

**Fishery Data Series No. 25-37**

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# **Subsistence and Personal Use Salmon Harvests in the Alaska Portion of the Yukon River Drainage, 2023**

**by**

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**August 2025**

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**Alaska Department of Fish and Game**

**Divisions of Sport Fish and Commercial Fisheries**



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Weights and measures (metric)		General		Mathematics, statistics		
centimeter	cm	Alaska Administrative Code	AAC	all standard mathematical signs, symbols and abbreviations		
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H <sub>A</sub>	
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	base of natural logarithm	e	
hectare	ha			catch per unit effort	CPUE	
kilogram	kg			coefficient of variation	CV	
kilometer	km	at compass directions:	@	common test statistics	(F, t, $\chi^2$ , etc.)	
liter	L			confidence interval	CI	
meter	m			correlation coefficient (multiple)	R	
milliliter	mL	east	E	correlation coefficient (simple)	r	
millimeter	mm	north	N	covariance	cov	
Weights and measures (English)		south	S	degree (angular)	°	
	cubic feet per second	ft <sup>3</sup> /s	west	degrees of freedom	df	
	foot	ft	copyright	expected value	E	
	gallon	gal	corporate suffixes:	greater than	>	
	inch	in	Company	greater than or equal to	≥	
	mile	mi	Corporation	harvest per unit effort	HPUE	
	nautical mile	nmi	Incorporated	less than	<	
	ounce	oz	Limited	less than or equal to	≤	
	pound	lb	District of Columbia	logarithm (natural)	ln	
	quart	qt	et alii (and others)	etc.	logarithm (base 10)	log <sub>2</sub>
yard	yd	et cetera (and so forth)		logarithm (specify base)	log <sub>2</sub> , etc.	
Time and temperature		exempli gratia		minute (angular)	'	
	day	d	(for example)	e.g.	not significant	NS
	degrees Celsius	°C	Federal Information Code	FIC	null hypothesis	H <sub>0</sub>
	degrees Fahrenheit	°F	id est (that is)	i.e.	percent	%
	degrees kelvin	K	latitude or longitude	lat or long	probability	P
	hour	h	monetary symbols		probability of a type I error	
	minute	min	(U.S.)	\$, ¢	(rejection of the null hypothesis when true)	α
	second	s	months (tables and figures): first three letters	Jan,...,Dec	probability of a type II error	
	Physics and chemistry		registered trademark	®	(acceptance of the null hypothesis when false)	β
		all atomic symbols		trademark	™	second (angular)
alternating current		AC	United States		standard deviation	SD
ampere		A	(adjective)	U.S.	standard error	SE
calorie		cal	United States of America (noun)	USA	variance	
direct current		DC	U.S.C.	United States Code	population sample	Var
hertz		Hz	U.S. state	use two-letter abbreviations		var
horsepower		hp		(e.g., AK, WA)		
hydrogen ion activity (negative log of)		pH				
parts per million		ppm				
parts per thousand	ppt, ‰					
volts	V					
watts	W					

***FISHERY DATA SERIES NO. 25-37***

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ALASKA PORTION OF THE YUKON RIVER DRAINAGE, 2023**

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## ABSTRACT

This annual report contains estimates of subsistence and personal use salmon and nonsalmon fish harvests within the Alaska portion of the Yukon River drainage. Most Yukon Area communities have no regulatory requirements to report their subsistence salmon harvest. For most communities, harvest information was collected through voluntary postseason household interviews, follow-up telephone interviews, postal questionnaires, and harvest calendars. Stratified random sampling techniques were used to select households to be surveyed. A return to pre-COVID-19 study design was initiated in 2023, and a total of 1,373 households were surveyed in 33 communities. Data from surveyed households were expanded to estimate the total harvest, including that of unsurveyed households. In road accessible portions of the Yukon Area, harvest must be documented on a subsistence or personal use permit. In 2023, a total of 596 subsistence and personal use permits were issued, of which 98% were returned. Of these returned permits, 251 reported fishing. The total subsistence and personal use harvest throughout the Yukon Area was estimated to be 1,564 Chinook (*Oncorhynchus tshawytscha*), 25,866 summer chum (*O. keta*), 6,037 fall chum (*O. keta*), 1,399 coho (*O. kisutch*), and 2,486 pink (*O. gorbuscha*) salmon. The primary fishing gear types used were set gillnets (65%), dip nets and other gear types (33%), drift gillnets (1%), and fish wheels (0%). Approximately 1,814 households owned 4,297 dogs, and 90 households fed an estimated 7,635 whole salmon to dogs.

Keywords: Chinook *Oncorhynchus tshawytscha*, chum *O. keta*, coho *O. kisutch*, and pink *O. gorbuscha* salmon, northern pike *Esox lucius*, inconnu *Stenodus leucichthys*, sheefish, whitefish *Coregonus* spp., harvest, personal use, subsistence, Tanana River, Yukon River

## INTRODUCTION

The Yukon River is Alaska's largest river and the fifth largest drainage system in North America. Originating in British Columbia, Canada, within a mere 30 miles of the Gulf of Alaska, it stretches over 3,190 km (1,980 mi) through Yukon Territory, Canada, and Alaska, United States, before ultimately reaching the Bering Sea at the Yukon–Kuskokwim Delta. The Yukon Area encompasses all waters of the Yukon River drainage in Alaska and coastal waters from Point Romanof southward to the Naskonat Peninsula. Oversight of Alaska's subsistence, personal use, and commercial fisheries within the Yukon Area, including Canadian-origin salmon obligations, falls under the purview of the Alaska Department of Fish and Game (ADF&G), Division of Commercial Fisheries. Further insights into fisheries management in the Canadian section of the Yukon River drainage are available in the annual Yukon River Panel Joint Technical Committee (JTC) reports (e.g., JTC 2024).

Since 1961, ADF&G has gathered data on subsistence salmon harvests in the Alaska segment of the Yukon River drainage (Yukon Area 5 AAC 05.100). These annual estimates serve as a historical record, enabling observation of harvest trends over time. The documentation of subsistence salmon harvests is utilized alongside commercial, sport, and personal use harvest data, as well as escapement estimates from both the U.S. and Canada, to calculate the total annual run size in the Yukon Area (JTC 2024). These harvest and escapement data, combined with age composition information, are employed to construct brood tables. These brood tables estimate the productivity, or the number of returning offspring per spawner, for certain stocks, aiding in the formulation of forecasts and preseason outlooks for fisheries management (e.g., JTC 2024).

The Yukon River drainage area produces 5 species of Pacific salmon that contribute to subsistence and personal use harvests: Chinook salmon (*Oncorhynchus tshawytscha*), chum (*O. keta*), coho (*O. kisutch*), pink (*O. gorbuscha*), and sockeye (*O. nerka*) salmon. Subsistence and personal use harvests primarily consist of Chinook, chum, and coho salmon, but the chum salmon return includes 2 temporally and genetically distinct stocks: summer chum and fall chum salmon. Chinook and summer chum salmon are the first to enter the Yukon River, peaking in June, followed by fall chum (early August) and coho salmon (mid to late August). Pink salmon peak in

mid-July and are more abundant in even-numbered years, typically being available for harvest only in the coastal, lower, and middle reaches of the Yukon River up to the community of Anvik (river mile 315). Sockeye salmon are present in small numbers in the Yukon River, and the average subsistence harvest is fewer than 400 fish per year (Jallen et al. 2017).

In addition to salmon, the Yukon River hosts numerous other fish species, including both resident and anadromous types. Some of these species, such as whitefish (*Coregonus* and *Prosopium cylindraceum*), sheefish (*Stenodus leucichthys*, also known as inconnu), burbot (*Lota lota*), northern pike (*Esox lucius*), Alaska blackfish (*Dallia pectoralis*), Arctic grayling (*Thymallus arcticus*), Arctic lamprey (*Lethenteron camtschaticum*), saffron cod (*Eleginus gracilis*, locally referred to as tomcod), and Pacific herring (*Clupea pallasii*), are significant for subsistence use.

Families in the Yukon Area have a longstanding tradition of harvesting salmon for subsistence purposes. Subsistence salmon fishing typically begins in late May and continues through early October, with fishing in May and October, dependent on river ice conditions. Extended family groups, representing 2 or more households, often collaborate in harvesting, processing, and preserving salmon for subsistence use. Fishing activities are frequently centered on fish camps or home communities within the drainage. Some households from tributary communities along the Yukon River, like Shageluk and Venetie, may operate or share fish camps along the mainstem Yukon River. Subsistence-caught salmon are commonly dried, smoked, canned, or frozen for human consumption, and those destined for dogs are usually dried or cribbed (i.e., whole fish air-frozen and stacked).

Yukon Area subsistence and personal use fisheries typically employ drift gillnets, set gillnets, and fish wheels for salmon harvest. Set gillnets are used throughout the area, and drift gillnets are allowed from the mouth of the Yukon River through District 4, just downriver from the community of Tanana at river mile 681. Alaska regulations for gear were based on traditional practices (5 AAC 01.220 and 5 AAC 77.717). Although fish wheels were permitted for subsistence fishing throughout the drainage, they were predominantly used in the upper portion of the Yukon River, where driftwood availability, river conditions, and fishing locations are more favorable.

Estimates of subsistence and personal use harvests were obtained through a combination of voluntary harvest surveys and mandatory fishing permit reports. Roughly two-thirds of the Yukon Area lacks connection to the main Alaska road system. In these remote areas, voluntary household surveys were conducted in each community to estimate the subsistence harvest. Fishing permits for subsistence or personal use were obligatory in the remaining road-accessible regions of the Yukon Area, including sections of the Koyukuk, Tanana, and upper Yukon Rivers (Figure 1). Harvest records must be submitted annually in permit-required areas.

Within the Fairbanks Nonsubsistence Area established in 1992 (Figure 2), personal use fishing permits and resident sport fish licenses were necessary for fishing. Nonsubsistence areas were defined in state regulation as regions where subsistence was not a principal characteristic of the economy, culture, and way of life (Alaska Statute 16.05.258(c)). Since 1995, personal use fishing has been open in nonsubsistence areas to all Alaska residents, regardless of their place of residence. The Fairbanks Nonsubsistence Area personal use fishery imposes limits of 750 Chinook and 5,000 chum salmon until August 15, and 5,200 chum and coho salmon combined after August 16.

Alaska state law prioritizes subsistence as the highest use of salmon, influencing fishery management decisions. Consequently, commercial, personal use, and sport harvests have a lower priority than subsistence fishing. In some parts of the Yukon Area, commercial fishing occurs

alongside subsistence fishing, and many locals participate in both activities. A valid limited entry commercial fishing permit is required to participate in commercial fisheries, but any Alaska resident can partake in subsistence salmon fisheries. Income generated from commercial fishing is often utilized by households to procure items associated with subsistence harvesting, such as fuel and fishing equipment. Salmon caught during subsistence openings cannot be legally bought or sold; however, commercially harvested salmon may be retained for subsistence use. In certain areas, subsistence fishing periods are separated from commercial fishing through closures before, during, and after commercial periods, and in others, subsistence and commercial fishing take place simultaneously.

Subsistence-caught salmon are primarily intended for human consumption, although a significant portion is fed to dogs. During the active fishing season, households throughout the Yukon Area feed salmon scraps to dogs. Harvesting salmon for sled dog consumption is prevalent in the Upper Yukon Area, where sled dogs are commonly used for recreation and transportation. This practice is less common in the Lower Yukon Area, resulting in fewer whole salmon being fed to dogs there. Information collected about dogs in the household survey project has not been categorized by their use for transportation or as pets. Andersen and Scott (2010) found that salmon accounted for 25% to 92% of all fish species fed to sled dogs among 6 Yukon River communities. However, due to the high value of Chinook salmon for human consumption, a regulation was adopted in 2001 stipulating that only Chinook salmon under 16 inches in length or unfit for human consumption may be fed to dogs (5 AAC 01.240(d)). Most of the subsistence salmon used for dog food are dried summer chum salmon, and fall chum and coho salmon are usually cribbed. The average number of salmon fed to dogs has declined since the late 1990s, attributable to various factors including poor chum salmon runs from 1998 to 2002, reduced carcasses from roe fisheries, increased costs of equipment needed for fish harvesting, and decreased reliance on dogs for transportation.

The 2023 subsistence salmon harvest survey and permit programs collected quantitative information on salmon harvests by species. The primary method for estimating subsistence harvest in the Yukon Area was the annual postseason salmon harvest survey. In addition to salmon harvests, the survey gathered data about gear types used, harvest distribution, nonsalmon species harvests, the number of dogs, and the number of salmon fed to dogs. Qualitative information regarding salmon health and quality, subsistence fishing success, and fishery concerns was also obtained from households. Over time, changes have been made to the survey project, including refinements to gear questions estimating by type and mesh size-specific harvests of Chinook and summer chum salmon. This report presents estimates of subsistence and personal use salmon and nonsalmon fish harvests within the Alaska portion of the Yukon River drainage during the 2023 season. In 2023, survey design returned to pre-COVID-19 methods. Project years 2020, 2021, and 2022 follow the same study design as prior years, but precautions were implemented in response to the beginning of the COVID-19 pandemic. For example, remote survey techniques were used to reduce contact with community residents, including mail, phone, and online surveys. In addition, efforts were made to contact all known subsistence households to mitigate the likelihood of few survey responses due to remote techniques. The 2023 project year represented a full return to pre-COVID-19 survey methods, which relied primarily on in-person survey techniques.

## **STUDY AREA**

The study area encompassed the Yukon Area, including all waters of Alaska within the Yukon River drainage and coastal waters extending from Point Romanof southward to the Naskonat

Peninsula (Figure 1). Postseason harvest interviews were conducted in 33 communities located off the road system. Harvests from communities accessible by road on the Yukon (portions of District 5), upper Subdistrict 4-A in the Koyukuk River drainage, and all communities along the Tanana River (District 6) were documented through mandatory fishing permits and were therefore excluded from the household surveys (Figure 1).

The Lower Yukon Area encompasses coastal waters and the Yukon River drainage from its mouth upstream to Old Paradise Village (river mile 301), including management Districts 1–3. The Upper Yukon Area includes the Yukon River drainage from Old Paradise Village upstream to the Canada border (river mile 1,224), encompassing management Districts 4–6. Additionally, the Upper Yukon Area includes 3 major tributaries where harvests occur: the Koyukuk, Tanana, and Porcupine Rivers. The Coastal District covers the remaining coastal waters of the Yukon Area not included in District 1 and includes the communities of Scammon Bay and Hooper Bay (Figure 1). Harvests from Coastal District communities may include fish not necessarily bound for the Yukon River (Kerkvliet 1986). The communities of Chevak and Arctic Village were not included in this harvest survey due to their distance from the Yukon River mainstem and their historically low salmon harvests. In this report, the term Yukon Area encompasses Districts 1–6 and the Coastal District.

## **OBJECTIVES**

The objectives of the study were as follows:

1. Estimate and record the number of salmon harvested for subsistence and personal use by community, district, and subdistrict in the Yukon Area.
2. Document gear types used in subsistence and personal use fisheries and estimate the percentage of Chinook and summer chum salmon harvested by gear types in surveyed communities.
3. Document and estimate the number of dogs and the amount of salmon fed to dogs within Yukon Area communities.
4. Estimate and record the number of nonsalmon fish species harvested for subsistence and personal use purposes by community, district, and subdistrict.

## **METHODS**

The overall count of salmon harvested in subsistence and personal use fisheries was approximated by utilizing data gathered from household surveys, permits for subsistence and personal use, test fishery information provided by research projects, harvest calendars (Appendix B1), and fish retained from commercial fishing activities and recorded on fish tickets. In surveyed localities, data were acquired from designated households and extrapolated to estimate the total community harvest. For communities falling within permit areas, the total harvests reported on returned permits were aggregated, albeit without expansion to adjust for any harvest linked to unreturned permits (see Methods: Permit Program).

### **HOUSEHOLD SUBSISTENCE SURVEYS**

#### **Survey Design**

The household harvest survey methodology was based on a stratified random sample design (Cochran 1977). In this design, a household within the community was the primary sampling unit.

A household generally consisted of 1 or more people living together in a dwelling and sharing the same phone number or mailing address. Multiple generations living in a single dwelling were considered a household. Individuals living in detached but physically related structures were considered part of a household if they participated as a unit in harvesting, processing, or distributing resources and they shared contact information.

Under the survey design, each household was stratified into 5 harvest groups based on the average combined total harvest of Chinook, summer chum, fall chum, and coho salmon during the most recent 2 surveys conducted within the previous 5 years. Pink salmon and sockeye salmon harvest was not considered when assigning households to a harvest group. When 2 recent years of harvest data were unavailable, the household's harvest group designation remained the same as the previous year. If subsistence restrictions were in place during the previous 5 years, a household may have been unable to harvest as many salmon as usual. Restrictions were in place during at least part of the 2018–2023 fishing seasons. As a result, 2023 households may have been moved from a lower harvest group to a higher harvest group but were not downgraded to a lower harvest group based on their 2018–2023 harvest data. The harvest groups and survey coverages (i.e., percentages of households selected to be surveyed within the group) were as follows:

1. *Unknown*: Unknown harvest level; survey coverage 100%.
2. *Do not fish*: Households that do not harvest salmon; survey coverage 30%.
3. *Light harvester*: Harvest of 1–100 total salmon; survey coverage 30%.
4. *Medium harvester*: Harvest of 101–500 total salmon; survey coverage 100%.
5. *Heavy harvester*: Harvest of more than 500 total salmon; survey coverage 100%.

There are several exceptions to this sampling strategy by design. Due to the large numbers of test fishery donations to the communities of Emmonak and Pilot Station, and the historically large subsistence harvests in Tanana and Holy Cross, sampling rates in the *light harvester* and *do not fish* groups were increased to 50%. Additionally, when a harvest group contained 5 or fewer households, all households in that group were selected (100% coverage). Last, if a community had less than 40 households, all households were included in the survey (100% coverage).

A portion of *do not fish* households are surveyed each year to accurately represent all types of households in the sample and to maintain accuracy in the household database and strata. The household stratification was updated prior to the survey and was not re-stratified during or after the survey, except for the unknown harvest group. New households (e.g., moved into the community, formation of households due to marriage or independence) that were discovered prior to or during the survey were classified as unknown.

## Survey Questionnaire

Digital survey forms were used to provide additional options for data collection, enhance efficiency, and minimize data entry errors (Appendix B3). ArcGIS Survey123 was utilized to create a comprehensive digital version of the survey. Additionally, a web-based survey was available online to allow households the opportunity to self-administer the survey. Every household unreachable in person or by telephone received a paper mail survey, along with a letter containing a link to the web survey and a unique survey ID for accessing it. Furthermore, the web survey link was advertised on the ADF&G Facebook page to promote its availability.

The total number of salmon harvested was determined by querying households about their group harvests, the harvest area, and the salmon retained. Starting in 2020, households were not directly asked whether salmon were retained from a commercial fishery. Instead, they were prompted to confirm all harvests, including salmon retained from commercial sources and fish intended for dog food, shared with other families, or lost. If a household reported a portion of their subsistence catch as lost, surveyors verified that these fish were included in the total harvest. If the fish were utilized as dog food, they were allocated to questions pertaining to dog food, even if the original intent differed. Households were also queried about their primary gear (i.e., the gear that caught the most fish) and whether they used a secondary gear type. If a household harvested Chinook or summer chum salmon, they were asked about the gear types and mesh size used for each species (Appendix B3).

To ascertain the distribution of salmon within a community and corroborate responses from related households, the survey included inquiries about group harvests and shared harvests. Additionally, households were asked about the number of salmon received from subsistence or test fishery harvests to validate the accuracy of harvest reports between recipients and donors.

Further demographic and clarifying questions were posed about the number of people in the household, the number of dogs, and the harvest of nonsalmon species throughout the preceding 12 months. For instance, households reported harvesting Arctic lamprey during October–December of 2022 or sheefish in May 2023, during the survey interviews in September 2023. Responses regarding quantities of fish harvested in relation to the herring question were recorded as herring; however, this category encompassed misidentified species such as rainbow smelt (*Osmerus mordax*) or capelin (*Mallotus villosus*). Only households in coastal and lower river communities were questioned about harvesting herring roe on kelp. In 2023, owing to delayed subsistence fishing opportunities (Jallen 2023), households were asked if they still intended to fish for salmon. If affirmative, surveyors made 3 attempts to contact households to ascertain whether additional harvests occurred, and surveys were updated accordingly.

## **Survey Implementation**

Participation in survey interviews was voluntary, and confidentiality regarding household harvest information was strictly maintained throughout the process. The interviews were strategically scheduled, starting in the Coastal District and Lower Yukon Area in September and moving upstream to Grayling, with subsequent interviews conducted in communities upstream of Grayling in October. This chronological sequence ensured comprehensive coverage of the salmon harvest season (Figure 1). The interviews were primarily conducted by 2 ADF&G technicians to uphold consistency across all survey activities.

During community visits, household lists were updated to reflect any changes, including relocations, deaths, or the formation of new households. Local community members played a crucial role in assisting with this task. Moreover, additional sources such as cooperation with other agencies and the utilization of phone directories and online resources such as tribal and corporation websites were used to maintain and update these household lists. The 2023 lists were developed based on information collected in 2022, ensuring continuity and accuracy in the survey data.

Interviews were strategically timed for September and October, coinciding with the conclusion of salmon fishing activities. This timing facilitated easier recall of harvest numbers by participants. Surveyors made attempts to contact selected households, making at least 3 attempts before resorting to mail surveys. These mail surveys contained concise versions of the household survey

focused specifically on individual household harvests, thereby ensuring comprehensive data collection, even from households initially unreachable by phone.

Before conducting interviews, surveyors underwent comprehensive training in interviewing techniques and were briefed on current fishery issues to ensure they were well-prepared to engage effectively with household members. They were trained to ask questions consistently and create a cooperative atmosphere conducive to accurate information recall. Additionally, community residents employed by YRDFA (Yukon River Drainage Fisheries Association) were instrumental in updating household lists and community information documents, further enhancing the efficiency and accuracy of the survey process. In instances where these residents were unavailable, surveyors collaborated with local sources such as tribal administrators or school principals to gather contact information for household members.

Following the interviews, editing of digital survey data was conducted to ensure clarity and completeness, thereby guaranteeing the accuracy of the final dataset. Notably, when harvest amounts were reported in nonstandard terms, a conversion sheet based on local measures was utilized to estimate the number of fish harvested accurately. Furthermore, follow-up calls were occasionally made for further clarification or to reconcile information among households that harvested or shared salmon, thereby enhancing data consistency and reliability.

## DATA ANALYSIS AND ESTIMATION METHODS

Denote that:

$i$  = individual household,

$j$  = harvest group ( $j = 1 \dots 5$ ),

$k$  = community,

$l$  = harvest location,

$m$  = harvest gear, and

$a$  = specific attributes.

Survey responses were denoted by:

$y_{ijkl}$  = the number of fish (e.g., Chinook, chum, coho, pink, whitefish, sheefish, northern pike) harvested by sampled household ( $i$ ) in harvest group ( $j$ ) of community ( $k$ ), at location ( $l$ ),

$y_{ijkm}$  = the number of Chinook or summer chum salmon harvested by sampled household ( $i$ ) in harvest group ( $j$ ) of community ( $k$ ) with fishing gear ( $m$ ),

$y_{ijk}$  = response of sampled household ( $i$ ) in harvest group ( $j$ ) of community ( $k$ ),

$n_{jk}$  = the number of sampled households in harvest group ( $j$ ) of community ( $k$ ),

$n_{kj(a)}$  = the number of sampled households having a specific attribute ( $a$ ) in harvest group ( $j$ ) of community ( $k$ ),

$N_{jk}$  = the total number of households in harvest group ( $j$ ) of community ( $k$ ), and

$N_k$  = the total number of households in surveyed community ( $k$ ).

## Estimates of Population and Harvests

The following equations were used to estimate populations (the number of people and dogs), harvests (the number of fish harvested by subsistence fisheries), and uses of salmon harvested (kept for household use, given away, or fed to dogs). In this method, total numbers for each community ( $Y_k$ ) were estimated by expanding mean responses ( $\bar{y}_{jk}$ ; e.g., the number of people or harvest) of sampled households at each harvest group with total number of households in each harvest group ( $N_{jk}$ ), and summing across the harvest groups as:

$$\hat{Y}_k = \sum_{j=1}^5 N_{jk} \bar{y}_{jk} \quad \text{where} \quad \bar{y}_{jk} = \frac{\sum_i y_{ijk}}{n_{jk}} \quad (1)$$

A 95% confidence interval (95% CI) for the population and harvest were calculated as:

$$95\%CI_k = t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(\hat{Y}_k)} \quad (2)$$

$$\text{where} \quad \hat{V}(\hat{Y}_k) = \sum_{j=1}^5 N_{jk}^2 V(\bar{y}_{jk}) \quad \text{and} \quad V(\bar{y}_{jk}) = \left( \frac{N_{jk} - n_{jk}}{n_{jk}} \right) \frac{\sum_j (y_{ijk} - \bar{y}_{jk})^2}{n_{jk}(n_{jk} - 1)}$$

When responses of a harvest group(s) were not collected (e.g., no households were surveyed or if surveyed households declined to answer), response of the harvest group(s) of a community ( $\bar{y}_{jk}$ ) was treated as missing. In this case, response of the missing harvest group was assumed to be an average of the rest of the harvest groups, so that the total response of the community ( $\hat{Y}_k$ ) was calculated as:

$$\hat{Y}_k = \frac{N_k}{\sum_{j=1} N_{jk}} \sum_{j=1} N_{jk} \bar{y}_{jk} \quad (3)$$

A 95% confidence interval (95% CI<sub>k</sub>) for the total response of the community was calculated as:

$$95\%CI_k = t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(\hat{Y}_k)} \quad \text{where} \quad \hat{V}(\hat{Y}_k) = \left( \frac{N_k}{\sum_{j=1} N_{jk}} \right)^2 \sum_{j=1} N_{jk}^2 V(\bar{y}_{jk}) \quad (4)$$

Because estimates of the responses in each community were independent and mutually exclusive, the estimate of surveywide total ( $\hat{Y}$ ) was calculated as:

$$\hat{Y} = \sum_{k=1}^5 \hat{Y}_k \quad (5)$$

A 95% confidence interval (95% CI) for the surveywide total was calculated as:

$$95\%CI = t_{(0.025, df=n-1)} \cdot \sqrt{\hat{V}(\hat{Y})} \quad \text{where} \quad \hat{V}(\hat{Y}) = \sum_{k=1} \hat{V}(\hat{Y}_k) \quad (6)$$

Harvest estimates by harvest group were not presented for reasons of confidentiality.

### Estimates of the Number of Households with a Specific Attribute

Equations 7 and 8 were used to estimate the number of households with the following specific attributes ( $a$ ): subsistence fished, owned dogs, or fed whole salmon to their dogs. In this method, the number of households in a community with the above attribute ( $\hat{N}_{k(a)}$ ) was estimated by expanding the proportion of sampled households having the above attribute ( $p_{jk(a)}$ ) with the total number of households in each harvest group and summing across the harvest groups.

$$\hat{N}_{k(a)} = \sum_{j=1}^5 N_{jk} p_{jk(a)} \quad \text{where} \quad p_{jk(a)} = \frac{n_{jk(a)}}{n_{jk}} \quad (7)$$

A 95% confidence interval (95%  $CI_k$ ) for the number of households with a specific attribute was calculated as:

$$95\%CI_k = t_{(0.025, df=n-1)} \cdot \sqrt{\hat{V}(\hat{N}_{k(a)})} \quad \text{where} \quad \hat{V}(\hat{N}_{k(a)}) = \sum_{j=1}^5 N_{jk}^2 V(p_{jk(a)}) \quad (8)$$

$$V(p_{jk(a)}) = \left( \frac{N_{jk} - n_{jk}}{N_{jk}} \right) \left( \frac{p_{jk(a)}(1 - p_{jk(a)})}{n_{jk} - 1} \right)$$

Correction for the missing harvest groups and total number of households with each characteristic in the surveywide ( $\hat{N}_{(s)}$ ) and its 95% confidence interval (95% CI) were calculated using Equations 3, 4, 5, and 6.

### Estimates of Primary Gear Type Usage by Community

Estimates of primary gear type usage were calculated using information from a subset of households that had the attribute subsistence fished ( $s$ ). The number of households that used a specific primary gear (e.g., gillnet, fish wheel) for subsistence fishing was estimated by expanding the proportion of sampled households that used a specific gear type ( $m$ ) for subsistence fishing ( $\hat{q}_{jkm(s)}$ ) with the proportion of households that subsistence fished ( $p_{jk(s)}$ ) by Equation 7 and total households in each harvest group and summing across the harvest groups,

$$\hat{N}_{km(s)} = \sum_j N_{jk} p_{jk(s)} q_{jkm(s)} \quad \text{where} \quad q_{jkm(s)} = \frac{n_{jkm(s)}}{n_{jk(s)}} \quad (9)$$

A 95% confidence interval (95%  $CI_k$ ) for the number of households using a specific gear was estimated as:

$$95\%CI_k = t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(\hat{N}_{km})} \quad (10)$$

$$\hat{V}(\hat{N}_{km(s)}) = \sum_{j=1}^5 N_{jk}^2 V(p_{jkm(s)})$$

where

Variance of proportion for households that subsistence fished was calculated following Goodman (1960):

$$V(p_{jkm(s)}) = (p_{jk(s)})^2 V(q_{jkm(s)}) + (q_{jkm(s)})^2 V(p_{jk(s)}) - V(q_{jkm(s)}) V(p_{jk(s)})$$

$$V(q_{jkm(s)}) = \frac{q_{jkm(s)} \cdot (1 - q_{jkm(s)})}{n_{jk(s)} - 1}$$

where

(11)

Correction for the missing harvest groups and total number of households with each characteristic in the surveywide ( $\hat{N}_{(s)}$ ) and its 95% confidence interval (95% CI) were calculated using Equations 3, 4, 5, and 6.

### Estimates of Salmon Harvest by Gear Type or Location

The harvest of Chinook and summer chum salmon was further estimated by harvest gear or mesh size (e.g., 6-inch, 7.5-inch, fish wheel, etc.) and by fishing location (i.e., district, subdistricts, or river drainage where fish were caught). In these estimations,  $l$  and  $m$  are interchangeable depending on which is being estimated. The number of salmon harvested at each community ( $\hat{Y}_{km}$ ) was estimated by expanding the proportion of salmon harvested by sampled households ( $\hat{p}_{jkm}$ ) with each gear type or location ( $m$  or  $l$ ) within a harvest group ( $j$ ) with mean harvest ( $\bar{y}_{jk}$ ) estimated in Equation 1 and total number of households in each harvest group ( $N_{jk}$ ), and summing across the harvest groups:

$$\hat{Y}_{km} = \sum_{j=1}^5 N_{jk} \bar{y}_{jkm}$$

$$\bar{y}_{jkm} = \bar{y}_{jk} p_{jkm}, \quad p_{jkm} = \frac{\sum_i y_{ijkm}}{\sum_i \sum_m y_{ijkm}}$$

where

(12)

A 95% confidence interval (95% CI<sub>k</sub>) for the gear or location-specific Chinook and summer chum salmon harvest was estimated as:

$$95\% \text{CI}_k = t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(\hat{Y}_{km})}$$

$$\hat{V}(\hat{Y}_{km}) = \sum_{j=1}^5 N_{jk}^2 V(\bar{y}_{jkm})$$

where

(13)

Variance of mean harvest by gear type or location was calculated following Goodman (1960):

$$V(\bar{y}_{jkm}) = (\bar{y}_{jk})^2 V(p_{jkm}) + (p_{jkm})^2 V(\bar{y}_{jk}) - V(p_{jkm}) V(\bar{y}_{jk})$$
(14)

$$V(p_{jkm}) = \frac{p_{jkm} \cdot (1 - p_{jkm})}{\sum_i \sum_m y_{ijkm} - 1}$$

where

Correction for the missing harvest groups and total number of households with each characteristic in the surveywide ( $\hat{Y}_m$ ) and its 95% confidence interval (95% CI) were calculated using Equations 3, 4, 5, and 6. Harvests by harvest group were not presented for reasons of confidentiality.

### **Unexpanded Totals**

The reported harvest of Alaska blackfish, Arctic char, Arctic grayling, Arctic lamprey, burbot, Pacific herring, tomcod and saffron cod, and roe on kelp remained unexpanded due to harvest data and project design constraints.

### **Confidentiality**

The harvests from the communities of Huslia and Hughes, Allakaket and Alatna, Bettles, Rampart and Stevens Village, Fort Yukon and Birch Creek, Circle and Central, as well as Nenana and Healy were consolidated, partly to uphold the confidentiality of smaller communities. These communities were grouped based on their proximity and shared fishing areas. Combined harvests and confidence intervals were computed using the equations detailed in Methods: Data Analysis and Estimation Methods.

## **SUBSISTENCE HARVEST CALENDAR PROGRAM**

Subsistence harvest calendars were mailed to households in communities included in the Yukon Area surveys to collect daily harvest data. These calendars were distributed before the salmon fishing season commenced. Additionally, households previously identified outside of surveyed communities, but engaged in subsistence fishing beyond permit areas, also received these calendars. The purpose was to enhance the accuracy of harvest reporting and offer insights into harvest timing.

In May 2023, calendars were mailed to households, excluding those designated as nonfishing. Before community surveys commenced, flyers were disseminated to post offices, stores, schools, and city offices, reminding participants to have their harvest calendars ready for pickup during the household interviews. Households that returned a duly completed 2023 harvest calendar by January 1, 2024, stood a chance to win 1 of 12 \$50 prizes. This initiative aimed to ensure the comprehensive collection of harvest data from the surveyed communities.

## **PERMIT PROGRAM**

Subsistence and personal use permits were obtainable from ADF&G offices in Fairbanks, Delta Junction, and Tok. Permit applications were sent to permit holders from the previous year with a postage-paid return envelope. Since 2018, permits have been accessible online through the ADF&G website.

Permit holders were obliged to log their daily fish catch on the permit and return it to ADF&G within 10 days of its expiration date. Harvests recorded on permits were tallied, but not extrapolated, aiming for a return rate exceeding 95%. Various methods were employed to prompt permit returns, including advisory and radio announcements. Additionally, nonreporting households received up to 2 reminder letters, followed by contact via telephone or email if

necessary. Subsequent follow-up calls were made to clarify harvest details, gear types, and harvest locations by species.

Households fishing in multiple permit areas were counted only once to determine the total number of fishing households. Additionally, households permitted to harvest northern pike in the Tolovana River were excluded from the total number of salmon fishing households unless they also harvested salmon. Due to the location between survey and permit areas, Stevens Village was included in the annual household harvest survey. However, permit data may have been used to supplement the survey.

Permit holders in the upper portion of Subdistrict 5-D were required to indicate their daily fishing location as above or below the sonar project near the community of Eagle. This distinction was vital for deducting harvests above the sonar from the sonar estimate to determine U.S./Canada border passage for Chinook and fall chum salmon. Similarly, permits for the northern pike fishery in the Tolovana River drainage contain fishing locations to differentiate between fishing inside or outside of the Chatanika Harvest Area (CHA).

## **RESULTS**

### **OVERALL ESTIMATION OF HARVEST**

The subsistence fishery accounted for 100% of the total harvest, with an estimated 37,352 salmon caught because no salmon were harvested in the personal use fishery in 2023. The personal use fishery was closed in 2023 due to restrictions. This harvest included 1,564 Chinook, 25,866 summer chum, 6,037 fall chum, 1,399 coho, and 2,486 pink salmon taken by 660 households in the Yukon Area (Table 1; Figure 3; Appendices C1–C5). These overall totals included survey estimates, subsistence permits, donations from test fisheries, and funerary permits. Chinook salmon accounted for 4% of the total subsistence salmon harvest (excluding minor harvests of sockeye salmon). Summer chum accounted for 69% of the total, fall chum 16%, coho 4%, and 7% pink salmon (Figure 3; Appendix A1).

### **OVERALL GEAR USAGE**

The number of households that reported primary gear types used to harvest all salmon species consisted of 428 set gillnets (65%), 220 other gears, including dip nets, beach seines, or hook and line (33%), 7 drift gillnets, (1%), and 3 fish wheels, (<1%; Table 2). Within the subset of surveyed communities, an estimated 588 (90%) of subsistence-caught Chinook salmon were harvested by 4-inch gillnets; 10 (2%) by 6-inch gillnets; 0 (0%) by 7.5-inch gillnets; 57 (9%) by dip nets or beach seines; and 0 (0%) by fish wheels (Appendix A5; not including commercial and test fishery donations). Within the subset of surveyed communities, 14,620 (64%) of subsistence-caught summer chum salmon were caught by 4-inch gillnets; 7,784 (34%) by dip nets, beach seines or other gear types; 591 (3%) were harvested by 6-inch gillnets; 32 (<1%) by 7.5-inch gillnets; and 0 by fish wheels (Appendix A6).

### **SALMON HARVEST FOR DOG FOOD**

An estimated total of 7,635 summer chum, fall chum, and coho salmon were utilized for dog food by subsistence and personal use households combined (Table 3; Appendix C6). The estimated number of salmon fed to dogs represented 20% of salmon harvested for subsistence in the Yukon Area (not including pink or sockeye salmon). Approximately 90 subsistence households owned an

estimated 4,297 dogs (Table 3). The number of salmon fed to dogs from surveyed communities does not include an estimated 19 pink salmon that were also fed to dogs (Table 3).

## **SUBSISTENCE SURVEYS**

A total of 1,774 households were selected to be surveyed from the 2,753 households identified within the Yukon Area communities (Table 4). ADF&G Division of Commercial Fisheries conducted surveys in all 33 communities between September 5 and November 4, 2023. Of the surveyed households there were 75 households (4.3%) traveled to the Yukon River to fish in or near surveyed communities but resided outside surveyed communities. In total, information was collected from 1,373 households (50% of the total identified households in the survey area; Table 4).

Overall, 77% of selected households were successfully surveyed in 2023. Of which, 84% of the *heavy harvester* and 76% of the *medium harvester* households were successfully surveyed. Of the *light harvester* households, 90% were surveyed. For the *unknown* households 64% were surveyed. Of the households identified as *do not fish*, 78% were surveyed (Appendix A7). Based on responses to the survey questions, an estimated 601 households participated in the subsistence fishery in 2023 (Table 4).

### **Harvest by Location**

Households did not always harvest fish in the district where their community was located. Therefore, the estimated total from a communities' district did not always equal the total from the harvest district (Table 5). Households make this choice to take advantage of harvest opportunities for different salmon stocks or legal gear types. The greatest number of Chinook salmon were harvested in District 1 (44%). Most summer chum salmon (39%) and coho salmon (53%) were also harvested in District 1. Most fall chum (49%) were harvested in the Teedriinjik River. The largest tributary harvests of all salmon species combined were from the Teedriinjik River (1,829 salmon) and Koyukuk (79 salmon) Rivers. Harvests from Subdistricts 4-C and 5-A are thought to include primarily salmon oriented to the Tanana River (Buklis 1981; Spearman and Miller 1997), however, and those harvests were estimated to be 10 Chinook and 7 summer chum salmon in 2023 (Table 5). The sum of community harvest by location may not match community harvest estimates in other tables due to estimate rounding. Salmon harvests by location were estimated with error (Appendix A8).

### **Test Fishing Donations and Funerary Permit Harvest**

In addition to subsistence fishing, some households received Yukon River salmon through other means. A total of 8 surveyed communities (Alakanuk, Emmonak, Kotlik, Mountain Village, Pilot Station, Tanana, Steven's Village/Rampart, and Fort Yukon/Birch Creek) received salmon from test fishery projects, which were added to community harvest estimates (Appendix A2). From the communities that received donations from test fishing, Chinook salmon from test fisheries made up 29% of the subsistence harvest. Summer chum, fall chum, and coho salmon from 6 test fisheries made up 9%, 40%, and 19%, respectively (Table 1; Appendix A2).

Funerary permits were issued to 2 communities (Koyukuk and Galena) to provide for salmon harvests used in ceremonial potlaches. These salmon harvests were added to their respective communities. In 2023, a total of 16 Chinook salmon were harvested by permit holders (Table 1; Appendix A3).

## **Nonsalmon Fish Species**

The estimated subsistence harvest of other fish species in Yukon Area surveyed communities included 3,891 broad whitefish, 11,525 humpback whitefish, 8,520 small whitefish, 15,562 northern pike, and 8,614 sheefish (Table 6). The majority of estimated sheefish (66%) and small whitefish (52%) were harvested by District 1 households. In previous reports, broad and humpback whitefish were considered large whitefish; this report breaks out harvest by species. Small whitefish are least cisco, Bering cisco, and round whitefish (Table 6).

Unexpanded harvest estimates were produced for 3 resident, 2 marine, and 1 anadromous nonsalmon species. Resident freshwater species such as Alaska blackfish, burbot, and Arctic grayling were widely distributed, but they were not harvested throughout the drainage (Table 7). Marine species such as Pacific herring and tomcod were only available to communities located near the coast, such as the Coastal District and Districts 1–2. In the Coastal District and District 1, 12 interviewed households also reported the harvest of 692 pounds of herring roe. Households also reported harvesting 5,452 Arctic lamprey for subsistence purposes primarily in Districts 2–3, between the communities of Mt. Village and Russian Mission (Table 7).

## **Survey Comments**

At the end of each survey, households had the opportunity to comment on any topic related to fishing they felt was important. The most numerous comment category (497 responses) was related to dissatisfaction with management, such as a desire to have longer openings for Chinook salmon and more commercial openings. The second largest group of comments (32 responses) related to satisfaction with management actions. The third largest group of comments (29 responses) stated dissatisfaction with the salmon runs. Comments discussing issues related to equipment, such as boats or nets (21 responses), was the fourth largest group. Conserving salmon or mentioning efforts to conserve (19 responses) was the fifth largest group of comments. Expenses were mentioned by 5 households. River conditions, such as high water and drift, and poor weather affected several households (11 responses).

## **PERMITS**

### **Subsistence Permits**

The 2023 subsistence permit harvest information was based on permits returned by March 6, 2024 (Tables 8–10). Subsistence fishing permits were required in upper Subdistrict 4-A (Koyukuk River drainage), District 5 (Yukon River) and District 6 (Tanana River). Of the 569 subsistence permits issued, 550 (98%) were returned, and 245 reported subsistence fishing for salmon and nonsalmon (Table 8). Total subsistence harvests of 370 Chinook, 90 summer chum, 96 fall chum, and 8 coho salmon were reported (Table 9). The total harvest of other fish species included: 2,813 whitefish, 47 sheefish, 95 burbot, 2,335 northern pike, 139 longnose suckers, and 9 Arctic grayling (Table 9; Appendices C7–C12).

### **Personal Use Permits**

In 2023, all 33 of the personal use permits that were issued were returned (Table 8). A total of 6 households were issued both subsistence and personal use permits, and 2 households were issued both types of personal use permits (salmon and nonsalmon). Harvest was reported on 6 personal use fishing permits, 2 of which were issued for salmon and 4 were issued for nonsalmon species.

No salmon were reported by personal use permit holders. The total harvest of nonsalmon fish species included 39 whitefish and 9 longnose suckers (Table 9; Appendix C12).

### **Harvest Timing from Calendar and Permit Data**

Subsistence calendar and permits, where harvests were recorded by day, provided information about harvest timing within portions of the Yukon Area. In 2023, households returned 94 subsistence harvest calendars (approximately 5% of total distributed). A total of 18 calendars (19% of those returned) documented salmon harvest information. The remaining households that returned harvest calendars in 2023 indicated they did not fish or returned a blank calendar (81%). In 2023, combined permit and calendar data suggested there was similarity in harvest timing among Coastal District and Districts 1–3, with most reported harvest from late May into July. Districts 4 and 5 reported similar harvest timing, with most effort occurring in July and reduced effort continuing throughout the fall months. In District 6, relatively consistent harvests were recorded throughout the May–October period with indications of increased harvest effort in July (Figure 4).

## **DISCUSSION**

In 2023, fishing restrictions were imposed on subsistence fisheries in the Yukon Area to protect runs of Chinook, summer chum, and fall chum salmon for escapement. These restrictions affected fishing time and gear usage (Gleason et al. 2024; Jallen 2023). The overall subsistence salmon harvest in 2023 (including Chinook, chum, coho, and pink salmon) was approximately 61% below the 2018–2022 average of 93,467 and 83% below the average of 2013–2017 (Figure 3). These averages represent years with fishing restrictions, including the closures during the Chinook salmon run from 2012–2022 (Figures 3 and 5). Specifically, the 2023 Chinook salmon harvest in the Yukon River decreased by 93% compared to the 2018–2022 average and was 91% below the 2013–2017 average (Figure 3; Appendix C1). Furthermore, the 2023 summer chum, fall chum, and coho salmon harvests decreased by 31%, 79%, and 61% respectively, in comparison to their individual averages of 2018–2022 (Figures 3 and 5; Appendices C2–C4). Additionally, the total pink salmon harvest in 2023 was 10% below the 2013–2021 odd-year averages (Figures 3 and 5; Appendix C5).

### **AMOUNTS NECESSARY FOR SUBSISTENCE**

The amounts necessary for subsistence (ANS) ranges for the Yukon Area are as follows: Chinook (45,500–66,704), summer chum (83,500–142,192), fall chum (89,500–167,900), coho (20,500–51,980), and pink salmon (2,100–9,700). These ANS ranges were established in 2001 for Chinook, summer and fall chum, and coho salmon, based on subsistence harvest data from 1990–1999 (excluding 1993 and 1998 for fall season restrictions; ADF&G 2001). The ANS range for pink salmon was established in 2013 (Brown and Jallen 2012). Originally developed as an index to ensure reasonable opportunity in the subsistence fishery, the ANS ranges serve as a measure of subsistence fishery provision and do not include personal use harvests. In 2023, Chinook, summer chum, fall chum, and coho salmon harvests fell below their respective ANS. Pink salmon met ANS in 2023 (Figure 5).

Poor runs have limited subsistence fishing opportunities for salmon in the last 10 years or so. These reductions largely focused on the harvest of Chinook salmon. However, more recently, the poor runs of chum and coho salmon have led to additional reductions in subsistence fishing

opportunities. The opportunities provided more recently during times of salmon conservation have been directed toward fishing for nonsalmon species.

Reductions in subsistence fishing opportunities coupled with changes in the utilization of subsistence salmon harvests and a decrease in the number of dogs compound the ability to achieve ANS levels. The subsistence harvest has traditionally included a significant portion of salmon, primarily used as dog food. Prior to the establishment of ANS ranges, an average of 190,612 chum and coho salmon were annually fed to dogs from 1992–1999 (Borba and Hamner 2001). In comparison, from 2018–2022, an average of 23,931 chum and coho salmon were fed to dogs annually (Appendix C6).

## **NONSALMON FISH SPECIES**

The harvest estimates of nonsalmon fish species derived from this project provide valuable insights, despite the likelihood of underestimation in the reported values. The data collected on nonsalmon species have contributed to documenting the locations of harvests and identifying the species that hold significance for communities in the Yukon Area. The combined total harvest of nonsalmon fish species from surveys and permits in 2023 was 34% lower than the average harvest from 2018–2022 (Appendix C13). The overall percentage of nonsalmon harvest compared to the harvest of salmon species increased in the last few years (Appendix C14).

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## **TABLES AND FIGURES**

Table 1.—Subsistence and personal use salmon harvest estimates, including commercially related, test fishery, and funerary permit harvests provided for subsistence use, Yukon Area, 2023.

Community	Number of fishing households <sup>a</sup>	Estimated salmon harvest				
		Chinook	Summer chum	Fall chum	Coho	Pink
Hooper Bay	73	24	4,574	40	174	738
Scammon Bay	45	103	1,953	118	114	748
Coastal District total	118	127	6,527	158	288	1,486
Nunam Iqua	13	23	233	35	12	164
Alakanuk <sup>b</sup>	83	166	4,614	147	257	387
Emmonak <sup>b</sup>	50	85	3,819	1,523	301	171
Kotlik <sup>b</sup>	27	20	723	258	95	14
District 1 subtotal	173	294	9,389	1,963	665	736
Mountain Village <sup>b</sup>	59	13	2,643	844	172	244
Pitkas Point	11	6	600	5	9	0
St. Mary's	60	65	1,381	64	18	19
Pilot Station <sup>b</sup>	34	195	3,047	519	124	1
Marshall	24	9	896	4	0	0
District 2 subtotal	188	288	8,567	1,436	323	264
Russian Mission	24	29	464	105	33	0
Holy Cross	6	0	95	0	0	0
Shageluk	ND	ND	ND	ND	ND	ND
Other District 3 <sup>c</sup>	1	0	25	25	25	0
District 3 subtotal	31	29	584	130	58	0
Lower Yukon River total	392	611	18,540	3,529	1,046	1,000
Anvik	4	0	122	0	0	0
Grayling	6	0	92	73	0	0
Kaltag	3	0	18	0	0	0
Nulato	ND	ND	ND	ND	ND	ND
Koyukuk <sup>d</sup>	3	19	13	0	0	0
Galena <sup>d</sup>	3	21	0	0	0	0
Ruby	ND	ND	ND	ND	ND	ND
Other District 4 <sup>e</sup>	3	3	134	0	0	0
District 4 Yukon River subtotal	22	43	379	73	0	0
Huslia/ Hughes	3	3	20	5	5	0
Allakaket/Alatna/Bettles	4	0	25	0	0	0
Koyukuk River subtotal	7	3	45	5	5	0
District 4 subtotal	29	46	424	78	5	0

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Table 1.–Page 2 of 2.

Community	Number of fishing households <sup>a</sup>	Estimated salmon harvest				
		Chinook	Summer chum	Fall chum	Coho	Pink
Tanana <sup>b</sup>	14	173	278	395	25	0
Rampart/Stevens Village <sup>b, f, g</sup>	7	69	28	4	0	0
Fairbanks (FNSB) <sup>f, h</sup>	20	280	48	1	0	0
Beaver <sup>k</sup>	ND	ND	ND	ND	ND	ND
Fort Yukon/Birch Creek <sup>b</sup>	18	140	0	12	0	0
Circle/Central <sup>f</sup>	0	0	0	0	0	0
Eagle <sup>b, f, i</sup>	ND	ND	ND	ND	ND	ND
Other District 5 <sup>f, i</sup>	8	68	14	89	0	0
District 5 Yukon River subtotal	67	730	368	501	25	0
Venetie/Chalkyitsik	26	50	7	1,769	27	0
Teedriinjik/Draanjik Rivers subtotal	26	50	7	1,769	27	0
District 5 subtotal	93	780	375	2,270	52	0
Manley <sup>f, j</sup>	ND	ND	ND	ND	ND	ND
Minto <sup>f</sup>	0	0	0	0	0	0
Nenana/Healy <sup>f</sup>	5	0	0	2	0	0
Fairbanks (FNSB) <sup>f, h</sup>	8	0	0	0	3	0
Other District 6 <sup>f, j</sup>	15	0	0	0	5	0
District 6 Tanana River subtotal	28	0	0	2	8	0
Upper Yukon River total	150	826	799	2,350	65	0
Alaska, Yukon Area total	660	1,564	25,866	6,037	1,399	2,486
AK, Yukon Area percentages of the total	NA	4.2%	69.2%	16.2%	3.7%	6.7%

Note: NA indicates not applicable. ND indicates no data.

<sup>a</sup> Did not include 187 households that fished with a Tolovana River northern pike permit, or 4 households that fished in more than 1 permit area.

<sup>b</sup> Included salmon distributed from test fishery projects (added to community estimates).

<sup>c</sup> Other District 3 included residents that fished in District 3. Combined due to confidentiality of low number of households fished.

<sup>d</sup> Included salmon harvested under a funerary permit (added to community estimates).

<sup>e</sup> Other District 4 included residents of Nulato and Ruby that fished in District 4. Combined due to confidentiality of low number of households fished.

<sup>f</sup> Permit data from permits returned by March 6, 2024.

<sup>g</sup> Included the community of Rampart permit data as it was historically a survey community.

<sup>h</sup> Fairbanks North Star Borough (FNSB) included Fairbanks, North Pole, Salcha, and Two Rivers. Did not include 3 household(s) that fished more than 1 permit.

<sup>i</sup> Other District 5 included Manley, Wasilla, and Wiseman residents that fished in a permit area of District 5. Beaver and Eagle combined with Other District 5 due to low number of households fished, combined to preserve confidentiality.

<sup>j</sup> Other District 6 included residents of Anchorage, Delta Junction, Lake Minchumina, and Tok residents that fished in District 6. Manley combined with Other District 6 due to low number of households fished, combined to preserve confidentiality.

Table 2.—Subsistence and personal use salmon gear estimates, Yukon Area, 2023.

Community	Primary gear used <sup>a</sup>			
	Gillnets		Fish	
	Set	Drift	wheel	Other
Hooper Bay	73	0	0	0
Scammon Bay	38	0	0	8
Coastal District total	111	0	0	8
Nunam Iqua	13	0	0	0
Alakanuk	49	0	0	34
Emmonak	35	4	0	11
Kotlik	23	0	0	5
District 1 subtotal	120	4	0	50
Mountain Village	8	1	0	50
Pitkas Point	2	0	0	8
St. Mary's	23	0	0	37
Pilot Station	10	0	0	23
Marshall	5	0	0	19
District 2 subtotal	48	1	0	137
Russian Mission	21	0	0	3
Holy Cross	1	0	0	4
Shageluk <sup>b</sup>	ND	ND	ND	ND
Other District 3 <sup>b</sup>	1	0	0	0
District 3 subtotal	23	0	0	7
Lower Yukon River total	191	5	0	194
Anvik	0	0	0	3
Grayling	4	2	0	0
Kaltag	0	0	0	3
Nulato <sup>c</sup>	ND	ND	ND	ND
Koyukuk	3	0	0	0
Galena	3	0	0	0
Ruby <sup>c</sup>	ND	ND	ND	ND
Other District 4 <sup>c</sup>	3	0	0	0
District 4 Yukon River subtotal	13	2	0	6
Huslia / Hughes	3	0	0	0
Allakaket/Alatna/Bettles	2	0	0	2
Koyukuk River subtotal	5	0	0	2
District 4 subtotal	18	2	0	8

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Table 2.–Page 2 of 2.

Community	Primary gear used <sup>a</sup>			
	Gillnets		Fish	
	Set	Drift	wheel	Other
Tanana	14	0	0	0
Rampart/Stevens Village <sup>d, e</sup>	7	0	0	0
Fairbanks (FNSB) <sup>d, f</sup>	20	0	0	0
Beaver <sup>g</sup>	ND	ND	ND	ND
Fort Yukon/Birch Creek	18	0	0	0
Circle/Central <sup>d</sup>	0	0	0	0
Eagle <sup>d, g</sup>	ND	ND	ND	ND
Other District 5 <sup>d, g</sup>	8	0	0	0
District 5 Yukon River subtotal	67	0	0	0
Venetie/Chalkyitsik	24	0	0	2
Teedriinjik/Draanjik Rivers subtotal	24	0	0	2
District 5 subtotal	91	0	0	2
Manley <sup>d, h</sup>	ND	ND	ND	ND
Minto <sup>d, h</sup>	0	0	0	0
Nenana/Healy <sup>d</sup>	3	0	2	0
Fairbanks (FNSB) <sup>d, f</sup>	5	0	1	2
Other District 6 <sup>d, h</sup>	9	0	0	6
District 6 Tanana River subtotal	17	0	3	8
Upper Yukon River total	126	2	3	18
Alaska, Yukon Area total	428	7	3	220
AK, Yukon Area percentages of the total	65%	1%	0%	33%

Note: ND indicates no data.

<sup>a</sup> Primary gear was the gear type used to harvest the largest number of salmon by each household. Other gear types included dip nets, fyke nets, jigging, spear, and beach seines. Discrepancies between gear and household totals were due to estimate rounding.

<sup>b</sup> Other District 3 included residents that fished in District 3. Combined due to confidentiality of low number of households fished.

<sup>c</sup> Other District 4 included residents of Nulato and Ruby that fished in District 4. Combined due to confidentiality of low number of households fished.

<sup>d</sup> Permit data from permits returned by March 6, 2024.

<sup>e</sup> Included the community of Rampart permit data as was historically a survey community.

<sup>f</sup> Fairbanks North Star Borough (FNSB) included Fairbanks, North Pole, Salcha and Two Rivers residents. Did not include 3 households that fished more than 1 permit.

<sup>g</sup> Other District 5 included Manley, Nenana, Wasilla, and Wiseman residents that fished in a permit area of District 5. Beaver and Eagle combined with Other District 5 due to low number of households fished, combined to preserve confidentiality.

<sup>h</sup> Other District 6 included Anchorage, Delta Junction, Lake Minchumina, and Tok residents that fished in District 6. Manley combined due to low number of households fished, combined to preserve confidentiality.

Table 3.—Estimated (Est) harvest of salmon and 95% confidence interval (CI), for dogs from surveys and permits by community of residence, Yukon Area, 2023.

Community	Number		Households		Number salmon fed to dogs						Est total
	of dogs		feeding salmon								
	Est	CI	Est	CI	Summer chum		Fall chum		Coho		
					total	95%	total	95%	total	95%	
Hooper Bay	328	119	0	0	0	0	0	0	0	0	0
Scammon Bay	141	28	0	0	0	0	0	0	0	0	0
Nunam Iqua	39	9	0	0	0	0	0	0	0	0	0
Alakanuk	230	66	8	2	538	815	0	0	20	38	558
Emmonak	320	56	1	0	280	518	0	0	0	0	280
Kotlik	173	40	3	0	0	0	0	0	9	19	9
Mountain Village	216	44	0	0	0	0	0	0	0	0	0
Pitkas Point	34	9	1	0	34	0	0	0	0	0	34
St. Mary's	101	19	0	0	0	0	0	0	0	0	0
Pilot Station	104	22	0	0	0	0	0	0	0	0	0
Marshall	164	39	0	0	0	0	0	0	0	0	0
Russian Mission	122	39	0	0	0	0	0	0	0	0	0
Holy Cross	50	28	1	0	8	12	0	0	0	0	8
Shageluk	73	21	0	0	0	0	0	0	0	0	0
Anvik	19	5	0	0	0	0	0	0	0	0	0
Grayling	77	27	0	0	0	0	0	0	0	0	0
Kaltag	52	18	0	0	0	0	0	0	0	0	0
Nulato	68	34	0	0	0	0	0	0	0	0	0
Koyukuk	47	14	0	0	0	0	0	0	0	0	0
Galena	140	44	0	0	0	0	0	0	0	0	0
Ruby	50	15	0	0	0	0	0	0	0	0	0
Huslia/Hughes	261	79	3	1	35	52	0	0	0	0	35
Allakaket/Alatna/Bettles	123	35	0	0	0	0	0	0	0	0	0

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Table 3.–Page 2 of 2.

Community	Number of dogs		Households feeding salmon to dogs		Number salmon fed to dogs						Est total
					Summer chum		Fall chum		Coho		
	Est	CI	Est	CI	Est	CI	Est	CI			
	total	95%	total	95%	total	95%	total	95%	total	95%	
Tanana	97	29	4	1	327	431	319	420	18	24	664
Stevens Village/Rampart <sup>a</sup>	57	32	2	0	0	0	0	0	0	0	0
Beaver	49	18	0	0	0	0	0	0	0	0	0
Fort Yukon/Birch Creek	292	69	8	2	0	0	0	0	0	0	0
Venetie/Chalkyitsik	251	60	14	3	0	0	5,928	7,038	32	0	5,960
Survey total	3,678	226	45	4	1,222	1,010	6,247	6,505	79	45	7,548
Subsistence/personal use permits											
Fairbanks (FNSB) <sup>b</sup>	149	NA	14	NA	NA	NA	NA	NA	NA	NA	3
Circle/Central	29	NA	1	NA	NA	NA	NA	NA	NA	NA	0
Eagle	119	NA	7	NA	NA	NA	NA	NA	NA	NA	84
Other District 5 <sup>c</sup>	13	NA	1	NA	NA	NA	NA	NA	NA	NA	0
District 5 permit subtotal	310	NA	23	NA	NA	NA	NA	NA	NA	NA	87
Manley	14	NA	3	NA	NA	NA	NA	NA	NA	NA	0
Nenana/Healy	66	NA	4	NA	NA	NA	NA	NA	NA	NA	0
Fairbanks (FNSB) <sup>b</sup>	134	NA	7	NA	NA	NA	NA	NA	NA	NA	0
Other District 6 <sup>c</sup>	64	NA	6	NA	NA	NA	NA	NA	NA	NA	0
District 6 permit subtotal	309	NA	22	NA	NA	NA	NA	NA	NA	NA	0
Subsistence permit subtotal	603	NA	44	NA	NA	NA	NA	NA	NA	NA	87
Total survey and permit	4,297	NA	90	NA	NA	NA	NA	NA	NA	NA	7,635

*Note:* Information from permits returned as of March 6, 2024. Does not include 19 pink salmon fed to dogs. NA indicates not applicable. Information about salmon fed to dogs by species was not collected on permits.

<sup>a</sup> Rampart permit data added to Stevens Village survey data for reasons of confidentiality. Total salmon fed to dogs included Rampart permit data.

<sup>b</sup> Fairbanks North Star Borough (FNSB) may include Fairbanks, Ester, North Pole, Salcha, and Two Rivers.

<sup>c</sup> Households from other communities included Anchorage, Circle, Delta Junction, Eagle River, Kenai, Manley, Soldotna, Tok Wasilla, Nenana, Wiseman, Auke Bay, Delta Junction, Eagle River, Joint Base Elmendorf-Richardson, Lake Minchumina, and Northway who were issued a permit.

Table 4.—Estimated (Est) total number of households, households that fished, and people in surveyed communities, including community and district totals, and 95% confidence interval (CI) Yukon Area, 2023.

	Total households				Total fished			Total people		
	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>n</i>	Est total	CI 95%	<i>np</i>	Est total	CI 95%
Community										
Hooper Bay	238	129	66	51	53	73	11	52	1089	241
Scammon Bay	118	69	55	80	51	45	3	50	528	67
Coastal District	356	198	121	61	104	118	11	102	1617	247
Nunam Iqua	47	46	40	87	37	13	1	40	191	20
Alakanuk	173	111	70	63	68	83	5	68	777	72
Emmonak	214	150	124	83	115	50	2	109	799	77
Kotlik	137	94	67	71	61	27	4	63	577	89
District 1	571	401	301	75	281	173	7	280	2,344	137
Mountain Village	166	96	85	89	80	59	4	81	687	76
Pitkas Point	29	29	21	72	21	11	1	21	112	20
St. Mary's	138	87	76	87	70	60	3	71	457	47
Pilot Station	134	90	72	80	65	34	3	65	662	75
Marshall	96	60	51	85	49	24	3	48	441	53
District 2	563	362	305	84	285	188	7	286	2,359	128
Russian Mission	74	41	32	78	28	24	4	28	390	91
Holy Cross	51	35	30	86	26	6	6	25	139	32
Shageluk	31	30	25	83	25	1	1	25	92	13
District 3	156	106	87	82	79	31	7	78	622	94
Anvik	23	23	21	91	18	4	1	18	58	8
Grayling	51	31	24	77	20	6	3	19	151	36
Kaltag	52	28	24	86	22	3	1	23	97	15
Nulato	77	39	32	82	30	1	0	30	220	75
Koyukuk	42	42	33	79	31	3	1	31	79	8
Galena	138	65	52	80	51	3	1	51	368	75
Ruby	46	24	22	92	21	2	0	21	102	30
Huslia	80	40	33	82	31	3	1	31	237	51
Hughes	32	32	22	69	20	0	0	21	75	14
Allakaket	63	41	25	61	25	4	2	25	209	60
Alatna	9	9	6	67	4	0	0	4	15	0
Bettles	16	16	8	50	8	0	0	6	32	24
District 4	629	390	302	77	281	29	15	280	1,643	138

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Table 4.–Page 2 of 2.

Community	Total households				Total fished			Total people		
	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>n</i>	Est total	CI 95%	<i>np</i>	Est total	CI 95%
Tanana	92	67	59	88	49	14	2	48	196	27
Stevens Village	22	22	12	55	12	2	1	12	37	6
Birch Creek	13	13	8	62	7	0	0	7	20	4
Beaver	34	33	23	70	21	2	1	21	75	11
Fort Yukon	202	98	84	86	82	18	2	80	462	56
Venetie	85	54	48	89	43	23	3	43	233	35
Chalkyitsik	30	30	23	77	22	3	0	23	61	8
District 5	478	317	257	81	236	62	4	234	1,084	72
Survey totals	2,753	1,774	1,373	77	1,266	601	17	1,260	9,668	357

*Note:* The following notations were used in the above table: *N* = the total number of households, *S* = the number of households selected, *n* = the number of households contacted, and %*S* = the percent of the selected households that were contacted in each harvest group in surveyed communities. In most communities a smaller number of households provided information about the number of people (*np*) in their households.

Table 5.—Estimated subsistence harvest of salmon species, not including test fishery catches, by fishing location in surveyed districts, Yukon Area, 2023.

		Harvest districts/subdistricts <sup>a</sup>											Harvest river drainages							Total by residence district
Species	Residence district	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D		6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	
												down	up							
Chinook	Coastal	73	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	127
	1	2	262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	264
	2	0	0	131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	131
	3	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
	4	0	0	0	0	0	12	8	0	0	0	0	0	0	0	10	0	0	0	30
	5	0	0	0	0	0	0	0	2	32	0	56	0	0	0	0	50	0	0	140
Harvest district totals		75	316	131	29	0	12	8	2	32	0	56	0	0	0	10	50	0	0	721
Summer chum	Coastal	5,225	1,303	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,528
	1	45	7,728	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,773
	2	0	214	7,714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,928
	3	0	0	0	559	0	0	0	0	0	0	0	0	0	25	0	0	0	0	584
	4	0	0	0	0	358	0	7	0	0	0	0	0	0	0	58	0	0	0	423
	5	0	0	0	0	0	0	0	0	278	0	0	0	0	0	0	7	0	0	285
Harvest district totals		5,270	9,245	7,714	559	358	0	7	0	278	0	0	0	0	25	58	7	0	0	23,521
Fall chum	Coastal	56	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	159
	1	5	895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	900
	2	0	0	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112
	3	0	0	0	105	0	0	0	0	0	0	0	0	0	25	0	0	0	0	130
	4	0	0	0	0	73	0	0	0	0	0	0	0	0	0	5	0	0	0	78
	5	0	0	0	0	0	0	0	0	395	0	0	12	0	0	0	1,745	0	24	2,176
Harvest district totals		61	998	112	105	73	0	0	0	395	0	0	12	0	25	5	1,745	0	24	3,555

-continued-

Table 5.–Page 2 of 2.

Species	Residence district	Harvest districts/subdistricts <sup>a</sup>											Harvest river drainages						Total by residence district	
		Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D		6	Innoko	Koyukuk	Teedriinjik	Porcupine		Draanjik
												down	up							
Coho	Coastal	232	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	287
	1	5	539	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	544
	2	0	0	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184
	3	0	0	0	33	0	0	0	0	0	0	0	0	0	25	0	0	0	0	58
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
	5	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	27	0	0	52
Harvest district totals		237	594	184	33	0	0	0	0	25	0	0	0	0	25	5	27	0	0	1,130
Pink	Coastal	1,438	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,485
	1	0	735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	735
	2	0	0	263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	263
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Harvest district totals		1,438	782	263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,483

Note: Totals may not add in both directions due to estimate decimal rounding.

<sup>a</sup> Harvest near Fort Yukon was divided according to whether harvest occurred downriver (5D-down) or upriver (5D-up) of the confluence of the Porcupine and Yukon Rivers.

Table 6.—Estimated subsistence harvest of whitefish, northern pike, and sheefish and 95% confidence interval (CI) by surveyed communities, Yukon Area, 2023.

Community	Broad whitefish		Humpback whitefish		Small whitefish		Northern pike		Sheefish	
	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%
Hooper Bay	0	0	835	562	890	990	79	139	0	0
Scammon Bay	9	10	393	299	846	636	3,303	2,780	156	158
Coastal District	9	10	1,228	627	1,736	1,157	3,382	2,747	156	155
Nunam Iqua	197	238	391	263	118	103	76	68	531	193
Alakanuk	123	231	341	306	1,055	645	1,115	492	2,016	978
Emmonak	207	131	550	326	881	390	880	357	1,768	1,236
Kotlik	163	135	503	289	2,335	1,424	2,050	1,021	1,396	807
District 1	690	372	1,785	583	4,389	1,586	4,121	1,172	5,711	1,760
Mountain Village	206	314	1,720	674	44	45	1,082	478	715	442
Pitkas Point	64	65	342	143	0	0	99	91	99	58
St. Mary's	141	82	1,300	532	217	271	1,063	612	297	135
Pilot Station	289	166	1,120	582	0	0	179	125	287	161
Marshall	83	56	187	78	0	0	642	443	172	70
District 2	783	367	4,669	1,035	261	270	3,065	892	1,570	490
Russian Mission	262	308	510	466	0	0	288	354	111	96
Holy Cross	0	0	0	0	39	48	36	32	34	42
Shageluk	0	0	193	204	0	0	905	1,047	34	21
District 3	262	296	703	493	39	46	1,229	1,068	179	104
Anvik	0	0	21	17	0	0	0	0	24	19
Grayling	0	0	206	226	0	0	108	146	111	103
Kaltag	25	33	107	79	0	0	17	22	19	16
Nulato	0	0	94	73	0	0	51	38	111	86
Koyukuk	0	0	11	8	0	0	12	14	34	26
Galena	49	61	90	64	0	0	45	34	74	70
Ruby	0	0	8	13	133	222	45	38	38	42
Huslia/Hughes	90	81	1,122	749	34	32	2,233	1,190	151	67
Allakaket/Alatna/Bettles	528	543	520	531	300	354	374	363	102	83
District 4	692	535	2,179	926	467	401	2,885	1,227	664	185

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Table 6.–Page 2 of 2.

Community	Broad whitefish		Humpback whitefish		Small whitefish		Northern pike		Sheefish	
	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%
Tanana	1,391	1,025	685	446	1,628	1,157	306	223	263	36
Stevens Village/Rampart	0	0	0	0	0	0	0	0	0	0
Beaver	10	14	0	0	0	0	14	12	4	5
Fort Yukon/Birch Creek	54	59	172	184	0	0	388	244	56	67
Venetie/Chalkyitsik	0	0	104	6	0	0	172	87	11	16
District 5	1,455	1,006	961	474	1,628	1,132	880	337	334	77
Survey totals	3,891	1,281	11,525	1,758	8,520	2,301	15,562	3,491	8,614	1,841

*Note:* Confidence intervals were based on survey estimates and do not include test fishery catch. In previous reports, broad and humpback whitefish were considered large whitefish. Small whitefish include least cisco, Bering cisco, and round whitefish.

Table 7.—Reported subsistence harvest of nonsalmon fish species, by surveyed communities, Yukon Area, 2023.

Community	Alaska blackfish	Arctic grayling	Arctic lamprey	Burbot	Pacific herring	Tomcod
Hooper Bay <sup>a</sup>	490	0	0	4	956	315
Scammon Bay <sup>a</sup>	3,500	0	0	18	3,751	22
Coastal District	3,990	0	0	22	4,707	337
Nunam Iqua	0	0	0	22	52	60
Alakanuk	910	0	0	9	13	42
Emmonak <sup>a</sup>	1,942	0	0	38	7	1
Kotlik <sup>a</sup>	1,230	0	0	67	563	1
District 1	4,082	0	0	136	635	104
Mountain Village	1,780	0	970	51	0	0
Pitkas Point	420	0	1,200	35	0	0
St. Mary's	490	2	506	85	0	0
Pilot Station	70	10	1,966	30	0	0
Marshall	3,570	0	240	20	0	0
District 2	6,330	12	4,882	221	0	0
Russian Mission	1,400	0	570	0	0	0
Holy Cross	0	0	0	0	0	0
Shageluk	0	0	0	0	0	0
District 3	1,400	0	570	0	0	0
Anvik	0	0	0	0	0	0
Grayling	0	2	0	0	0	0
Kaltag	0	5	0	10	0	0
Nulato	0	11	0	0	0	0
Koyukuk	0	0	0	0	0	0
Galena	280	0	0	26	0	0
Ruby	0	30	0	2	0	0
Huslia	70	25	0	13	0	0
Hughes	0	42	0	1	0	0
District 4	350	115	0	52	0	0
Tanana	0	2	0	14	0	0
Stevens Village/Rampart	0	0	0	0	0	0
Beaver	0	0	0	0	0	0
Fort Yukon/Birch Creek	0	4	0	120	0	0
Venetie/Chalkyitsik	0	116	0	36	0	0
District 5	0	122	0	170	0	0
Survey totals	16,152	249	5,452	601	5,342	441

<sup>a</sup> A total of 12 households from 4 communities reported harvesting 692 pounds of herring roe on kelp.

Table 8.—Number of permits issued, returned, and fished listed by permit area, Yukon Area, 2023.

Permit fishing area	Permit <sup>a</sup>			Percent returned	Location	Number of permits fished <sup>c</sup>
	Type	Issued <sup>b</sup>	Returned			
Koyukuk Middle and South Fork Rivers	SF	5	4	80%	NA	1
Yukon River Rampart Area	SR	21	20	95%	NA	11
Yukon River near Haul Road Bridge <sup>d</sup>	SY	36	36	100%	NA	19
Yukon River near Circle and Eagle	SE	30	29	97%	Below sonar	1
					Above sonar <sup>e</sup>	1
Tanana River Subdistrict 6-A	SA	16	16	100%	NA	3
Tanana River Subdistrict 6-B	SB	56	55	98%	NA	8
Tanana River Upstream of Subdistrict 6-C	SU	48	45	94%	NA	13
Kantishna River Subdistrict 6-A	SK	5	4	80%	NA	1
Tolovana River Pike Subdistrict 6-B	ST	346	341	99%	CHA	181
					Non-CHA	6
Subsistence permit subtotals		569	563	550	98%	245

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Table 8.–Page 2 of 2.

Personal use permit fishing area	Permit <sup>a</sup>			Percent returned	Location	Number of permits fished <sup>c</sup>
	Type	Issued <sup>b</sup>	Returned			
Tanana River salmon Subdistrict 6-C	PC	20	20	100%	NA	2
Tanana River whitefish upstream of Subdistrict 6-C	PW	13	13	100%	NA	4
Personal use permit subtotals		36	33	33	100%	NA
All permit totals		596	583	98%	NA	251

*Note:* The first letter of a permit type refers to the fishery type (S = subsistence or P = personal use), the second letter refers to a particular fishing area or targeted species (F = Middle and South Forks of Koyukuk River, R = Yukon River near Rampart, Y = Yukon River near Haul Road Bridge, E = Yukon River near Circle and Eagle, A = Tanana River Subdistrict 6-A, B = Tanana River Subdistrict 6-B, U = Tanana River upstream of Subdistrict 6-C, K = Kantishna River, T = Tolovana River northern pike permit, C = Tanana River Subdistrict 6-C, W = Tanana River whitefish or sucker permit. CHA means Chatanika Harvest Area. NA means not applicable. Permit area descriptions are officially described in Alaska State statutes. Did not include salmon retained from test fishery projects.

<sup>a</sup> Permit data from permits returned by March 6, 2024

<sup>b</sup> Included 22 households that were issued permits for more than 1 area.

<sup>c</sup> Included 4 households that fished in more than 1 permit area.

<sup>d</sup> Included permits issued to residents of Stevens Village.

<sup>e</sup> Harvest occurred in the upper portion of the river between the mainstem Yukon River sonar project located near the community of Eagle and the U.S./Canada border.

Table 9.—Reported subsistence and personal use fish harvested under the authority of a permit, listed by permit area, Yukon Area, 2023.

Permit fishing area	Permit type <sup>a</sup>	Location	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Koyukuk Middle and South Fork Rivers	SF	NA	0	0	0	0	1	0	3	0	59	2
Yukon River Rampart Area	SR	NA	39	35	4	0	91	1	4	11	0	0
Yukon River near Haul Road Bridge <sup>b</sup>	SY	NA	326	55	1	0	391	30	7	63	6	0
Yukon River near Circle and Eagle <sup>c</sup>	SE	Below sonar	0	0	0	0	2	0	0	1	0	0
		Above sonar	5	0	89	0	35	0	0	0	0	0
Tanana River Subdistrict 6-A	SA	NA	0	0	0	0	13	0	15	14	0	0
Tanana River Subdistrict 6-B	SB	NA	0	0	2	3	25	0	0	7	13	0
Tanana River Upstream of Subdistrict 6-C	SU	NA	0	0	0	5	1,034	0	30	290	29	7
Kantishna River Subdistrict 6-A	SK	NA	0	0	0	0	1,044	0	36	102	32	0
Tolovana River Pike Subdistrict 6-B	ST	CHA	0	0	0	0	0	0	0	1,199	0	0
		Non-CHA	0	0	0	0	177	16	0	648	0	0
Subsistence permit subtotals			370	90	96	8	2,813	47	95	2,335	139	9

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Table 9.–Page 2 of 2.

Personal use permit fishing area	Permit type <sup>a</sup>	Location	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Tanana River salmon Subdistrict 6-C	PC	NA	0	0	0	0	0	0	0	0	0	0
Tanana River whitefish upstream of Subdistrict 6-C	PW	NA	0	0	0	0	39	0	0	0	9	0
Personal use permit subtotals			0	0	0	0	39	0	0	0	9	0
All permit totals			370	90	96	8	2,852	47	95	2,335	148	9

*Note:* The first letter of a permit type refers to the fishery type (S = subsistence or P = personal use), the second letter refers to a particular fishing area or targeted species (F = Middle and South Forks of Koyukuk River, R = Yukon River near Rampart, Y = Yukon River near Haul Road Bridge, E = Yukon River near Circle and Eagle, A = Tanana River Subdistrict 6-A, B = Tanana River Subdistrict 6-B, U = Tanana River upstream of Subdistrict 6-C, K = Kantishna River, T = Tolovana River northern pike permit, C = Tanana River Subdistrict 6-C, W = Tanana River whitefish or sucker permit. CHA means Chatanika Harvest Area. NA indicates not applicable. Permit area descriptions are officially described in Alaska State statutes. Did not include salmon retained from test fishery projects.

<sup>a</sup> Permit data from permits returned by March 6, 2024

<sup>b</sup> Included salmon reported on permits issued to residents of Stevens Village.

<sup>c</sup> Harvest occurred in the upper portion of the river between the mainstem Yukon River sonar project located near the community of Eagle and the U.S./Canada border.

Table 10.—Estimated subsistence and personal use harvest of salmon species by fishing location in permit districts, Yukon Area, 2023.

Species	Community district	Harvest subdistrict/districts				River drainages		Total by district
		5C	5D <sup>a</sup>		6	Tolovana	Kantishna	
			Below sonar	Above sonar				
Chinook	5	365	0	5	0	0	0	370
	6	0	0	0	0	0	0	0
	Permit totals	365	0	5	0	0	0	370
Summer chum	5	90	0	0	0	0	0	90
	6	0	0	0	0	0	0	0
	Permit totals	90	0	0	0	0	0	90
Fall chum	5	5	0	89	0	0	0	94
	6	0	0	0	2	0	0	2
	Permit totals	5	0	89	2	0	0	96
Coho	5	0	0	0	0	0	0	0
	6	0	0	0	8	0	0	8
	Permit totals	0	0	0	8	0	0	8

<sup>a</sup> Harvest subdistrict was divided downstream (5D-Below sonar) or upstream (5D-Above sonar) of the Yukon River sonar near the community of Eagle.

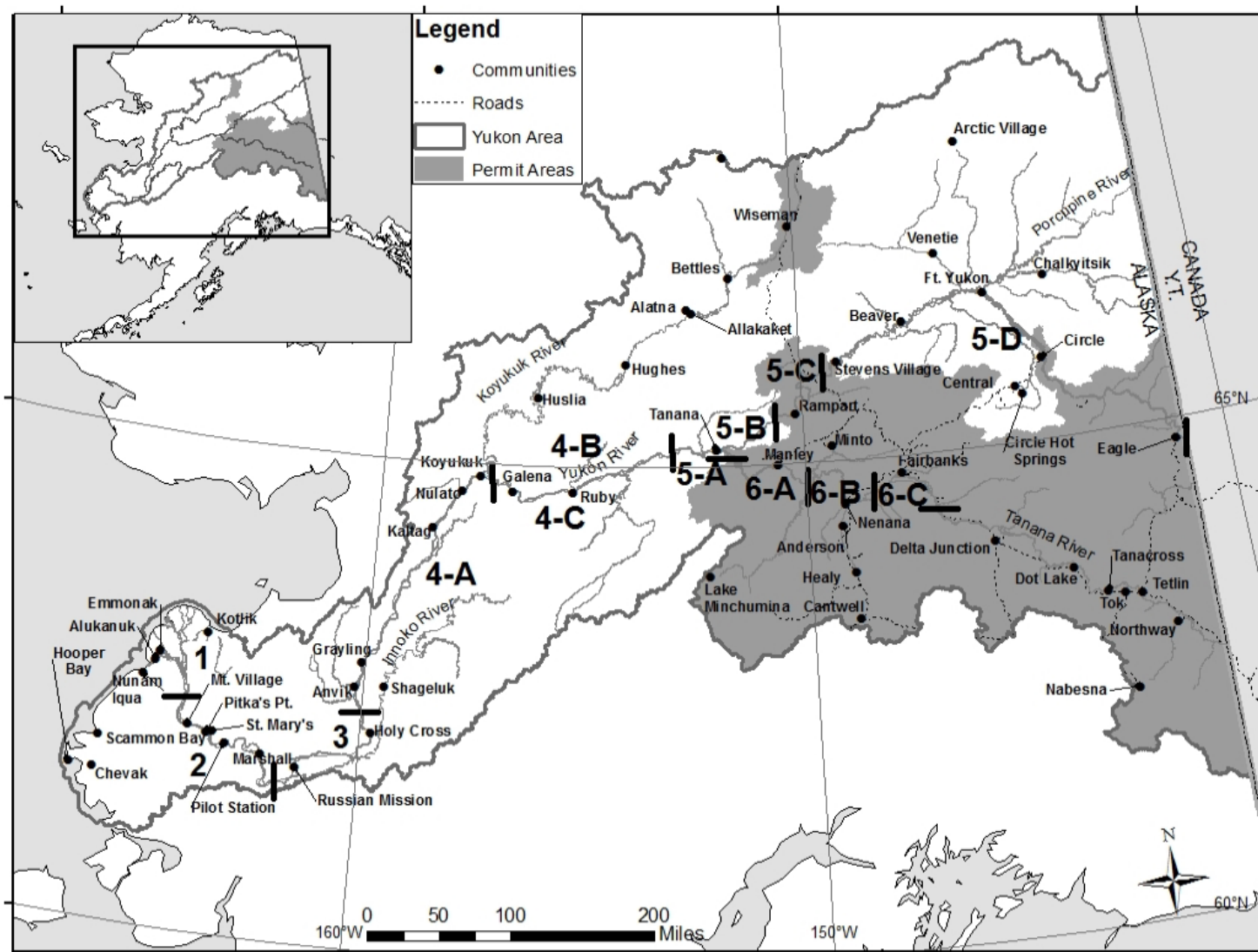




Figure 1.—Map of Alaska portion of the Yukon River drainage showing communities and subsistence and personal use permit areas.

*Note:* Subsistence and personal use permit areas are shaded.

**5 AAC 99.015 Joint Board Nonsubsistence Areas.**

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

**Legend**

-  Fairbanks Nonsubsistence Area
  -  Roads
  -  Communities
- 0 25 50 Miles

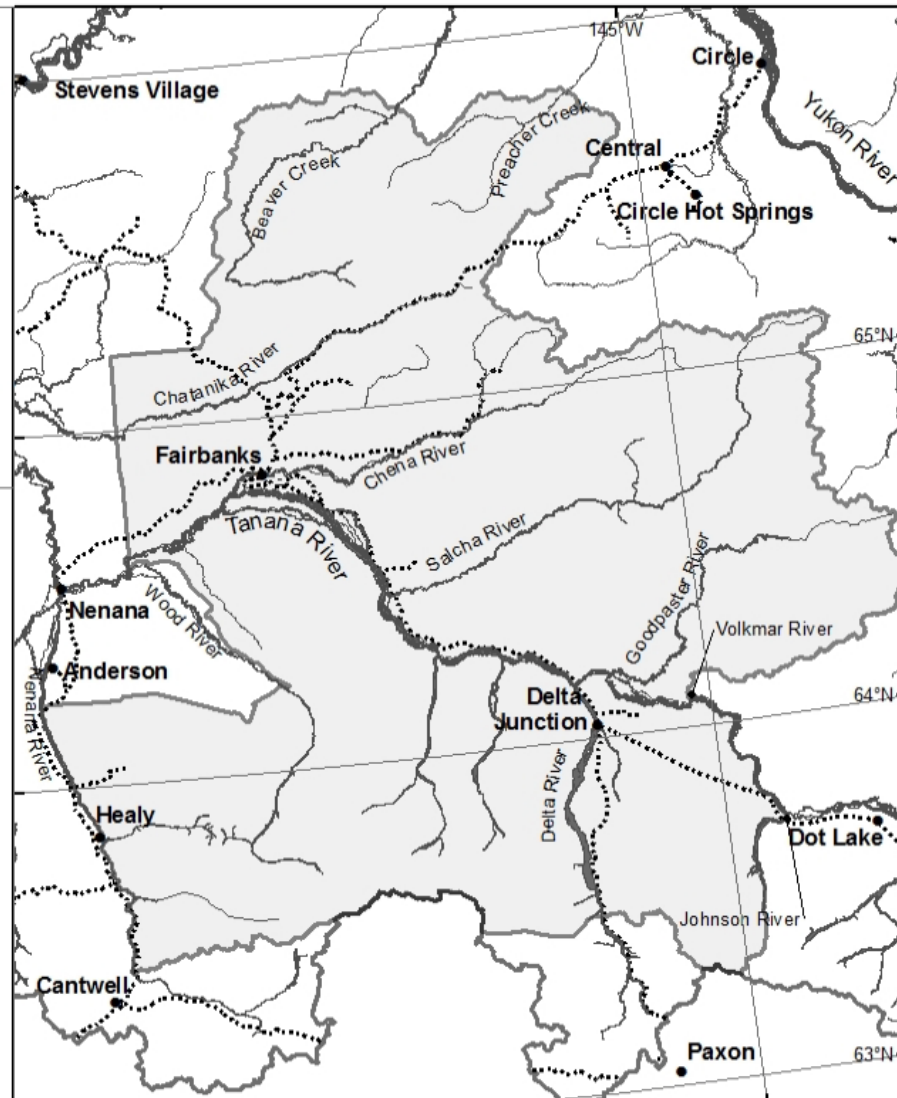


Figure 2.—Map of the Fairbanks Nonsubsistence Area.

*Note:* Households must have a personal use permit and sport fish license to fish in the Nonsubsistence Area.

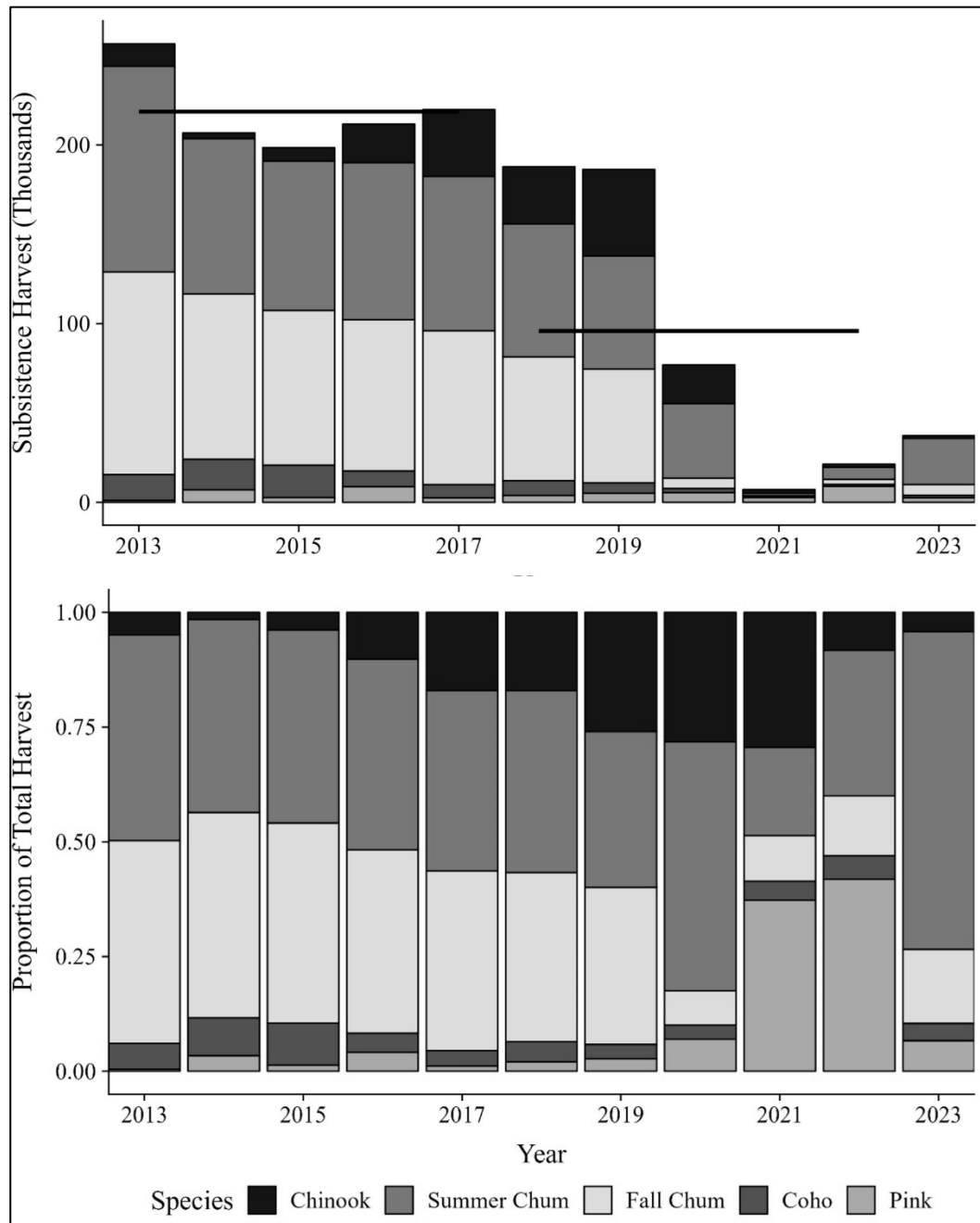


Figure 3.—Estimated total subsistence salmon harvest by species, Yukon Area, 2013–2023.

*Note:* Harvest of salmon species by number (top) and proportion (bottom). Totals include survey, permit, test fishery, and retained from commercial. Does not include salmon caught in the personal use fishery. Black horizontal lines represent 5-year averages.

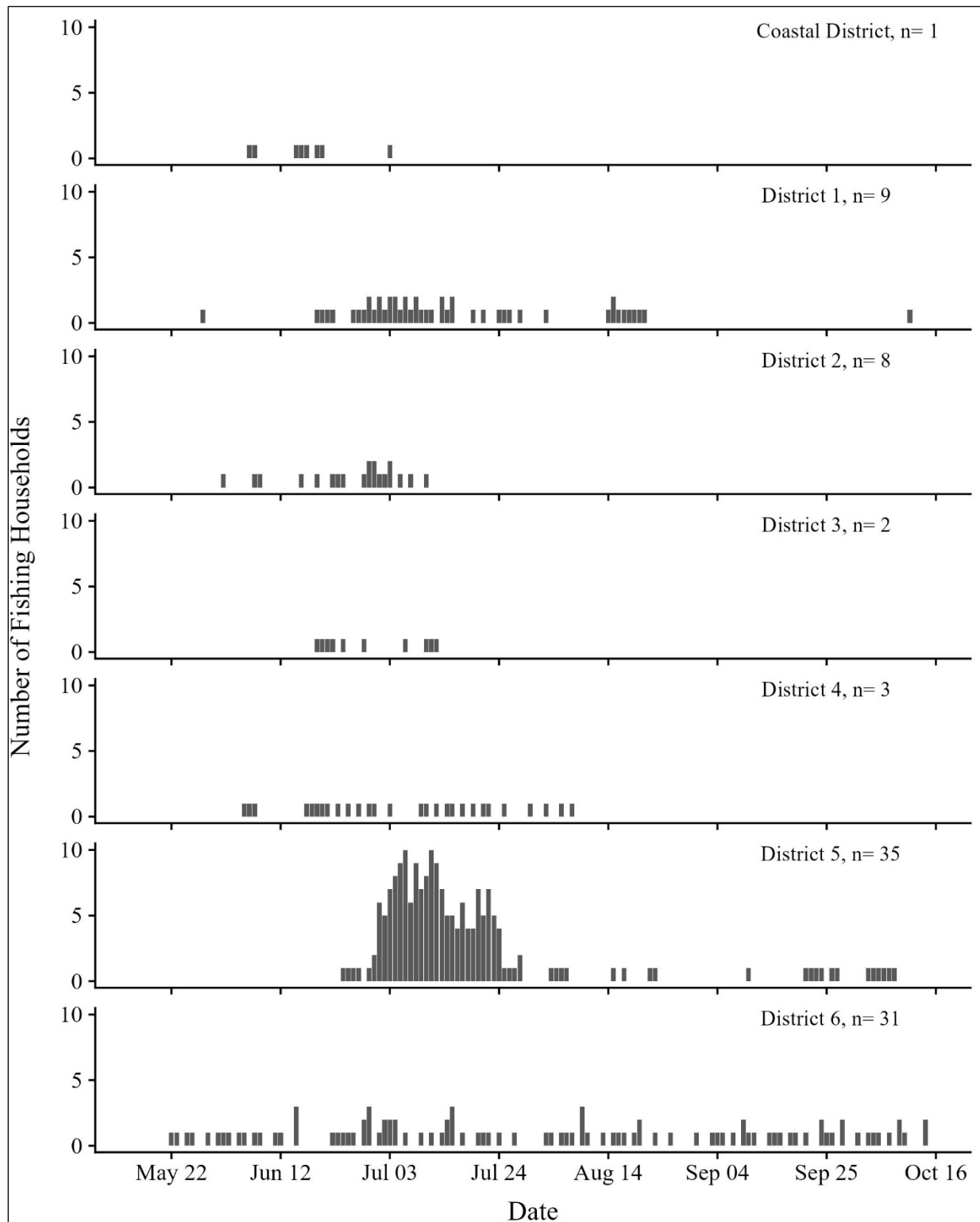


Figure 4.—Number of fishing households reporting harvest on calendars or permits by day and by district, 2023.

*Note:* Bars represent the number of fishing households in each district that recorded harvest by day on calendars and permits. Does not include permit types primarily issued in District 6 for the harvest of nonsalmon species such as whitefish or northern pike.

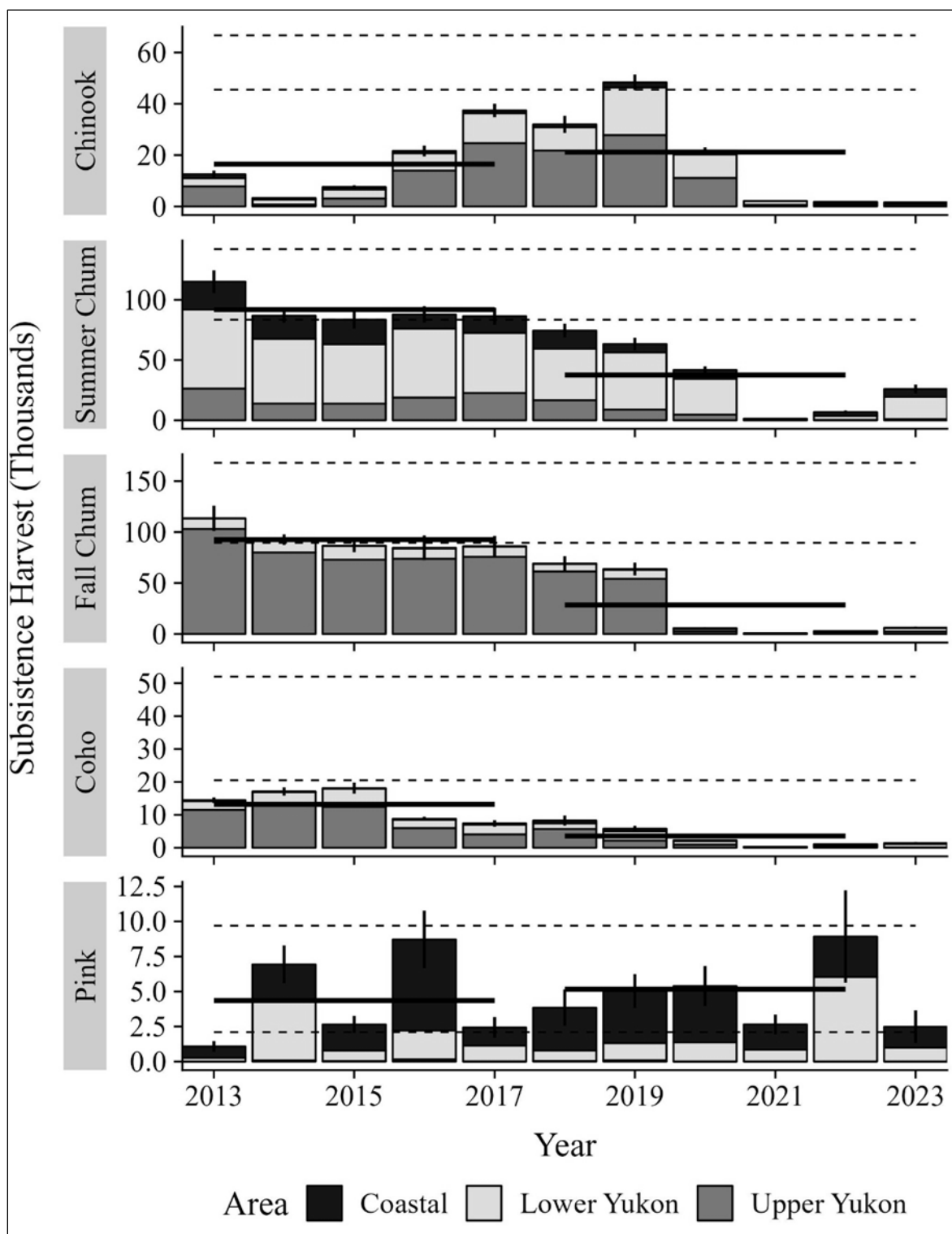


Figure 5.—Estimated salmon subsistence harvest Yukon Area, 2013–2023.

Note: Harvest estimates and 95% confidence interval (black vertical lines) were provided. Black horizontal lines are 5-year averages and amounts necessary for subsistence ranges are dashed lines.

## **APPENDIX A: 2023 HARVEST INFORMATION**

Appendix A1.—Estimated (Est) subsistence harvest of salmon and 95% confidence interval (CI) in surveyed communities, including community and district totals, Yukon Area, 2023.

Community	Chinook		Summer chum		Fall chum		Coho		Pink	
	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI
Hooper Bay	24	20	4,574	2,498	40	64	174	271	738	1,090
Scammon Bay	103	32	1,953	530	118	99	114	53	748	345
Coastal District total	127	38	6,528	2,524	159	117	287	272	1,486	1,129
Nunam Iqua	23	14	233	101	35	27	12	9	164	113
Alakanuk	148	123	4,031	2,255	20	16	239	157	387	238
Emmonak	73	24	2,845	934	587	335	198	117	171	87
Kotlik	20	12	663	390	258	170	95	52	14	8
District 1 total	264	125	7,772	2,441	900	373	544	200	735	273
Mountain Village	13	7	2,618	762	8	9	90	101	244	247
Pitkas Point	6	4	600	173	5	6	9	10	0	0
St. Mary's	65	54	1,381	479	64	45	18	10	19	32
Pilot Station	37	24	2,433	970	31	21	66	64	0	0
Marshall	9	10	896	500	4	8	0	0	0	0
District 2 total	131	59	7,928	1,402	112	51	184	119	263	246
Russian Mission	29	24	464	228	105	91	33	26	0	0
Holy Cross	0	0	95	164	0	0	0	0	0	0
Shageluk	0	0	25	23	25	23	25	23	0	0
District 3 total	29	23	584	273	130	91	58	34	0	0
Anvik	0	0	122	55	0	0	0	0	0	0
Grayling	0	0	92	135	73	132	0	0	0	0
Kaltag	0	0	18	16	0	0	0	0	0	0
Nulato	0	0	127	106	0	0	0	0	0	0
Koyukuk	8	8	13	11	0	0	0	0	0	0
Galena	16	13	0	0	0	0	0	0	0	0
Ruby	3	2	7	7	0	0	0	0	0	0
Huslia/Hughes	3	3	20	20	5	6	5	6	0	0
Allakaket/Alatna/Bettles	0	0	25	32	0	0	0	0	0	0
District 4 total	30	15	423	175	78	123	5	6	0	0
Tanana	33	12	278	25	395	173	25	11	0	0
Rampart/Stevens Village	0	0	0	0	0	0	0	0	0	0
Beaver	7	9	0	0	0	0	0	0	0	0
Fort Yukon/Birch Creek	50	43	0	0	12	9	0	0	0	0
Venetie/Chalkyitsik	50	78	7	10	1,769	905	27	0	0	0
District 5 total	140	89	285	26	2,176	902	52	10	0	0
Survey total	721	170	23,519	3,769	3,554	991	1,130	357	2,483	1,174

Note: The number of salmon harvested was estimated using the total number of households and the maximum number of households contacted.

Appendix A2.—Number of salmon provided to communities for subsistence use by test fishery programs, Yukon Area, 2023.

Yukon River test fishery sites	Community	Chinook	Summer chum	Fall chum	Coho	Pink <sup>a</sup>	Total
Lower Yukon test fishery project (LYTF)	Alakanuk	18	583	127	18	0	746
	Emmonak <sup>b</sup>	12	974	936	103	0	2,025
	Kotlik	0	60	0	0	0	60
	Mountain Village <sup>c</sup>	0	25	0	0	0	25
LYTF project subtotal:		30	1,642	1,063	121	0	2056
Mountain Village test fishery	Mountain Village	0	0	836	82	0	918
Pilot Station sonar test fishery	Pilot Station <sup>c</sup>	158	614	488	58	1	1,319
Ichthyophonous	Tanana	140	0	0	0	0	140
	Stevens Village/Rampart	40	0	0	0	0	40
	Fort Yukon/Birch Creek	90	0	0	0	0	90
Other projects subtotal		428	614	1,324	140	1	2,507
Test fishery totals		458	2,256	2,387	261	1	5,363

<sup>a</sup> Pink salmon harvested and distributed from test fishery projects were not always recorded. The harvest shown here is a minimum.

<sup>b</sup> Included 3 summer chum and 2 Chinook salmon from a radiotelemetry study.

<sup>c</sup> Did not include 4 sockeye salmon also donated.

Appendix A3.—Number of salmon provided to communities for subsistence use by funerary permits, Yukon Area, 2023.

Community	Chinook	Summer chum	Fall chum	Coho	Total
Koyukuk	11	0	0	0	11
Galena	5	0	0	0	5
Total	16	0	0	0	16

Appendix A4.–Estimated number (Est) of primary gear and 95% confidence interval (CI) in surveyed communities, Yukon Area, 2023.

Community	Setnet		Driftnet		Fish wheel		Dip net		Hook & Line	
	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI
Hooper Bay	73	11	0	0	0	0	0	0	0	0
Scammon Bay	38	7	0	0	0	0	8	1	0	0
Coastal District total	110	13	0	0	0	0	8	1	0	0
Nunam Iqua	13	1	0	0	0	0	0	0	0	0
Alakanuk	49	10	0	0	0	0	34	7	0	0
Emmonak	35	5	4	1	0	0	11	3	0	0
Kotlik	23	1	0	0	0	0	0	0	5	3
District 1 total	120	11	4	1	0	0	45	8	5	3
Mountain Village	8	1	1	0	0	0	50	8	0	0
Pitkas Point	2	1	0	0	0	0	8	3	0	0
St. Mary's	23	6	0	0	0	0	37	6	0	0
Pilot Station	10	4	0	0	0	0	23	5	0	0
Marshall	5	1	0	0	0	0	19	4	0	0
District 2 total	49	7	1	0	0	0	137	12	0	0
Russian Mission	21	4	0	0	0	0	3	1	0	0
Holy Cross	1	0	0	0	0	0	0	0	0	0
Shageluk	1	1	0	0	0	0	0	0	0	0
District 3 total	23	4	0	0	0	0	3	1	0	0
Anvik	0	0	0	0	0	0	1	0	0	0
Grayling	4	3	2	1	0	0	0	0	0	0
Kaltag	0	0	0	0	0	0	0	0	0	0
Nulato	1	0	0	0	0	0	0	0	0	0
Koyukuk	3	1	0	0	0	0	0	0	0	0
Galena	3	1	0	0	0	0	0	0	0	0
Ruby	2	0	0	0	0	0	0	0	0	0
Huslia/Hughes	3	1	0	0	0	0	0	0	0	0
Allakaket/Alatna/Bettles	2	1	0	0	0	0	0	0	2	1
District 4 total	18	3	2	1	0	0	1	0	2	1
Tanana	14	1	0	0	0	0	0	0	0	0
Rampart/Stevens Village	2	1	0	0	0	0	0	0	0	0
Beaver	2	1	0	0	0	0	0	0	0	0
Fort Yukon/Birch Creek	18	2	0	0	0	0	0	0	0	0
Venetie/Chalkyitsik	24	4	0	0	0	0	0	0	2	1
District 5 total	60	5	0	0	0	0	0	0	2	1
Survey total	379	20	8	2	0	0	195	14	9	4

Appendix A5.—Estimated number (Est) of Chinook salmon harvested and 95% confidence interval (CI) by gear type in surveyed communities, Yukon Area, 2023.

Community	Gillnet mesh size						Fish wheel		Dip net		Beach seine		Other gear	
	4-inch or less		6-inch		7.5-inch									
	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI
Hooper Bay	24	20	0	0	0	0	0	0	0	0	0	0	0	0
Scammon Bay	86	28	0	0	0	0	0	0	17	5	0	0	0	0
Coastal District total	111	34	0	0	0	0	0	0	17	5	0	0	0	0
Nunam Iqua	23	14	0	0	0	0	0	0	0	0	0	0	0	0
Alakanuk	148	123	0	0	0	0	0	0	0	0	0	0	0	0
Emmonak	73	24	0	0	0	0	0	0	0	0	0	0	0	0
Kotlik	15	8	5	9	0	0	0	0	0	0	0	0	0	0
District 1 total	259	124	5	9	0	0	0	0	0	0	0	0	0	0
Mountain Village	12	6	0	0	0	0	0	0	2	0	0	0	0	0
Pitkas Point	6	4	0	0	0	0	0	0	0	0	0	0	0	0
St. Mary's	63	54	0	0	0	0	0	0	3	1	0	0	0	0
Pilot Station	15	17	0	0	0	0	0	0	22	12	0	0	0	0
Marshall	5	4	0	0	0	0	0	0	5	4	0	0	0	0
District 2 total	100	56	0	0	0	0	0	0	31	12	0	0	0	0
Russian Mission	14	17	4	4	0	0	0	0	10	11	0	0	0	0
Holy Cross	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shageluk	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 3 total	14	16	4	4	0	0	0	0	10	11	0	0	0	0
Anvik	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grayling	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaltag	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nulato	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Koyukuk	8	8	0	0	0	0	0	0	0	0	0	0	0	0
Galena	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruby	3	2	0	0	0	0	0	0	0	0	0	0	0	0
Huslia/Hughes	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Allakaket/Alatna/Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 4 total	14	8	0	0	0	0	0	0	0	0	0	0	0	0

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Community	Gillnet mesh size						Fish wheel	Dip net	Beach seine	Other gear		
	4-inch or less		6-inch		7.5-inch							
	Est	CI	Est	CI	Est	CI						
Tanana	33	12	0	0	0	0	0	0	0	0	0	0
Stevens Village	0	0	0	0	0	0	0	0	0	0	0	0
Beaver	7	9	0	0	0	0	0	0	0	0	0	0
Fort Yukon/Birch Creek	50	43	0	0	0	0	0	0	0	0	0	0
Venetie/Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0
District 5 total	90	45	0	0	0	0	0	0	0	0	0	0
Survey total	588	148	10	9	0	0	0	0	57	17	0	0

*Note:* Estimates include only those fish harvested for subsistence purposes in surveyed communities and do not include fish retained from commercial catches, test fishery donations, or harvests from permit areas.

Appendix A6.—Estimated number (Est) of summer chum salmon harvested and 95% confidence intervals (CI) by gear type in surveyed communities, Yukon Area, 2023.

Community	Gillnet mesh size						Fish wheel	Dip net		Beach seine		Other gear		
	4-inch or less		6-inch		7.5-inch			Est	CI	Est	CI	Est	CI	
	Est	CI	Est	CI	Est	CI								
Hooper Bay	4,320	2,456	255	113	0	0	0	0	0	0	0	0	0	0
Scammon Bay	1,520	429	0	0	0	0	0	0	433	122	0	0	0	0
Coastal District total	5,839	2,464	255	112	0	0	0	0	433	121	0	0	0	0
Nunam Iqua	233	101	0	0	0	0	0	0	0	0	0	0	0	0
Alakanuk	3,509	2,116	0	0	0	0	0	0	523	197	0	0	0	0
Emmonak	2,474	882	0	0	0	0	0	0	371	146	0	0	0	0
Kotlik	415	166	218	347	0	0	0	0	30	12	0	0	0	0
District 1 total	6,631	2,270	218	341	0	0	0	0	924	243	0	0	0	0
Mountain Village	330	89	0	0	0	0	0	0	2,288	720	0	0	0	0
Pitkas Point	208	117	0	0	0	0	0	0	392	121	0	0	0	0
St. Mary's	596	292	0	0	0	0	0	0	785	204	0	0	0	0
Pilot Station	296	110	0	0	0	0	0	0	2,137	863	0	0	0	0
Marshall	73	26	78	28	0	0	0	0	745	486	0	0	0	0
District 2 total	1,503	339	78	27	0	0	0	0	6,347	1,228	0	0	0	0
Russian Mission	342	169	9	6	32	25	0	0	80	41	0	0	0	0
Holy Cross	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shageluk	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 3 total	342	165	9	6	32	24	0	0	80	40	0	0	0	0
Anvik	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grayling	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaltag	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nulato	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Koyukuk	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Galena	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruby	7	7	0	0	0	0	0	0	0	0	0	0	0	0
Huslia/Hughes	20	20	0	0	0	0	0	0	0	0	0	0	0	0
Allakaket/Alatna/Bettles	0	0	25	32	0	0	0	0	0	0	0	0	0	0
District 4 total	27	21	25	31	0	0	0	0	0	0	0	0	0	0

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Community	Gillnet mesh size						Fish wheel		Dipnet		Beach seine		Other gear	
	4-inch or less		6-inch		7.5-inch									
	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI
Tanana	278	25	0	0	0	0	0	0	0	0	0	0	0	0
Stevens Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beaver	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fort Yukon/Birch Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Venetie/Chalkyitsik	0	0	7	10	0	0	0	0	0	0	0	0	0	0
District 5 total	278	25	7	10	0	0	0	0	0	0	0	0	0	0
Survey total	14,620	3,346	591	360	32	24	0	0	7,784	1,253	0	0	0	0

*Note:* Estimates include only those fish harvested for subsistence purposes in surveyed communities and do not include fish retained from commercial catches, test fishery donations, or harvests from permit areas.

Appendix A7.–Estimated total number of households in surveyed communities, by harvest level, including community and district totals, Yukon Area, 2023.

Community	Unknown				Do not fish				Light harvester				Medium harvester				Heavy harvester			
	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>
Hooper Bay	15	13	4	31	61	19	8	42	94	29	21	72	67	67	33	49	1	1	0	0
Scammon Bay	6	6	4	67	23	7	4	57	48	15	17	113	41	41	30	73	–	–	–	–
Coastal District total	21	19	8	42	84	26	12	46	142	44	38	86	108	108	63	58	1	1	0	0
Nunam Iqua	11	10	9	90	8	8	8	100	14	14	10	71	14	14	13	93	–	–	–	–
Alakanuk	41	38	8	21	28	8	12	150	57	18	17	94	45	45	31	69	2	2	2	100
Emmonak	29	28	17	61	51	26	22	85	78	40	36	90	56	56	49	88	–	–	–	–
Kotlik	28	28	7	25	13	4	2	50	49	15	18	120	46	46	39	85	1	1	1	100
District 1 total	109	104	41	39	100	46	44	96	198	87	81	93	161	161	132	82	3	3	3	100
Mountain Village	22	17	18	106	41	12	13	108	53	17	18	106	50	50	36	72	–	–	–	–
Pitkas Point	6	6	3	50	3	3	1	33	9	9	8	89	11	11	9	82	–	–	–	–
St. Mary's	14	13	12	92	20	6	8	133	52	16	15	94	50	50	40	80	2	2	1	50
Pilot Station	12	12	9	75	35	17	12	71	51	25	21	84	35	35	29	83	1	1	1	100
Marshall	8	8	7	88	15	6	4	67	39	12	11	92	33	33	28	85	1	1	1	100
District 2 total	62	56	49	88	114	44	38	86	204	79	73	92	179	179	142	79	4	4	3	75
Russian Mission	8	8	5	62	14	5	4	80	36	12	10	83	16	16	13	81	–	–	–	–
Holy Cross	7	7	4	57	9	4	2	50	21	10	11	110	14	14	13	93	–	–	–	–
Shageluk	5	4	5	125	7	7	5	71	14	14	11	79	5	5	4	80	–	–	–	–
District 3 total	20	19	14	74	30	16	11	69	71	36	32	89	35	35	30	86	0	0	0	–
Anvik	1	1	1	100	3	3	3	100	12	12	11	92	6	6	5	83	1	1	1	100
Grayling	6	6	5	83	8	3	2	67	22	7	6	86	15	15	11	73	–	–	–	–
Kaltag	7	7	6	86	10	3	3	100	25	8	7	88	10	10	8	80	–	–	–	–
Nulato	4	4	2	50	12	4	3	75	43	13	11	85	18	18	16	89	–	–	–	–
Koyukuk	4	4	3	75	8	8	5	62	22	22	18	82	6	6	5	83	2	2	2	100
Galena	19	19	17	89	39	11	9	82	64	19	14	74	13	13	9	69	3	3	3	100
Ruby	5	5	5	100	21	6	4	67	11	4	5	125	8	8	7	88	1	1	1	100
Huslia	11	11	10	91	37	11	9	82	20	6	6	100	8	8	5	62	4	4	3	75
Hughes	7	7	5	71	12	12	8	67	8	8	5	62	4	4	3	75	1	1	1	100
Allakaket	23	22	10	45	19	6	4	67	13	5	6	120	5	5	3	60	3	3	2	67
Alatna	2	2	1	50	4	4	2	50	2	2	2	100	1	1	1	100	–	–	–	–
Bettles	2	2	1	50	14	14	7	50	–	–	–	–	–	–	–	–	–	–	–	–
District 4 total	91	90	66	73	187	85	59	69	242	106	91	86	94	94	73	78	15	15	13	87

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Community	Unknown				Do not fish				Light harvester				Medium harvester				Heavy harvester			
	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>	<i>N</i>	<i>S</i>	<i>n</i>	% <i>S</i>
Tanana	15	15	12	80	22	12	12	100	32	17	15	88	13	13	10	77	10	10	10	100
Stevens Village	7	7	4	57	6	6	2	33	6	6	4	67	–	–	–	–	3	3	2	67
Birch Creek	1	1	0	0	10	10	6	60	2	2	2	100	–	–	–	–	–	–	–	–
Beaver	6	5	6	120	6	6	4	67	19	19	11	58	3	3	2	67	–	–	–	–
Fort Yukon	24	24	15	62	94	28	24	86	54	16	23	144	19	19	14	74	11	11	8	73
Venetie	27	27	19	70	35	11	15	136	10	3	5	167	11	11	7	64	2	2	2	100
Chalkyitsik	5	5	5	100	20	20	14	70	4	4	3	75	1	1	1	100	–	–	–	–
District 5 total	85	84	61	73	193	93	77	83	127	67	63	94	47	47	34	72	26	26	22	85
Survey totals	388	372	239	64	708	310	241	78	984	419	378	90	624	624	474	76	49	49	41	84

*Note:* The following notations were used in the above table: *N* = the total number of households, *S* = the number of households selected, *n* = the number of households contacted, and %*S* = the percent of the selected households that were contacted in each harvest group in surveyed communities. Dashes indicate indefinable values. The estimated total number of people includes a 95% confidence interval (CI).

Appendix A8.—Estimated 95% confidence intervals (in parentheses) of subsistence harvest of salmon species by fishing location in surveyed districts, Yukon Area, 2023.

		Harvest districts/subdistricts <sup>a</sup>												Harvest river drainages						
Species	District	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D		6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by district
												down	up							
Chinook	Coastal	(39)	(32)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(50)
	1	(15)	(130)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(131)
	2	0	0	(60)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(60)
	3	0	0	0	(23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(23)
	4	0	0	0	0	0	(12)	(5)	0	0	0	0	0	0	0	(8)	0	0	0	(15)
	5	0	0	0	0	0	0	0	(1)	(14)	0	(44)	0	0	0	0	0	(77)	0	0
Survey totals		(42)	(134)	(60)	(23)	0	(12)	(5)	(1)	(14)	0	(44)	0	0	0	(8)	(77)	0	0	(179)
Summer chum	Coastal	(2,496)	(428)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(2,533)
	1	(43)	(2,473)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(2,473)
	2	0	(124)	(1,431)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(1,437)
	3	0	0	0	(273)	0	0	0	0	0	0	0	0	0	(22)	0	0	0	0	(274)
	4	0	0	0	0	(173)	0	(7)	0	0	0	0	0	0	0	(39)	0	0	0	(178)
	5	0	0	0	0	0	0	0	0	(25)	0	0	0	0	0	0	(10)	0	0	(27)
Survey totals		(2,497)	(2,513)	(1,431)	(273)	(173)	0	(7)	0	(25)	0	0	0	0	(22)	(39)	(10)	0	0	(3,835)
Fall chum	Coastal	(65)	(94)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(115)
	1	(17)	(381)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(381)
	2	0	0	(52)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(52)
	3	0	0	0	(89)	0	0	0	0	0	0	0	0	0	(22)	0	0	0	0	(91)
	4	0	0	0	0	(125)	0	0	0	0	0	0	0	0	0	(6)	0	0	0	(125)
	5	0	0	0	0	0	0	0	0	(171)	0	0	(9)	0	0	0	(898)	0	(13)	(915)
Survey totals		(68)	(392)	(52)	(89)	(125)	0	0	0	(171)	0	0	(9)	0	(22)	(6)	(898)	0	(13)	(1,011)

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		Harvest districts/subdistricts <sup>a</sup>													Harvest river drainages						
Species	District	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D		6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by district	
												down	up								
Coho	Coastal	(273)	(41)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(276)	
	1	(7)	(203)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(203)	
	2	0	0	(120)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(120)	
	3	0	0	0	(26)	0	0	0	0	0	0	0	0	0	(22)	0	0	0	0	(34)	
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(6)	0	0	0	(6)	
	5	0	0	0	0	0	0	0	0	(11)	0	0	0	0	0	0	0	0	0	(11)	
Survey totals		(273)	(207)	(120)	(26)	0	0	0	0	(11)	0	0	0	0	(22)	(6)	0	0	0	(365)	
Pink	Coastal	(1,135)	(23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(1,135)	
	1	0	(277)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(277)	
	2	0	0	(249)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(249)	
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Survey totals		(1,135)	(278)	(249)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(1,195)	

<sup>a</sup> Harvest near Fort Yukon was divided according to whether harvest occurred downriver (5D-down) or upriver (5D-up) of the confluence of the Porcupine and Yukon Rivers.



## **APPENDIX B: 2023 DATA COLLECTION INSTRUMENTS**



2023 ADF&G Annual Subsistence Salmon Harvest Survey	2023 ADF&G Annual Subsistence Salmon Harvest Survey
<p style="text-align: right;">«Pass_Code»</p> <p><i>This survey is <b>CONFIDENTIAL</b> and is used to estimate salmon harvests in your community</i></p> <p>The estimate is used to understand the Yukon River salmon population, amounts needed for subsistence and to reconstruct the run size.</p> <p><b>Your Information (Please update if necessary)</b></p> <p>Name: «Name»</p> <p>Address: «Address»</p> <p style="padding-left: 40px;">«Mail_Community», «State», «Zip_Code_4»</p> <p>Phone Number: «Phone_Number»</p> <hr/> <p>1. How many people live in your household?</p> <p style="text-align: center;">_____</p> <hr/> <p>2. Did anyone in your household subsistence fish or cut salmon this year?      <input type="checkbox"/> Yes   <input type="checkbox"/> No</p> <p style="text-align: right;">If NO skip to question 7.</p> <hr/> <p>3. How many salmon did your household harvest? Please include in this total number:</p> <ul style="list-style-type: none"> <li>• Salmon cut for your family</li> <li>• Salmon cut for dogs</li> <li>• Kept from commercial fishing</li> <li>• Shared with other families</li> <li>• Lost (to flies, birds, weather or disease)</li> </ul> <p><b>Chinook Salmon:</b> King, Taryakvak, Uuk Choo, Tagayukpuk _____</p> <p><b>Summer Chum Salmon:</b> Teggmaamiuk, Qalugruvaq, Iqalluk _____</p> <p><b>Fall Chum Salmon: Silvers</b> Teggmaamiuk, Qalugruvaq, Iqalluk _____</p> <p><b>Coho Salmon:</b> Qakiyaq, Needli, Qalugruvaq _____</p> <p><b>Pink Salmon:</b> Cuqpeg, Amaqtuq, Neeghan _____</p> <hr/> <p>4. What gear(s) did you use to harvest salmon?</p> <p><input type="checkbox"/> Set Net      <input type="checkbox"/> Drift Net      <input type="checkbox"/> Fishwheel</p> <p><input type="checkbox"/> Dipnet      <input type="checkbox"/> Beach Seine</p> <p><input type="checkbox"/> Hook and Line      <input type="checkbox"/> Other _____</p>	<hr/> <p>5. What mesh size did you use?</p> <p><input type="checkbox"/> Whitefish net (4 inch or smaller)</p> <p><input type="checkbox"/> Chum net (bigger than 4 inch up to 6 inch)</p> <p><input type="checkbox"/> King net (bigger than 6 inch up to 7.5 inch)</p> <p><input type="checkbox"/> I don't know</p> <hr/> <p>6. Where do you fish?</p> <p><input type="checkbox"/> Coastal Area      <input type="checkbox"/> District 1      <input type="checkbox"/> District 2</p> <p><input type="checkbox"/> District 3      <input type="checkbox"/> Subdistrict 4A      <input type="checkbox"/> Subdistrict 4B</p> <p><input type="checkbox"/> Subdistrict 4C      <input type="checkbox"/> Subdistrict 5A      <input type="checkbox"/> Subdistrict 5B</p> <p><input type="checkbox"/> Subdistrict 5C</p> <p><input type="checkbox"/> Subdistrict 5D-downstream of Ft. Yukon</p> <p><input type="checkbox"/> Subdistrict 5D-upstream of Ft. Yukon</p> <p><input type="checkbox"/> Innoko River      <input type="checkbox"/> Koyukuk River</p> <p><input type="checkbox"/> Porcupine River      <input type="checkbox"/> Black River/Draanjik (Chalkyitsik)</p> <p><input type="checkbox"/> Tanana River      <input type="checkbox"/> Near my community</p> <p><input type="checkbox"/> Chandalar (Teedriinjik)      <input type="checkbox"/> Other _____</p> <hr/> <p>7. Did your household catch any OTHER FISH besides salmon?      <input type="checkbox"/> Yes   <input type="checkbox"/> No</p> <p style="text-align: right;">If NO skip to question 8</p> <hr/> <p><b>Broad Whitefish:</b> Qaurtuq, Akakik, Chishoo _____</p> <p><b>Humpback Whitefish:</b> Nuuqegliq, Neeghan, Cinglikegleq _____</p> <p><b>Cisco:</b> Imarpinraq, Ch'oosik, Qupik _____</p> <p><b>Sheefish:</b> Cii, sii, Sigruvaq _____</p> <p><b>Burbort:</b> Lush, Lushfish _____</p> <p><b>Northern Pike:</b> Jukefish _____</p> <p><b>Blackfish:</b> Circle units (#, lbs., or gal) _____</p> <p><b>Arctic Grayling</b> _____</p> <hr/> <p><b>Lamprey (eels)</b> Circle units (#, lbs., or gal) _____</p> <p><b>Tomcod</b> Circle units (#, lbs., or gal) _____</p> <p><b>Herring</b> Circle units (#, lbs., or gal) _____</p> <p><b>Roe on Kelp</b> Circle units (#, lbs., or gal) _____</p> <hr/>

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Appendix B3.–Yukon Area postseason subsistence salmon harvest survey questions from electronic app, 2023.

Primary question	Level 1 relevant question	Level 2 relevant question
Is your address and phone number still...?		
How many people live in your household?		
Did anyone in your household subsistence fish or cut salmon this year?		
	How many households helped to catch these fish?	
	How many total salmon did you or your fishing GROUP catch?	
	What District/Area did you fish?	
	How many fish did you keep for your household from this Harvest Area?	Enter number of household harvest by species
	What is your household's main fishing GEAR?	Select gear from drop down menu
	Secondary fishing GEAR?	Select gear from drop down menu
	Of the X number of Chinook you harvested, what gear did you use?	Enter Chinook harvest by gear type.
	Of the X number of summer chum you harvested, what gear did you use?	Enter summer chum harvest by gear type.
	Of your household harvest did you share any salmon with family or friends outside your household?	Enter number of shared salmon by species.
	Or did you lose any whole salmon?	Enter number of lost salmon by species.
Was your household GIVEN any salmon from a subsistence or commercial fisher, or ADF&G test fish?		
	Subsistence received	Enter number of subsistence salmon received.
	Commercial received	Enter number of commercial salmon received.
	ADF&G received	Enter number of test fish salmon received.
	Outside Yukon Area	Enter number of salmon received from outside the Yukon Area.

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Appendix B3.–Page 2 of 2.

Primary question	Level 1 relevant question	Level 2 relevant question
Did your household catch any OTHER FISH besides salmon?	<p>Select all that apply (Asked each species and surveyor selects harvested species)</p> <p>What was the main gear used to catch OTHER fish species (not salmon)?</p>	<p>Enter number of other fish harvest by species.</p> <p>Select gear from drop down menu</p>
Does your household have any dogs?	<p>How many dogs does your household own?</p> <p>Does your household feed any WHOLE salmon to dogs?</p> <p>Do you plan on fishing for more salmon this year?</p>	<p>How many WHOLE salmon did your household feed to dogs?</p>
Comments and/or concerns	<p>We know that you don't have the salmon that you would like to have to get through the winter. Does your area harvest moose or caribou? Will you do more fishing under the ice for whitefish, pike and sheefish? We know that this was a difficult year with the salmon not returning; do you have any questions or comments for the managers?</p>	
Do you have a calendar to return?		

<h2 style="margin: 0;">Household Application</h2> <h3 style="margin: 0;">Yukon Area Subsistence and Personal Use Fishing</h3> <p style="margin: 0;">Alaska Department of Fish and Game, Division of Commercial Fisheries 1300 College Road, Fairbanks, AK 99701 Telephone (907) 459-7274</p>			<p><i>Issuing officer use only</i></p> <p>Permit Number: _____</p> <p>Date Issued: _____</p> <p>Issuing Officer: _____</p>
<p><i>Alaska Residents Only</i></p> <p>First Name: _____ Middle Initial: _____ Last Name: _____ Suffix: _____</p> <p>Date of Birth: _____ (mm/dd/yyyy) Driver's License State: _____ Number: _____ Gender: _____</p> <p>What month and year did Alaska Residency begin? _____ Or Nonresident Military (Y/N): _____</p> <p>Telephone: _____ Email: _____</p> <p>Mailing Address: _____</p> <p><input type="checkbox"/> Same as mailing address City _____ State _____ Zipcode _____</p> <p>Physical Address: _____</p> <p>City _____ State _____ Zipcode _____</p> <p>Total Household _____ Names of Other _____</p> <p>Member(s): _____ Household Member(s): _____</p> <p style="font-size: small;">(Include yourself) (Names of other household members authorized to fish this permit)</p>			
<p><b>Select permit area (check one box):</b></p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><b>Tanana River</b></p> <p><input type="checkbox"/> SA- Subsistence, Manley</p> <p><input type="checkbox"/> SB- Subsistence, Minto, Nenana</p> <p><input type="checkbox"/> SK- Subsistence, Kantishna River</p> <p><input type="checkbox"/> PC- Personal Use, Fairbanks, North Pole</p> <p>PC requires Alaska Sport Fish License Number: _____</p> </div> <div style="width: 48%;"> <p><b>Yukon River</b></p> <p><input type="checkbox"/> SR- Subsistence, Rampart*</p> <p><input type="checkbox"/> SY- Subsistence, Bridge Area*</p> <p><input type="checkbox"/> SE- Subsistence, Circle to Canadian border*</p> <p style="font-size: small;">*contact Fairbanks office if fishing year-round (salmon and non-salmon)</p> </div> </div> <p>Number of dogs in household: _____ Do you feed whole salmon to dogs? (Y/N): _____</p>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><b>Primary Fishing Gear (check one box):</b></p> <p><input type="checkbox"/> Set gillnet greater than 2 to 4 inch mesh</p> <p><input type="checkbox"/> Set gillnet greater than 4 to 6 inch mesh (chum)</p> <p><input type="checkbox"/> Set gillnet greater than 6 and up to 7.5 inch mesh (king)</p> <p><input type="checkbox"/> Fish wheel</p> </div> <div style="width: 48%;"> <p><b>Secondary Fishing Gear (check one box):</b></p> <p><input type="checkbox"/> Set gillnet greater than 2 to 4 inch mesh</p> <p><input type="checkbox"/> Set gillnet greater than 4 to 6 inch mesh (chum)</p> <p><input type="checkbox"/> Set gillnet greater than 6 and up to 7.5 inch mesh (king)</p> <p><input type="checkbox"/> Fish wheel</p> </div> </div>			
<p><b>Select permit area (check one box):</b></p> <p><input type="checkbox"/> ST- Subsistence, Tolovana River drainage Pike (Minto, lower Chatanika)</p> <p><input type="checkbox"/> SU- Subsistence, Upper Tanana River drainage (Tok area)</p> <p>Number of dogs in household: _____ Do you feed whole salmon to dogs? (Y/N): _____</p> <p><input type="checkbox"/> SF- Subsistence, Koyukuk (South, Middle forks)</p> <p>Number of dogs in household: _____ Do you feed whole salmon to dogs? (Y/N): _____</p> <p><input type="checkbox"/> PW- Personal Use Whitefish and Sucker, Tanana River drainage (Fairbanks, North Pole, Delta Junction) <i>not available online, contact Fairbanks office for application</i></p>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><b>Primary Fishing Gear (check one box):</b></p> <p><input type="checkbox"/> Set gillnet 2 inch mesh or less</p> <p><input type="checkbox"/> Set gillnet greater than 2 to 4 inch mesh</p> <p><input type="checkbox"/> Fyke nets (hoop traps)</p> <p><input type="checkbox"/> Jigging gear – ice fishing only</p> <p><input type="checkbox"/> Dip net</p> <p><input type="checkbox"/> Fish wheel</p> <p><input type="checkbox"/> Other: _____</p> </div> <div style="width: 48%;"> <p><b>Secondary Fishing Gear (check one box):</b></p> <p><input type="checkbox"/> Set gillnet 2 inch mesh or less</p> <p><input type="checkbox"/> Set gillnet greater than 2 to 4 inch mesh</p> <p><input type="checkbox"/> Fyke nets (hoop traps)</p> <p><input type="checkbox"/> Jigging gear – ice fishing only</p> <p><input type="checkbox"/> Dip net</p> <p><input type="checkbox"/> Fish wheel</p> <p><input type="checkbox"/> Other: _____</p> </div> </div>			
<p>Submit a permit application to ADF&amp;G office in Fairbanks, Tok, Delta, or Anchorage to receive a permit. Permits are also available online at the Fish and Game Online Store at <a href="http://www.adfg.alaska.gov/Store">www.adfg.alaska.gov/Store</a>. Household permits are free of charge and available to Alaska Residents.</p>			

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This permit is valid through  
**October 15<sup>th</sup>, 2023**



**Alaska Department of Fish & Game**  
**2023 Household Subsistence Fishing Permit**  
**Yukon River Bridge Area**

Permit Number

☐ Alaska Resident

**Alaska Residents ONLY**

☐ Alaska Resident

Last Name

First Name

M.I.

Mailing Address

City

State

Zip Code

Phone Number

Driver's License #

State

E-Mail Address

Names of other household members authorized to fish this permit:

**Subsistence Permit Area:** Under authority of this permit, fish may be taken from the Yukon River drainage from the mouth of Hess Creek upstream to the mouth of Dall River. This includes the Yukon Bridge area. See closed waters listed in regulation.

**Fishing Schedule Hotline:** 459-7387 (in Fairbanks) or 1 (866) 479-7387 (Toll free)

**Fishers must abide by the current fishing schedule and allowable gear.** Advisory Announcements are available at the Fairbanks office or at [www.cfnews.adfg.alaska.gov](http://www.cfnews.adfg.alaska.gov), or you can sign up to receive announcements by email at this website.

**Permit Conditions:**

- All regulations pertaining to subsistence fishing in the area must be followed. See regulation summary.
- Anyone fishing this household's gear must be named above and carry this permit on their person during any fishing activity. Household members participating in fishing must be Alaska Residents.
- Fish taken under authority of this permit must be recorded on the catch form provided before leaving the fishing site on the same day the fish are landed.

**Permit expires October 15. Final harvest must be reported within 10 days after expiration.** Even if you did not fish, you must complete a report. Reporting can be completed by returning permit to ADF&G 1300 College Road, Fairbanks, AK 99701. You may also visit [www.adfg.alaska.gov/harvest](http://www.adfg.alaska.gov/harvest) to **report final harvest** or select '**mark permit as not fished**'. Failure to report this household's harvest information may result in denial of a household permit next year.

For questions, call the Fairbanks office (907) 459-7274

This permit is not valid unless signed and dated. By completing this permit application I am agreeing to allow ADF&G to publish the number of fish reported using this permit. No names or addresses will be published.

*I hereby claim I am a resident of Alaska and that the information I have provided on this permit is true as witnessed by my signature. I have read and will abide by all conditions of this permit.*

Signature of Permittee

Date

Revised 2/2023

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## **APPENDIX C: HISTORICAL HARVEST INFORMATION**

Appendix C1.—Chinook salmon subsistence harvest totals by fishing district and community of residence, and personal use harvest total for District 6, Yukon Area, 2013–2023.

Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017	2018–2022
												Average	Average
Hooper Bay	1,210	455	534	284	314	456	784	436	13	55	24	559	349
Scammon Bay	332	108	432	602	747	666	1,233	1,040	17	116	103	444	614
Coastal District total	1,542	563	966	886	1,061	1,122	2,017	1,476	30	171	127	1,004	963
Nunam Iqua	12	62	210	190	235	78	470	381	78	106	23	142	223
Alakanuk	275	214	436	465	838	414	1,818	1,394	229	87	166	446	788
Emmonak	553	463	612	939	1,731	1,203	2,419	1,033	346	208	85	860	1,042
Kotlik	794	617	661	1,158	1,767	1,556	2,333	912	78	0	20	999	976
District 1 subtotal	1,634	1,356	1,919	2,752	4,571	3,251	7,040	3,720	731	401	294	2,446	3,029
Mountain Village	266	178	370	809	1,060	1,021	1,238	1,025	152	35	13	537	694
Pitkas Point	37	79	44	156	492	365	1,096	249	13	11	6	162	347
St. Mary's	215	68	261	1,032	919	1,172	2,735	1,500	220	59	65	499	1,137
Pilot Station	258	163	382	652	818	581	1,919	1,034	321	251	195	455	821
Marshall	328	128	128	512	1,554	914	1,261	924	14	56	9	530	634
District 2 subtotal	1,104	616	1,185	3,161	4,843	4,053	8,249	4,732	720	412	288	2,182	3,633
Russian Mission	236	16	365	321	1,368	1,043	1,561	432	29	10	29	461	615
Holy Cross	204	0	68	557	822	580	1,483	192	ND	ND	ND	330	752
Shageluk	4	32	14	23	86	181	262	90	ND	5	0	32	135
Other District 3 <sup>a</sup>	NA	NA	NA	NA	NA	NA	NA	NA	9	0	0	NA	NA
District 3 subtotal	444	48	447	901	2,276	1,804	3,306	714	38	15	29	823	1,175
Lower Yukon River total	3,182	2,020	3,551	6,814	11,690	9,108	18,595	9,166	1,489	828	611	5,451	7,837
Anvik	121	0	58	241	709	566	655	242	ND	0	0	226	366
Grayling	226	3	22	370	749	888	1,446	264	ND	ND	0	274	866
Kaltag	348	10	119	1,358	1,959	570	1,225	577	ND	ND	0	759	791
Nulato	602	0	33	1,957	2,132	1,260	2,396	1,748	ND	ND	ND	945	1,801
Koyukuk	898	52	26	612	648	859	1,088	268	ND	ND	19	447	738
Galena	275	1	372	993	2,224	1,262	2,895	695	7	ND	21	773	1,215
Ruby	357	6	68	344	568	1,126	1,036	562	ND	ND	ND	269	908
Other District 4 <sup>b</sup>	NA	NA	NA	NA	NA	NA	NA	NA	12	75	3	NA	44
District 4 subtotal	2,827	72	698	5,875	8,989	6,531	10,741	4,356	19	75	43	3,692	4,344
Huslia/Hughes	68	51	38	94	454	170	871	186	0	0	3	141	245
Allakaket/Alatna/Bettles	6	9	35	46	31	48	134	176	0	0	0	25	72
Koyukuk River subtotal	74	60	73	140	485	218	1,005	362	0	0	3	166	317
District 4 total (incl. Koyukuk R.)	2,901	132	771	6,015	9,474	6,749	11,746	4,718	19	75	46	3,859	4,661

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Appendix C1.—Page 2 of 2.

Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017	2018–2022
												Average	Average
Tanana	1,200	88	141	2,129	2,961	5,108	3,408	1,905	142	196	173	1,304	2,152
Rampart/Stevens Village	274	0	1	228	155	284	446	485	5	86	69	132	261
Fairbanks (FNSB) <sup>c</sup>	610	14	263	1,318	2,521	1,475	2,479	1,623	315	277	280	945	1,234
Beaver	107	0	69	165	585	332	1,413	304	18	0	ND	185	413
Fort Yukon/Birch Creek	1,561	93	480	1,225	4,224	4,704	4,563	757	5	4	140	1,517	2,007
Circle/Central	178	0	185	260	744	683	694	175	5	0	0	273	311
Eagle	175	76	395	864	1,730	1,011	788	280	38	52	ND	648	434
Other District 5 <sup>d</sup>	125	0	7	306	830	474	944	368	22	73	68	254	376
District 5 subtotal	4,230	271	1,541	6,495	13,750	14,071	14,735	5,897	550	688	730	5,257	7,188
Venetie/Chalkyitsik	311	17	308	586	780	443	660	32	0	0	50	400	227
Teedriinjik/Draanjik R. subtotal	311	17	308	586	780	443	660	32	0	0	50	400	227
District 5 total <sup>e</sup>	4,541	288	1,849	7,081	14,530	14,514	15,395	5,929	550	688	780	5,658	7,415
Manley	165	92	121	230	103	210	94	33	ND	ND	ND	142	112
Minto	60	0	23	35	101	ND	35	5	ND	ND	ND	44	20
Nenana/Healy	87	139	263	464	309	181	404	230	6	0	0	252	164
Fairbanks (FNSB) <sup>f</sup>	49	41	33	87	144	53	82	140	1	1	0	71	55
Other District 6 <sup>g</sup>	6	11	0	0	0	49	9	17	0	1	0	3	15
District 6 Tanana R. total	367	283	440	816	657	493	624	425	7	2	0	513	310
Upper Yukon River total	7,809	703	3,060	13,912	24,661	21,756	27,765	11,072	576	765	826	10,029	12,387
Yukon Area total <sup>h</sup>	12,533	3,286	7,577	21,612	37,412	31,986	48,377	21,714	2,095	1,764	1,564	16,484	21,187
Personal use (District 6) <sup>i</sup>	42	1	5	57	125	206	244	112	0	0	0	46	112
Yukon Area total with personal use	12,575	3,287	7,582	21,669	37,537	32,192	48,621	21,826	2,095	1,764	1,564	16,530	21,300

*Note:* Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects. NA indicates not applicable. ND indicates no data.

<sup>a</sup> Other District 3 included residents of District 3 combined due to confidentiality of low number of households fished.

<sup>b</sup> Other District 4 included residents of District 4 combined due to confidentiality of low number of households fished.

<sup>c</sup> Harvests by subsistence permit holders who resided in Fairbanks North Star Borough (FNSB) and fished in District 5 near the Yukon River bridge crossing.

<sup>d</sup> Other permit holders who fished in District 5 but did not reside in the communities listed.

<sup>e</sup> Included Teedriinjik (formerly Chandalar River) and Draanjik (formerly Black River).

<sup>f</sup> Harvests by subsistence permit holders who resided in FNSB and fished in the Tanana River.

<sup>g</sup> Other permit holders who fished in District 6 but did not reside in the communities listed, or harvests from communities with less than 3 participants.

<sup>h</sup> Area total includes Coastal District; historically Yukon River total consisted of Lower and Upper Yukon Areas, which were used in assessing border passage objectives under the Yukon Salmon Agreement.

<sup>i</sup> Harvest from the personal use fishing area on the Tanana River near Fairbanks. Not included in communities or totals above.

Appendix C2.—Summer chum salmon subsistence harvest totals by fishing district and community of residence, and personal use harvest total for District 6, Yukon Area, 2013–2023.

Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017	2018–2022
												Average	Average
Hooper Bay	13,629	13,236	11,870	6,324	7,818	8,346	2,999	3,450	290	1,999	4,574	10,575	3,417
Scammon Bay	9,506	6,068	8,598	5,520	6,033	6,850	4,037	3,929	13	1,142	1,953	7,145	3,194
Coastal District total	23,135	19,304	20,468	11,844	13,851	15,196	7,036	7,379	303	3,141	6,527	17,720	6,611
Nunam Iqua	2,651	2,010	2,239	2,130	1,759	1,549	1,105	1,071	16	187	233	2,158	786
Alakanuk	7,520	9,120	4,469	6,527	4,993	5,448	6,276	3,924	66	402	4,614	6,526	3,223
Emmonak	8,209	7,143	9,973	8,976	6,933	7,036	8,404	5,463	170	1,811	3,819	8,247	4,577
Kotlik	10,136	5,621	4,960	8,925	8,776	7,007	6,994	4,831	102	60	723	7,684	3,799
District 1 subtotal	28,516	23,894	21,641	26,558	22,461	21,040	22,779	15,289	354	2,460	9,389	24,614	12,384
Mountain Village	11,861	7,059	6,063	8,782	7,230	5,414	4,320	3,180	39	135	2,643	8,199	2,618
Pitkas Point	2,186	1,588	1,225	1,485	1,489	1,390	1,103	478	21	18	600	1,595	602
St. Mary's	9,167	5,570	8,216	7,379	4,967	4,486	7,349	4,087	74	97	1,381	7,060	3,219
Pilot Station	5,299	5,728	4,702	4,796	4,952	4,015	6,871	3,881	344	453	3,047	5,095	3,113
Marshall	3,986	6,189	4,351	5,180	5,166	3,311	2,703	2,009	61	137	896	4,974	1,644
District 2 subtotal	32,499	26,134	24,557	27,622	23,804	18,616	22,346	13,635	539	840	8,567	26,923	11,195
Russian Mission	3,967	3,181	2,626	1,798	2,645	2,245	1,483	574	49	50	464	2,843	880
Holy Cross	262	97	421	991	242	306	199	174	ND	ND	95	403	226
Shageluk	463	470	80	275	804	495	673	113	ND	9	ND	418	323
Other District 3 <sup>a</sup>	NA	NA	NA	NA	NA	NA	NA	NA	32	0	25	NA	16
District 3 subtotal	4,692	3,748	3,127	3,064	3,691	3,046	2,355	861	81	59	584	3,664	1,280
Lower Yukon River total	65,707	53,776	49,325	57,244	49,956	42,702	47,480	29,785	974	3,359	18,540	55,202	24,860
Anvik	830	2,052	777	1,117	330	437	223	123	ND	0	122	1,021	196
Grayling	618	1,617	509	878	738	779	879	58	ND	ND	92	872	572
Kaltag	67	954	216	467	185	25	180	228	ND	ND	18	378	144
Nulato	401	158	6	1,001	1,588	241	157	39	ND	ND	ND	631	146
Koyukuk	4,459	300	0	119	96	150	21	24	ND	ND	13	995	65
Galena	179	377	1,059	1,689	1,228	349	1,223	58	2	ND	0	906	408
Ruby	681	29	88	678	107	970	464	0	ND	ND	ND	317	478
Other District 4 <sup>b</sup>	NA	NA	NA	NA	NA	NA	NA	NA	0	56	134	NA	28
District 4 subtotal	7,235	5,487	2,655	5,949	4,272	2,951	3,147	530	2	56	379	5,120	1,337
Huslia/Hughes	4,070	3,214	4,609	4,764	9,295	4,726	3,915	1,804	2	146	20	5,190	2,119
Allakaket/Alatna/Bettles	2,456	1,280	2,513	3,015	2,857	4,844	472	1,705	0	0	25	2,424	1,404
Koyukuk River subtotal	6,526	4,494	7,122	7,779	12,152	9,570	4,387	3,509	2	146	45	7,615	3,523
District 4 total (incl. Koyukuk R.)	13,761	9,981	9,777	13,728	16,424	12,521	7,534	4,039	4	202	424	12,734	4,860

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Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017	2018–2022
												Average	Average
Tanana	9,565	2,612	3,162	3,685	3,086	2,733	530	338	18	3	278	4,422	724
Rampart/Stevens Village	55	70	0	629	10	1	0	3	0	0	28	153	1
Fairbanks (FNSB) <sup>c</sup>	1,350	300	575	461	1,413	521	179	65	10	15	48	820	158
Beaver	12	0	0	23	98	8	27	0	0	0	ND	27	7
Fort Yukon/Birch Creek	225	19	0	12	98	44	12	0	0	4	0	71	12
Circle/Central	66	0	0	0	0	0	0	0	0	0	0	13	0
Eagle	50	0	0	0	0	0	0	0	0	0	ND	10	0
Other District 5 <sup>d</sup>	94	91	8	180	321	37	55	17	5	0	14	139	23
District 5 subtotal	11,417	3,092	3,745	4,990	5,026	3,344	803	423	33	22	368	5,654	925
Venetie/Chalkyitsik	0	16	0	0	0	114	0	0	0	0	7	3	23
Teedriinjik/Draanjik R. subtotal	0	16	0	0	0	114	0	0	0	0	7	3	23
District 5 total <sup>e</sup>	11,417	3,108	3,745	4,990	5,026	3,458	803	423	33	22	375	5,657	948
Manley	45	182	9	32	16	78	3	7	ND	ND	ND	57	29
Minto	258	24	0	4	234	ND	0	1	ND	ND	ND	104	1
Nenana/Healy	642	275	60	19	603	440	409	23	4	36	0	320	182
Fairbanks (FNSB) <sup>f</sup>	143	237	183	41	271	82	31	84	0	0	0	175	39
Other District 6 <sup>g</sup>	6	13	0	0	7	5	0	0	0	0	0	5	1
District 6 Tanana R. total	1,094	731	252	96	1,131	605	443	115	4	36	0	661	241
Upper Yukon River total	26,272	13,820	13,774	18,814	22,581	16,584	8,780	4,577	41	260	799	19,052	6,048
Yukon Area total <sup>h</sup>	115,114	86,900	83,567	87,902	86,388	74,482	63,296	41,741	1,318	6,760	25,866	91,974	37,519
Personal use (District 6) <sup>i</sup>	138	235	220	176	438	515	294	67	0	0	0	241	175
Yukon Area total with personal use	115,252	87,135	83,787	88,078	86,826	74,997	63,590	41,808	1,318	6,760	25,866	92,216	37,695

*Note:* Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects. NA indicates not applicable. ND indicates no data due to confidentiality.

<sup>a</sup> Other District 3 included residents of District 3 combined due to confidentiality of low number of households fished.

<sup>b</sup> Other District 4 included residents of District 4 combined due to confidentiality of low number of households fished.

<sup>c</sup> Harvests by subsistence permit holders who resided in Fairbanks North Star Borough (FNSB) and fished in District 5 near the Yukon River bridge crossing.

<sup>d</sup> Other permit holders who fished in District 5 but did not reside in the communities listed.

<sup>e</sup> Included Teedriinjik (formerly Chandalar River) and Draanjik (formerly Black River).

<sup>f</sup> Harvests by subsistence permit holders who resided in FNSB and fished in the Tanana River.

<sup>g</sup> Other permit holders who fished in District 6 but did not reside in the communities listed or harvests from communities with less than 3 participants.

<sup>i</sup> Harvest from the personal use fishing area on the Tanana River near Fairbanks. Not included in communities or totals above.

Appendix C3.–Fall chum salmon subsistence harvest totals by fishing district and community of residence, and personal use harvest total for District 6, Yukon Area, 2013–2023.

Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017	2018–2022
												Average	Average
Hooper Bay	91	137	79	105	137	158	210	407	28	130	40	110	187
Scammon Bay	58	115	119	657	416	364	605	245	11	106	118	273	266
Coastal District total	149	252	198	762	553	522	815	652	39	236	158	383	453
Nunam Iqua	93	128	210	111	52	188	102	16	3	14	35	119	65
Alakanuk	328	593	1067	743	424	510	352	108	22	165	147	631	231
Emmonak	2,165	2,465	3,244	2,501	2,735	2,208	1,868	1,331	117	948	1,523	2,622	1,294
Kotlik	1,087	886	1,356	1,217	1,370	759	1,929	139	1	81	258	1,183	582
District 1 subtotal	3,673	4,072	5,877	4,572	4,581	3,665	4,251	1,594	143	1,208	1,963	4,555	2,172
Mountain Village	2,174	1,484	1,398	1,210	1,560	872	1,180	259	137	143	844	1,565	518
Pitkas Point	65	400	172	232	172	112	139	72	0	0	5	208	65
St. Mary's	1,009	2,037	1,611	1,088	753	470	844	125	2	0	64	1,300	288
Pilot Station	777	796	1,346	903	1,065	1,116	997	468	296	369	519	977	649
Marshall	853	1,100	1,731	1,106	532	415	644	13	0	0	4	1,064	214
District 2 subtotal	4,878	5,817	6,258	4,539	4,082	2,985	3,804	937	435	512	1,436	5,115	1,735
Russian Mission	804	365	449	235	671	349	469	0	0	16	105	505	167
Holy Cross	855	1,840	763	583	324	176	171	26	ND	ND	0	873	124
Shageluk	105	252	176	179	289	174	114	0	ND	9	ND	200	74
Other District 3 <sup>a</sup>	NA	NA	NA	NA	NA	NA	NA	NA	0	0	25	NA	0
District 3 subtotal	1,764	2,457	1,388	997	1,284	699	754	26	0	25	130	1,578	301
Lower Yukon River total	10,315	12,346	13,523	10,108	9,947	7,349	8,809	2,557	578	1,745	3,529	11,248	4,208
Anvik	763	1,028	680	527	296	500	45	222	ND	12	0	659	195
Grayling	471	1,451	1,184	499	272	750	45	54	ND	ND	73	775	283
Kaltag	583	2,828	1,255	680	142	66	103	0	ND	ND	0	1,098	56
Nulato	2,995	3,839	2,248	2,681	1,762	869	662	0	ND	ND	ND	2,705	510
Koyukuk	5,308	998	2,838	297	166	295	287	0	ND	ND	0	1,921	194
Galena	602	3,368	2,542	3,319	4,760	1,401	1,129	19	0	0	0	2,918	510
Ruby	2,505	972	713	526	97	842	242	0	ND	ND	ND	963	361
Other District 4 <sup>b</sup>	NA	NA	NA	NA	NA	NA	NA	NA	0	12	0	NA	6
District 4 subtotal	13,227	14,484	11,460	8,529	7,495	4,723	2,513	295	0	24	73	11,039	1,511
Huslia/Hughes	1,257	927	1,226	954	543	859	420	28	0	62	5	981	274
Allakaket/Alatna/Bettles	707	525	588	551	1,535	362	1,299	42	0	0	0	781	341
Koyukuk River subtotal	1,964	1,452	1,814	1,505	2,078	1,221	1,719	70	0	62	5	1,763	614
District 4 total (incl. Koyukuk R.)	15,191	15,936	13,274	10,034	9,573	5,944	4,232	365	0	86	78	12,802	2,125

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Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017	2018–2022
												Average	Average
Tanana	31,546	14,131	19,627	21,261	21,952	16,731	12,039	1,158	59	23	395	21,703	6,002
Rampart/Stevens Village	940	6,700	186	4,500	0	1,417	98	20	4	15	4	2,465	311
Fairbanks (FNSB) <sup>c</sup>	1,160	1,406	2,454	2,143	3,075	2,077	4,104	568	1	132	1	2,048	1,376
Beaver	21	323	76	228	0	141	17	0	0	0	ND	130	32
Fort Yukon/Birch Creek	16,453	8,025	6,257	7,728	4,523	3,487	7,153	133	7	0	12	8,597	2,156
Circle/Central	1,397	1,277	1,652	1,306	2,182	2,877	2,069	9	0	0	0	1,563	991
Eagle	18,871	17,450	17,185	15,765	19,126	16,539	16,610	0	0	41	ND	17,679	6,638
Other District 5 <sup>d</sup>	121	222	229	17	12	175	52	21	0	0	89	120	50
District 5 subtotal	70,509	49,534	47,666	52,948	50,870	43,444	42,142	1,909	71	211	501	54,305	17,555
Venetie/Chalkyitsik	5,589	1,663	2,594	5,883	10,574	2,544	2,804	43	0	497	1,769	5,261	1,178
Teedriinjik/Draanjik R. subtotal	5,589	1,663	2,594	5,883	10,574	2,544	2,804	43	0	497	1,769	5,261	1,178
District 5 total <sup>e</sup>	76,098	51,197	50,260	58,831	61,444	45,988	44,946	1,952	71	708	2,270	59,566	18,733
Manley	1,539	2,579	1,697	414	809	3,645	2,457	172	ND	ND	ND	1,408	2,091
Minto	593	472	140	40	18	ND	13	0	ND	ND	ND	253	7
Nenana/Healy	3,852	4,545	3,981	3,544	2,640	4,937	1,801	19	17	12	2	3,712	1,357
Fairbanks (FNSB) <sup>f</sup>	5,651	5,190	3,496	884	1,137	822	658	10	0	0	0	3,272	298
Other District 6 <sup>g</sup>	5	12	31	0	18	0	3	1	0	7	0	13	2
District 6 Tanana R. total	11,640	12,798	9,345	4,882	4,622	9,404	4,932	202	17	19	2	8,657	2,915
Upper Yukon River total	102,929	79,931	72,879	73,747	75,639	61,336	54,110	2,519	88	813	2,350	81,025	23,773
Yukon Area total <sup>h</sup>	113,393	92,529	86,600	84,617	86,139	69,207	63,734	5,728	705	2,794	6,037	92,656	28,434
Personal use (District 6) <sup>i</sup>	383	278	80	283	626	505	408	37	0	0	0	330	190
Yukon Area total with personal use	113,776	92,807	86,680	84,900	86,765	69,712	64,142	5,765	705	2,794	6,037	92,986	28,624

*Note:* Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects. NA indicates not applicable. ND indicates no data due to confidentiality.

<sup>a</sup> Other District 3 included residents of District 3 combined due to confidentiality of low number of households fished.

<sup>b</sup> Other District 4 included residents of District 4 combined due to confidentiality of low number of households fished.

<sup>c</sup> Harvests by subsistence permit holders who resided in Fairbanks North Star Borough (FNSB) and fished in District 5 near the Yukon River bridge crossing.

<sup>d</sup> Other permit holders who fished in District 5 but did not reside in the communities listed.

<sup>e</sup> Included Teedriinjik (formerly Chandalar River) and Draanjik (formerly Black River).

<sup>f</sup> Harvests by subsistence permit holders who resided in FNSB and fished in the Tanana River.

<sup>g</sup> Other permit holders who fished in District 6 but did not reside in the communities listed or harvest from communities with less than 3 participants.

<sup>h</sup> Area total includes Coastal District.

<sup>i</sup> Harvest from the personal use fishing area on the Tanana River near Fairbanks. Not included in communities or totals above.

Appendix C4.–Coho salmon subsistence harvest totals by fishing district and community of residence, and personal here use harvest total for District 6, Yukon Area, 2013–2023.

Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017	2018–2022
												Average	Average
Hooper Bay	73	118	95	121	218	119	342	150	41	94	174	125	149
Scammon Bay	214	86	79	234	206	746	462	189	9	197	114	164	321
Coastal District total	287	204	174	355	424	865	804	339	50	291	288	289	470
Nunam Iqua	83	153	229	58	20	184	21	19	4	31	12	109	52
Alakanuk	167	443	581	183	199	190	380	123	8	88	257	315	158
Emmonak	517	613	852	717	723	329	379	331	21	178	301	684	248
Kotlik	457	573	438	273	102	264	1,182	79	3	4	95	369	306
District 1 subtotal	1,224	1,782	2,100	1,231	1,044	967	1,962	552	36	301	665	1,476	764
Mountain Village	271	202	723	436	729	267	273	126	37	85	172	472	158
Pitkas Point	41	123	72	22	224	54	0	10	0	5	9	96	14
St. Mary's	124	408	391	128	213	37	10	37	0	0	18	253	17
Pilot Station	136	568	305	136	91	121	147	174	74	70	124	247	117
Marshall	508	468	1511	409	139	112	212	147	15	112	0	607	120
District 2 subtotal	1,080	1,769	3,002	1,131	1,396	591	642	494	126	272	323	1,676	425
Russian Mission	152	124	154	6	483	123	104	7	0	26	33	184	52
Holy Cross	0	103	246	134	0	23	63	6	ND	ND	0	97	31
Shageluk	219	113	28	0	14	8	65	7	ND	4	ND	75	21
Other District 3 <sup>a</sup>	NA	NA	NA	NA	NA	NA	NA	NA	0	0	25	NA	0
District 3 subtotal	371	340	428	140	497	154	232	20	0	30	58	355	87
Lower Yukon River total	2,675	3,891	5,530	2,502	2,937	1,712	2,836	1,066	162	603	1,046	3,507	1,276
Anvik	97	197	46	184	11	15	55	23	ND	24	0	107	29
Grayling	34	403	212	35	0	0	75	52	ND	ND	0	137	42
Kaltag	306	514	18	53	3	34	1	0	ND	ND	0	179	12
Nulato	125	454	48	0	85	220	27	0	ND	ND	ND	142	82
Koyukuk	3,267	50	416	1	6	22	38	0	ND	ND	0	748	20
Galena	170	718	654	201	136	216	120	13	0	ND	0	376	87
Ruby	345	335	185	226	22	26	32	0	ND	ND	ND	223	19
Other District 4 <sup>b</sup>	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	NA	0
District 4 subtotal	4,344	2,671	1,579	700	263	533	348	88	0	24	0	1,911	199
Huslia/Hughes	360	282	310	93	171	1020	80	45	0	84	5	243	246
Allakaket/Alatna/Bettles	236	109	52	33	92	27	69	5	0	0	0	104	20
Koyukuk River subtotal	596	391	362	126	263	1,047	149	50	0	84	5	348	266
District 4 total (incl. Koyukuk R.)	4,940	3,062	1,941	826	526	1,580	497	138	0	108	5	2,259	465

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Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017 Average	2018–2022 Average
Tanana	1,135	1,788	2,434	639	874	1,355	82	120	8	0	25	1,374	313
Rampart/Stevens Village	0	0	2	52	0	11	7	12	21	12	0	11	13
Fairbanks (FNSB) <sup>c</sup>	0	0	0	101	112	72	506	32	2	15	0	43	125
Beaver	0	2	0	0	0	0	0	0	0	0	ND	0	0
Fort Yukon/Birch Creek	7	201	2	1	7	0	4	0	0	0	0	44	1
Circle/Central	150	0	0	38	0	0	0	0	0	0	0	38	0
Eagle	0	1	0	0	0	0	0	0	0	0	ND	0	0
Other District 5 <sup>d</sup>	0	0	0	0	1	11	1	16	0	0	0	0	6
District 5 subtotal	1,292	1,992	2,438	831	994	1,449	600	180	31	27	25	1,509	457
Venetie/Chalkyitsik	6	38	24	30	18	0	12	16	0	0	27	23	6
Teedriinjik/Draanjik R. subtotal	6	38	24	30	18	0	12	16	0	0	27	23	6
District 5 total <sup>e</sup>	1,298	2,030	2,462	861	1,012	1,449	612	196	31	27	52	1,533	463
Manley	447	1,177	1,263	323	750	918	381	330	0	ND	ND	792	407
Minto	266	37	270	0	0	ND	0	0	0	ND	ND	115	0
Nenana/Healy	1,962	3,002	3,359	2,970	1,392	1,622	475	180	49	47	0	2,537	475
Fairbanks (FNSB) <sup>f</sup>	2,576	3,689	3,108	978	362	121	213	81	0	0	3	2,143	83
Other District 6 <sup>g</sup>	6	6	0	0	11	0	0	0	4	12	5	5	3
District 6 Tanana R. total	5,257	7,911	8,000	4,271	2,515	2,661	1,069	591	53	59	8	5,591	887
Upper Yukon River total	11,495	13,003	12,403	5,958	4,053	5,690	2,178	925	84	194	65	9,382	1,814
Yukon Area total <sup>h</sup>	14,457	17,098	18,107	8,815	7,414	8,267	5,818	2,330	296	1,088	1,399	13,178	3,560
Personal use (District 6) <sup>i</sup>	109	174	145	266	200	131	68	79	0	0	0	178.8	55.6
Yukon Area total with personal use	14,566	17,272	18,252	9,081	7,614	8,398	5,886	2,409	296	1,088	1,399	13,357	3,615

*Note:* Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects. NA indicates not applicable. ND indicates no data due to confidentiality.

<sup>a</sup> Other District 3 included residents of District 3 combined due to confidentiality of low number of households fished.

<sup>b</sup> Other District 4 included residents of District 4 combined due to confidentiality of low number of households fished.

<sup>c</sup> Harvests by subsistence permit holders who resided in Fairbanks North Star Borough (FNSB) and fished in District 5 near the Yukon River bridge crossing.

<sup>d</sup> Other permit holders who fished in District 5 but did not reside in the communities listed.

<sup>e</sup> Included Teedriinjik (formerly Chandalar River) and Draanjik (formerly Black River).

<sup>f</sup> Harvests by subsistence permit holders who resided in FNSB and fished in the Tanana River.

<sup>g</sup> Other permit holders who fished in District 6 but did not reside in the communities listed or harvests from communities with less than 3 participants.

<sup>h</sup> Area total includes Coastal District.

<sup>i</sup> Harvest from the personal use fishing area on the Tanana River near Fairbanks. Not included in communities or totals above.

Appendix C5.—Estimated pink salmon subsistence harvest by residents of surveyed communities, with community and district totals, Yukon Area, 2013–2023.

Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Even years Average	Odd years Average	All years Average
Hooper Bay	302	712	451	4,007	315	635	2,393	1,758	1,079	1,596	738	1,742	908	1,325
Scammon Bay	507	1,923	1,414	2,490	988	2,427	1,322	2,259	724	1,297	748	2,079	991	1,535
Coastal District total	809	2,635	1,865	6,497	1,303	3,062	3,715	4,017	1,803	2,893	1,486	3,821	1,899	2,860
Nunam Iqua	0	670	352	352	484	377	269	592	260	612	164	521	273	397
Alakanuk	92	970	15	713	99	7	190	143	155	392	387	445	110	278
Emmonak	0	588	7	228	0	31	23	125	141	823	171	359	34	197
Kotlik	23	1,064	14	502	159	29	398	29	0	671	14	459	119	289
District 1 subtotal	115	3,292	388	1,795	742	444	880	889	556	2,498	736	1,784	536	1,160
Mountain Village	0	233	57	93	152	92	270	292	11	684	244	279	98	188
Pitkas Point	2	45	288	48	0	122	0	11	205	67	0	59	99	79
St. Mary's	0	614	18	104	171	35	80	136	75	676	19	313	69	191
Pilot Station	131	27	0	8	5	0	1	13	0	0	1	10	27	19
Marshall	7	1	0	5	44	53	1	2	0	20	0	16	10	13
District 2 subtotal	140	920	363	258	372	302	352	454	291	1,447	264	676	304	490
Russian Mission	12	8	0	0	0	0	0	0	0	2,088	0	419	2	211
Holy Cross	0	0	0	2	1	0	0	0	ND	ND	0	1	0	0
Shageluk	0	3	0	9	1	0	2	25	ND	0	ND	7	1	4
Other District 3 <sup>a</sup>	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	NA	0	0
District 3 subtotal	12	11	0	11	2	0	2	25	0	2,088	0	427	3	215
Lower Yukon River total	267	4,223	751	2,064	1,116	746	1,234	1,368	847	6,033	1,000	2,887	843	1,865
Anvik	0	0	0	0	0	0	0	5	ND	0	0	1	0	1
Grayling	0	39	0	33	0	16	0	0	ND	ND	0	22	0	11
Kaltag	0	0	0	73	0	0	0	0	ND	ND	0	18	0	9
Nulato	0	8	0	0	0	0	0	0	ND	ND	ND	2	0	1
Koyukuk	0	0	0	0	0	0	0	0	ND	ND	0	0	0	0
Galena	0	6	16	11	8	0	0	0	0	ND	0	4	5	5
Ruby	0	13	0	0	0	0	0	0	ND	ND	ND	3	0	2
Other District 4 <sup>b</sup>	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0	NA	0	0
District 4 subtotal	0	66	16	117	8	16	0	5	0	0	0	41	5	23
Hughes/Huslia	0	0	0	0	5	20	82	0	0	0	0	4	17	11
Allakaket/Alatna/Bettles	0	0	0	0	0	5	0	0	0	0	0	1	0	1
Koyukuk River subtotal	0	0	0	0	5	25	82	0	0	0	0	5	17	11
District 4 total (incl. Koyukuk R.)	0	66	16	117	13	41	82	5	0	0	0	46	22	34

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Community	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Even years	Odd years	All years
												Average	Average	Average
Tanana	0	8	13	34	0	0	0	0	0	0	0	8	3	6
Rampart/Stevens Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beaver	0	0	0	0	0	0	0	0	0	0	ND	0	0	0
Fort Yukon/Birch Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Venetie/Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other District 5 <sup>c</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	NA
District 5 total	0	8	13	34	0	0	0	0	0	0	0	8	3	6
Survey totals	1,076	6,932	2,645	8,712	2,432	3,849	5,031	5,390	2,650	8,926	2,486	6,762	2,767	4,764
CI (95%)	918	1,356	612	2,064	748	1,299	1,210	1,433	713	3,291	1,174	1,889	840	1,364
Test fishery <sup>d</sup>	0	120	0	9	8	65	2	15	1	33	1	48	2	25

*Note:* CI (95%) is the annual survey total 95% confidence interval. Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects. NA indicates not applicable. ND indicates no data due to confidentiality. Included test fishery catch. Confidence intervals were calculated from subsistence estimates and did not include donations of test fishery to communities. Pink salmon harvested and distributed from test fishery projects were not always recorded.

<sup>a</sup> Other District 3 included residents of District 3 combined due to confidentiality of low number of households fished.

<sup>b</sup> Other District 4 included residents of District 4 combined due to confidentiality of low number of households fished.

<sup>c</sup> Other District 5 included residents of District 5 combined due to confidentiality of low number of households fished.

<sup>d</sup> Number from test fishery catch added to community harvest estimates.

Appendix C6.–Households with dogs, number of dogs, and salmon fed to dogs, as estimated in surveyed communities, or reported in permit areas, Yukon Area, 2013–2023.

Year	Number of households with dogs	Number of dogs	Salmon fed to dogs				Total
			Summer chum	Fall chum	Coho	Unknown species <sup>a</sup>	
2013	1,770	5,007	18,890	51,427	4,257	24,873	99,447
2014	1,759	5,388	5,105	28,218	1,946	31,419	66,688
2015	1,795	5,175	7,848	24,184	3,654	29,259	64,945
2016	2,058	5,371	9,241	36,286	1,027	19,021	65,575
2017	1,965	5,615	18,071	32,162	1,241	24,039	75,513
2018	1,918	5,318	12,095	24,500	2,217	21,318	60,130
2019	1,870	4,906	3,724	23,180	51	23,843	50,798
2020	1,557	4,543	4,223	1,223	353	1,214	7,013
2021	1,115	3,102	77	612	0	10	699
2022	2,258	5,555	117	628	107	163	1,015
2023	1,814	4,297	1,222	6,247	79	87	7,635
5-year average							
2013–2017	1,869	5,311	11,831	34,455	2,425	25,722	74,434
5-year average							
2018–2022	1,744	4,685	4,047	10,029	546	9,310	23,931

*Note:* The estimated number of salmon included those retained from subsistence and commercial related harvests. Duplicate permit household information removed. Typically Districts 4–6 harvest ~98% of total salmon fed to dogs.

<sup>a</sup> Permit areas only reported combined salmon species (summer and fall chum and coho salmon) fed to dogs.

Appendix C7.—Subsistence harvests taken under authority of a permit in the Rampart Area and Yukon River Bridge Area of District 5, Yukon Area, 2013–2023.

Yukon River Rampart Area subsistence salmon fishery <sup>a</sup>													
Year	Number of permits issued	Number of permits returned	Number reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2013	23	23	18	474	579	300	0	27	2	0	0	0	5
2014	18	18	9	11	240	797	0	398	60	0	6	0	0
2015	17	17	8	73	104	629	2	66	36	3	4	0	0
2016	24	24	18	557	252	659	2	213	1	0	0	0	0
2017	23	23	19	1,015	155	650	0	85	1	0	1	0	0
2018	21	21	19	463	23	465	21	54	0	0	1	0	0
2019	36	34	23	1,300	42	196	7	66	1	10	0	0	50
2020	29	29	22	530	21	40	29	448	52	1	0	0	0
2021	26	26	9	27	1	4	23	121	20	0	5	0	0
2022	22	21	3	7	0	10	12	40	4	0	0	1	0
2023	21	20	11	39	35	4	0	91	1	4	11	0	0
2013–2017 Average	21	21	14	426	266	607	1	158	20	1	2	0	1
2018–2022 Average	27	26	15	465	17	143	18	146	15	2	1	0	10
Yukon River Bridge Area subsistence fishery <sup>b</sup>													
2013	47	47	21	359	1,020	1,055	0	56	5	4	16	0	0
2014	42	42	21	3	221	798	0	142	16	2	27	0	0
2015	39	39	16	158	466	2,212	0	281	85	5	51	0	0
2016	62	62	40	996	518	1,449	101	329	15	3	42	1	0
2017	63	63	46	2,392	1,605	1,803	113	565	83	15	50	0	0
2018	82	81	59	1,627	600	2,088	73	646	53	32	38	3	0
2019	90	87	46	2,440	182	3,961	507	927	35	12	66	6	1
2020	98	95	46	1,473	64	568	31	2,266	193	17	192	4	1
2021	62	61	17	273	10	1	0	624	29	2	10	13	0
2022	53	50	16	327	15	132	15	437	21	14	198	2	0
2023	36	36	19	326	55	1	0	391	30	7	63	6	0
2013–2017 Average	51	51	29	782	766	1,463	43	275	41	6	37	0	0
2018–2022 Average	77	75	37	1,228	174	1,350	125	980	66	15	101	6	0

Note: Data may have been updated from previous annual reports.

<sup>a</sup> That portion of the Yukon River drainage from Garnett Island to Hess Creek.

<sup>b</sup> That portion of the Yukon River drainage from Hess Creek to Dall River.

Appendix C8.—Subsistence fish harvests taken under authority of a permit in the Circle–Eagle Area of District 5, Yukon Area, 2013–2023.

Subsistence salmon fishery below mainstem Yukon sonar project near Eagle <sup>a</sup>													
Year	Number of permits issued	Number of permits returned	Number reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2013	30	27	16	198	0	7,718	150	130	22	3	7	1	70
2014	24	22	11	8	0	5,185	0	87	16	1	2	0	2
2015	30	29	17	220	0	6,338	0	69	11	4	19	0	31
2016	36	36	25	520	0	4,108	38	71	5	3	7	0	3
2017	31	31	26	1,117	0	7,832	0	126	19	4	1	4	17
2018	<sup>b</sup> 61	61	23	967	0	7,824	0	115	15	5	0	0	17
2019	<sup>b</sup> 62	61	20	845	0	8,172	0	299	13	4	5	4	22
2020	<sup>b</sup> 59	57	19	385	0	10	0	2	8	2	0	0	0
2021	<sup>b</sup> 45	43	4	47	0	0	0	11	0	0	0	1	0
2022	<sup>b</sup> 34	33	3	1	0	0	0	1	2	0	0	0	0
2023	<sup>b</sup> 30	29	1	0	0	0	0	2	0	0	1	0	0
2013–2017 Average	30	29	19	413	0	6,236	38	97	15	3	7	1	25
2018–2022 Average	52	51	14	449	0	3,201	0	86	8	2	1	1	8
Subsistence salmon fishery above mainstem Yukon sonar project near Eagle <sup>c</sup>													
2013	21	20	15	152	50	12,642	0	64	8	2	0	13	7
2014	15	15	11	55	0	13,575	1	102	109	2	2	2	47
2015	19	19	13	341	0	12,540	0	67	11	2	2	7	33
2016	23	23	17	762	0	13,015	0	53	32	3	3	8	33
2017	38	38	28	1,498	0	14,110	0	91	11	0	1	2	25
2018	–	–	23	602	0	11,715	0	86	22	1	3	2	20
2019	–	–	21	755	0	8,989	0	111	19	0	5	2	8
2020	–	–	7	220	0	0	0	1	0	0	0	0	28
2021	–	–	5	38	0	0	0	43	6	14	0	12	46
2022	–	–	4	2	0	41	0	36	29	1	7	0	6
2023	–	–	1	5	0	89	0	35	0	0	0	0	0
2013–2017 Average	–	–	17	562	10	13,176	0	75	34	2	2	6	29
2018–2022 Average	–	–	12	323	0	4,149	0	55	15	3	3	3	22

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*Note:* Lower table is used to show harvest above mainstem Yukon sonar project operated near Eagle for determining border passage. The number of permits includes multiple permits issued to households that fished both above and below the sonar site. An en dash indicates the values are not comparable to prior years' data, due to changes in permits reporting by location.

- <sup>a</sup> That portion of the Yukon River drainage from Twenty-Two Mile Slough, located downstream of the community of Circle, to the mainstem Yukon sonar project near Eagle.
- <sup>b</sup> The number of permits issued and returned included households that fished above and below the sonar site.
- <sup>c</sup> Harvest occurred between the Yukon River mainstem sonar site located downstream from the community of Eagle and the U.S./Canada border.

Appendix C9.—Harvest from permits in Subdistrict 6-A of the Tanana River and the Kantishna River, Yukon Area, 2013–2023.

Subdistrict 6-A subsistence salmon fishery <sup>a</sup>													
Year	Number of permits issued	Number of permits returned	Number reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2013	19	19	11	218	88	1,478	421	18	2	1	6	0	0
2014	22	22	16	104	179	3,450	1,420	100	3	1	1	0	0
2015	17	17	9	136	9	1,656	1,151	12	2	0	3	0	0
2016	17	16	10	264	36	593	486	24	0	0	1	0	0
2017	13	13	8	105	34	865	784	8	0	0	10	0	0
2018	24	23	12	210	78	3,872	1,076	135	1	4	2	0	0
2019	28	28	10	101	56	2,639	547	18	0	4	26	0	0
2020	28	27	8	52	22	172	330	37	0	0	25	0	0
2021	18	18	2	0	0	0	0	0	0	0	6	0	0
2022	12	12	1	0	0	0	0	3	0	0	15	0	0
2022	16	16	3	0	0	0	0	13	0	15	14	0	0
2013–2017 Average	18	17	11	165	69	1,608	852	32	1	0	4	0	0
2018–2022 Average	22	22	7	73	31	1,337	391	39	0	2	15	0	0
Kantishna River subsistence fishery <sup>b</sup>													
2013	3	3	2	0	0	314	144	13	0	0	0	0	0
2014	5	5	3	0	0	70	129	10	0	0	6	0	0
2015	2	2	1	0	0	127	11	0	0	1	2	3	1
2016	3	3	1	0	0	115	67	20	0	2	5	0	1
2017	2	2	1	0	0	20	3	0	0	0	0	0	0
2018	8	8	1	0	0	0	0	0	0	0	0	0	0
2019	24	24	0	0	0	0	0	0	0	0	0	0	0
2020	26	22	1	0	0	1	0	970	2	31	110	36	0
2021	11	10	1	0	0	0	0	852	1	36	120	9	0
2022	11	8	1	1	0	1	0	1,284	0	30	134	37	0
2023	5	4	1	0	0	0	0	1,044	0	36	102	32	0
2013–2017 Average	3	3	2	0	0	129	71	9	0	1	3	1	0
2018–2022 Average	16	14	1	0	0	0	0	621	1	19	73	16	0

<sup>a</sup> Portion of the Tanana River drainage from Yukon River confluence to the upstream edge of Kantishna River confluence.

<sup>b</sup> Kantishna River drainage upstream of Tanana River confluence. A waiver is on file to report the harvest of less than 3 participants in the fishery.

Appendix C10.—Harvest from permits in Subdistrict 6-B and the Tolovana River drainage, Yukon Area, 2013–2023.

Subdistrict 6-B subsistence salmon fishery <sup>a</sup>													
Year	Number of permits issued	Number of permits returned	Number reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2013	92	87	38	148	1,006	9,573	4,583	1,026	7	28	10	11	2
2014	81	78	38	168	533	8,381	5,977	1,241	8	15	64	28	16
2015	71	71	30	220	225	7,457	6,652	880	17	6	28	13	0
2016	66	62	25	372	60	2,992	2,495	586	16	3	18	8	0
2017	69	69	35	552	700	3,524	1,727	353	8	7	47	7	0
2018	83	82	31	283	228	5,361	1,585	433	5	2	0	0	0
2019	76	72	33	519	329	2,059	522	376	47	1	11	5	0
2020	67	65	25	372	88	29	261	295	1	0	92	40	0
2021	52	52	8	1	0	17	53	49	8	1	8	1	0
2022	37	35	6	0	0	18	59	97	2	1	12	34	1
2023	56	55	8	0	0	2	3	25	0	0	7	13	0
2013–2017 Average	76	73	33	292	505	6,385	4,287	817	11	12	33	13	4
2018–2022 Average	63	61	21	235	129	1,497	496	250	13	1	25	16	0
Tolovana River drainage subsistence fishery <sup>b</sup>													
2013	77	74	44	0	0	60	42	15	1	3	231	9	0
2014	106	105	57	0	0	1	0	3	0	0	478	1	0
2015	120	119	66	0	0	0	0	48	2	0	765	0	0
2016	201	196	129	0	0	0	0	10	0	1	1,020	0	0
2017	93	93	41	0	0	0	0	133	5	0	137	0	0
2018	175	175	103	0	0	0	0	14	3	0	1,040	0	0
2019	245	243	155	4	0	2	0	1,088	48	4	1,630	0	0
2020	329	323	191	0	1	0	0	776	53	2	2,005	0	0
2021	425	418	266	0	0	0	0	523	9	7	3,092	4	0
2022	349	344	209	1	0	0	0	113	9	3	3,299	0	0
2023	346	341	187	0	0	0	0	177	16	0	1,847	0	0
2013–2017 Average	119	117	67	0	0	12	8	42	2	1	526	2	0
2018–2022 Average	305	301	185	1	0	0	0	503	24	3	2,213	1	0

<sup>a</sup> Portion of the Tanana River drainage from the mouth of the Kantishna River upstream to the mouth of the Wood River, including the Wood River drainage.

<sup>b</sup> Includes the Tolovana River drainage outside of the Fairbanks Nonsubsistence Area.

Appendix C11.—Harvest from permits in the upper Tanana River drainage and Koyukuk River, Yukon Area, Yukon Area, 2013–2023.

Upper Tanana River drainage subsistence fishery <sup>a</sup>													
Year	Number of permits issued	Number of permits returned	Number reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2013	52	46	17	0	0	0	0	1,314	0	20	130	170	98
2014	15	15	10	0	0	0	0	1,510	0	3	62	62	0
2015	38	38	14	0	0	33	1	2,064	1	2	16	12	33
2016	24	24	16	0	0	1	0	1,980	0	28	87	15	0
2017	22	22	7	0	0	10	1	899	0	5	30	1	0
2018	23	23	11	0	0	0	0	1,014	0	25	72	31	19
2019	31	29	11	0	0	4	0	621	0	2	199	8	23
2020	44	41	15	1	4	0	0	1,159	0	76	294	88	5
2021	32	30	9	0	0	0	0	858	0	30	318	5	9
2022	43	42	10	0	0	0	0	1,314	0	41	252	1	16
2023	48	45	13	0	0	0	5	1,034	0	30	290	29	7
2013–2017 Average	30	29	13	0	0	9	0	1,553	0	12	65	52	26
2018–2022 Average	35	33	11	0	1	1	0	993	0	35	227	27	14
Upper south and middle forks of the Koyukuk River subsistence fishery permit area <sup>b</sup>													
2013	1	1	1	0	0	0	0	8	0	6	0	25	25
2014	1	1	1	0	0	0	0	9	0	3	0	8	18
2015	1	1	1	0	0	0	0	4	0	0	0	0	32
2016	1	1	1	0	0	0	0	5	0	0	0	1	19
2017	1	1	1	0	0	0	0	3	0	0	0	0	7
2018	6	5	1	0	0	0	0	2	0	0	0	0	5
2019	19	18	1	0	0	0	0	0	0	0	0	0	0
2020	18	17	1	0	0	0	0	0	0	0	0	0	5
2021	12	11	1	0	4	0	0	0	0	0	0	0	0
2022	8	7	1	0	0	0	0	1	0	5	0	12	14
2023	5	4	1	0	0	0	0	1	0	3	0	59	2
2013–2017 Average	1	1	1	0	0	0	0	6	0	2	0	7	20
2018–2022 Average	13	12	1	0	1	0	0	1	0	1	0	2	5

<sup>a</sup> That portion of the Tanana River drainage from the mouth of the Volkmar River, including the Volkmar River drainage, and the mouth of the Johnson River, including the Johnson River drainage, upstream to the Tanana River drainage headwaters.

<sup>b</sup> That portion of the South Fork of the Koyukuk River drainage upstream from the mouth of the Jim River and the Middle Fork of the Koyukuk River drainage upstream from the mouth of the North Fork River. A waiver is on file to report the harvest of less than 3 participants in the fishery.

Appendix C12.—Harvest from personal use permit areas in the Tanana River drainage, Yukon Area, 2013–2023.

Subdistrict 6-C personal use salmon fishery <sup>a</sup>													
Year	Number of permits issued	Number of permits returned	Number reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2013	53	52	29	42	138	363	124	24	1	0	0	0	3
2014	50	50	23	1	235	278	174	39	3	0	0	0	0
2015	42	42	15	5	220	80	145	26	1	0	1	1	0
2016	57	57	29	57	176	273	265	12	1	0	3	0	0
2017	82	82	40	125	438	626	200	6	1	1	4	1	0
2018	99	99	57	206	515	505	131	7	0	0	0	0	1
2019	92	90	49	244	294	408	68	88	10	0	73	66	0
2020	82	81	30	112	67	37	79	4	5	0	0	0	0
2021	45	45	0	0	0	0	0	0	0	0	0	0	0
2022	24	24	1	0	0	0	0	0	0	0	0	0	0
2023	20	20	2	0	0	0	0	0	0	0	0	0	0
2013–2017 Average	57	57	27	46	241	324	182	21	1	0	2	0	1
2018–2022 Average	68	68	27	112	175	190	56	20	3	0	15	13	0
Upper Tanana River personal use whitefish/sucker fishery <sup>b</sup>													
2013	14	14	7	0	0	20	8	65	0	1	3	118	0
2014	21	21	10	0	0	0	0	106	0	0	0	270	0
2015	22	22	13	0	0	0	0	254	0	0	0	322	1
2016	21	21	10	0	0	10	1	259	0	0	4	181	6
2017	14	14	9	0	0	0	0	111	0	0	0	164	0
2018	16	16	9	0	0	0	0	93	0	0	0	113	0
2019	15	14	2	0	0	0	0	11	0	0	0	38	0
2020	28	28	5	0	0	0	0	71	0	0	0	21	0
2021	25	24	2	0	0	0	0	2	0	0	0	30	0
2022	12	12	3	0	0	0	0	38	0	0	0	44	0
2023	13	13	4	0	0	0	0	39	0	0	0	9	0
2013–2017 Average	18	18	10	0	0	6	2	159	0	0	1	211	1
2018–2022 Average	19	19	4	0	0	0	0	43	0	0	0	49	0

<sup>a</sup> Portion of the Tanana River drainage from the upstream edge of the mouth of the Wood River, not including the Wood River drainage, to the upstream edge of the mouth of the Salcha River, including the Salcha River drainage.

<sup>b</sup> Portion of the Tanana River drainage from the upstream edge of the mouth of the Wood River, not including the Wood River drainage, to the mouth of the Volkmar River on the north bank of the Tanana River and upstream to the Johnson River on the south bank of the Tanana River. This permit is issued for the harvest of whitefish species and longnose suckers but requires reporting incidental fish harvests and live release of nonpermitted species if gear allows.

Appendix C13.—Estimated and reported subsistence and personal use harvest of miscellaneous fish species, Yukon Area, 2013–2023.

Reporting groups	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013–2017 average	2018–2022 average
Survey estimates <sup>a</sup>													
Northern pike	11,264	14,852	20,109	24,580	22,060	20,776	15,703	26,352	9,760	28,833	15,562	18,573	20,285
Sheefish	15,553	12,583	12,828	14,451	12,768	11,728	14,838	9,165	4,960	8,738	8,614	13,637	9,886
Whitefish <sup>b</sup>	64,766	84,889	79,740	69,578	64,202	57,780	66,074	47,122	17,293	29,284	23,936	72,635	43,511
Survey reported <sup>c</sup>													
Alaska blackfish	63,235	92,080	97,586	90,207	109,888	61,896	88,009	30,383	16,669	23,165	16,152	90,599	44,024
Arctic grayling	1,435	1,772	1,832	1,518	1,572	1,833	744	228	283	439	249	1,626	705
Arctic lamprey <sup>d</sup>	2,608	19,888	42,237	17,609	19,357	1,027	4	0	0	12	5,452	20,340	209
Burbot	2,115	2,016	3,364	2,501	2,811	2,975	1,946	812	780	965	601	2,561	1,496
Herring <sup>e</sup>	9,082	17,164	24,591	15,959	16,508	28,907	12,267	8,032	5,289	5,718	5,342	16,661	12,043
Tomcod	5,221	10,020	4,697	5,795	6,741	5,243	10,006	1,872	707	2,658	441	6,495	4,097
Permit reported													
Arctic grayling	210	83	131	62	49	62	104	39	55	37	9	107	59
Burbot	68	27	23	43	32	69	37	129	90	95	95	39	84
Longnose suckers	347	371	358	214	179	149	129	189	75	131	148	294	135
Northern pike	403	648	891	1,190	281	1,156	2,018	2,718	3,559	3,917	2,335	683	2,674
Sheefish	48	215	166	70	128	99	173	314	73	67	47	125	145
Whitefish <sup>b</sup>	2,766	3,747	3,771	3,562	2,380	2,547	3,605	6,029	3,083	3,364	2,852	3,245	3,726
Total harvest of species from survey and permits													
Arctic grayling	1,645	1,855	1,963	1,580	1,621	1,895	848	267	338	476	258	1,733	765
Burbot	2,183	2,043	3,387	2,544	2,843	3,044	1,983	941	870	1,060	696	2,600	1,580
Northern pike	11,667	15,500	21,000	25,770	22,341	21,932	17,721	29,070	13,319	32,750	17,897	19,256	22,958
Sheefish	15,601	12,798	12,994	14,521	12,896	11,827	15,011	9,479	5,033	8,805	8,661	13,762	10,031
Whitefish <sup>b</sup>	67,532	88,636	83,511	73,140	66,582	60,327	69,679	53,151	20,376	32,648	26,788	75,880	47,236
Total	98,628	120,832	122,855	117,555	106,283	99,025	105,242	92,908	39,936	75,739	54,300	113,231	82,570

Note: Due to the nature of nonsalmon harvest and the timing of the survey, this table included fish harvest 12 months prior to the survey (e.g., 2023 is harvest from winter 2022 to fall 2023).

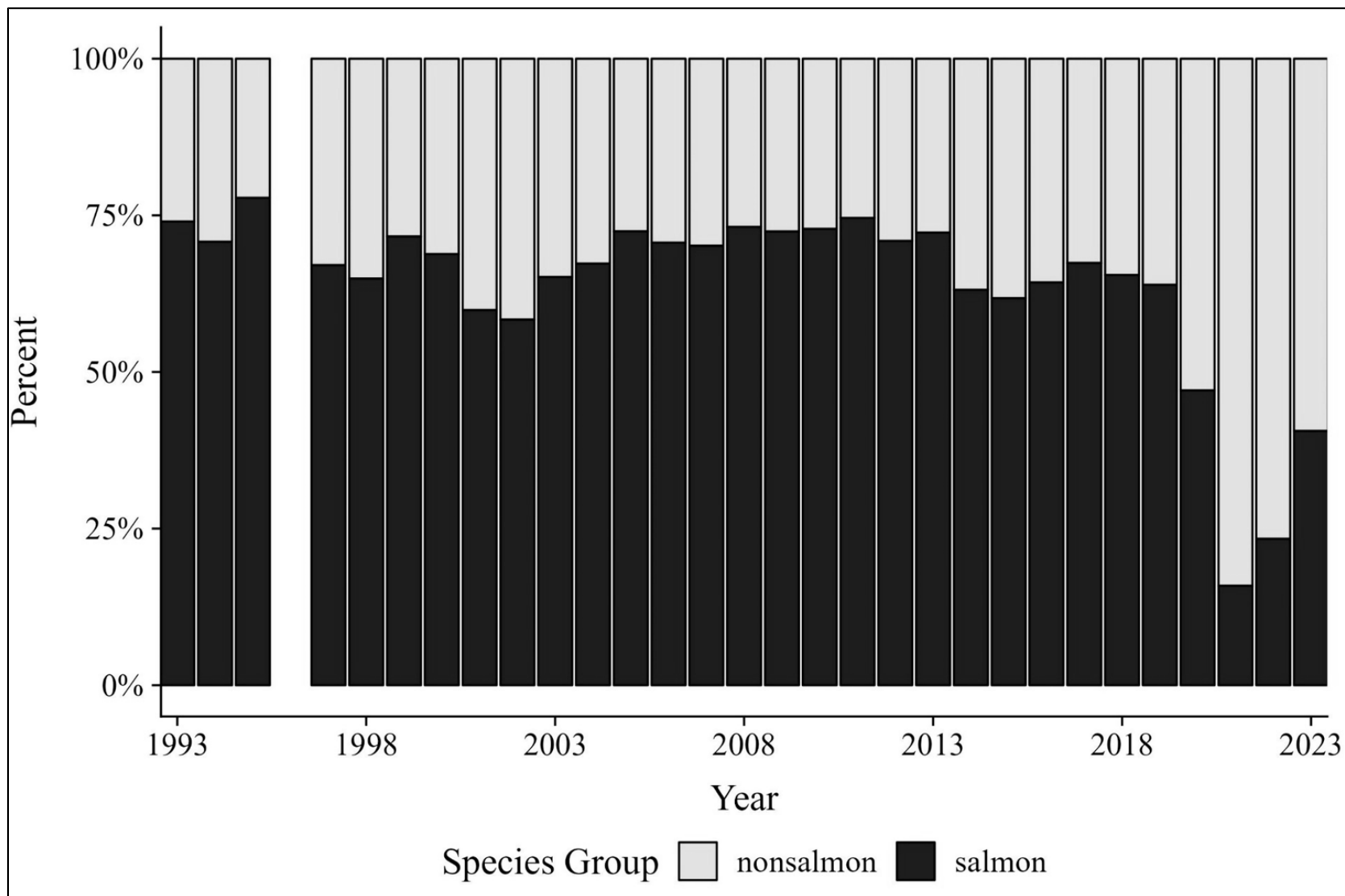
<sup>a</sup> Subsistence harvests of northern pike, sheefish, and whitefish from surveyed communities were estimated with methods developed for salmon harvest estimates.

<sup>b</sup> Included various *Coregonus* species and round whitefish (*Prosopium cylindraceum*). Categories of large (greater than 4 pounds) and small (less than 4 pounds) whitefish were combined. See individual annual reports for the breakdown of large and small whitefish.

<sup>c</sup> Total number of each species reported by households in surveyed communities. Harvest totals for these species are not expanded to estimate for all households.

<sup>d</sup> Harvest of Arctic lamprey reported in each year occurred during October–December of the previous year. Harvests 2010–2015 included Arctic lamprey reported on postcards. Household surveys were compared to postcards to avoid double counting.

<sup>e</sup> Reports of smelt were included in herring harvest.



Appendix C14.—Historical comparison of percent salmon and nonsalmon harvest, Yukon Area, 1993–2023.

*Note:* Nonsalmon includes sheefish, whitefish, pike, burbot, grayling.