING DOG SILVER COHO ("Chinook")	31 KING DOG SILVER COHO ("Chinook")	Mature female Common name: Chum salmon		

IF NOT PICKED UP BY OCTOBER 31:
PLEASE RETURN IN ENCLOSED ENVELOPE TO:
Division of Subsistence
Alaska Department of Fish and Game
1300 College Rd.
Fairbanks, Alaska 99701

(reduced from original 11 x 17-inch size)

APPENDIX 1.3. continued

NAME

THANK YOU for filling out this catch calendar.

Please complete this if

1) You catch fish for your household or dogs

or 2) You catch fish for another household

PLEASE MARK IN THE NUMBER OR FISH CAUGHT EACH DAY BY ALL FISHERMEN IN YOUR HOUSE.

DO NOT MARK IN FISH YOU DID NOT CATCH OR WERE GIVEN TO YOU.
DO NOT MARK IN FISH THAT ARE SOLD.

SEPTEMBER 1988 SUBSISTENCE SALMON CALENDAR

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 SILVER ____ COHO ____ ("CHINOOK")	2 SILVER ____ COHO ____ ("CHINOOK")	3 SILVER ____ COHO ____ ("CHINOOK")
Fall Chum	4 SILVER ____ COHO ____ ("CHINOOK")	5 SILVER ____ COHO ____ ("CHINOOK")	6 SILVER ____ COHO ____ ("CHINOOK")	7 SILVER ____ COHO ____ ("CHINOOK")	8 SILVER ____ COHO ____ ("CHINOOK")	9 SILVER ____ COHO ____ ("CHINOOK")	10 SILVER ____ COHO ____ ("CHINOOK")
	11 SILVER ____ COHO ____ ("CHINOOK")	12 SILVER ____ COHO ____ ("CHINOOK")	13 SILVER ____ COHO ____ ("CHINOOK")	14 SILVER ____ COHO ____ ("CHINOOK")	15 SILVER ____ COHO ____ ("CHINOOK")	16 SILVER ____ COHO ____ ("CHINOOK")	17 SILVER ____ COHO ____ ("CHINOOK")
	18 SILVER ____ COHO ____ ("CHINOOK")	19 SILVER ____ COHO ____ ("CHINOOK")	20 SILVER ____ COHO ____ ("CHINOOK")	21 SILVER ____ COHO ____ ("CHINOOK")	22 SILVER ____ COHO ____ ("CHINOOK")	23 SILVER ____ COHO ____ ("CHINOOK")	24 SILVER ____ COHO ____ ("CHINOOK")
	25 SILVER ____ COHO ____ ("CHINOOK")	26 SILVER ____ COHO ____ ("CHINOOK")	27 SILVER ____ COHO ____ ("CHINOOK")	28 SILVER ____ COHO ____ ("CHINOOK")	29 SILVER ____ COHO ____ ("CHINOOK")	30 SILVER ____ COHO ____ ("CHINOOK")	

OCTOBER 1988 SUBSISTENCE SALMON CALENDAR

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
							1 SILVER ____ COHO ____ ("CHINOOK")
Fall Chum	2 SILVER ____ COHO ____ ("CHINOOK")	3 SILVER ____ COHO ____ ("CHINOOK")	4 SILVER ____ COHO ____ ("CHINOOK")	5 SILVER ____ COHO ____ ("CHINOOK")	6 SILVER ____ COHO ____ ("CHINOOK")	7 SILVER ____ COHO ____ ("CHINOOK")	8 SILVER ____ COHO ____ ("CHINOOK")
	9 SILVER ____ COHO ____ ("CHINOOK")	10 SILVER ____ COHO ____ ("CHINOOK")	11 SILVER ____ COHO ____ ("CHINOOK")	12 SILVER ____ COHO ____ ("CHINOOK")	13 SILVER ____ COHO ____ ("CHINOOK")	14 SILVER ____ COHO ____ ("CHINOOK")	15 SILVER ____ COHO ____ ("CHINOOK")
	16 SILVER ____ COHO ____ ("CHINOOK")	17 SILVER ____ COHO ____ ("CHINOOK")	18 SILVER ____ COHO ____ ("CHINOOK")	19 SILVER ____ COHO ____ ("CHINOOK")	20 SILVER ____ COHO ____ ("CHINOOK")	21 SILVER ____ COHO ____ ("CHINOOK")	22 SILVER ____ COHO ____ ("CHINOOK")
	23 SILVER ____ COHO ____ ("CHINOOK")	24 SILVER ____ COHO ____ ("CHINOOK")	25 SILVER ____ COHO ____ ("CHINOOK")	26 SILVER ____ COHO ____ ("CHINOOK")	27 SILVER ____ COHO ____ ("CHINOOK")	28 SILVER ____ COHO ____ ("CHINOOK")	29 SILVER ____ COHO ____ ("CHINOOK")
	30 SILVER ____ COHO ____ ("CHINOOK")	31 SILVER ____ COHO ____ ("CHINOOK")	THANK YOU, AGAIN. This information is used to try to make sure there will be enough salmon for subsistence for Yukon River families.				

IF NOT PICKED UP BY OCTOBER 31:
PLEASE RETURN IN ENCLOSED ENVELOPE TO:
Division of Subsistence
Alaska Department of Fish and Game
1300 College Rd.
Fairbanks, Alaska 99701

APPENDIX 2.1. Example of lower Yukon River (fishing districts 1, 2, and Russian Mission) postseason interview form.

Community_____ Name of Calendar Holder_____

Lower Yukon River
Subsistence Salmon Catch Calendar Post Season Interview

Q 1-6 FOR ALL HOUSEHOLDS

1. We would like to make sure we have the correct name and address for this household.

   Correct name of household head _____
   Mailing Address _____
   _____

2. Do you have a calendar? Yes___ No___ Did not receive ___
   Lost ___
   Sent in already ___
   Other _____

3. How many people live in this household? _____ People

4. How many dogs does this household have? _____ Dogs

5. (FOR EMMONAK, KOTLIK, AND PILOT STATION ONLY) Did your household receive any of the salmon that the Department of Fish and Game gave away from their test nets? Yes_____ (if yes, list number below) No_____

   _____ king
   _____ summer chum (dog)
   _____ fall chum
   _____ silver (coho)
   _____ pink (humpy)

6. Did anyone living in this household fish for subsistence salmon this year?

   Yes___ [answer questions 7 through 14]
   No ___ [skip to question 15]

Q 7-14 FOR HOUSEHOLDS WHO FISHED FOR SUBSISTENCE SALMON THIS YEAR

7. What gear did this household use to catch subsistence salmon this year? Check types used:

   ____ Set Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Drift Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Fish Wheel

   ____ Rod and Reel

8. Did you have a fishcamp this year? Yes____ No____

9. Do you fish for subsistence salmon with any other households? Yes ___ No ___

   If yes, who? _____

   Is their catch included on your calendar? Yes____ No____

APPENDIX 2.1 continued

10. (FOR CALENDAR HOLDERS) Are all of the subsistence salmon you caught listed on the calendar? (include those used for dog food, eaten fresh, and given away)

Yes, all are on the calendar ___ [go to question 12]
No, some were left off ___ [go to question 11]

11. (FOR NON-CALENDAR HOLDERS OR INCOMPLETE CALENDARS) How many subsistence salmon did members of this household catch? (include those used for dog food, eaten fresh, and those given away)

_____ king
_____ summer chum (dog)
_____ fall chum
_____ silver (coho)
_____ pink (humpy)

12. Of the subsistence salmon you caught, how many did you catch for dog food?

_____ summer chum (dog)
_____ fall chum
_____ silver (coho)
_____ pink (humpy)

13. How were the salmon and salmon runs this year?

kings:

summer chum:

fall chum:

silver:

pinks:

14. Do you have anything you would like to say about fishing regulations, such as any problems or changes you would like to see?

Q 15-17. FOR NON-FISHING HOUSEHOLDS ONLY

15. Did you help put up salmon? Yes ___ No ___

16. Do you get salmon from another household? Yes ___ [Who? _____]
No ___

17. Do you plan to fish for salmon next year? Yes ___ No ___

THANK YOU VERY MUCH FOR YOUR HELP. THIS HARVEST INFORMATION WILL BE USED TO MAKE SURE THERE WILL BE ENOUGH SUBSISTENCE SALMON FOR FAMILIES ALONG THE RIVER.

APPENDIX 2.2. Example of Holy Cross postseason interview form.

Community_____ Name of Calendar Holder_____

Holy Cross
Subsistence Salmon Catch Calendar Post Season Interview

Q 1-5. FOR ALL HOUSEHOLDS

1. We would like to make sure we have the correct name and address for this household:
   Correct name of household head _____
   Mailing Address _____
   _____

2. Do you have a calendar? Yes___ No___ Did not receive ___
   Lost ___
   Sent in already ___
   Other _____

3. How many people live in this household? _____ People

4. How many dogs does this household have? _____ Dogs

5. Did anyone living in this household fish for subsistence salmon this year?

   Yes___ [answer questions 6 through 14]
   No ___ [skip to question 15]

Q 6-14 FOR HOUSEHOLDS WHO FISHED FOR SUBSISTENCE SALMON THIS YEAR

6. What gear did this household use to catch subsistence salmon this year? Check types used:

   ____ Set Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Drift Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Fish Wheel

   ____ Rod and Reel

7. Did you have a fishcamp this year? Yes____ No____

8. Do you fish for subsistence salmon with any other households? Yes ___ No ___

   If yes, who? _____

   Is their catch included on your calendar? Yes____ No____

9. (FOR CALENDAR HOLDERS) Are all of the subsistence salmon you caught listed on the calendar? (include those used for dog food, eaten fresh, and given away)

   Yes, all are on the calendar ___ [go to question 11]
   No, some were left off ___ [go to question 10]

APPENDIX 2.2 continued

10. (FOR NON-CALENDAR HOLDERS OR INCOMPLETE CALENDARS) How many subsistence salmon did members of this household catch? (include those used for dog food, eaten fresh, and those given away)

_____	king	_____	silver (coho)
_____	summer chum (dog)	_____	pink (humpy)
_____	fall chum		

11. Of the subsistence salmon you caught, how many did you catch for dog food?

_____	summer chum (dog)	_____	silver (coho)
_____	fall chum	_____	pink (humpy)

12. Did you subsistence fish for salmon in the Innoko River this year?

No, Yukon only_____ Yes, Yukon and Innoko_____ Yes, Innoko only_____

If the Innoko was fished what species were taken?

_____

13. How were the salmon and salmon runs this year?

kings:

summer chum:

fall chum:

silver:

pink:

14. Do you have anything you would like to say about fishing regulations, such as any problems or changes you would like to see?

Q 15-17. FOR NON-FISHING HOUSEHOLDS ONLY

15. Did you help put up salmon? Yes ___ No ___

16. Do you get salmon from another household? Yes ___ [Who? _____]
No ___

17. Do you plan to fish for salmon next year? Yes ___ No ___

THANK YOU VERY MUCH FOR YOUR HELP. THIS HARVEST INFORMATION WILL BE USED TO MAKE SURE THERE WILL BE ENOUGH SUBSISTENCE SALMON FOR FAMILIES ALONG THE RIVER.

APPENDIX 2.3. Example of fishing district Y4A (Grayling, Anvik, Shageluk, Kaltag, Nulato, and Koyukuk) postseason interview form.

Community_____ Name of Calendar Holder_____

Yukon River Fishing District Y4a
Subsistence Salmon Catch Calendar Post Season Interview

Q 1-5. FOR ALL HOUSEHOLDS

1. We would like to make sure we have the correct name and address for this household:
   Correct name of household head _____
   Mailing Address _____
   _____

2. Do you have a calendar? Yes___ No___ Did not receive ___
   Lost ___
   Sent in already ___
   Other _____

3. How many people live in this household? _____ People

4. How many dogs does this household have? _____ Dogs

5. Did anyone living in this household fish for subsistence salmon this year?

   Yes___ [answer questions 6 through 16]
   No ___ [skip to question 17]

Q 6-16 FOR HOUSEHOLDS WHO FISHED FOR SUBSISTENCE SALMON THIS YEAR

6. What gear did this household use to catch subsistence salmon this year? Check types used:

   ____ Set Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Drift Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Fish Wheel

   ____ Rod and Reel

7. Did you have a fishcamp this year? Yes____ No____

8. Do you fish for subsistence salmon with any other households? Yes ___ No ___

   If yes, who? _____

   Is their catch included on your calendar? Yes____ No____

9. (FOR CALENDAR HOLDERS) Are all of the subsistence salmon you caught listed on the calendar? (include those used for dog food, eaten fresh, and given away)

   Yes, all are on the calendar ___ [go to question 11]
   No, some were left off ___ [go to question 10]

APPENDIX 2.3 continued

10. (FOR NON-CALENDAR HOLDERS OR INCOMPLETE CALENDARS) How many subsistence salmon did members of this household catch? (include those used for dog food, eaten fresh, and those given away)

_____	king	_____	coho
_____	summer chum (dog)	_____	pink (humpy)
_____	fall chum (silver)		

11. Of the subsistence salmon you caught, how many did you catch for dog food?

_____	king	_____	coho
_____	summer chum	_____	pink (humpy)
_____	fall chum (silver)		

12a. Of the commercial salmon you caught, how many did you cut for dog food?
Number _____

12b. Did we already count these on your calendar or in Q.10 above?
Yes _____ No _____

13a. Of the commercial salmon you caught, how many did you cut for eating?
Number _____

13b. Did we already count these on your calendar or in Q.10 above?
Yes _____ No _____

14. FOR SHAGELUK AND KOYUKUK ONLY.
What river(s) did you fish in for salmon this year? (Circle river and list salmon species)

Yukon River (species)_____

Innoko River (species)_____

Koyukuk River (species)_____

15. How were the salmon and salmon runs this year?

kings:

summer chum (dog):

fall chum (silver):

coho:

pink (humpy):

APPENDIX 2.3 continued

16. Do you have anything you would like to say about fishing regulations, such as any problems or changes you would like to see?

Q 17-19 FOR NON-FISHING HOUSEHOLDS ONLY

17. Did you help put up salmon? Yes ___ No ___

18. Do you get salmon from another household? Yes ___ [Who? _____]
No ___

19. Do you plan to fish for salmon next year? Yes ___ No ___

THANK YOU VERY MUCH FOR YOUR HELP. THIS HARVEST INFORMATION WILL BE USED TO MAKE SURE THERE WILL BE ENOUGH SUBSISTENCE SALMON FOR FAMILIES ALONG THE RIVER.

APPENDIX 2.4. Example of middle Yukon (Y4B, Y4C) (Galena, Ruby) and Koyukuk rivers (Huslia, Hughes, Allakaket, Alatna, and Bettles/Evansville) postseason interview form.

Community_____ Name of Calendar Holder_____

Middle Yukon and Koyukuk River
Subsistence Salmon Catch Calendar Post Season Interview

Q 1-5. FOR ALL HOUSEHOLDS

1. We would like to make sure we have the correct name and address for this household:
   Correct name of household head _____
   Mailing Address _____
   _____

2. Do you have a calendar? Yes___ No___ Did not receive ___
   Lost ___
   Sent in already ___
   Other _____

3. How many people live in this household? _____ People

4. How many dogs does this household have? _____ Dogs

5. Did anyone living in this household fish for subsistence salmon this year?

   Yes___ [answer questions 6 through 13]
   No ___ [skip to question 14]

Q 6-13 FOR HOUSEHOLDS WHO FISHED FOR SUBSISTENCE SALMON THIS YEAR

6. What gear did this household use to catch subsistence salmon this year? Check types used:

   ____ Set Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Drift Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Fish Wheel

   ____ Rod and Reel

7. Did you have a fishcamp this year? Yes____ No____

8. Do you fish for subsistence salmon with any other households? Yes ___ No ___

   If yes, who? _____

   Is their catch included on your calendar? Yes____ No____

9. (FOR CALENDAR HOLDERS) Are all of the subsistence salmon you caught listed on the calendar? (include those used for dog food, eaten fresh, and given away)

   Yes, all are on the calendar ___ [go to question 11]
   No, some were left off ___ [go to question 10]

APPENDIX 2.4 continued

10. (FOR NON-CALENDAR HOLDERS OR INCOMPLETE CALENDARS) How many subsistence salmon did members of this household catch? (include those used for dog food, eaten fresh, and those given away)

_____	king	_____	fall chum (silver)
_____	summer chum (dog)	_____	coho

11. Of the subsistence salmon you caught, how many did you catch for dog food?

_____	king	_____	fall chum (silver)
_____	summer chum (dog)	_____	coho

12. How were the salmon and salmon runs this year?

kings:

summer chum (dog):

fall chum (silver):

coho:

13. Do you have anything you would like to say about fishing regulations, such as any problems or changes you would like to see?

Q 14-16. FOR NON-FISHING HOUSEHOLDS ONLY

14. Did you help put up salmon? Yes ___ No ___

15. Do you get salmon from another household? Yes ___ [Who? _____]
No ___

16. Do you plan to fish for salmon next year? Yes ___ No ___

THANK YOU VERY MUCH FOR YOUR HELP. THIS HARVEST INFORMATION WILL BE USED TO MAKE SURE THERE WILL BE ENOUGH SUBSISTENCE SALMON FOR FAMILIES ALONG THE RIVER.

APPENDIX 2.5. Example of upper Yukon (Y5) (Tanana, Rampart, Stevens Village, Beaver) and Tanana (Y6) rivers (Healy, Kantishna River, Manley, Minto, Nenana) postseason interview form.

Community_____ Name of Calendar Holder_____

Upper Yukon and Tanana River
Subsistence Salmon Catch Calendar Post Season Interview

Q 1-5. FOR ALL HOUSEHOLDS

1. We would like to make sure we have the correct name and address for this household:
   Correct name of household head _____
   Mailing Address _____
   _____

2. Do you have a calendar? Yes___ No___ Did not receive ___
   Lost ___
   Sent in already ___
   Other _____

3. How many people live in this household? _____ People

4. How many dogs does this household have? _____ Dogs

5. Did anyone living in this household fish for subsistence salmon this year?

   Yes___ [answer questions 6 through 14]
   No ___ [skip to question 15]

Q 6-14 FOR HOUSEHOLDS WHO FISHED FOR SUBSISTENCE SALMON THIS YEAR

6. What gear did this household use to catch subsistence salmon this year? Check types used:

   ____ Set Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Fish Wheel

7. Did you have a fishcamp this year? Yes____ No____

8. Do you fish for subsistence salmon with any other households? Yes ___ No ___

   If yes, who? _____

   Is their catch included on your calendar? Yes____ No____

9. (FOR CALENDAR HOLDERS) Are all of the subsistence salmon you caught listed on the calendar? (include those used for dog food, eaten fresh, and given away)

   Yes, all are on the calendar ___ [go to question 11]

   No, some were left off ___ [go to question 10]

APPENDIX 2.5 continued

10. (FOR NON-CALENDAR HOLDERS OR INCOMPLETE CALENDARS) How many subsistence salmon did members of this household catch? (include those used for dog food, eaten fresh, and those given away)

_____	king	_____	fall chum (silver)
_____	summer chum (dog)	_____	coho (chinook)

11. Of the subsistence salmon you caught, how many did you catch for dog food?

_____	king	_____	fall chum (silver)
_____	summer chum (dog)	_____	coho (chinook)

12. How were the salmon and salmon runs this year?

kings:

summer chum (dog):

fall chum (silver):

coho (chinook):

13. (FOR NENANA AND MANLEY ONLY) Fishing times for subsistence were reduced this year. Did the reduced fishing time make it harder for you to get your subsistence salmon?

Yes_____ No_____

14. Do you have anything else you would like to say about fishing regulations, such as problems or changes you would like to see?

Q 15-17. FOR NON-FISHING HOUSEHOLDS ONLY

15. Did you help put up salmon? Yes ___ No ___

16. Do you get salmon from another household? Yes ___ [Who? _____]
No ___

17. Do you plan to fish for salmon next year? Yes ___ No ___

THANK YOU VERY MUCH FOR YOUR HELP. THIS HARVEST INFORMATION WILL BE USED TO MAKE SURE THERE WILL BE ENOUGH SUBSISTENCE SALMON FOR FAMILIES ALONG THE RIVER.

APPENDIX 2.6. Example of upper Yukon River (Y5) (Birch Creek, Fort Yukon, Venetie, Circle, Central, Eagle) postseason interview form.

Community_____ Name of Calendar Holder_____

Upper Yukon River
Subsistence Salmon Catch Calendar Post Season Interview

Q 1-5. FOR ALL HOUSEHOLDS

1. We would like to make sure we have the correct name and address for this household:
   Correct name of household head _____
   Mailing Address _____
   _____

2. Do you have a calendar? Yes___ No___ Did not receive ___
   Lost ___
   Sent in already ___
   Other _____

3. How many people live in this household? _____ People

4. How many dogs does this household have? _____ Dogs

5. Did anyone living in this household fish for subsistence salmon this year?

   Yes___ [answer questions 6 through 14]
   No ___ [skip to question 15]

Q 6-14 FOR HOUSEHOLDS WHO FISHED FOR SUBSISTENCE SALMON THIS YEAR

6. What gear did this household use to catch subsistence salmon this year? Check types used:

   ____ Set Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Fish Wheel

7. Did you have a fishcamp this year? Yes____ No____

8. Do you fish for subsistence salmon with any other households? Yes ___ No ___

   If yes, who? _____

   Is their catch included on your calendar? Yes____ No____

9. (FOR CALENDAR HOLDERS) Are all of the subsistence salmon you caught listed on the calendar? (include those used for dog food, eaten fresh, and given away)

   Yes, all are on the calendar ___ [go to question 11]

   No, some were left off ___ [go to question 10]

APPENDIX 2.6 continued

10. (FOR NON-CALENDAR HOLDERS OR INCOMPLETE CALENDARS) How many subsistence salmon did members of this household catch? (include those used for dog food, eaten fresh, and those given away)

_____ king
_____ dog salmon
_____ fall chum (silver)
_____ coho (chinook or reds)

11. Of the subsistence salmon you caught, how many did you catch for dog food?

_____ king
_____ dog salmon
_____ fall chum (silver)
_____ coho (chinook or reds)

12. (FOR VENETIE ONLY) What river(s) did you catch subsistence salmon in this year? (Check both if they fished both)

Yukon River_____ Chandalar River_____

13. How were the salmon and salmon runs this year?

kings:

dog salmon:

fall chum (silver):

coho (chinook or reds):

14. Do you have anything else you would like to say about fishing regulations, such as problems or changes you would like to see?

Q 15-17. FOR NON-FISHING HOUSEHOLDS ONLY

15. Did you help put up salmon? Yes ___ No ___

16. Do you get salmon from another household? Yes ___ [Who? _____]
No ___

17. Do you plan to fish for salmon next year? Yes ___ No ___

THANK YOU VERY MUCH FOR YOUR HELP. THIS HARVEST INFORMATION WILL BE USED TO MAKE SURE THERE WILL BE ENOUGH SUBSISTENCE SALMON FOR FAMILIES ALONG THE RIVER.

APPENDIX 2.7. Example of Chalkyitsik postseason interview form.

Community_____ Name of Calendar Holder_____

Chalkyitsik
Subsistence Salmon Catch Calendar Post Season Interview

Q 1-5. FOR ALL HOUSEHOLDS

1. We would like to make sure we have the correct name and address for this household:
   Correct name of household head _____
   Mailing Address _____
   _____

2. Do you have a calendar? Yes___ No___ Did not receive ___
   Lost ___
   Sent in already ___
   Other _____

3. How many people live in this household? _____ People

4. How many dogs does this household have? _____ Dogs

5. Did anyone living in this household fish for subsistence salmon this year?

   Yes___ [answer questions 6 through 14]
   No ___ [skip to question 15]

Q 6-13 FOR HOUSEHOLDS WHO FISHED FOR SUBSISTENCE SALMON THIS YEAR

6. What gear did this household use to catch subsistence salmon this year? Check types used:

   ____ Set Gill Net Mesh Size_____ Length_____ft/fathoms
   Mesh Size_____ Length_____ft/fathoms

   ____ Fish Wheel

7. Did you have a fishcamp this year? Yes____ No____

8. Do you fish for subsistence salmon with any other households? Yes ___ No ___

   If yes, who? _____

   Is their catch included on your calendar? Yes____ No____

9. (FOR CALENDAR HOLDERS) Are all of the subsistence salmon you caught listed on the calendar? (include those used for dog food, eaten fresh, and given away)

   Yes, all are on the calendar ___ [go to question 11]

   No, some were left off ___ [go to question 10]

APPENDIX 2.7 continued

10. (FOR NON-CALENDAR HOLDERS OR INCOMPLETE CALENDARS) How many subsistance salmon did members of this household catch? (include those used for dog food, eaten fresh, and those given away)

_____ king _____ dog salmon _____ coho (reds)

11. Of the subsistence salmon you caught, how many did you catch for dog food?

_____ king _____ dog salmon _____ coho (reds)

12. How were the salmon and salmon runs this year?

kings:

dog salmon:

coho (reds):

13. Do you have anything else you would like to say about fishing regulations, such as problems or changes you would like to see?

Q 14-16. FOR NON-FISHING HOUSEHOLDS ONLY

14. Did you help put up salmon? Yes ___ No ___

15. Do you get salmon from another household? Yes ___ [Who? _____]
No ___

16. Do you plan to fish for salmon next year? Yes ___ No ___

THANK YOU VERY MUCH FOR YOUR HELP. THIS HARVEST INFORMATION WILL BE USED TO MAKE SURE THERE WILL BE ENOUGH SUBSISTENCE SALMON FOR FAMILIES ALONG THE RIVER.

APPENDIX 3. Yukon River Drainage Subsistence Salmon Harvest Reminder Letter, 1988.

November 14, 1988

Dear Yukon River Resident:

This past spring we mailed subsistence salmon catch calendars to every household in every community along the Yukon River. The catch calendar mailed to your household was not among the more than 1200 calendars returned to us by mail or collected during our village visits this fall.

In order to make sure you have an opportunity to contribute to this important research effort we would like to ask you the following questions about your household's salmon fishing effort in 1988:

Did you or anyone in your household subsistence fish for salmon in 1988?

_____Yes _____No

If Yes, Please estimate your harvest below.

Number of Kings _____

Number of Summer Chums (Dogs) _____

Number of Pinks (Humpy) _____

Number of Fall Chums _____

Number of Silvers (Coho) _____

Please indicate any changes to the name and mailing address on the label at the top of this page and return using the postage-paid envelope provided. THANK YOU VERY MUCH!

APPENDIX 4. Yukon Management Area Subsistence Salmon Fishing Permit, 1988.

STATE OF ALASKA
Department of Fish and Game, Division of Commercial Fisheries
1300 College Road, Fairbanks, AK 99701 (Phone: 456-4286)

SUBSISTENCE SALMON FISHING PERMIT - YUKON AREA

Name: _____ Phone: _____

Mailing Address: _____

Residence Address: _____

Area to be Fished: District _____ Location _____

Period of Time to be Covered by Fishery: _____ to _____

Number of Fish Requested: Kings _____ Chums (Dogs) _____

Cohos (Silvers) _____ Other _____

Fishing Gear: ___ Gillnet(s) _____ length _____ stretch mesh size

___ Fishwheel ___ Other (specify)

Conditions of Permit:

All regulations pertaining to subsistence fishing for salmon in this area are to be observed. These regulations are published annually in the Alaska Subsistence Fishing Regulation booklet. A summary of these regulations is available from the Fairbanks office.

It is unlawful to sell or buy fish or their eggs taken under personal-use or subsistence fishing regulations.

An accurate record of fish taken under authority of this permit must be kept and recorded in the appropriate spaces on the form provided on the reverse of this permit. Return the permit and form to the Alaska Department of Fish and Game, Commercial Fish Division, 1300 College Road, Fairbanks, AK 99701 within 10 days after the permit expiration date. FAILURE TO RETURN YOUR PERMIT AND CATCH FORM WILL RESULT IN YOUR NOT BEING ISSUED A PERMIT NEXT YEAR.

X _____

Signature of Permittee - I hereby claim the information contained on this permit is a true statement as witnessed by my signature above and I further state that I am a resident of Alaska.

- -

TO BE COMPLETED BY ISSUING OFFICER:

The above-named person(s) is authorized to subsistence fish in the Yukon Area

District ____, Location _____,

from _____ to _____, using (gear) _____,

_____ may be taken under authority of this permit.

_____ _____
Signature of Authorizing Officer Date Issued

Permit No.: _____

APPENDIX 4. continued

CATCH FORM FOR YUKON AREA PERSONAL-USE FISHERY

THIS RECORD MUST BE SUBMITTED TO THE DEPARTMENT OF FISH AND GAME WITHIN 10 DAYS AFTER THE EXPIRATION DATE OF THE PERSONAL-USE FISHING PERMIT WHETHER YOU FISHED OR NOT. FAILURE TO RETURN THIS FORM WILL BE CAUSE TO REFUSE A PERSONAL-USE PERMIT NEXT YEAR.

Month/Day	Kings	Dogs (Chums)	Silvers (Cohos)	Whitefish	Burbot (Lush)	Sheefish	Other (Specify)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

RETURN TO: Alaska Dept. Fish and Game, Commercial Fish Division, 1300 College Road, Fairbanks, AK 99701 (Phone: 456-4286)

APPENDIX 5. Yukon Management Area Subsistence Salmon Fishing Permit Reminder Letter, 1988.

Dear Fisherman:

Our records indicate that you were issued subsistence/personal-use fishing permit _____-88 for the upper Yukon River/Tanana River. One of the stipulations of the permit was that you record your catches (by species and date) and submit that report to this office. Permits must be returned even if you did not fish or if you fished unsuccessfully.

Please return your catch form or this letter with the catch information filled in below at your earliest convenience. This should be done whether you fished or not. Failure to do so will result in your not being issued a permit next year. A return addressed envelope is enclosed for your use.

I (did _____, did not _____) fish.

Numbers Harvested

Kings _____ Cohos (silvers) _____

Summer Chums (dogs) _____ Fall Chums _____ (Generally those caught after 8/15)

Others _____

Thank you,

Richard M. Bannon

COMMERCIAL FISHERIES DIVISION
ALASKA DEPARTMENT OF FISH AND GAME
(907)456-4286

Enclosure