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Subsistence and Personal Use Salmon Harvests in the Alaska Portion of the Yukon River Drainage, 2016

by

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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)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat or long
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

FISHERY DATA SERIES NO. 21-06

SUBSISTENCE AND PERSONAL USE SALMON HARVESTS IN THE ALASKA PORTION OF THE YUKON RIVER DRAINAGE, 2016

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ABSTRACT

This annual report presents estimates of subsistence and personal use salmon and nonsalmon fish harvests within the Alaska portion of the Yukon River drainage (Yukon Area). 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. In 2016, a total of 1,274 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, fishery participants were required to document their harvest on a subsistence or personal use permit. In 2016, 535 subsistence and personal use permits were issued, of which 98% were returned. Of those returned permits, 321 reported fishing. The total subsistence and personal use harvest throughout the Yukon Area was estimated to be 21,669 Chinook (*Oncorhynchus tshawytscha)*, 88,078 summer chum (*O. keta)*, 84,900 fall chum (*O. keta)*, and 9,081 coho (*O. kisutch)* salmon. The primary fishing gear types used were drift gillnet (44%), set gillnet (41%), dip net and other gear types (10%), and fish wheel (5%). In 2016, 1,941 households owned 5,371 dogs and 293 households fed an estimated 65,575 whole salmon to dogs.

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

INTRODUCTION

Since 1961, the Alaska Department of Fish and Game (ADF&G) has collected subsistence salmon harvest information within the Alaska portion of the Yukon River drainage (Yukon Area). Annual subsistence harvest estimates provide a record of harvest over time that can be used to observe trends. Annual documentation of the subsistence salmon harvest was used in conjunction with commercial, sport, and personal use harvests and escapement estimates (U.S. and Canada) to calculate total run size. Harvest and escapement information, combined with age composition data, was used to construct brood tables, which estimate productivity or the number of returning offspring per spawner for some stocks and contribute to forecasts or preseason outlooks for fisheries management.

The Yukon River drainage supports 5 species of Pacific salmon *Oncorhynchus* spp. that contribute to subsistence and personal use harvest: Chinook salmon (*O.tshawytscha*), chum (*O. keta*), coho (*O. kisutch*), pink (*O. gorbuscha*), and sockeye (*O. nerka*) salmon. The majority of subsistence and personal use salmon harvests are made up of Chinook, chum, and coho salmon. The chum salmon return consists of 2 temporally and genetically distinct stocks: summer chum and fall chum salmon. Chinook and summer chum salmon enter the Yukon River first (peaking in June) followed by fall chum (early August) and coho salmon (mid to late August). Pink salmon enter in July and are much more abundant in even-numbered years and typically only present and available for harvest in the coastal, lower, and middle portion of the Yukon River up to the community of Anvik (river mile 315). Sockeye salmon are available in small numbers in the Yukon River with an average subsistence harvest of fewer than 400 fish per year (Jallen et al. 2017b).

Many nonsalmon fish species are also present in the Yukon River including both resident and anadromous species. Some of those important for subsistence use include whitefish (*Coregonus* spp. and *Prosopium cylindraceum*), inconnu (*Stenodus leucichthys*: commonly referred to as sheefish), 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*).

The 2016 State of Alaska census indicated the population of the rural Yukon Area was approximately 22,397 people (Hunsinger 2017). This included the Denali Borough, Southeast Fairbanks, Yukon-Koyukuk, and Kusilvak Census Areas. The average rural population in the Yukon Area has remained stable and the number of people in 2016 was nearly equal to the 5-year average of approximately 22,392 people (Hunsinger 2017).

Yukon Area families have long traditions of harvesting salmon for subsistence use. Subsistence salmon fishing activities in the Yukon Area typically begin in late May and continue through early October. Salmon fishing in May and October is highly dependent upon river ice conditions. Extended family groups, representing 2 or more households, often work together to harvest, cut, and preserve salmon for subsistence uses. Often fishing is based out of a fish camp or a home community within the drainage (Figure 1). Some households from Yukon River tributary communities, such as Shageluk and Venetie, may operate or share in the operation of fish camps along the mainstem Yukon River. Subsistence salmon harvested for human consumption are commonly dried, smoked, canned, or frozen. Although salmon harvested for dogs are typically dried or "cribbed" (i.e., whole fish air-frozen and stacked).

Subsistence and personal use fishery participants in the Yukon Area have primarily used drift gillnets, set gillnets, and fish wheels to harvest salmon. Set gillnets have been used to harvest salmon throughout the Yukon Area, whereas drift gillnets have only been allowed from the mouth of the Yukon River to approximately 18 miles below the community of Galena (River Mile 530). State regulations in place during the 2016 season (Alaska Administrative Code [AAC]: 5 AAC 01.220 and 5 AAC 77.717 Lawful Gear) were based on traditional practices. Under federal regulation 100.27 (i) (3) (XV) (C), drift gillnets were allowed in federal waters of Subdistricts 4-B and 4-C (near the communities of Galena and Ruby; Figure 1) during weekly subsistence openings from June 10 to July 14 (Estensen et al. 2018). Although fish wheels were a legal gear type for subsistence fishing throughout the drainage, they were used only in the upper portion of the Yukon Area where the availability of driftwood, river conditions, and fishing locations was more suitable.

Subsistence and personal use harvest estimates were derived from a voluntary harvest survey and fishing permits. Approximately two-thirds of the Yukon Area is not connected to the main Alaska road system. In this roadless area, voluntary household surveys were conducted in each community to estimate the subsistence harvest. Subsistence or personal use fishing permits were required in the remaining road-accessible portion of the Yukon Area, including parts of the Koyukuk, Tanana, and upper Yukon Rivers (Figure 1). Fishery participants in permit areas were required to submit their harvest records annually.

Personal use fishing permits and a resident sport fish license were required to fish within the Fairbanks Nonsubsistence Area established in 1992 (Figure 2). Nonsubsistence areas were defined as areas 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 where they reside. The Fairbanks Nonsubsistence Area personal use fishery has a limit of 750 Chinook and 5,000 chum salmon taken through August 15, and 5,200 chum and coho salmon combined taken after August 16.

Alaska state law dictates that subsistence is the highest priority use of salmon and is a primary consideration in fishery management actions. As such, commercial, personal use, and sport harvests have lower priorities than subsistence fishing. In some parts of the Yukon Area,

commercial fishing occurs alongside subsistence fishing, and many locals participate in both fisheries. Commercial fishery participants are required to have a valid limited entry commercial fishing permit, whereas any Alaska state resident may participate in subsistence salmon fisheries. Income from commercial fishing is often used by households to help buy items associated with subsistence harvesting activities, including fuel and fishing equipment. Salmon harvested during subsistence openings cannot be legally bought or sold; however, commercially harvested salmon may be retained for subsistence use. In some areas, subsistence fishing periods are separated from commercial fishing by closures before, during, and after commercial periods, whereas in other areas, subsistence and commercial fishing occur concurrently.

Subsistence-caught salmon are primarily used for human consumption; however, salmon fed to dogs make up a large proportion of the total number of salmon harvested for subsistence (Holder and Hamner 1991; Borba and Hamner 2001; Jallen et al. 2017a). During the active fishing season, households throughout the Yukon Area feed scraps from salmon processing to dogs. Harvesting salmon for primary consumption by sled dogs is most common in the Upper Yukon Area (Figure 1), where larger numbers of sled dogs are used for recreation and transportation. The practice of keeping sled dogs is less common in the Lower Yukon Area; thus, relatively few whole salmon are fed to dogs in this area. Information collected about dogs throughout the history of the household survey project has not been categorized by whether dogs were used for transportation or were kept as pets. Andersen and Scott (2010) found salmon account for 25% to 92% of all fish species fed to sled dogs among 6 Yukon River communities. However, because Chinook salmon are highly prized for human consumption, the Alaska Board of Fish adopted a regulation in 2001 stating 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 summer chum salmon, which are dried, and fall chum and coho salmon, which are usually "cribbed". The average number of salmon fed to dogs has declined since the late 1990s (Holder and Hamner 1991; Borba and Hamner 2001; Jallen et al. 2017a). Reasons for this decline included poor chum salmon runs between 1998 and 2002, fewer carcasses leftover from roe fisheries, the rise in the cost of equipment (boat, motor, nets, fuel) needed to harvest fish for dog food, and less reliance on dogs for transportation (Andersen and Scott 2010).

The 2016 subsistence salmon harvest survey and permit programs collected quantitative information on salmon harvest by species. The primary method used to estimate the Yukon Area subsistence harvest was the annual door-to-door postseason salmon harvest survey. In addition to salmon harvests, other information collected included gear types used to harvest salmon, harvest distribution, nonsalmon species harvest, number of dogs, and number of salmon fed to dogs. Qualitative information was also collected from households about salmon health and quality, subsistence fishing success, and fishery concerns. Minor changes to the survey project have been made over time, such as the refinement of gear questions estimating gear and mesh size-specific harvest of Chinook and summer chum salmon. This report documents the estimated subsistence and personal use salmon and nonsalmon fish harvests within the Alaska portion of the Yukon River drainage during the 2016 season.

STUDY AREA

The study area encompassed the entire Yukon Area, which includes all waters of Alaska within the Yukon River drainage and all coastal waters of Alaska 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 the road-accessible communities 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 required permits and excluded from the household surveys (Figure 1). The Lower Yukon Area consists of 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 consists of the Yukon River drainage upstream of Old Paradise Village to the Canada border (river mile 1,224), including management Districts 4–6. The Upper Yukon Area also includes 3 large tributaries where harvests occur: Koyukuk, Tanana, and Porcupine Rivers. The Coastal District includes the remainder of coastal Yukon Area waters not included in District 1 and encompasses the communities of Scammon Bay and Hooper Bay (Figure 1). The harvest from Coastal District communities may contain fish not necessarily Yukon River bound (Kerkvliet 1986). The communities of Chevak and Arctic Village were not included in this harvest survey based on their distance from the Yukon River mainstem and their very low historic harvests of salmon. In this report, the term "Yukon Area" includes Districts 1–6 and the Coastal District. As of 2016, Yukon Area totals apply to data considered for the U.S./Canada border passage objectives. Before 2016, Yukon River (District 1–6, excluding the Coastal District) totals were used to assess U.S./Canada border passage objectives.

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 by subsistence and personal use fishery participants 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 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 total number of salmon harvested in subsistence and personal use fisheries was estimated using information collected from household surveys, subsistence and personal use permits, test fishery data supplied by projects, harvest calendars (Figure 3), and fish retained from commercial fisheries and documented on fish tickets. In surveyed communities, information was collected from selected households and expanded to estimate the harvest of the entire community. For communities in permit areas, harvest totals reported on returned permits were summed but not expanded to account for any harvest associated with unreturned permits.

HOUSEHOLD SUBSISTENCE SURVEYS

Participation in the survey interviews was voluntary, and household harvest information was kept confidential. Survey interviews were conducted in the Coastal District and Lower Yukon Area through Anvik in September. In communities upstream of Anvik, survey interviews occurred in October (Figure 1). Communities were surveyed roughly in order from downriver to upriver after

most households finished harvesting salmon for subsistence. To maintain consistency in the administration of the survey, household survey interviews were primarily conducted by the same 2 ADF&G technicians throughout the season. Phone and in-person surveys were rotated annually in the small communities of Alatna, Beaver, Bettles, Birch Creek, and Chalkyitsik. In 2016, the communities of Bettles, Birch Creek, and Chalkyitsik were interviewed by phone.

Household lists were updated during the community visits to reflect persons who had moved, were deceased, moved into another household, or constituted a new household. Additional sources were used to maintain the household list (e.g., update names, addresses, phone numbers, etc.): cooperation with USFWS, ADF&G Division of Subsistence, the Alaska Dispatch News and the Fairbanks News-Miner, Tanana Chiefs Conference phone book, United Utilities Inc. Yukon Kuskokwim Telephone directory, Tribal and corporation websites, and Alaska School District websites. Households that lived outside of the survey areas but traveled to the Yukon River to fish in or near a surveyed community were included on the community household list nearest their fishing location. For example, a household that lived in Anchorage most of the year but traveled to Emmonak to fish in the summer would be included on the Emmonak household list and their information would also be used to produce harvest estimates for that community. The 2016 household lists for each community were updated based on information provided in 2015 and were subsequently used to guide survey work in 2017.

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 who shared the same phone number or mailing address. Multiple generations living in 1 dwelling were considered 1 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 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 were not considered when assigning households to a harvest group. If 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 2012–2015 fishing seasons. As a result, 2016 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 2012–2015 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%

To improve the precision of harvest estimates in the communities of Emmonak, Holy Cross, Pilot Station, and Tanana, 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). Lastly, if a community had less than 40 households, all households were included in the survey (100% coverage).

The household stratification was updated before 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, the formation of households due to marriage, or independence) that were discovered before or during the survey were classified as *unknown*.

Survey questionnaire

To maintain comparability of data between years, the subsistence survey questions have generally remained consistent from year to year (Figure 4). The main objective of the survey was to estimate the total household salmon harvest.

The total number of salmon harvested was derived by asking households about group harvest (Question 5), harvest area (Question 7), and salmon that the household kept (Question 12; Figure 4). To ensure all subsistence fish were accounted for in the total harvest (Question 7), households were asked if fish were retained from the commercial fishery. If a household reported a portion of their subsistence catch as lost (e.g., stolen by a bear or washed away during a flood or thrown out due to disease), the surveyor verified that these fish were included in the harvest total (Question 7). If a household was able to feed the fish to dogs then these fish were allocated to Questions 16–18 as dog food, even if the harvest was not originally intended as dog food. Households were asked what gear they used to catch the most fish (i.e., primary) or if they used a secondary gear type (Question 8). If a household harvested Chinook or summer chum salmon, they were asked what gear types, mesh size, or both were used to harvest each species (Question 8A). Question 8A was a new question added to the survey in 2016.

To determine the distribution of salmon within a community and to help cross-reference responses from related households, the survey included questions to address group harvests (Question 5) and shared harvest (Question 11). Households were also asked about the number of salmon received (e.g., from commercial, subsistence, or agency test fishery harvests; Question 13) to further confirm the accuracy of harvest on the recipient's survey and the donor's survey. Salmon received from agency test fishery projects helped clarify that these fish were received but not harvested by subsistence fishery participants themselves.

Additional demographic and clarifying questions were asked, including the number of people in the household, number of dogs, and the harvest of nonsalmon species during the previous 12 months. For example, Arctic lamprey harvested from October to December 2015 was reported by households during the September 2016 survey interviews. Reports of the amount of fish harvested in response to the herring question were entered as herring; however, this category probably included misidentified species such as rainbow smelt (*Osmerus mordax*) or capelin (*Mallotus villosus*). Households in coastal and lower river communities were asked if they harvested herring roe on kelp.

Survey implementation

Household survey interviews were conducted in September and October when most salmon fishing activity had ended but while those surveyed could still easily recall their harvest numbers. Surveyors attempted to contact all selected households and noted households that were unavailable

during the community visit for follow-up contacts by phone or letter. At least 3 attempts were made to contact unavailable households.

Before conducting the interviews, surveyors were trained in interviewing techniques, which included learning the local names of fish species and various approaches to obtain the number of fish harvested. The surveyors were also briefed on current fishery issues and management actions related to the subsistence and commercial salmon fishing season. Surveyors were trained to ask questions consistently and foster a cooperative atmosphere such that interviewed household members were able to recall information as accurately as possible. After the interview was completed, survey participants were given a small token of appreciation (a carabiner) for participating in the survey.

Community residents with knowledge of the local fishery were employed as subsistence assistants by the Yukon River Drainage Fisheries Association (YRDFA) to assist with reviewing and updating the household list and community maps and to guide surveyors within the communities. In a few cases, subsistence assistants served as translators, but they did not conduct interviews or record data. When assistants were unavailable, surveyors worked with other sources of local information such as tribal administrators or school principals to aid in community navigation. In some communities, an additional assistant was hired to work with each surveyor and serve as an alternate if the first assistant was unavailable for the entire visit.

After the household interviews were conducted, survey forms were edited for clarity and completion. When households reported amounts in alternative terms, such as the number of 5-gallon buckets, quart-sized bags, gunny sacks, or pounds, a conversion sheet based on local approximate measures was used to estimate the number of fish harvested. Follow-up calls were occasionally made for further clarification or to reconcile information among households that harvested or shared salmon.

If less than 80% of the selected households in a community were contacted through door-to-door and phone surveys, then mail surveys were sent to the remaining households. Questions on the mail surveys were succinct versions of the household survey. Mail surveys contained questions related to household harvest, not group harvest.

Joint surveys

Division of Commercial Fisheries staff responsible for the postseason survey coordinated with a Division of Subsistence research team that conducted field research documenting patterns and trends in salmon fishing among the Yukon River community of Venetie (C. Brown, Subsistence Resource Specialist, ADF&G, Fairbanks; personal communication). In this community, Division of Subsistence surveyors administered the Division of Commercial Fisheries postseason survey as part of a larger survey questionnaire. In cases where households were unavailable during the Division of Subsistence research team survey visits, Division of Commercial Fisheries staff contacted households by phone or letter to administer the postseason survey.

DATA ANALYSIS AND ESTIMATION METHODS

Denote that:

i = individual household,

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

k = community,

l = harvest location, and

m = harvest gear.

Survey responses were denoted by the following:

y_{ijkl} = the number of salmon (Chinook, chum, coho, and pink) 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 harvest

The following equations were used to estimate populations (the number of people and dogs), harvests (the number of fish harvested by subsistence and commercial 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 the total number of households in each harvest group (N_{jk}), and summing across the harvest groups as:

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

Its 95% confidence interval (95% CI) was calculated as:

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

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

.

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

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

Its 95% confidence interval (95% CI_k) was calculated as:

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

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

$$\hat{Y} = \sum_{k=1}^{5} \hat{Y}_k \,. \tag{5}$$

Its 95% confidence interval (95% CI) was calculated as:

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

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.

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

The 95% confidence interval (95%CI_k) was calculated as:

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

$$V(p_{jk(a)}) = \left(\frac{N_{jk} - n_{jk}}{N_{jk}} \right) \left(\frac{p_{jk(a)}(1 - p_{jk(a)})}{n_{jk} - 1} \right). \tag{8}$$

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

Estimates of primary gear type usage by community

The number of households that used a specific gear (e.g., gillnet, fish wheel) as primary 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 $\hat{p}_{jkm(s)}$ estimated by Equation 7 and total households in each harvest group and summing across the harvest groups:

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

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

$$\begin{aligned} 95\%\mathrm{CI}_k &= t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(\hat{N}_{km})}, \\ \text{where} \qquad \hat{V}(\hat{N}_{km(s)}) &= \sum_{j=1}^{5} N_{jk}^2 V(p_{jkm(s)}). \end{aligned} \tag{10}$$

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

$$\begin{aligned} V(p_{jkm(s)}) &= (p_{jk(s)})^2 V(q_{jkm(s)}) + (q_{jkm(s)})^2 V(p_{jk(s)}) - V(q_{jkm}) V(p_{jk(s)}), \\ \text{where} \qquad V(q_{jkm(s)}) &= \frac{q_{jkm(s)} \cdot (1 - q_{jkm(s)})}{n_{jk(s)} - 1}. \end{aligned} \tag{11}$$

Correction for the missing harvest groups and the total number of households with each characteristic in the survey wide ($\hat{N}_{(s)}$) and its 95% confidence interval (95% CI) were calculated using Equations 3, 4, 5, and 6. Data by harvest group were not presented due to confidentiality.

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 harvest by fishing location (i.e., district, subdistricts, or river drainage where fish were caught) was estimated for all species. In this estimation, 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 ($\overline{y}_{jk}$) estimated in Equation 1 and the total number of households in each harvest group (N_{jk}), and summing across the harvest groups:

$$\begin{aligned} \hat{Y}_{km} &= \sum_{j=1}^{5} N_{jk} \overline{y}_{jkm} \\ \text{where} \qquad \overline{y}_{jkm} &= \overline{y}_{jk} p_{jkm} \qquad \text{and} \qquad p_{jkm} = \frac{\sum_i y_{ijkm}}{\sum_i \sum_m y_{ijkm}}. \end{aligned} \tag{12}$$

A 95% confidence interval (95% CI_k) for the gear or location-specific Chinook and summer chum salmon harvest was estimated as:

$$95\%\mathrm{CI}_k = t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(\hat{Y}_{km})}$$
$$\text{where} \quad \hat{V}(\hat{Y}_{km}) = \sum_{j=1}^{5} N_{jk}^2 V(\overline{y}_{jkm}) . \tag{13}$$

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

$$V(\overline{y}_{jkm}) = (\overline{y}_{jk})^2 V(p_{jkm}) + (p_{jkm})^2 V(\overline{y}_{jk}) - V(p_{jkm}) V(\overline{y}_{jk})$$
$$\text{where} \quad V(p_{jkm}) = \frac{p_{jkm} \cdot (1 - p_{jkm})}{\sum_i \sum_m y_{ijkm} - 1} . \tag{14}$$

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

Unexpanded totals

Reported harvests of Alaska blackfish, Arctic char, Arctic grayling, Arctic lamprey, burbot, Pacific herring, tomcod/saffron cod, and roe on kelp were not expanded because of limited harvest information.

PERMIT PROGRAM

Subsistence and personal use permits were issued at the ADF&G offices in Fairbanks, Delta Junction, and Tok. For residents of communities outside the Fairbanks area, subsistence permit applications were mailed with a postage-paid return envelope to all fishery participants who returned their permits from the previous year. No permit issuing trips were conducted in the spring of 2016. Permits were also issued by ADF&G staff stationed at the sonar project near the community of Eagle.

Permit holders were required to record their daily fish harvest on the permit (Figure 5) and return it to ADF&G within 10 days of the expiration date, which was October 15 for salmon and December 31 for nonsalmon permits and Kantishna River salmon permits. Harvests on permits were summed but not expanded, and attempts were made to get a return rate above 95%. A variety of methods were employed to encourage fishing permit returns. Official state news releases and newspaper advertisements were published as reminders of permit due dates. Households that did not report their harvest by the expiration date were mailed up to 2 reminder letters. Further, households that did not respond to the reminder letters were contacted by telephone. After permits were received, follow-up phone calls were made as needed to clarify harvest, gear types, and locations of harvest by species.

The number of unique individual permits was used to determine the total number of fishing households in the permit area, and all reported harvests on permits were counted. Households that fished in more than 1 permit area were only counted once in total fishing households. In addition, the total number of permit fishing households that fished for salmon excluded all households that received permits to harvest northern pike in the Tolovana River unless salmon were also harvested.

The community of Stevens Village was surveyed as part of the annual household harvest survey area and its permit information was used to supplement data collected from the household harvest survey.

Fishery participants who obtained permits for the upper portion of Subdistrict 5-D were issued separate permits for above and below the sonar project operated near the community of Eagle (Figure 1). This distinction was necessary because the harvest above the sonar must be subtracted from the sonar estimate to determine the U.S./Canada border passage of Chinook and fall chum salmon (JTC 2019).

To ensure all subsistence-caught fish were accounted for, commercially retained salmon reported on fish tickets, but not recorded on permits, were added to permit harvest totals in the community nearest to where the harvest occurred. Information about dogs and salmon fed to dogs was collected from subsistence and personal use permits. In 2016, information about dogs on personal use permits was reintroduced as a result of regulatory clarification of Alaska Statute 16.05.940(25).

Beginning in 2016, harvest from the communities Huslia and Hughes; Allakaket, Alatna, and Bettles; Rampart and Stevens Village; Fort Yukon and Birch Creek; and Circle and Central were combined in part due to confidentiality of the smaller communities. Combined harvests and confidence intervals were calculated using the equations outlined in the *Data Analysis and Estimation Methods* section of this report.

RESULTS

OVERALL ESTIMATION OF HARVEST

An estimated total of 21,669 Chinook, 88,078 summer chum, 84,900 fall chum, and 9,081 coho salmon were harvested for subsistence and personal use by 1,486 households in the Yukon Area (Table 1). These totals include salmon provided by test fishery projects to households for subsistence use consisting of 1,244 Chinook, 5,223 summer chum, 2,995 fall chum, and 863 coho salmon (Table 1, Appendix A3). Chinook salmon accounted for 10.6% of the total subsistence salmon harvest (excluding pink and sockeye salmon). Summer chum accounted for 43.2% of the total, fall chum 41.7%, and coho salmon 4.5% (Table 1, Figure 6).

Subsistence harvest accounted for 99.6% of the total harvest, and personal use harvest accounted for 0.4%. The estimated number of salmon caught in subsistence fisheries alone was 202,946 fish consisting of 21,612 Chinook, 87,902 summer chum, 84,617 fall chum, and 8,815 coho salmon (Table 1, Figure 6, and Appendices B1–B4). The number of salmon harvested in nonsubsistence personal use fisheries was 782 fish and consisted of 57 Chinook, 176 summer chum, 283 fall chum, and 266 coho salmon (Table 1, Appendix B11).

OVERALL GEAR AND SUBSISTENCE USE FOR DOGS

Primary gear types used to harvest all salmon species consisted of 652 drift gillnets (44%), 608 set gillnets (41%), 79 fish wheels (5%), and 150 other gears (10%) including dip nets, beach seines, and hook and line (Table 1). In the subset of surveyed communities, an estimated 12,943 (~78%) subsistence-caught Chinook salmon were harvested by 6-inch mesh gillnets, 1,340 (8%) by fish wheels, 1,255 (8%) by 7.5-inch gillnets, 550 (3%) by 4-inch gillnets, and 509 (3%) by dip nets or other gear types (Appendix B14; not including commercial and test fishery donations). The majority of subsistence summer chum salmon harvested by the subset of surveyed communities was also by 6-inch mesh gillnet (58,632, 73%), and dip nets and other gear harvested

11,564 (14%), 4-inch gillnets 3,649 (5%), fish wheels 4,003 (5%), and 7.5-inch gillnets 2,875 (4%; Appendix B15). Of the 141 subsistence permit households, 119 (84%) used set gillnets, 21 (15%) used fish wheels, and 1 (<1%) used other gear types (e.g., dip net; Table 1). The majority (91%) of households with personal use permits used set gillnets as their primary gear for salmon (Table 1). The remaining households (9%) used fyke nets (Table 1). These data did not include 129 households that fished in the Tolovana River northern pike fishery which primarily used jigging gear, or 11 households that fished in more than 1 permit area.

Of salmon harvested for subsistence or personal use in the Yukon Area, 32% were fed to dogs (not including pink or sockeye salmon). An estimated total of 65,575 summer chum, fall chum, and coho subsistence and personal use caught salmon were utilized for dog food (Table 2; Appendix B12). Subsistence use households owned an estimated 5,262 dogs, and approximately 1,825 households reported feeding an estimated 65,442 subsistence-caught salmon to their dogs (Table 2). Personal use permit households owned an estimated 109 dogs and 12 households reported feeding 133 personal use caught salmon to their dogs. Dog related information was not required on Tolovana River area northern pike permits.

SUBSISTENCE SURVEYS

Following the 2016 surveys, the household list was updated based on the number of new, deleted, and combined household information acquired. A total of 1,473 households were selected from the 2,688 households identified within the 33 communities to be surveyed (Table 3). In total, information was collected from 1,274 households (86% of the selected sample and 47% of the total identified households in the survey area; Table 3). Included were 12 households that traveled to the Yukon River to fish in or near surveyed communities but were not present in the communities during the fall visits, representing about 0.75% of the total number of selected households.

Division of Commercial Fisheries surveyors traveled to 29 of the 33 Yukon Area communities between September 3 and October 26. The community of Venetie was surveyed by Division of Subsistence staff. The communities of Bettles, Birch Creek, and Chalkyitsik were surveyed by phone and letter to reduce travel costs due to their small size and low historic harvest levels.

An additional 33 unselected households from 8 communities were interviewed in person or by phone including new households, households requesting an interview, and households misidentified as selected. The number of additional interviews from unselected households was small relative to the stratified household selection; therefore, their responses were included in the analysis.

In 2016, of the selected households, 96% of the heavy harvester and 89% of the medium harvester households were successfully surveyed. Of the selected unknown households, 71% were surveyed. Of the light harvester households in the sample, 87% were surveyed. This represents 34% of all the households identified as a light harvester in the survey area. Of the selected households identified as do not fish, 88% were surveyed, representing 37% of all households identified as does not fish in the survey area. A portion of do not fish households was surveyed each year to accurately represent all categories of households in the sample and to maintain accuracy in the household database and strata (Table 3).

Based on responses to the survey questions, an estimated 1,306 households (in the roadless area) participated in the subsistence fishery in 2016 (Table 4). About 30% of the unknown harvest group

and 20% of the do not fish group were estimated to have participated in the fishery and harvested salmon. Of the households in surveyed communities, 57% were categorized into either the light, medium, or heavy salmon harvesting groups. The breakdown of fishing households in the light, medium, and heavy harvester groups were 927 (34%), 560 (21%), and 45 (2%), respectively (Table 3). Of the harvest groups, an estimated 60% of light, 80% of medium, and 80% of heavy harvester households subsistence fished for salmon (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 community's district did not always equal the total from the harvest district. The greatest number of Chinook salmon were harvested in District 4 (5,876; sum of harvest Subdistricts 4A, 4B, and 4C); 28,959 summer chum salmon and 893 coho salmon were harvested in District 1; and 33,162 fall chum salmon were harvested in District 5 (Tables 5–8). Salmon harvest by location was estimated with error (Table 9), and the sum of community harvest by location may not match exactly community harvest estimates presented in other tables due to rounding.

In 2016, 18% of households harvested salmon in more than 2 districts, subdistricts, or tributaries. Households in Shageluk, Koyukuk, Galena, Ruby, Tanana, and Fort Yukon/Birch Creek harvested salmon from more than 2 districts to take advantage of harvest opportunities for different salmon stocks or legal gear types (Tables 5–8). Species-specific harvests from Yukon River tributaries ranged between 4% and 16% of the total survey area harvest. The largest tributary harvests of all salmon species were from the Koyukuk (9,550) and Teedriinjik (formerly the Chandalar; 5,869) Rivers. Harvests from Subdistricts 4-C and 5-A (i.e., salmon stocks bank oriented to the Tanana River) were estimated to be 782 Chinook, 4,399 summer chum, 18,402 fall chum, and 494 coho salmon (Tables 5–8).

Test fishery donations

In addition to subsistence fishing, some households were able to receive salmon through other means. Nine surveyed communities (Nunam Iqua, Alakanuk, Emmonak, Kotlik, Mountain Village, Pitkas Point, St. Mary's, Pilot Station, and Marshall) received salmon from test fishery projects which were added to community harvest estimates (Appendix A3). In addition, 100 Chinook salmon were given to Kwik'Pak Fisheries and distributed to upriver communities. Salmon caught in test fisheries made up 7% of the total Chinook salmon subsistence harvest in surveyed communities. Summer chum, fall chum, and coho salmon from test fisheries made up from 6%, 5%, and 24%, respectively, of subsistence harvest from surveyed communities (Table 1, Appendix A3).

Other fish species

The estimated subsistence harvest of other fish species in Yukon Area surveyed communities included 8,712 pink salmon, 35,755 large whitefish, 33,823 small whitefish, 24,580 northern pike, and 14,451 sheefish/inconnu (Table 10). Of the large whitefish harvested, 68% were broad whitefish and humpback whitefish made up the remaining 32% (Table 10). Coastal District and District 1 accounted for 95% of the estimated pink salmon subsistence harvest. The majority of estimated sheefish (38%) and small whitefish (47%) were harvested by District 1 households as well. District 2 households accounted for the greatest estimated northern pike harvest (41%). District 5 households accounted for most of the estimated large whitefish harvest (31%).

Estimates of unexpanded nonsalmon species (primarily resident species) harvest included species only available in parts of the drainage, such as marine based species (Pacific herring and tomcod). Other species such as Alaska blackfish, burbot, and Arctic grayling were widely distributed, but they were not harvested throughout the drainage (Table 10). In the Coastal District and District 1, 36 interviewed households from 7 communities reported the harvest of 253.5 gallons and 210 lb of herring roe. Households also reported harvesting 17,609 Arctic lamprey for subsistence purposes primarily in Districts 2–4, between the communities of Mountain Village and Grayling (Table 11).

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 comments (174 responses) were related to personal circumstances that affected an individual household's fishing effort such as health problems, work schedules, and time conflicts with other activities. The second largest group of comments (119 responses) related to dissatisfaction with management, such as a desire to have longer openings for Chinook salmon and more commercial openings. The third largest group of comments (77 responses) stated their subsistence salmon needs were met. Comments discussing satisfaction with management actions were the fourth largest group (55 responses), and comments expressing satisfaction with the salmon runs (44 responses) were the fifth-largest group. Issues with fishing equipment and related expenses were mentioned by 47 households. Thirty surveys recorded dissatisfaction with salmon runs and 14 households mentioned disease in harvested fish, such as "tumors", "puss", or "tapeworms". River conditions, such as high water, drifting debris, and poor weather affected a small number of households (10 responses). Some households (10 responses) commented about efforts to conserve Chinook salmon. Other comments included general mention of the loss of fish due to animals (15) and fish fed to dogs (9).

PERMITS

Subsistence permits

In areas that required subsistence fishing permits in upper Subdistrict 4-A (Koyukuk River drainage), District 5 (Yukon River), and District 6 (Tanana River), 447 of 457 (98%) subsistence permits issued were returned, and 282 reported subsistence salmon and nonsalmon harvest (Tables 12 and 13). In 2016, the number of permits issued included 24 for the Tanana River upstream of Subdistrict 6-C primarily targeting nonsalmon, and 201 for the northern pike fishery in the Tolovana River drainage.

The 2016 subsistence permit harvest information was based on permits returned by July 24, 2017 (Tables 12 and 13). Total subsistence harvests of 3,471 Chinook, 866 summer chum, 22,932 fall chum, and 3,189 coho salmon were reported. The total harvest of other fish species included 3,291 whitefish, 69 sheefish, 43 burbot, 1,183 northern pike, 33 longnose suckers, and 56 Arctic grayling (Tables 12–13, Appendices B6–B10).

Additionally, salmon were retained from commercial harvests in subsistence permit areas; fish tickets from the commercial fishery in District 6 included 180 Chinook, 0 summer chum, 1,181 fall chum, and 1,223 coho salmon recorded as "Not sold/Personal use". These salmon were added to the community harvests from Nenana/Healy, Fairbanks North Star Borough, and Manley (Table 1).

Personal use permits

In 2016, all 78 of the personal use permits that were issued were returned (Table 11). Both subsistence and personal use permits were issued to 7 households, and 10 households were issued salmon and nonsalmon personal use permits. Harvest was reported on 39 personal use fishing permits, 29 of which were issued for salmon, and 10 were issued for nonsalmon species. Personal use permit holders reported harvesting 57 Chinook, 176 summer chum, 283 fall chum, and 266 coho salmon; 271 whitefish, 1 sheefish, 7 northern pike, 181 longnose suckers, and 6 Arctic grayling (Tables 12–13, Appendix B11).

CHARACTERISTICS OF FISHING EFFORT

Fishing effort, location, and timing were based on the subsistence calendar and permit information where harvests were recorded by day. In 2016, households returned 212 subsistence harvest calendars (approximately 12% of the total issued). A total of 171 calendars (81% of those returned) documented salmon harvest information. The remaining households that returned harvest calendars in 2016 indicated they did not fish or returned a blank calendar (19%). A total of 166 households reported harvest by day and species on permits targeting salmon. A total of 9% (7 households) did not report harvest by day as was required on the permits.

In the Lower Yukon Area fishing effort occurred mainly in the summer season (i.e., before July 15). Reported harvests in District 4 occurred mainly in late June and early July during the summer season; although households in District 5 reported more consistent fishing effort throughout the summer and fall seasons. District 6 effort was similar during the summer and fall seasons (Figure 7). For permit and calendar data combined, the greatest number of households that reported fishing on a single day in a district was 23 households in District 5 during Chinook salmon season (Figure 7).

DISCUSSION

In 2016, the runs of summer chum, fall chum, and coho salmon were abundant enough to meet escapement goals and allow for subsistence and commercial fishing. However, to protect Chinook salmon, subsistence fishery participants were restricted by fishing time, gear used, or both during the summer season (Estensen et al. 2018).

Overall, the 2016 Yukon Area subsistence salmon harvest (Chinook, chum, and coho salmon combined) was approximately 12% below the 5-year average, and 14% under the 2006–2010 average (Figure 6). These harvest averages include years with fishing restrictions, such as the closures during the Chinook salmon run in 2008 and 2009 and 2011–2015 (Figures 6 and 8–11). The 2016 Chinook salmon harvest in the Yukon River increased by 14% from the 5-year average, although it was 52% below the 2006–2010 average (Figure 8, Appendix B1). The 2016 summer chum, fall chum, and coho salmon all decreased by 14%, 10%, and 47%, respectively, when compared to their 5-year averages (Figures 9–11, Appendices B2–B4). The total harvest of pink salmon in 2016 was above the even year average (2006–2014) and was the largest even-year harvest since 2008 (Figure 12, Appendix B5).

Live release gear restrictions were implemented using selective gear types of dip nets, beach seines, or continuously monitored fish wheels during the Chinook salmon run to target summer chum salmon and nonsalmon species for subsistence. In 2016, 3% of Chinook salmon were reported to be harvested by dip nets or beach seines gear types (Appendix B14). Retention of

Chinook salmon was not allowed by regulation from these selective gear types. Due to some confusion, once fishing returned to drift and set gillnet gear, some individuals continued using the selective gear types. Retention of Chinook salmon from selective gear types was not allowed during the openings directed at conserving Chinook salmon (Estensen et al. 2018), so it was unclear if these fish were unable to be released to the water alive, were retained without knowledge of regulations, or were retained with disregard to regulations.

Commercial fishery participants had the opportunity to retain salmon for subsistence use from commercial openings. Non-Chinook salmon species retained from commercial harvests were not usually recorded on fish tickets. In recent years, there has been an increase in Chinook salmon recorded as retained for subsistence on fish tickets. The rise in Chinook salmon reporting was due to increased enforcement during low Chinook salmon runs. In 2016, Chinook salmon retained for subsistence use from commercial catches reported on fish tickets (5,443 fish) represented approximately 30% of the estimated survey harvest. Although the survey asks about commercially retained salmon (Question 9), these estimates should not be directly compared to fish reported as retained on fish tickets. Surveyed individuals were not always the household harvester and may not have known whether fished were harvested from commercial or subsistence openings. The total harvest estimate question (Question 7) was designed to capture all salmon harvested for subsistence use, and Question 9 was designed to assist with harvest recall.

SALMON SURVEY AND AMOUNTS NECESSARY FOR SUBSISTENCE

In 2016, only the summer chum and pink salmon harvests were within their respective amounts necessary for subsistence (ANS) ranges (Figures 9 and 12). Personal use harvests were not included in ANS calculations. The subsistence harvests of Chinook and coho salmon were far below their ANS ranges and fall chum salmon harvest fell just below the range (Figures 8, 10, and 11). The applicable Yukon Area ANS ranges are 45,500–66,704 Chinook, 83,500–142,192 summer chum, 89,500–167,900 fall chum, 20,500–51,980 coho, and 2,100–9,700 pink salmon (Figures 8–12). The ANS ranges were established for Chinook, summer and fall chum, and coho salmon in 2001 (ADF&G 2001). These ranges were based on subsistence harvest data from 1990 to 1999 (excluding 1993 and 1998 for fall season restrictions). Pink salmon ANS was established in 2013 (Brown and Jallen 2012). The ANS ranges provide 1 index of the extent to which reasonable opportunity was provided in the subsistence fishery.

The percentage of subsistence salmon harvest by species has fluctuated when compared to past years. In 2016, Chinook salmon harvest represented nearly 11% of the total harvested salmon. Comparatively, this percent was 3 times higher than the Chinook salmon harvested in 2015 but was the fourth-lowest estimated by this project. Due to restrictions on Chinook salmon fishing opportunities in times of conservation (beginning in 2008), some households may have shifted to other subsistence foods such as other fish species or non-fish resources. From 2003 to 2007, Chinook salmon averaged 22% (Busher et al. 2009) of the total subsistence harvest; the 5-year average was 8% (Figures 6). Between 2003–2007 and 2011–2015, the average percent fall chum salmon increased by 9%, and summer chum salmon increased by 7%; but coho salmon decreased 2% (Figures 6 and 9–11).

A large component of the annual subsistence harvest has traditionally consisted of salmon (summer chum, fall chum, and coho salmon) fed to dogs. Failure to meet ANS levels may be in part due to shifts in the use of subsistence salmon harvests and an overall reduction in the number of dogs and salmon fed to dogs. An average of 190,612 chum and coho salmon were fed to dogs annually

before the establishment of ANS ranges (1992–1999; Borba and Hamner 2001). By comparison, from 2011 to 2015, an average of 82,845 chum and coho salmon were fed to dogs annually (Appendix B12). Annual variation in the amount of salmon fed to dogs was probably due to owners feeding nonsalmon fish species, meat, or commercial dog food to a fluctuating number of dogs. The variation may also be due in part to the absence of large commercial salmon roe fisheries (Estensen et al. 2018). Historically, roe fisheries generated salmon carcasses that were probably fed to dogs. Salmon retained from commercial catch are considered subsistence-caught fish (captured in the survey). Furthermore, in District 6, beginning in 2015, there has been an increase in the number of commercial fishery participants that have been operating as catcher-sellers which allows them to sell whole fish directly to individuals. This fishery has occurred in the fall before freeze up, and primarily harvested fall chum and coho salmon for dog food. These commercial sales have replaced subsistence harvest that was historically reported on individual household subsistence fishing permits. Changes in harvest levels and patterns for summer/fall chum and coho salmon may warrant ANS review (Brown and Jallen 2012).

NONSALMON FISH SPECIES

Harvest estimates of nonsalmon fish species generated from this project are informative even though reported values were probably underestimated. There is limited information about the annual abundance and use trends of nonsalmon species in the Yukon Area. Information collected during the survey project about nonsalmon species helped document where harvests of nonsalmon species occurred and which species were important to communities in the Yukon Area.

In most permit areas, fishery participants were required to report their annual harvest of nonsalmon species. The 2016 combined total harvest of nonsalmon fish species reported on subsistence and personal use permits was 3% lower than the 5-year average harvest (Appendices B6–B11 and B13).

Information about Pacific herring had been collected on the surveys as a comment or as a separately conducted mail-out survey (Estensen et al. 2012). Beginning in 2012, households in the Coastal District and Districts 1–2 were asked about herring as part of the subsistence salmon survey interviews. Reports from households in Districts 1 and 2 indicated that the harvest of Pacific herring was not limited to coastal residents.

PROJECT AND REPORT

The 2016 survey project progressed similarly to previous years. The household interviews were conducted by 2 surveyors: 1 new and 1 returning to the project. Similar to past years, travel to communities was affected by weather, flight delays, and community events. Although many of the interviewed households generally responded positively to the surveyors and were willing to answer all questions, some households were unreceptive toward the surveyors and expressed their frustrations with fisheries management actions. Further public outreach efforts may be warranted to encourage participation in the survey interviews and convey the importance of collecting subsistence harvest information. The efforts to encourage fishing permit returns were successfully implemented in 2016, and the data collection was completed by mid-February of 2017 with 98% compliance. The non-responding permit holders were reported to the Alaska State Troopers. Preliminary estimates of subsistence and personal use harvests were provided to fishery managers for analysis used to develop the coming year's outlooks by late February of 2017. No additional

permits from the 2016 season were received after February 2017, and acquisition of the 2016 permit data was considered complete as of July 24, 2017.

Several communities were surveyed primarily by phone to reduce surveyor travel and overtime costs (Bettles, Birch Creek, and Chalkyitsik). The combined annual harvest of all salmon species from these communities on average was less than 600 salmon per year (Appendices B1–B4). Phone surveys were less successful due to reduced opportunities to contact households with changed or no phone numbers.

Harvest information from calendars may be used to supplement in-person surveys. However, the 10-year average of returned subsistence calendars was 17% each year. To encourage returns, additional monetary incentives were offered between 2012 and 2016. However, there was no significant improvement in returns, and only 12% of calendars were returned in 2016. Further efforts, such as additional reminders or incentives may be needed to increase the return rate.

Surveyors occasionally interviewed households who traveled outside the Yukon Area to fish in other parts of Alaska, such as Bristol Bay, Kenai, or Copper Rivers. These fish were not included in harvest estimates for the Yukon Area. In 2016, surveyors heard from several fishery participants that had traveled to the Norton Sound Area during the summer season and harvested at least 59 Chinook and 190 summer chum salmon. Due to the proximity, some of the fish harvested in Norton Sound may have been from Yukon Area stocks but were recorded as Norton Sound harvest. Edits should be made to the Coastal District and District 1 survey form and additional maps supplied to help surveyors identify harvest from this area in the future.

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TABLES AND FIGURES

Table 1.–Subsistence and personal use salmon harvest estimates, including commercially related and test fishery harvests provided for subsistence use, Yukon Area, 2016.

Community	No. of fishing households[b]	Estimated salmon harvest				Primary gear used[a]			
						Gillnets		Fish	
		Chinook	Summer chum	Fall chum	Coho	Set	Drift	wheels	Other
Hooper Bay	86	284	6,324	105	121	85	1	0	0
Scammon Bay	86	602	5,520	657	234	69	12	0	5
Coastal District total	172	886	11,844	762	355	154	13	0	5
Nunam Iqua[c]	28	190	2,130	111	58	22	0	0	6
Alakanuk[c]	76	465	6,527	743	183	13	38	0	25
Emmonak[c]	82	939	8,976	2,501	717	4	68	0	10
Kotlik[c]	90	1,158	8,925	1,217	273	38	52	0	0
District 1 subtotal	276	2,752	26,558	4,572	1,231	77	158	0	41
Mountain Village[c]	94	809	8,782	1,210	436	3	70	0	21
Pitkas Point[c]	16	156	1,485	232	22	0	9	0	8
St. Mary's[c]	95	1,032	7,379	1,088	128	12	56	0	27
Pilot Station[c]	50	652	4,796	903	136	0	38	0	12
Marshall[c]	59	512	5,180	1,106	409	0	42	0	17
District 2 subtotal	314	3,161	27,622	4,539	1,131	15	215	0	85
Russian Mission	43	321	1,798	235	6	9	26	0	9
Holy Cross	40	557	991	583	134	4	36	0	0
Shageluk	5	23	275	179	0	2	4	0	0
District 3 subtotal	88	901	3,064	997	140	15	66	0	9
Lower Yukon River total	678	6,814	57,244	10,108	2,502	107	439	0	135
Anvik	18	241	1,117	527	184	7	11	0	0
Grayling	20	370	878	499	35	0	20	0	0
Kaltag	28	1,358	467	680	53	0	28	0	0
Nulato	57	1,957	1,001	2,681	0	0	57	0	0
Koyukuk	22	612	119	297	1	1	21	0	0
Galena	76	993	1,689	3,319	201	22	52	2	0
Ruby	21	344	678	526	226	6	11	1	3
District 4 Yukon River subtotal	242	5,875	5,949	8,529	700	36	200	3	3
Huslia/ Hughes	30	94	4,764	954	93	30	0	0	0
Allakaket/Alatna/Bettles	19	46	3,015	551	33	19	0	0	0
Koyukuk River subtotal	49	140	7,779	1,505	126	49	0	0	0
District 4 subtotal	291	6,015	13,728	10,034	826	85	200	3	3

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Table 1.–Page 2 of 3.

Community	No. of fishing households[b]	Estimated salmon harvest				Primary gear used[a]			
						Gillnets		Fish	
		Chinook	Summer chum	Fall chum	Coho	Set	Drift	wheels	Other
Tanana	51	2,129	3,685	21,261	639	35	0	16	0
Rampart/Stevens Village[d,e]	8	228	629	4,500	52	6	0	2	0
Fairbanks (FNSB)[e,f]	45	1,318	461	2,143	101	45	0	0	0
Beaver	14	165	23	228	0	13	0	1	0
Fort Yukon/Birch Cr.	60	1,225	12	7,728	1	24	0	36	0
Circle/Central[e]	13	260	0	1,306	38	5	0	8	0
Eagle[e]	22	864	0	15,765	0	16	0	6	0
Other District 5[e,g]	10	306	180	17	0	10	0	0	0
District 5 Yukon River subtotal	223	6,495	4,990	52,948	831	154	0	69	0
Venetie/Chalkyitsik/ Teedriinjik/Draanjik River subtotal	36	586	0	5,883	30	33	0	0	3
District 5 subtotal	259	7,081	4,990	58,831	861	187	0	69	3
Manley[e]	8	230	32	414	323	7	0	1	0
Minto[e]	4	35	4	40	0	3	0	1	0
Nenana/Healy[e]	15	464	19	3,544	2,970	11	0	4	0
Fairbanks (FNSB)[e]	41	143	209	1,167	1,244	40	0	1	0
Other District 6[e,h]	18	1	8	0	0	14	0	0	4
District 6 Tanana River subtotal	86	873	272	5,165	4,537	75	0	7	4
Upper Yukon River total	636	13,969	18,990	74,030	6,224	347	200	79	10
Alaska, Yukon Area total	1,486	21,669	88,078	84,900	9,081	608	652	79	150
AK, Yukon Area % of the total	–	10.6%	43.2%	41.7%	4.5%	41%	44%	5%	10%
Included in the communities above:									
Survey community subtotal[i]	1,310	16,804	81,942	57,509	3,542	457	652	58	146
Subsistence permit subtotal	141	3,384	737	22,932	3,187	119	0	21	1
Test fishery subtotal	N/A	1,244	5,223	2,995	863	N/A	N/A	N/A	N/A
District 6 commercial retained[j]	N/A	180	0	1,181	1,223	N/A	N/A	N/A	N/A
Subsistence harvests subtotal	1,451	21,612	87,902	84,617	8,815	576	652	79	147
Personal use permit subtotals	35	57	176	283	266	32	0	0	3

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Table 1.–Page 3 of 3.

Note: N/A = not applicable because there were no households or gear types associated with the test fishery subtotals.

[a] 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 rounding.

[b] Did not include 129 households that fished with a Tolovana River northern pike permit, or 11 households that fished in more than 1 permit area.

[c] Included salmon distributed from test fishery projects (added to community estimates).

[d] Rampart permit data added to Stevens Village survey data for reasons of confidentiality.

[e] Permit data from permits returned by July 24, 2017.

[f] Fairbanks North Star Borough (FNSB) included Fairbanks, Ester, North Pole, Salcha, and Two Rivers.

[g] "Other District 5" included residents of Anchorage, Auke Bay, Central, Eagle River, Manley, Minto, Nenana, Northway, Soldotna, Tok, Wasilla, and Wiseman who obtained a household permit and fished in a Yukon River required permit area.

[h] "Other District 6" included residents of Anchorage, Wasilla, and the Upper Tanana River drainage communities of Delta Junction, Dot Lake, Northway, and Tok who obtained a permit and fished in the Tanana River.

[i] Community of Rampart permit data was included as it was historically a survey community.

[j] Number of salmon retained from commercial fisheries and used for subsistence in District 6. These salmon were added to permit harvest totals from District 6 communities.

Table 2.–Household and dog information from surveys and permits by community of residence, Yukon Area, 2016.

Community	Households		Households with dogs		No. of dogs		Households feeding salmon to dogs		Summer chum		Fall chum		Coho		Total salmon
	Total	*n*	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%	Est total	CI 95%	Est total
Hooper Bay	218	84	153	9	310	63	14	3	159	105	0	0	0	0	159
Scammon Bay	118	56	82	6	217	80	0	0	0	0	0	0	0	0	0
Coastal District	336	140	235	11	527	101	14	3	159	105	0	0	0	0	159
Nunam Iqua	40	24	22	7	65	48	7	7	107	39	0	0	0	0	107
Alakanuk	145	67	97	6	200	64	3	2	69	116	0	0	0	0	69
Emmonak	192	103	113	3	172	33	8	1	73	38	0	0	0	0	73
Kotlik	115	49	73	5	142	34	7	2	117	135	0	0	0	0	117
District 1	492	243	305	10	579	91	25	7	366	183	0	0	0	0	366
Mountain Village	168	62	107	7	214	57	5	2	95	142	0	0	0	0	95
Pitkas Point	30	22	24	1	42	6	3	1	21	21	17	11	17	11	55
St. Mary's	135	64	74	4	172	47	5	1	17	29	17	29	0	0	34
Pilot Station	125	52	81	4	143	43	3	1	37	29	0	0	0	0	37
Marshall	98	50	62	4	132	32	7	3	141	192	0	0	0	0	141
District 2	556	250	348	10	703	90	23	4	311	239	34	30	17	10	362
Russian Mission	77	27	56	5	118	44	5	2	50	44	0	0	6	5	56
Holy Cross	62	34	23	5	48	16	2	0	34	24	57	39	0	0	91
Shageluk	25	13	16	5	38	28	2	2	23	29	21	27	0	0	44
District 3	164	74	95	8	204	52	9	3	107	55	78	46	6	4	191
Anvik	34	25	24	1	65	14	1	0	400	0	0	0	0	0	400
Grayling	54	20	36	10	72	30	9	2	67	43	55	35	0	0	122
Kaltag	52	17	35	7	59	27	6	3	0	0	140	220	0	0	140
Nulato	76	26	66	3	113	29	0	0	0	0	0	0	0	0	0
Koyukuk	44	20	31	5	50	27	2	0	22	0	0	0	0	0	22
Galena	143	46	92	5	187	53	13	3	529	902	49	35	8	15	586
Ruby	60	19	43	5	136	51	2	0	227	19	305	0	203	0	735
Huslia/Hughes	122	55	79	6	279	58	10	1	2,227	689	714	94	93	58	3,034
Allakaket/Alatna/Bettles	93	38	51	6	254	223	9	4	1,771	317	234	0	26	0	2,031
District 4	678	266	457	17	1,215	242	52	6	5,243	1,155	1,497	230	330	59	7,070

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Table 2.–Page 2 of 3.

Community	Households Total	Households *n*	Households with dogs Est total	Households with dogs CI 95%	No. of dogs Est total	No. of dogs CI 95%	Households feeding salmon to dogs Est total	Households feeding salmon to dogs CI 95%	Summer chum Est total	Summer chum CI 95%	Fall chum Est total	Fall chum CI 95%	Coho Est total	Coho CI 95%	Total salmon Est total
Tanana	93	37	60	4	277	87	13	2	2,592	1,824	19,522	8,902	594	413	22,708
Stevens Village/Rampart[a]	15	11	11	0	149	179	7	3	450	824	4,125	7,189	50	92	4,711
Beaver	29	19	15	5	32	8	8	1	7	6	193	43	0	0	200
Fort Yukon/Birch Creek	223	79	135	6	351	91	25	3	6	5	5,156	1,192	0	0	5,162
Venetie/Chalkyitsik	106	37	94	8	280	59	36	11	0	0	5,681	3,212	30	0	5,711
District 5	466	183	315	11	1,089	202	89	11	3,055	1,905	34,677	11,061	674	410	38,492
Survey total	2,692	1,156	1,755	28	4,317	357	212	15	9,241	2,239	36,286	11,000	1,027	412	46,640

Subsistence/personal use Permits	Household permits[b] Issued	Household permits[b] Returned	Households with dogs	No. of dogs	Households feeding salmon to dogs	Information about salmon fed to dogs by species was not collected on permits						Total salmon
Fairbanks (FNSB)[c]	67	67	38	207	14	N/A	N/A	N/A	N/A	N/A	N/A	1,044
Circle/Central	23	23	18	126	10	N/A	N/A	N/A	N/A	N/A	N/A	1,131
Eagle	27	27	19	202	15	N/A	N/A	N/A	N/A	N/A	N/A	13,737
Other District 5[d]	13	13	8	17	2	N/A	N/A	N/A	N/A	N/A	N/A	5
District 5 permit subtotal	130	130	83	552	41	N/A	N/A	N/A	N/A	N/A	N/A	15,917
Manley	13	12	7	32	4	N/A	N/A	N/A	N/A	N/A	N/A	168
Minto	15	14	9	62	4	N/A	N/A	N/A	N/A	N/A	N/A	0
Nenana/Healy	36	34	20	149	15	N/A	N/A	N/A	N/A	N/A	N/A	2,328
Fairbanks (FNSB)[c]	79	78	48	197	15	N/A	N/A	N/A	N/A	N/A	N/A	522
Other District 6[d]	30	30	19	62	2	N/A	N/A	N/A	N/A	N/A	N/A	0
District 6 permit subtotal	173	168	103	502	40	N/A	N/A	N/A	N/A	N/A	N/A	3,018
Subsistence permit subtotal	236	231	144	945	69	N/A	N/A	N/A	N/A	N/A	N/A	18,802
District 5 total	N/A	N/A	356	1,532	118	N/A	N/A	N/A	N/A	N/A	N/A	54,276
Subsistence use subtotal	2,928	1,387	1,899	5,262	281	N/A	N/A	N/A	N/A	N/A	N/A	65,442
Personal use permit subtotal	67	67	42	109	12	N/A	N/A	N/A	N/A	N/A	N/A	133
Total survey and permit	N/A	N/A	1,941	5,371	293	N/A	N/A	N/A	N/A	N/A	N/A	65,575

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Table 2.–Page 3 of 3.

Note: The number of households contacted in surveyed communities is (*n*). Information from permits returned as of July 24, 2017. "N/A" = not applicable.

[a] Rampart permit data added to Stevens Village survey data for reasons of confidentiality. Total salmon fed to dogs included Rampart permit data which did not break down fed to dogs by species.

[b] Unique household permits did not include 15 households that were issued more than 1 permit type, and did not include permits from Stevens Village or Tolovana River.

[c] Fairbanks North Star Borough (FNSB) and may include Fairbanks, Ester, Fox, North Pole, Salcha, Two Rivers, and Fort Wainwright.

[d] Households from other communities included Anchorage, Delta Junction, Dot Lake, Eagle River, Grayling, Manley, Nenana, Northway, Soldotna, Tanana, Tok, Venetie, Wasilla, and Wiseman who were issued a permit.

Table 3.–Estimated total number of households in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2016.

	Unknown				Does not harvest				Light harvester				Medium harvester				Heavy harvester				Total households				Total people		
Community	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*np*	Total	CI
Hooper Bay	11	5	2	40	60	18	17	94	79	23	18	78	67	67	59	88	1	1	1	100	218	114	97	85	82	1,180	137
Scammon Bay	13	7	3	43	27	9	7	78	43	14	14	100	35	35	34	97	–	–	–	–	118	65	58	89	48	574	102
Coastal District	24	12	5	42	87	27	24	89	122	37	32	86	102	102	93	91	1	1	1	100	336	179	155	87	130	1,754	169
Nunam Iqua	9	6	6	100	6	2	2	100	10	4	3	75	15	15	14	93	–	–	–	–	40	27	25	93	59	683	72
Alakanuk	13	5	3	60	38	12	11	92	50	16	15	94	43	43	39	91	1	1	1	100	145	77	69	90	100	805	70
Emmonak	28	15	11	73	52	26	27	104	58	29	24	83	53	53	44	83	1	1	1	100	192	124	107	86	44	586	106
Kotlik	10	7	4	57	17	6	7	117	51	16	15	94	37	37	28	76	–	–	–	–	115	66	54	82	19	185	11
District 1	60	33	15	73	113	46	47	102	169	65	57	88	148	148	125	84	2	2	2	100	492	294	255	87	222	2,259	144
Mountain Village	20	11	6	55	42	11	8	73	61	18	17	94	45	45	37	82	–	–	–	–	168	85	68	80	50	388	48
Pitkas Point	4	3	1	33	3	3	2	67	13	13	10	77	10	10	10	100	–	–	–	–	30	29	23	79	58	766	97
St. Mary's	14	3	3	100	23	8	7	88	51	16	15	94	45	45	39	87	2	2	2	100	135	74	66	89	51	603	72
Pilot Station	10	2	2	100	40	20	18	90	45	23	19	83	29	29	24	83	1	1	0	0	125	75	63	84	20	124	13
Marshall	7	6	5	83	23	8	7	88	36	12	10	83	31	31	30	97	1	1	1	100	98	58	53	91	65	540	78
District 2	55	25	17	68	131	50	42	84	206	82	71	87	160	160	140	88	4	4	3	75	556	321	273	85	244	2,421	149
Russian Mission	7	3	2	67	14	5	4	80	42	13	11	85	14	14	13	93	–	–	–	–	77	35	30	86	33	150	22
Holy Cross	8	7	7	100	18	9	9	100	19	9	5	56	17	17	16	94	–	–	–	–	62	42	37	88	27	396	56
Shageluk	4	2	0	0	11	11	9	82	6	6	4	67	3	3	3	100	1	1	1	100	25	23	17	74	11	52	13
District 3	19	12	7	75	43	25	22	88	67	28	20	71	34	34	32	94	1	1	1	100	164	100	84	84	71	598	60
Anvik	7	3	3	100	8	8	7	88	12	12	10	83	6	6	6	100	1	1	1	100	34	30	27	90	5	24	3
Grayling	6	3	3	100	7	2	2	100	30	9	6	67	11	11	11	100	–	–	–	–	54	25	22	88	21	158	38
Kaltag	3	3	2	67	9	3	2	67	32	9	9	100	8	8	8	100	–	–	–	–	52	23	21	91	24	85	8
Nulato	4	3	3	100	15	4	3	75	45	14	13	93	12	12	10	83	–	–	–	–	76	33	29	88	13	49	12
Koyukuk	4	4	4	100	11	4	4	100	21	7	5	71	6	6	5	83	2	2	2	100	44	23	20	87	46	362	49
Galena	10	3	3	100	59	18	15	83	60	18	17	94	12	12	12	100	2	2	2	100	143	53	49	92	19	139	47
Ruby	1	1	1	100	38	12	10	83	13	4	4	100	7	7	7	100	1	1	1	100	60	25	23	92	27	99	6
Huslia	11	4	3	75	46	14	13	93	17	6	5	83	8	8	7	88	4	4	4	100	86	36	32	89	29	261	53
Hughes	6	1	0	0	19	19	18	95	9	9	8	89	1	1	0	0	1	1	1	100	36	31	27	87	17	115	22
Allakaket	11	3	3	100	28	9	7	78	13	5	4	80	5	5	5	100	2	2	2	100	59	24	21	88	19	103	32
Alatna	1	1	0	0	3	3	2	67	3	3	3	100	–	–	–	–	–	–	–	–	7	7	5	71	24	257	47
Bettles	10	6	4	67	16	16	10	62	1	1	0	0	–	–	–	–	–	–	–	–	27	23	14	61	18	137	40
District 4	74	35	29	83	259	112	93	83	256	97	84	87	76	76	71	93	13	13	13	100	678	333	290	87	262	1,789	115

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	Unknown				Does not harvest				Light harvester				Medium harvester				Heavy harvester				Total households				Total people		
Community	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*N*	*S*	*n*	*%S*	*np*	Total	CI
Tanana	9	4	2	50	30	16	12	75	33	17	14	82	10	10	7	70	11	11	11	100	93	58	46	79	20	81	22
Stevens Village	5	0	2	–	–	–	–	–	3	3	3	100	1	1	1	100	2	2	1	50	11	6	7	117	9	17	2
Birch Creek	2	0	0	–	8	8	7	88	2	2	2	100	–	–	–	–	–	–	–	–	12	10	9	90	11	56	15
Beaver	8	2	2	100	7	7	6	86	12	12	11	92	2	2	2	100	–	–	–	–	29	23	21	91	71	466	67
Fort Yukon	19	13	9	69	120	37	32	86	44	14	15	107	18	18	18	100	10	10	10	100	211	92	84	91	7	28	9
Venetie	12	5	4	80	43	13	17	131	10	3	4	133	8	8	7	88	1	1	1	100	74	30	33	110	37	191	32
Chalkyitsik	11	6	2	33	17	17	12	71	3	3	2	67	1	1	1	100	–	–	–	–	32	27	17	63	26	204	36
District 5	66	30	21	70	225	98	86	88	107	54	51	94	40	40	36	90	24	24	23	96	462	246	217	86	181	1,043	85
Survey totals	298	147	94	71	858	358	314	88	927	363	315	87	560	560	497	89	45	45	43	96	2,688	1,473	1,274	86	1,110	9,864	307

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. Households contacted (*n*) may include some households not pre-selected resulting in a household contacted percentage (*%S*) greater than 100%. En dashes indicate indefinable values. In most communities, a smaller number of households provided information about the number of people (*np*) in their households. Estimated total number of people includes a 95% confidence interval (CI).

Table 4.–Estimated number of subsistence fishing households in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2016.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined Total			
Community	*N*	*n*	%F	SE	*N*	*n*	%F	SE	*N*	*n*	%F	SE	*N*	*n*	%F	SE	*N*	*n*	%F	SE	*N*	*n*	Est. total	CI 95%
Hooper Bay	11	2	50	0.2	60	13	20	0	79	17	20	0	67	53	70	0	1	1	0	0	218	86	86	9
Scammon Bay	13	3	0	0.0	27	7	70	0.0	43	13	80	0.0	35	33	100	0.0	–	–	–	–	118	56	86	4
Coastal District	24	5	20	0.1	87	20	40	0.0	122	30	40	0.0	102	86	80	0.0	1	1	0	0.0	336	142	172	9
Nunam Iqua	9	6	30	0.0	6	2	0	0.0	10	2	100	0.0	15	14	100	0.0	–	–	–	–	40	24	28	1
Alakanuk	13	3	70	0.1	38	11	30	0.0	50	14	60	0.0	43	38	60	0.0	1	1	100	0.0	145	67	76	6
Emmonak	28	11	30	0.0	52	25	0	0.0	58	24	60	0.0	53	43	70	0.0	1	0	–	–	192	103	82	3
Kotlik	10	3	70	0.1	17	7	10	0.0	51	14	90	0.0	37	25	90	0.0	–	–	–	–	115	49	90	4
District 1	60	23	40	0.0	113	45	10	0.0	169	54	70	0.0	148	120	80	0.0	2	1	50	0.0	492	243	276	8
Mountain Village	20	5	40	0.0	42	8	10	0.0	61	15	70	0.0	45	35	90	0.0	–	–	–	–	168	63	94	6
Pitkas Point	4	1	0	0.0	3	2	0	0.0	13	10	50	0.0	10	10	100	0.0	–	–	–	–	30	23	16	1
St. Mary's	14	3	70	0.1	23	6	30	0.0	51	15	80	0.0	45	39	80	0.0	2	2	50	0.2	135	65	95	6
Pilot Station	10	2	50	0.2	40	16	10	0.0	45	15	50	0.0	29	23	70	0.0	1	0	–	–	125	56	50	7
Marshall	7	5	40	0.0	23	7	40	0.0	36	10	60	0.0	31	28	80	0.0	1	1	100	0.0	98	51	59	4
District 2	55	16	50	0.1	131	39	20	0.0	206	65	60	0.0	160	135	80	0.0	4	3	50	0.0	556	258	314	12
Russian Mission	7	1	0	0.0	14	4	0	0.0	42	11	70	0.0	14	12	90	0.0	–	–	–	–	77	28	43	3
Holy Cross	8	7	40	0.0	18	8	40	0.0	19	4	100	0.0	17	16	60	0.0	–	–	–	–	62	35	40	2
Shageluk	4	0	–	–	11	8	10	0.0	6	2	0	0.0	3	2	100	0.0	1	1	0	0.0	25	13	5	1
District 3	19	8	20	0.0	43	20	20	0.0	67	17	70	0.0	34	30	80	0.0	1	1	0	0.0	164	76	88	4
Anvik	7	3	70	0.1	8	6	0	0.0	12	10	60	0.0	6	6	80	0.0	1	1	100	0.0	34	26	18	2
Grayling	6	3	70	0.1	7	2	0	0.0	30	5	20	0.0	11	10	90	0.0	–	–	–	–	54	20	20	5
Kaltag	3	2	0	0.0	9	2	0	0.0	32	9	70	0.0	8	6	80	0.0	–	–	–	–	52	19	28	3
Nulato	4	2	50	0.2	15	2	50	0.2	45	12	80	0.0	12	10	80	0.0	–	–	–	–	76	26	57	11
Koyukuk	4	4	80	0.1	11	4	0	0.0	21	5	60	0.0	6	5	80	0.0	2	2	100	0.0	44	20	22	4
Galena	10	2	50	0.2	59	15	20	0.0	60	17	80	0.0	12	12	70	0.0	2	2	100	0.0	143	48	76	7
Ruby	1	0	–	–	38	9	10	0.0	13	4	80	10.0	7	7	90	0.0	1	1	100	0.0	60	21	21	4
Huslia	11	3	0	0.0	46	12	20	0.0	17	4	20	10.0	8	7	60	0.0	4	4	80	0.1	86	30	19	5
Hughes	6	0	–	–	19	18	10	0.0	9	8	60	0.0	1	0	–	–	1	1	100	0.0	36	27	11	1
Allakaket	11	3	0	0.0	28	7	10	0.0	13	4	50	10.0	5	5	40	0.0	2	2	100	0.0	59	21	14	4
Alatna	1	0	–	–	3	2	0	0.0	3	3	70	10.0	–	–	–	–	–	–	–	–	7	5	2	0
Bettles	10	4	20	0.1	16	9	0	0.0	1	0	–	–	–	–	–	–	–	–	–	–	27	13	3	2
District 4	74	26	30	0.1	259	88	10	0.0	256	81	60	0.0	76	68	70	0.0	13	13	90	0.0	678	276	291	16

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Table 4.–Page 2 of 2.

Community	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined Total			
	N	*n*	%F	SE	*N*	*n*	%F	SE	*N*	*n*	%F	SE	*N*	*n*	%F	SE	*N*	*n*	%F	SE	*N*	*n*	Est. total	CI 95%
Tanana	9	2	0.5	0.2	30	11	0.4	0	33	11	0.5	0	10	6	1	0	11	8	1	0	93	38	51	7
Stevens Village	5	2	0.5	0.2	–	–	–	–	3	3	0.7	0.1	1	1	0	0.0	2	1	0	0.0	11	7	4	3
Birch Creek	2	0	–	–	8	7	0	0.0	2	2	0	0.0	–	–	–	–	–	–	–	–	12	9	0	0
Beaver	8	2	0.5	0.2	7	6	0.3	0.0	12	10	0.5	0.0	2	2	1	0.0	–	–	–	–	29	20	14	5
Fort Yukon	19	6	0.2	0	120	28	0.1	0.0	44	13	0.5	0.0	18	17	0.8	0.0	10	10	1	0.0	211	74	60	4
Venetie	12	4	0.2	0.1	43	14	0.2	0.0	10	2	0.5	0.2	8	6	1	0.0	1	1	1	0.0	74	27	26	7
Chalkyitsik	11	2	0.5	0.2	17	7	0	0.0	3	1	1	0.0	1	1	1	0.0	–	–	–	–	32	11	10	8
District 5	66	18	30	0.1	225	73	20	0.0	107	42	50	0.0	40	33	90	0.0	24	20	90	0.0	462	186	165	14
Survey totals	298	96	30	0.0	858	285	20	0.0	927	289	60	0.0	560	472	80	0.0	45	39	80	0.0	2,688	1,181	1,306	27

Note: The number of fishing households was estimated from the total number of households (*N*), the number of households contacted (*n*), the percent of households that fished (%F), and the standard error (SE) for each harvest group in each community. Estimated total number of fishing households includes a 95% confidence interval (CI 95%). En dashes indicate indefinable values.

Table 5.–Estimated subsistence harvest of Chinook salmon, including retained from commercial (not including test fishery), by fishing location in surveyed communities, Yukon Area, 2016.

	Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
Community	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by community[b]
Hooper Bay	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	284
Scammon Bay	431	171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	602
Coastal District	715	171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	886
Nunam Iqua	0	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120
Alakanuk	0	395	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	395
Emmonak	0	442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	442
Kotlik[c]	0	958	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	958
District 1	0	1,915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,915
Mountain Village	0	150	539	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	689
Pitkas Point	0	20	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126
St. Mary's	0	233	719	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	952
Pilot Station	0	0	525	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	525
Marshall	0	0	462	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	462
District 2	0	403	2,351	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,754
Russian Mission	0	0	38	283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	321
Holy Cross	0	0	0	535	21	0	0	0	0	0	0	0	0	0	0	0	0	0	556
Shageluk	0	0	0	5	0	0	0	0	0	0	0	0	0	18	0	0	0	0	23
District 3	0	0	38	823	21	0	0	0	0	0	0	0	0	18	0	0	0	0	900
Anvik	0	0	0	0	241	0	0	0	0	0	0	0	0	0	0	0	0	0	241
Grayling	0	0	0	0	370	0	0	0	0	0	0	0	0	0	0	0	0	0	370
Kaltag	0	0	0	0	1,358	0	0	0	0	0	0	0	0	0	0	0	0	0	1,358
Nulato	0	0	0	0	1,957	0	0	0	0	0	0	0	0	0	0	0	0	0	1,957
Koyukuk	0	0	0	0	592	12	8	0	0	0	0	0	0	0	0	0	0	0	612
Galena	0	0	0	0	645	201	148	0	0	0	0	0	0	0	0	0	0	0	994
Ruby	0	0	0	0	27	317	0	0	0	0	0	0	0	0	0	0	0	0	344
Huslia/Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	0	0	0	94
Allakaket/Alatna/Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	0	0	0	46
District 4	0	0	0	0	5,190	530	156	0	0	0	0	0	0	0	140	0	0	0	6,016

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Table 5.–Page 2 of 2.

Community	Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by community[b]
Tanana	0	0	0	0	0	0	0	218	1,911	0	0	0	0	0	0	0	0	0	2,129
Stevens Village/Rampart	0	0	0	0	0	0	0	0	0	37	141	0	0	0	0	0	0	0	178
Beaver	0	0	0	0	0	0	0	0	0	0	165	0	0	0	0	0	0	0	165
Fort Yukon/Birch Creek	0	0	0	0	0	0	0	0	0	0	571	654	0	0	0	0	0	0	1,225
Venetie/Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	536	0	50	586
District 5	0	0	0	0	0	0	0	218	1,911	37	877	654	0	0	0	536	0	50	4,283
Survey totals	715	2,489	2,389	823	5,211	530	156	218	1,911	37	877	654	0	18	140	536	0	50	16,754

Note: Commercially retained fish were salmon harvested during commercial fishing that were not sold, but retained and used for subsistence purposes.

[a] 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.

[b] Totals may not add in both directions due to estimate decimal rounding.

[c] Several households reported harvest from the Norton Sound area outside of District 1 in the Yukon Area. Salmon harvested from outside the Yukon Area were not included in harvest totals or estimates.

Table 6.–Estimated subsistence harvest of summer chum salmon, including retained from commercial (not including test fishery), by fishing location in surveyed communities, Yukon Area, 2016.

	Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
Community	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by community[b]
Hooper Bay	6,324	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,324
Scammon Bay	4,027	1,434	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,519
Coastal District	10,351	1,434	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,843
Nunam Iqua	0	2,110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,110
Alakanuk	0	6,277	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,277
Emmonak	0	6,205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,205
Kotlik[c]	0	8,525	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,525
District 1	0	23,117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23,117
Mountain Village	0	2,762	6,020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,782
Pitkas Point	0	0	1,485	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,485
St. Mary's	0	1,646	5,733	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,379
Pilot Station	0	0	3,014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,014
Marshall	0	0	5,180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,180
District 2	0	4,408	21,432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25,840
Russian Mission	0	0	267	1,530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,797
Holy Cross	0	0	0	943	48	0	0	0	0	0	0	0	0	0	0	0	0	0	991
Shageluk	0	0	0	0	98	0	0	0	0	0	0	0	0	177	0	0	0	0	275
District 3	0	0	267	2,473	146	0	0	0	0	0	0	0	0	177	0	0	0	0	3,063
Anvik	0	0	0	0	1,117	0	0	0	0	0	0	0	0	0	0	0	0	0	1,117
Grayling	0	0	0	0	878	0	0	0	0	0	0	0	0	0	0	0	0	0	878
Kaltag	0	0	0	0	467	0	0	0	0	0	0	0	0	0	0	0	0	0	467
Nulato	0	0	0	0	1,001	0	0	0	0	0	0	0	0	0	0	0	0	0	1,001
Koyukuk	0	0	0	0	110	0	8	0	0	0	0	0	0	0	0	0	0	0	118
Galena	0	0	0	0	796	144	749	0	0	0	0	0	0	0	0	0	0	0	1,689
Ruby	0	0	0	0	13	411	254	0	0	0	0	0	0	0	0	0	0	0	678
Huslia/Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,764	0	0	0	4,764
Allakaket/Alatna/Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,015	0	0	0	3,015
District 4	0	0	0	0	4,382	555	1,011	0	0	0	0	0	0	0	7,779	0	0	0	13,727

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Table 6.–Page 2 of 2.

	Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
Community	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by community[b]
Tanana	0	0	0	0	11	0	0	2,513	1,162	0	0	0	0	0	0	0	0	0	3,686
Stevens Village/Rampart	0	0	0	0	0	0	0	0	0	0	500	0	0	0	0	0	0	0	500
Beaver	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	23
Fort Yukon/Birch Creek	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12
Venetie/Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 5	0	0	0	0	11	0	0	2,513	1,162	0	523	12	0	0	0	0	0	0	4,221
Survey totals	10,351	28,959	21,757	2,473	4,539	555	1,011	2,513	1,162	0	523	12	0	177	7,779	0	0	0	81,811

Note: Commercially related fish are salmon harvested during commercial fishing that were not sold, but retained and used for subsistence purposes.

[a] 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.

[b] Totals may not add in both directions due to estimate decimal rounding.

[c] Several households reported harvest from the Norton Sound area outside of District 1. Salmon harvested from outside the Yukon Area are not included in harvest totals or estimates.

Table 7.–Estimated subsistence harvest of fall chum salmon, including retained from commercial (not including test fishery), by fishing location in surveyed communities, Yukon Area, 2016.

	Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
Community	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by community[b]
Hooper Bay	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
Scammon Bay	480	177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	657
Coastal District	585	177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	762
Nunam Iqua	0	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	111
Alakanuk	0	693	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	693
Emmonak	0	1,083	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,083
Kotlik	0	1,117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,117
District 1	0	3,004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,004
Mountain Village	0	183	350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	533
Pitkas Point	0	0	232	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	232
St. Mary's	0	176	912	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,088
Pilot Station	0	0	153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	153
Marshall	0	0	1,106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,106
District 2	0	359	2,753	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,112
Russian Mission	0	0	0	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
Holy Cross	0	0	0	535	48	0	0	0	0	0	0	0	0	0	0	0	0	0	583
Shageluk	0	0	0	0	107	0	0	0	0	0	0	0	0	71	0	0	0	0	178
District 3	0	0	0	770	155	0	0	0	0	0	0	0	0	71	0	0	0	0	996
Anvik	0	0	0	0	527	0	0	0	0	0	0	0	0	0	0	0	0	0	527
Grayling	0	0	0	0	499	0	0	0	0	0	0	0	0	0	0	0	0	0	499
Kaltag	0	0	0	0	680	0	0	0	0	0	0	0	0	0	0	0	0	0	680
Nulato	0	0	0	0	2,681	0	0	0	0	0	0	0	0	0	0	0	0	0	2,681
Koyukuk	0	0	0	0	237	60	0	0	0	0	0	0	0	0	0	0	0	0	297
Galena	0	0	0	0	524	689	2,106	0	0	0	0	0	0	0	0	0	0	0	3,319
Ruby	0	0	0	0	0	526	0	0	0	0	0	0	0	0	0	0	0	0	526
Huslia/Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	954	0	0	0	954
Allakaket/Alatna/Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	551	0	0	0	551
District 4	0	0	0	0	5,148	1,275	2,106	0	0	0	0	0	0	0	1,505	0	0	0	10,034

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Table 7.–Page 2 of 2.

Community	Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by community[b]
Tanana	0	0	0	0	0	0	0	9,850	11,411	0	0	0	0	0	0	0	0	0	21,261
Stevens Village/Rampart	0	0	0	0	0	0	0	0	0	0	4,500	0	0	0	0	0	0	0	4,500
Beaver	0	0	0	0	0	0	0	0	0	0	228	0	0	0	0	0	0	0	228
Fort Yukon/Birch Creek	0	0	0	0	0	0	0	0	0	0	1,684	5,489	0	0	0	0	556	0	7,729
Venetie/Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,333	0	550	5,883
District 5	0	0	0	0	0	0	0	9,850	11,411	0	6,412	5,489	0	0	0	5,333	556	550	39,601
Survey totals	585	3,540	2,753	770	5,303	1,275	2,106	9,850	11,411	0	6,412	5,489	0	71	1,505	5,333	556	550	57,509

Note: Commercially related fish are salmon harvested during commercial fishing that were not sold, but retained and used for subsistence purposes.

[a] 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.

[b] Totals may not add in both directions due to estimate decimal rounding.

Table 8.–Estimated subsistence harvest of coho salmon, including retained from commercial (not including test fishery), by fishing location in surveyed communities, Yukon Area, 2016.

	Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
Community	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by community[b]
Hooper Bay	121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	121
Scammon Bay	126	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	234
Coastal District	247	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	355
Nunam Iqua	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58
Alakanuk	0	153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	153
Emmonak	0	234	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	234
Kotlik	0	243	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	243
District 1	0	688	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	688
Mountain Village	0	55	197	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	252
Pitkas Point	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
St. Mary's	0	42	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128
Pilot Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marshall	0	0	409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	409
District 2	0	97	714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	811
Russian Mission	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Holy Cross	0	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	134
Shageluk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 3	0	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140
Anvik	0	0	0	0	184	0	0	0	0	0	0	0	0	0	0	0	0	0	184
Grayling	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	35
Kaltag	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0	53
Nulato	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Koyukuk	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Galena	0	0	0	0	42	45	114	0	0	0	0	0	0	0	0	0	0	0	201
Ruby	0	0	0	0	0	226	0	0	0	0	0	0	0	0	0	0	0	0	226
Huslia/Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	0	0	0	93
Allakaket/Alatna/Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	0	0	33
District 4	0	0	0	0	315	271	114	0	0	0	0	0	0	0	126	0	0	0	826

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Table 8.–Page 2 of 2.

Community	Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by community[b]
Tanana	0	0	0	0	0	0	0	174	466	0	0	0	0	0	0	0	0	0	640
Stevens Village/Rampart	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	50
Beaver	0	0	0	0	0	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	1	0	0	0	0	0	0	1
Venetie/Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30
District 5	0	0	0	0	0	0	0	174	466	0	50	1	0	0	0	0	0	30	721
Survey totals	247	893	714	140	315	271	114	174	466	0	50	1	0	0	126	0	0	30	3,541

Note: Commercially related fish are salmon harvested during commercial fishing that were not sold, but retained and used for subsistence purposes.

[a] 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.

[b] Totals may not add in both directions due to estimate decimal rounding.

Table 9.–Estimated subsistence harvest and 95% CI (in parentheses) of salmon species, including retained from commercial (not including test fishery), by fishing location in surveyed districts, Yukon Area, 2016.

		Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
Species	District	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by district
Chinook	Coastal	714	171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	886
	District	(201)	(101)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(225)
	District 1	0	1,915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,915
		(0)	(312)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(312)
	District 2	0	403	2,352	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,754
		(0)	(165)	(510)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(536)
	District 3	0	0	38	824	21	0	0	0	0	0	0	0	0	18	0	0	0	0	901
		(0)	(0)	(76)	(307)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(316)
	District 4	0	0	0	0	5,190	530	156	0	0	0	0	0	0	0	140	0	0	0	6,016
		(0)	(0)	(0)	(0)	(1,397)	(154)	(68)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(35)	(0)	(0)	(0)	(1,408)
	District 5	0	0	0	0	0	0	0	218	1,911	37	877	654	0	0	0	536	0	50	4,283
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(189)	(1,345)	(0)	(414)	(226)	(0)	(0)	(0)	(479)	(0)	(0)	(1,515)
	Survey totals	714	2,489	2,390	824	5,212	530	156	218	1,911	37	877	654	0	18	140	536	0	50	16,755
		(201)	(367)	(516)	(307)	(1,397)	(154)	(68)	(189)	(1,345)	(0)	(414)	(226)	(0)	(10)	(35)	(479)	(0)	(0)	(2,194)
Summer chum	Coastal	10,351	1,434	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,843
	District	(2,863)	(302)	(46)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2,880)
	District 1	0	23,117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23,117
		(0)	(3,969)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3,969)
	District 2	0	4,408	21,431	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25,839
		(0)	(1,819)	(2,982)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3,493)
	District 3	0	0	267	2,474	146	0	0	0	0	0	0	0	0	177	0	0	0	0	3,064
		(0)	(0)	(243)	(783)	(30)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(51)	(0)	(0)	(0)	(0)	(823)
	District 4	0	0	0	0	4,383	555	1,012	0	0	0	0	0	0	0	7,778	0	0	0	13,728
		(0)	(0)	(0)	(0)	(1,689)	(227)	(56)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1,909)	(0)	(0)	(0)	(2,560)
	District 5	0	0	0	0	11	0	0	2,513	1,162	0	523	12	0	0	0	0	0	0	4,220
		(0)	(0)	(0)	(0)	(15)	(0)	(0)	(1,449)	(690)	(0)	(775)	(9)	(0)	(0)	(0)	(0)	(0)	(0)	(1,782)
	Survey totals	10,351	28,960	21,756	2,474	4,540	555	1,012	2,513	1,162	0	523	12	0	177	7,778	0	0	0	81,812
		(2,863)	(4,377)	(2,992)	(783)	(1,689)	(227)	(56)	(1,449)	(690)	(0)	(775)	(9)	(0)	(51)	(1,909)	(0)	(0)	(0)	(6,830)

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Table 9.–Page 2 of 2.

		Districts/Subdistricts (fishing location)[a]													River drainages (fishing location)					
Species	District	Coastal	1	2	3	4A	4B	4C	5A	5B	5C	5D-down	5D-up	6	Innoko	Koyukuk	Teedriinjik	Porcupine	Draanjik	Total by district
Fall chum	Coastal District	584 (247)	177 (69)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	761 (256)
	District 1	0 (0)	3,004 (887)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3,004 (887)
	District 2	0 (0)	359 (90)	2,753 (646)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3,112 (653)
	District 3	0 (0)	0 (0)	0 (0)	770 (201)	155 (124)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	71 (82)	0 (0)	0 (0)	0 (0)	0 (0)	997 (250)
	District 4	0 (0)	0 (0)	0 (0)	0 (0)	5,148 (1,520)	1,276 (314)	2,106 (1,793)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1,505 (405)	0 (0)	0 (0)	0 (0)	10,034 (2,406)
	District 5	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	9,850 (3,928)	11,411 (4,772)	0 (0)	6,412 (6,990)	5,489 (3,113)	0 (0)	0 (0)	0 (0)	5,333 (3,143)	556 (198)	550 (0)	39,600 (10,328)
	Survey totals	584 (247)	3,540 (894)	2,753 (646)	770 (201)	5,303 (1,525)	1,276 (314)	2,106 (1,793)	9,850 (3,928)	11,411 (4,772)	0 (0)	6,412 (6,990)	5,489 (3,113)	0 (0)	71 (82)	1,505 (405)	5,333 (3,143)	556 (198)	550 (0)	57,509 (10,668)
Coho	Coastal District	247 (68)	108 (43)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	355 (80)
	District 1	0 (0)	688 (247)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	688 (247)
	District 2	0 (0)	97 (87)	713 (286)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	810 (299)
	District 3	0 (0)	0 (0)	0 (0)	140 (86)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	140 (86)
	District 4	0 (0)	0 (0)	0 (0)	0 (0)	316 (225)	271 (31)	114 (152)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	126 (58)	0 (0)	0 (0)	0 (0)	827 (280)
	District 5	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	174 (104)	466 (318)	0 (0)	50 (77)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	30 (0)	720 (344)
	Survey totals	247 (68)	893 (265)	713 (286)	140 (86)	316 (225)	271 (31)	114 (152)	174 (104)	466 (318)	0 (0)	50 (77)	1 (1)	0 (0)	0 (0)	126 (58)	0 (0)	0 (0)	30 (0)	3,540 (600)

Note: Commercially related fish are salmon harvested during commercial fishing that were not sold, but retained and used for subsistence purposes. Totals may not add in both directions due to estimate decimal rounding.

[a] 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 10.–Estimated subsistence harvest of pink salmon, whitefish, northern pike, and sheefish by surveyed communities, Yukon Area, 2016.

Community	Total households	Households contacted[b]	Pink salmon Est. total	Pink salmon CI 95%	Large whitefish[a] Est. total	Large whitefish[a] CI 95%	Small whitefish[a] Est. total	Small whitefish[a] CI 95%	Northern pike Est. total	Northern pike CI 95%	Sheefish Est. total	Sheefish CI 95%	Total combined harvest	Percent broad whitefish[c]
Hooper Bay	218	86	4,007	1,471	846	330	3,602	1,201	1,137	955	36	25	9,628	25%
Scammon Bay	118	56	2,490	934	955	202	1,569	339	4,129	1,258	740	761	9,883	60%
Coastal District	336	142	6,497	1,729	1,801	384	5,171	1,240	5,266	1,563	776	751	19,511	44%
Nunam Iqua	40	24	352	292	382	240	954	834	25	9	362	66	2,075	56%
Alakanuk	145	67	713	1,028	2,346	1,046	4,641	1,114	725	392	1,914	517	10,339	79%
Emmonak	192	103	228	321	1,217	448	4,669	3,012	1,063	323	1,506	493	8,683	77%
Kotlik	115	48	502	325	2,539	2,232	5,662	2,700	1,735	875	1,774	1,269	12,212	63%
District 1	492	242	1,795	1,144	6,484	2,469	15,926	4,217	3,548	994	5,556	1,432	33,309	71%
Mountain Village	168	63	93	61	3,267	1,359	4,939	3,316	3,041	1,699	745	572	12,085	64%
Pitkas Point	30	23	48	26	1,554	377	237	100	516	191	153	35	2,508	86%
St. Mary's	135	63	104	50	2,549	926	72	32	1,886	880	813	342	5,424	72%
Pilot Station	125	55	8	3	674	296	165	116	185	114	307	131	1,339	63%
Marshall	98	50	5	3	1,063	273	392	551	4,480	1,520	392	165	6,332	70%
District 2	556	254	258	82	9,107	1,705	5,805	3,315	10,108	2,412	2,410	690	27,688	71%
Russian Mission	77	28	0	0	686	341	127	70	928	708	178	98	1,919	46%
Holy Cross	62	35	2	1	710	269	7	5	147	79	133	75	999	75%
Shageluk	25	13	9	11	68	69	41	29	83	58	109	80	310	100%
District 3	164	76	11	10	1,464	429	175	74	1,158	693	420	141	3,228	62%
Anvik	34	26	0	0	259	17	0	0	118	18	66	11	443	84%
Grayling	54	20	33	21	173	52	0	0	53	27	84	39	343	94%
Kaltag	52	19	73	97	326	340	14	25	0	0	172	133	585	100%
Nulato	76	26	0	0	66	110	4	7	27	30	368	168	465	100%
Koyukuk	44	20	0	0	65	3	0	0	25	0	66	47	156	8%
Galena	143	47	11	6	429	158	201	85	129	76	353	180	1,123	73%
Ruby	60	21	0	0	356	344	0	0	8	6	19	23	383	56%
Huslia/Hughes	122	56	0	0	3,849	1,522	1,507	942	1,250	672	285	81	6,891	37%
Allakaket/Alatna/Bettles	93	39	0	0	446	25	710	0	414	35	226	17	1,796	85%
District 4	678	274	117	93	5,969	1,575	2,436	930	2,024	666	1,639	288	12,185	52%

-continued-

Table 10.–Page 2 of 2.

Community	Total households	Households contacted[b]	Pink salmon Est. total	Pink salmon CI 95%	Large whitefish[a] Est. total	Large whitefish[a] CI 95%	Small whitefish[a] Est. total	Small whitefish[a] CI 95%	Northern pike Est. total	Northern pike CI 95%	Sheefish Est. total	Sheefish CI 95%	Total combined harvest	Percent broad whitefish[c]
Tanana	93	38	34	36	9,280	4,909	2,759	1,444	452	240	3,393	2,853	15,918	79%
Stevens Village/Rampart	11	7	0	0	20	0	0	0	14	19	0	0	34	0%
Beaver	29	20	0	0	8	6	42	22	41	24	11	8	102	0%
Fort Yukon/Birch Creek	223	82	0	0	733	339	1,509	1,194	885	452	197	101	3,324	68%
Venetie/Chalkyitsik	106	36	0	0	889	47	0	0	1,084	125	49	19	2,022	93%
District 5	462	183	34	35	10,930	4,798	4,310	1,840	2,476	521	3,650	2,783	21,400	79%
Survey totals	2,688	1,171	8,712	2,064	35,755	5,872	33,823	5,854	24,580	3,215	14,451	3,290	117,321	68%

Note: Estimates included 95% confidence interval, (CI 95%). Confidence intervals were based on survey estimates and do not include test fishery. Nine pink salmon were reported as distributed from test fishery projects.

[a] Large whitefish were considered to be 4 pounds or larger and small whitefish were considered to be less than 4 pounds.

[b] The number of households contacted per species may vary. The number of households indicated was the greatest number of households contacted for any species.

[c] Households were asked to categorize their harvest of large whitefish as either broad whitefish or humpback whitefish. The estimated remaining percent were humpback whitefish.

Table 11.–Unexpanded and reported subsistence harvest of nonsalmon fish species, by surveyed communities, Yukon Area, 2016.

Community	Total households	Households contacted[a]	Alaska blackfish	Arctic grayling	Arctic lamprey	Burbot	Pacific herring	Tomcod
Hooper Bay[b]	218	86	5,118	0	0	70	3,951	1,886
Scammon Bay[b]	118	56	12,082	0	0	51	11,216	1,748
Coastal District	336	142	17,200	0	0	121	15,167	3,634
Nunam Iqua	40	24	10,950	0	0	10	60	620
Alakanuk[b]	145	67	4,013	0	0	96	21	520
Emmonak[b]	192	103	5,984	0	0	307	10	528
Kotlik[b]	115	48	8,883	23	0	186	629	425
District 1	492	242	29,830	23	0	599	720	2,093
Mountain Village[b]	168	63	13,507	126	3,557	408	0	8
Pitkas Point	30	23	14,770	44	615	155	10	0
St. Mary's	135	63	4,910	34	1,956	281	62	60
Pilot Station	125	55	3,784	23	1,862	208	0	0
Marshall	98	50	3,416	26	4,149	244	0	0
District 2	556	254	40,387	253	12,139	1,296	72	68
Russian Mission	77	28	1,540	0	3,738	124	0	0
Holy Cross	62	35	350	0	64	24	0	0
Shageluk	25	13	0	0	0	2	0	0
District 3	164	76	1,890	0	3,802	150	0	0
Anvik	34	26	0	38	155	0	0	0
Grayling	54	20	0	17	1,508	6	0	0
Kaltag	52	19	0	180	0	1	0	0
Nulato	76	26	0	293	0	11	0	0
Koyukuk	44	20	0	0	0	0	0	0
Galena	143	47	844	2	0	62	0	0
Ruby	60	21	0	0	0	2	0	0
Huslia	122	56	56	149	2	34	0	0
Hughes	93	39	0	137	0	10	0	0
District 4	678	274	900	816	1,665	126	0	0
Tanana	93	38	0	47	3	52	0	0
Stevens Village/Rampart	11	7	0	0	0	3	0	0
Beaver	29	20	0	0	0	5	0	0
Fort Yukon/Birch Creek	223	82	0	149	0	149	0	0
Venetie/Chalkyitsik	106	36	0	230	0	0	0	0
District 5	462	183	0	426	3	209	0	0
Survey totals	2,688	1,169	90,207	1,518	17,609	2,501	15,959	5,795

[a] The number of households contacted per species may vary. The number of households indicated was the greatest number of households contacted for a given species.

[b] A total of 36 households from 7 communities reported harvesting 253.5 gallons and 210 pounds of herring roe.

Table 12.–Reported subsistence and personal use fish harvested under the authority of a permit, listed by permit area, Yukon Area, 2016.

Permit fishing area	Permit[a] Type	Issued[b]	Returned	Percent returned	No. of permits returned that fished[c]	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Koyukuk Middle and South Fork Rivers	SF	1	1	100%	1	0	0	0	0	5	0	0	0	1	19
Yukon River Rampart Area	SR	24	24	100%	18	557	252	659	2	213	1	0	0	0	0
Yukon River near Haul Road Bridge[d]	SY	62	62	100%	40	996	518	1,449	101	329	15	3	42	1	0
Yukon River near Circle and Eagle[e]	SE	36	36	100%	25	520	0	4,108	38	71	5	3	7	0	3
	SEU	23	23	100%	17	762	0	13,015	0	53	32	3	3	8	33
Tanana River Subdistrict 6-A	SA	17	16	94%	10	264	36	593	486	24	0	0	1	0	0
Tanana River Subdistrict 6-B	SB	66	62	94%	25	372	60	2,992	2,495	586	16	3	18	8	0
Tanana River Upstream of Subdistrict 6-C	SU	24	24	100%	16	0	0	1	0	1,980	0	28	87	15	0
Kantishna River Subdistrict 6-A	SK	3	3	100%	1	0	0	115	67	20	0	2	5	0	1
Tolovana River Pike Subdistrict 6-B	ST	201	196	98%	129	0	0	0	0	10	0	1	1,020	0	0
Subsistence permit subtotals		457	447	98%	282	3,471	866	22,932	3,189	3,291	69	43	1,183	33	56
Tanana River salmon Subdistrict 6-C	PC	57	57	100%	29	57	176	273	265	12	1	0	3	0	0
Tanana River whitefish upstream of Subdistrict 6-C	PW	21	21	100%	10	0	0	10	1	259	0	0	4	181	6
Personal Use Permit subtotals		78	78	100%	39	57	176	283	266	271	1	0	7	181	6
All permit totals		535	525	98%	321	3,528	1,042	23,215	3,455	3,562	70	43	1,190	214	62

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 downriver of Eagle sonar project, EU = Yukon River upriver of Eagle sonar project, 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/sucker permit). Permit area descriptions are officially described in Alaska State statues. Salmon retained from test fishery projects or commercial fisheries not included in this table.

[a] Permit data from permits returned by July 24, 2017.

[b] Included 25 households that were issued permits for more than 1 area.

[c] Included 15 households that fished in 2 different permit areas.

[d] Included 37 Chinook salmon reported on permits issued to residents of Stevens Village.

[e] 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 13.–Reported subsistence and personal use fish harvested under the authority of a permit, listed by fishery, by community of residence, and by drainage, Yukon Area, 2016.

Subsistence permit community	Harvest by drainage	Permits Issued[a]	Permits Returned	Percent returned	No. of permits fished[b]	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Circle/Central	Yukon River	23	23	100%	13	260	0	1,306	38	59	4	2	0	0	0
Eagle	Yukon River	28	28	100%	23	864	0	15,765	0	58	24	3	10	8	4
Fairbanks (FNSB)[c]	Yukon River	74	74	100%	49	1,318	461	2,143	101	511	23	2	41	1	0
	Tanana River	23	22	96%	11	87	41	824	965	263	5	0	4	7	0
	Tolovana River	187	184	98%	120	0	0	0	0	0	0	1	914	0	0
	FNSB subtotal	284	280	99%	180	1,405	502	2,967	1,066	774	28	3	959	8	0
Manley	Tanana River	13	12	92%	8	230	32	414	323	5	0	0	1	0	0
	Manley subtotal	13	12	92%	8	230	32	414	323	5	0	0	1	0	0
Minto	Tanana River	15	14	93%	4	35	4	40	0	21	10	0	10	0	0
	Tolovana River	4	3	75%	1	0	0	0	0	10	0	0	54	0	0
	Minto subtotal	19	17	89%	5	35	4	40	0	31	10	0	64	0	0
Nenana/Healy	Yukon River	3	3	100%	3	51	137	0	0	2	1	0	1	0	0
	Tolovana River	1	0	0%	0	0	0	0	0	0	0	0	0	0	0
	Tanana River	33	31	94%	14	284	19	2,308	1,693	404	1	3	4	1	0
	Nenana subtotal	37	34	92%	17	335	156	2,308	1,693	406	2	3	5	1	0
Stevens Village/Rampart	Yukon River	5	5	100%	5	87	129	0	2	8	1	0	0	0	0
Other Subsistence[d]	Yukon River	12	12	100%	7	255	43	17	0	28	0	2	0	0	32
	Tanana River	23	23	100%	14	0	0	0	0	1,897	0	28	87	15	0
	Tolovana River	9	9	100%	8	0	0	0	0	0	0	0	52	0	0
	Kantishna River	3	3	100%	1	0	0	115	67	20	0	2	5	0	1
	Koyukuk River	1	1	100%	1	0	0	0	0	5	0	0	0	1	19
	Other subtotal	48	48	100%	31	255	43	132	67	1,950	0	32	144	16	52
Subsistence permit subtotals		457	447	98%	282	3,471	866	22,932	3,189	3,291	69	43	1,183	33	56
Personal Use permit community															
Fairbanks (FNSB)[c]	Tanana River	71	71	100%	35	56	168	283	266	148	1	0	7	1	6
Other Personal Use[e]	Tanana River	7	7	100%	4	1	8	0	0	123	0	0	0	180	0
Personal Use permit subtotals		78	78	100%	39	57	176	283	266	271	1	0	7	181	6
All permit totals		535	525	98%	321	3,528	1,042	23,215	3,455	3,562	70	43	1,190	214	62

Note: Did not include salmon from test fishery projects or salmon retained from commercial fisheries. Information from permits returned by July 24, 2017.

[a] Included 25 households that were issued permits for more than one area.

[b] Included 15 households that fished in more than one permit area.

[c] Fairbanks North Star Borough (FNSB) included residents from the communities of Ester, Fairbanks, North Pole, Salcha, and Two Rivers.

[d] Other Subsistence included residents from Anchorage, Delta Junction, Dot Lake, Eagle River, Grayling, Manley, Nenana, Northway, Tanacross, Tanana, Tok, Venetie, Wasilla, and Wiseman who were issued a subsistence fishing permit for Yukon, Tanana, Tolovana, Kantishna, and upper Koyukuk Rivers.

[e] Other Personal Use included residents from Delta Junction and Fort Yukon who were issued a personal use permit.

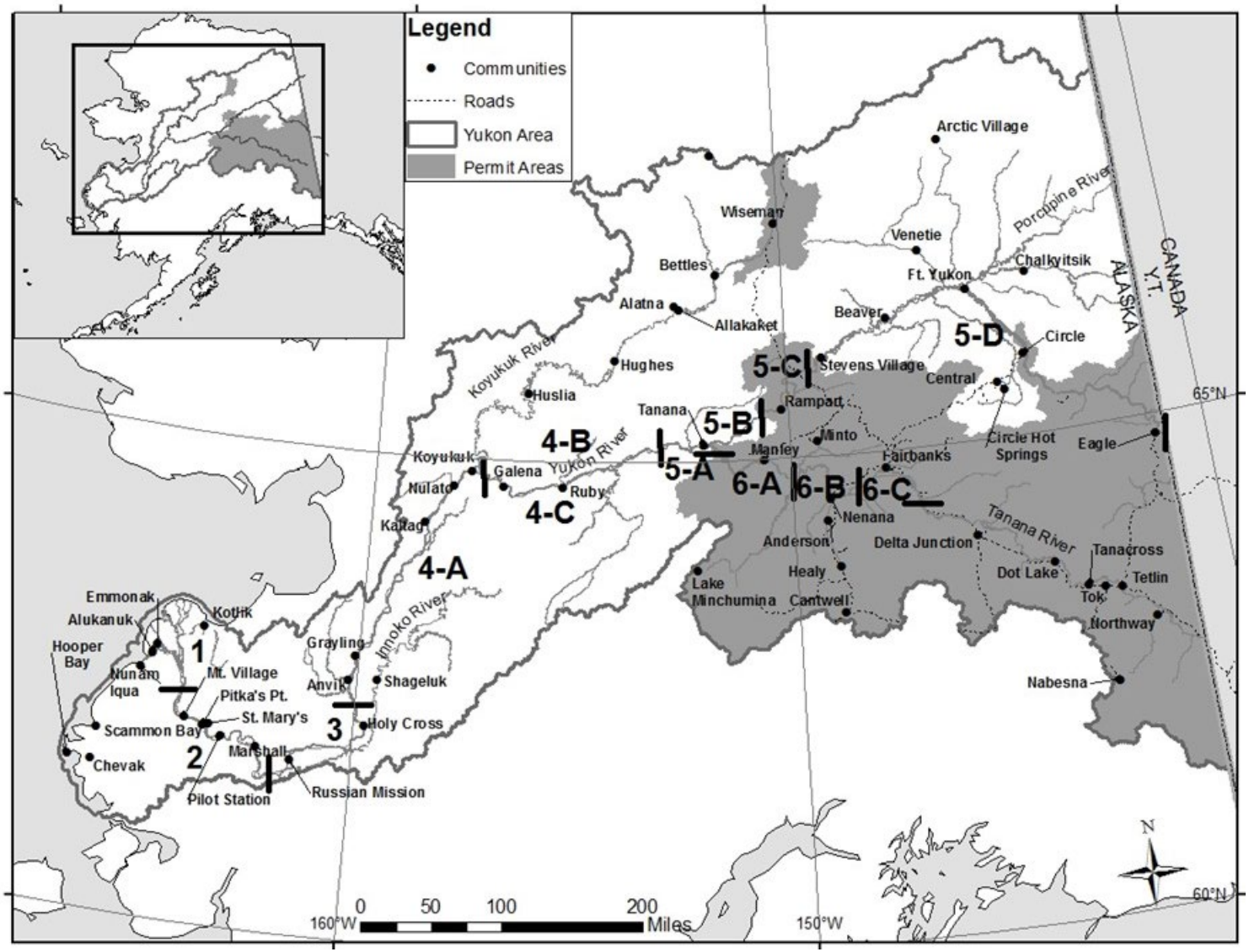


Figure 1.–Map of Alaska portion of the Yukon River drainage showing communities and subsistence and personal use permit areas.

Note: Subsistence and personal use permit areas are shaded.

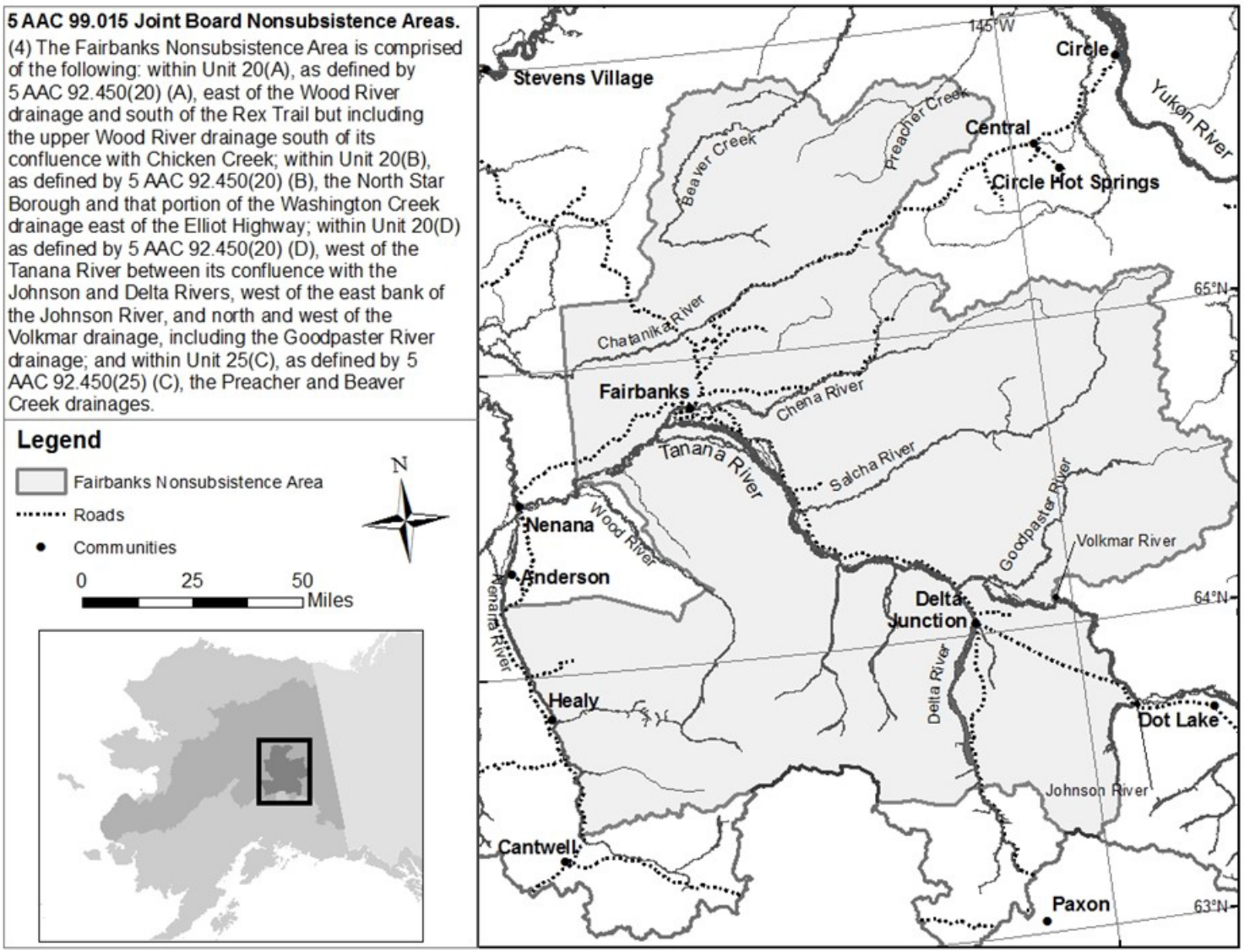
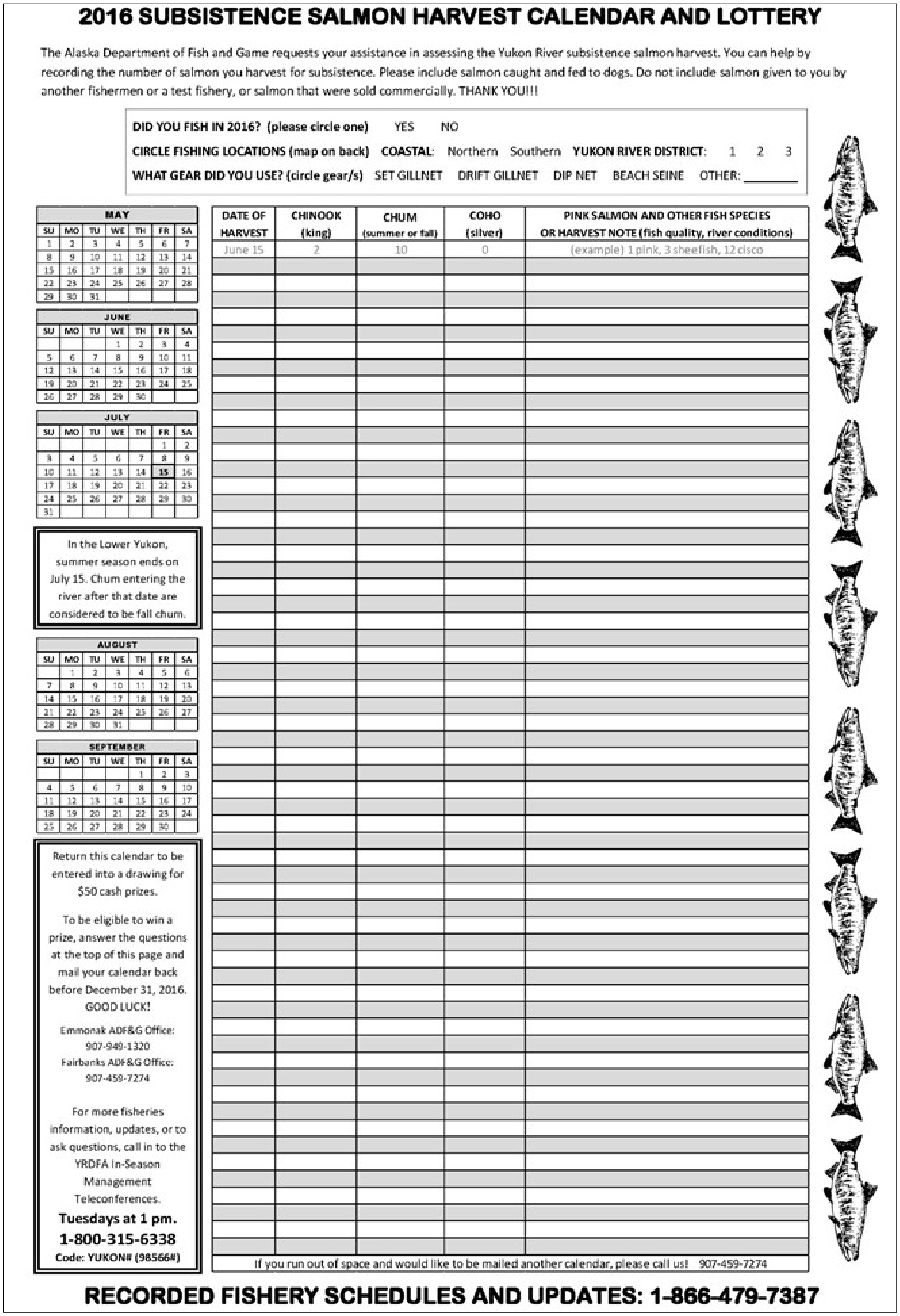


Figure 2.–Map of the Fairbanks Nonsubsistence Area.

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



2016 SUBSISTENCE SALMON HARVEST CALENDAR AND LOTTERY

The Alaska Department of Fish and Game requests your assistance in assessing the Yukon River subsistence salmon harvest. You can help by recording the number of salmon you harvest for subsistence. Please include salmon caught and fed to dogs. Do not include salmon given to you by another fishermen or a test fishery, or salmon that were sold commercially. THANK YOU!!!

DID YOU FISH IN 2016? (please circle one) YES NO

CIRCLE FISHING LOCATIONS (map on back) COASTAL: Northern Southern **YUKON RIVER DISTRICT:** 1 2 3

WHAT GEAR DID YOU USE? (circle gear/s) SET GILLNET DRIFT GILLNET DIP NET BEACH SEINE OTHER: ________

MAY

SU	MO	TU	WE	TH	FR	SA
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE

SU	MO	TU	WE	TH	FR	SA
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

JULY

SU	MO	TU	WE	TH	FR	SA
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

In the Lower Yukon, summer season ends on July 15. Chum entering the river after that date are considered to be fall chum.

AUGUST

SU	MO	TU	WE	TH	FR	SA
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER

SU	MO	TU	WE	TH	FR	SA
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Return this calendar to be entered into a drawing for $50 cash prizes.

To be eligible to win a prize, answer the questions at the top of this page and mail your calendar back before December 31, 2016. GOOD LUCK!

Emmonak ADF&G Office: 907-949-1320
Fairbanks ADF&G Office: 907-459-7274

For more fisheries information, updates, or to ask questions, call in to the YRDFA In-Season Management Teleconferences.

Tuesdays at 1 pm.
1-800-315-6338
Code: YUKON# (98566#)

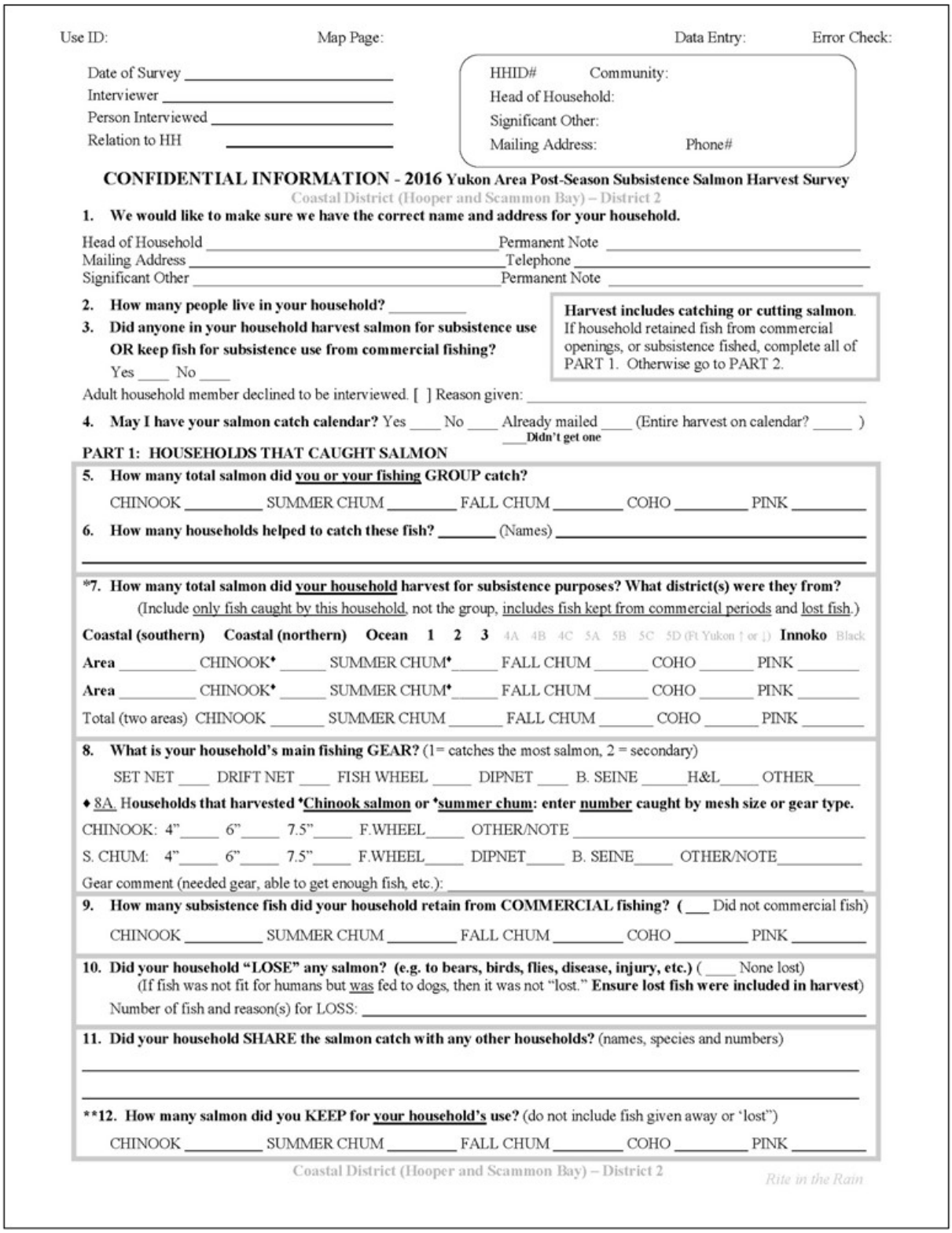
DATE OF HARVEST	CHINOOK (king)	CHUM (summer or fall)	COHO (silver)	PINK SALMON AND OTHER FISH SPECIES OR HARVEST NOTE (fish quality, river conditions)
June 15	2	10	0	(example) 1 pink, 3 sheefish, 12 cisco

If you run out of space and would like to be mailed another calendar, please call us! 907-459-7274

RECORDED FISHERY SCHEDULES AND UPDATES: 1-866-479-7387

Figure 3.–Example subsistence harvest calendar, Yukon Area, 2016.

Note: Area specific versions of the calendar were used for lower and upper portions of the drainage. Different versions highlighted specific fishing areas and gear.



Use ID: Map Page: Data Entry: Error Check:

Date of Survey _____
Interviewer _____
Person Interviewed _____
Relation to HH _____

HHID# Community:
Head of Household:
Significant Other:
Mailing Address: Phone#

CONFIDENTIAL INFORMATION - 2016 Yukon Area Post-Season Subsistence Salmon Harvest Survey

Coastal District (Hooper and Scammon Bay) – District 2

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

Head of Household _____ Permanent Note _____
Mailing Address _____ Telephone _____
Significant Other _____ Permanent Note _____

2. How many people live in your household? _____

3. Did anyone in your household harvest salmon for subsistence use OR keep fish for subsistence use from commercial fishing?
Yes ____ No ____

Harvest includes catching or cutting salmon. If household retained fish from commercial openings, or subsistence fished, complete all of PART 1. Otherwise go to PART 2.

Adult household member declined to be interviewed. [ ] Reason given: _____

4. May I have your salmon catch calendar? Yes ____ No ____ Already mailed ____ (Entire harvest on calendar? _____)
___Didn't get one

PART 1: HOUSEHOLDS THAT CAUGHT SALMON

5. How many total salmon did you or your fishing GROUP catch?
CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

6. How many households helped to catch these fish? _____ (Names) _____

***7. How many total salmon did your household harvest for subsistence purposes? What district(s) were they from?**
(Include only fish caught by this household, not the group, includes fish kept from commercial periods and lost fish.)

Coastal (southern) Coastal (northern) Ocean 1 2 3 4A 4B 4C 5A 5B 5C 5D (Ft Yukon ↑ or ↓) **Innoko** Black

Area _____ CHINOOK♦ _____ SUMMER CHUM♦ _____ FALL CHUM _____ COHO _____ PINK _____
Area _____ CHINOOK♦ _____ SUMMER CHUM♦ _____ FALL CHUM _____ COHO _____ PINK _____
Total (two areas) CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

8. What is your household's main fishing GEAR? (1= catches the most salmon, 2 = secondary)
SET NET ____ DRIFT NET ____ FISH WHEEL ____ DIPNET ____ B. SEINE ____ H&L ____ OTHER ____

♦ 8A. **Households that harvested ♦Chinook salmon or ♦summer chum: enter number caught by mesh size or gear type.**
CHINOOK: 4"____ 6"____ 7.5"____ F.WHEEL____ OTHER/NOTE _____
S. CHUM: 4"____ 6"____ 7.5"____ F.WHEEL____ DIPNET____ B. SEINE____ OTHER/NOTE_____
Gear comment (needed gear, able to get enough fish, etc.): _____

9. How many subsistence fish did your household retain from COMMERCIAL fishing? (___ Did not commercial fish)
CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

10. Did your household "LOSE" any salmon? (e.g. to bears, birds, flies, disease, injury, etc.) (____ None lost)
(If fish was not fit for humans but was fed to dogs, then it was not "lost." **Ensure lost fish were included in harvest**)
Number of fish and reason(s) for LOSS: _____

11. Did your household SHARE the salmon catch with any other households? (names, species and numbers)
_____
_____

****12. How many salmon did you KEEP for your household's use?** (do not include fish given away or 'lost")
CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

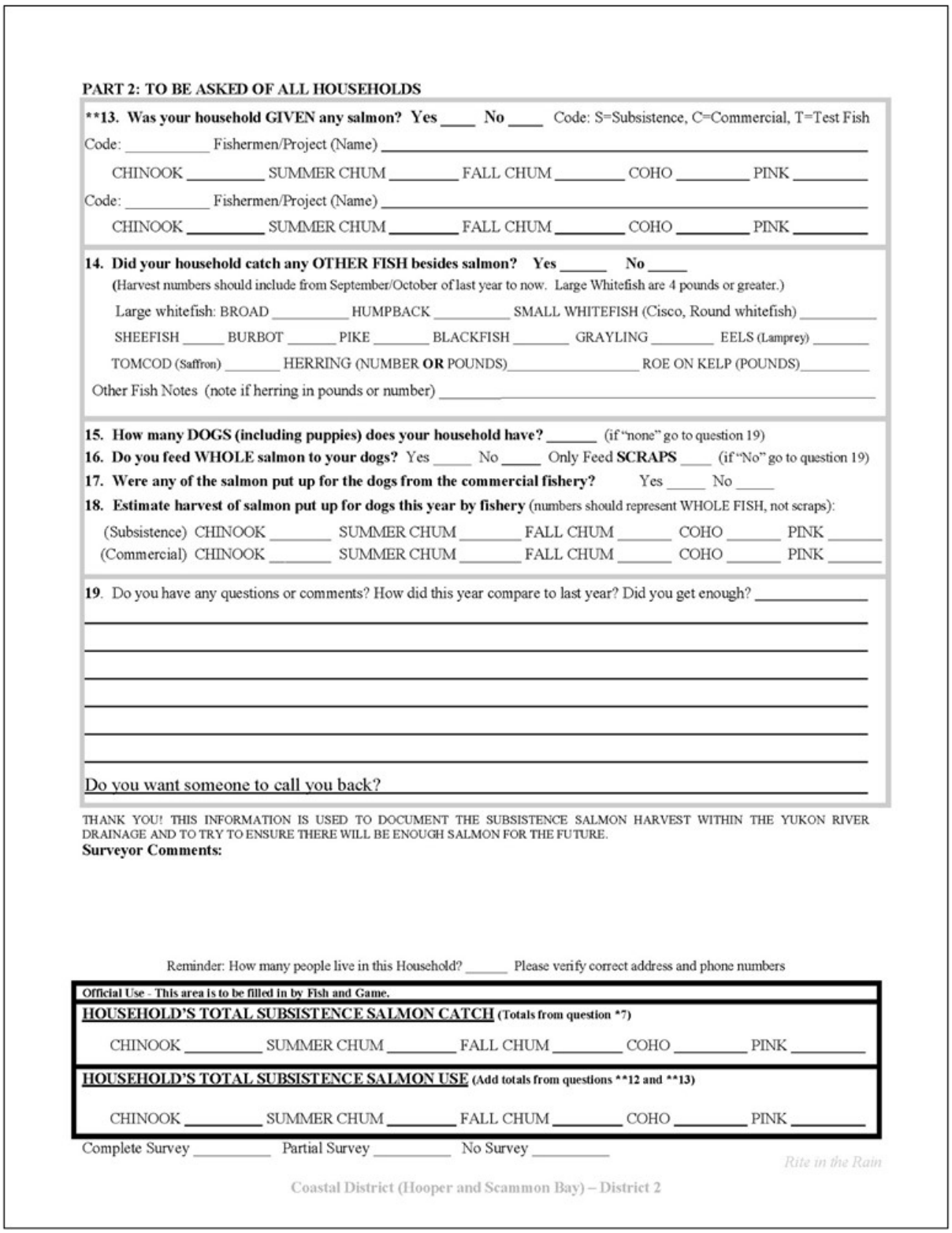
Coastal District (Hooper and Scammon Bay) – District 2

Rite in the Rain

Figure 4.–Yukon Area postseason subsistence salmon harvest survey form, 2016.

Note: Area specific versions of the survey form were used throughout the drainage. Different versions highlighted specific fishing areas and other fish species used by respective areas.

-continued-



PART 2: TO BE ASKED OF ALL HOUSEHOLDS

**13. Was your household GIVEN any salmon? Yes ____ No ____ Code: S=Subsistence, C=Commercial, T=Test Fish

Code: _____ Fishermen/Project (Name) _____

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

Code: _____ Fishermen/Project (Name) _____

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

14. Did your household catch any OTHER FISH besides salmon? Yes _____ No _____

(Harvest numbers should include from September/October of last year to now. Large Whitefish are 4 pounds or greater.)

Large whitefish: BROAD _____ HUMPBACK _____ SMALL WHITEFISH (Cisco, Round whitefish) _____

SHEEFISH _____ BURBOT _____ PIKE _____ BLACKFISH _____ GRAYLING _____ EELS (Lamprey) _____

TOMCOD (Saffron) _____ HERRING (NUMBER OR POUNDS)_____ ROE ON KELP (POUNDS)_____

Other Fish Notes (note if herring in pounds or number) _____

15. How many DOGS (including puppies) does your household have? _____ (if "none" go to question 19)

16. Do you feed WHOLE salmon to your dogs? Yes _____ No _____ Only Feed SCRAPS ____ (if "No" go to question 19)

17. Were any of the salmon put up for the dogs from the commercial fishery? Yes _____ No _____

18. Estimate harvest of salmon put up for dogs this year by fishery (numbers should represent WHOLE FISH, not scraps):

(Subsistence) CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

(Commercial) CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

19. Do you have any questions or comments? How did this year compare to last year? Did you get enough? _____

Do you want someone to call you back? _____

THANK YOU! THIS INFORMATION IS USED TO DOCUMENT THE SUBSISTENCE SALMON HARVEST WITHIN THE YUKON RIVER DRAINAGE AND TO TRY TO ENSURE THERE WILL BE ENOUGH SALMON FOR THE FUTURE.

Surveyor Comments:

Reminder: How many people live in this Household? _____ Please verify correct address and phone numbers

Official Use - This area is to be filled in by Fish and Game.

HOUSEHOLD'S TOTAL SUBSISTENCE SALMON CATCH (Totals from question *7)

CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

HOUSEHOLD'S TOTAL SUBSISTENCE SALMON USE (Add totals from questions **12 and **13)

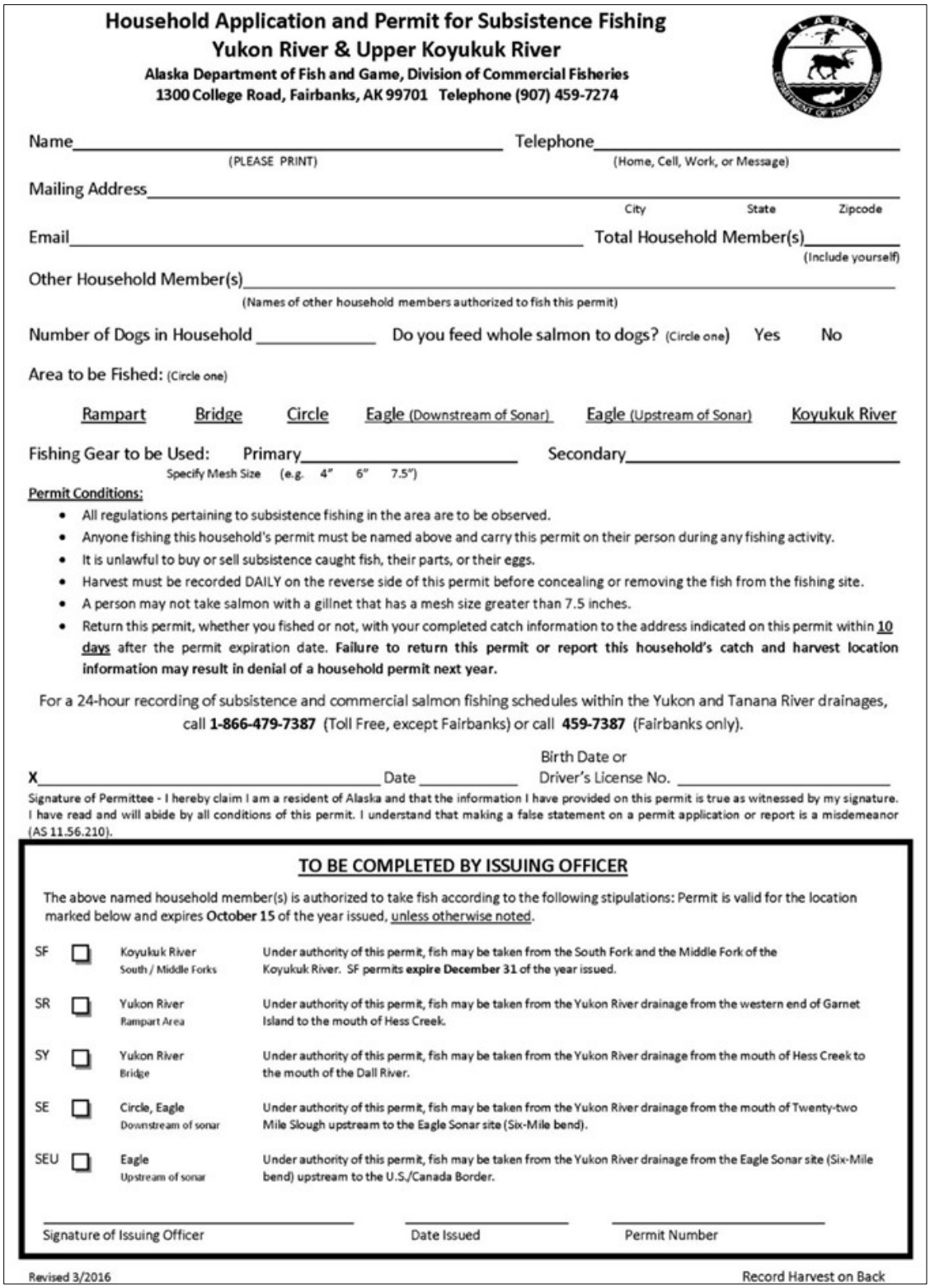
CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

Complete Survey _____ Partial Survey _____ No Survey _____

Rite in the Rain

Coastal District (Hooper and Scammon Bay) – District 2

Figure 4.–Page 2 of 2.



Household Application and Permit for Subsistence Fishing
Yukon River & Upper Koyukuk River
Alaska Department of Fish and Game, Division of Commercial Fisheries
1300 College Road, Fairbanks, AK 99701 Telephone (907) 459-7274

Name_____ Telephone_____
(PLEASE PRINT) (Home, Cell, Work, or Message)

Mailing Address_____
City State Zipcode

Email_____ Total Household Member(s)_____
(Include yourself)

Other Household Member(s)_____
(Names of other household members authorized to fish this permit)

Number of Dogs in Household _____ Do you feed whole salmon to dogs? (Circle one) Yes No

Area to be Fished: (Circle one)

Rampart Bridge Circle Eagle (Downstream of Sonar) Eagle (Upstream of Sonar) Koyukuk River

Fishing Gear to be Used: Primary_____ Secondary_____
Specify Mesh Size (e.g. 4" 6" 7.5")

Permit Conditions:

- All regulations pertaining to subsistence fishing in the area are to be observed.
- Anyone fishing this household's permit must be named above and carry this permit on their person during any fishing activity.
- It is unlawful to buy or sell subsistence caught fish, their parts, or their eggs.
- Harvest must be recorded DAILY on the reverse side of this permit before concealing or removing the fish from the fishing site.
- A person may not take salmon with a gillnet that has a mesh size greater than 7.5 inches.
- Return this permit, whether you fished or not, with your completed catch information to the address indicated on this permit within 10 days after the permit expiration date. **Failure to return this permit or report this household's catch and harvest location information may result in denial of a household permit next year.**

For a 24-hour recording of subsistence and commercial salmon fishing schedules within the Yukon and Tanana River drainages, call **1-866-479-7387** (Toll Free, except Fairbanks) or call **459-7387** (Fairbanks only).

X_____ Date _____ Birth Date or Driver's License No. _____

Signature of Permittee - 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. I understand that making a false statement on a permit application or report is a misdemeanor (AS 11.56.210).

TO BE COMPLETED BY ISSUING OFFICER

The above named household member(s) is authorized to take fish according to the following stipulations: Permit is valid for the location marked below and expires **October 15** of the year issued, unless otherwise noted.

SF	☐	Koyukuk River South / Middle Forks	Under authority of this permit, fish may be taken from the South Fork and the Middle Fork of the Koyukuk River. SF permits **expire December 31** of the year issued.
SR	☐	Yukon River Rampart Area	Under authority of this permit, fish may be taken from the Yukon River drainage from the western end of Garnet Island to the mouth of Hess Creek.
SY	☐	Yukon River Bridge	Under authority of this permit, fish may be taken from the Yukon River drainage from the mouth of Hess Creek to the mouth of the Dall River.
SE	☐	Circle, Eagle Downstream of sonar	Under authority of this permit, fish may be taken from the Yukon River drainage from the mouth of Twenty-two Mile Slough upstream to the Eagle Sonar site (Six-Mile bend).
SEU	☐	Eagle Upstream of sonar	Under authority of this permit, fish may be taken from the Yukon River drainage from the Eagle Sonar site (Six-Mile bend) upstream to the U.S./Canada Border.

_____ _____ _____
Signature of Issuing Officer Date Issued Permit Number

Revised 3/2016 Record Harvest on Back

Figure 5.–Example subsistence harvest permit, Yukon Area, 2016.

Note: Area specific versions of the calendar were used for lower and upper portions of the drainage. Different versions highlighted specific fishing areas and gear.

-continued-

YUKON AREA SUBSISTENCE FISHERY CATCH FORM

THIS RECORD MUST BE SUBMITTED TO THE DEPARTMENT OF FISH AND GAME WITHIN 10 DAYS AFTER THE EXPIRATION DATE OF THE PERMIT WHETHER YOU FISHED OR NOT. **FAILURE TO RETURN THIS FORM WITH COMPLETE DAILY CATCH AND HARVEST LOCATION INFORMATION MAY BE CAUSE TO DENY YOU A SUBSISTENCE PERMIT NEXT YEAR.**

24-Hour Fishing Schedule Recording 1-866-479-7387 (Toll Free, except Fairbanks) or 459-7387 (Fairbanks only)

DATE Month/Day	SPECIFIC FISHING LOCATION	CHINOOK SALMON (Kings)	CHUM SALMON (Dogs)	COHO SALMON	WHITEFISH	PIKE	Other Species (Specify)	Number of Whole Salmon Put Up For Dogs

RETURN TO:
Alaska Department of Fish and Game
Division of Commercial Fisheries
1300 College Road
Fairbanks, AK 99701
Telephone: (907) 459-7274

PLEASE CHECK THIS BOX IF YOU DID NOT FISH THIS YEAR ☐

____
Sign this Catch Report when you return it.

____
Date

Revised 3/2016

Figure 5.–Page 2 of 2.

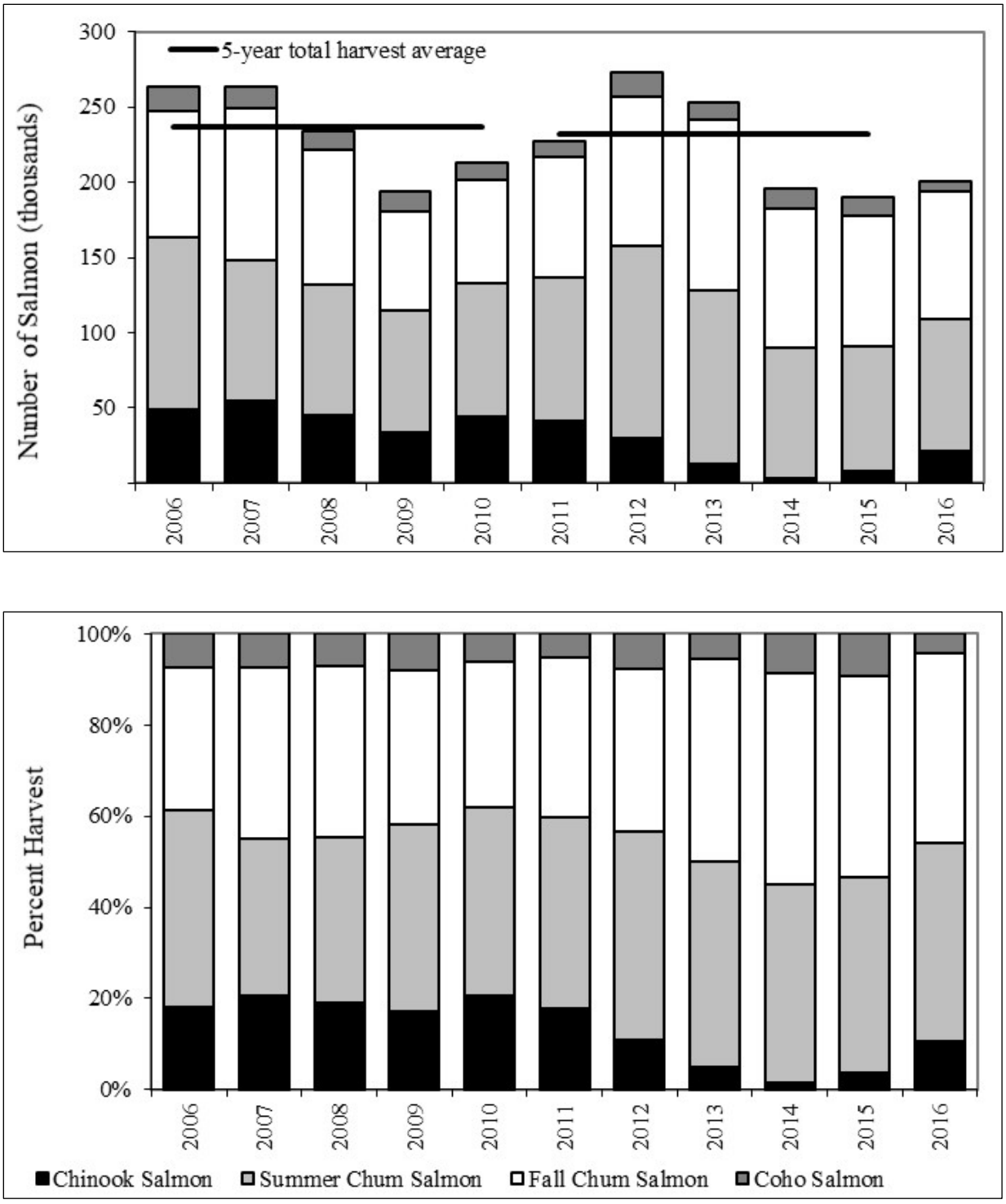


Figure 6.–Estimated total subsistence salmon harvest by species, Yukon Area, 2006–2016.

Note: Harvest of salmon species by number (top) and proportion (bottom). Totals include survey, permit, test fishery and retained harvests from commercial fishing; does not include salmon caught in the personal use fishery.

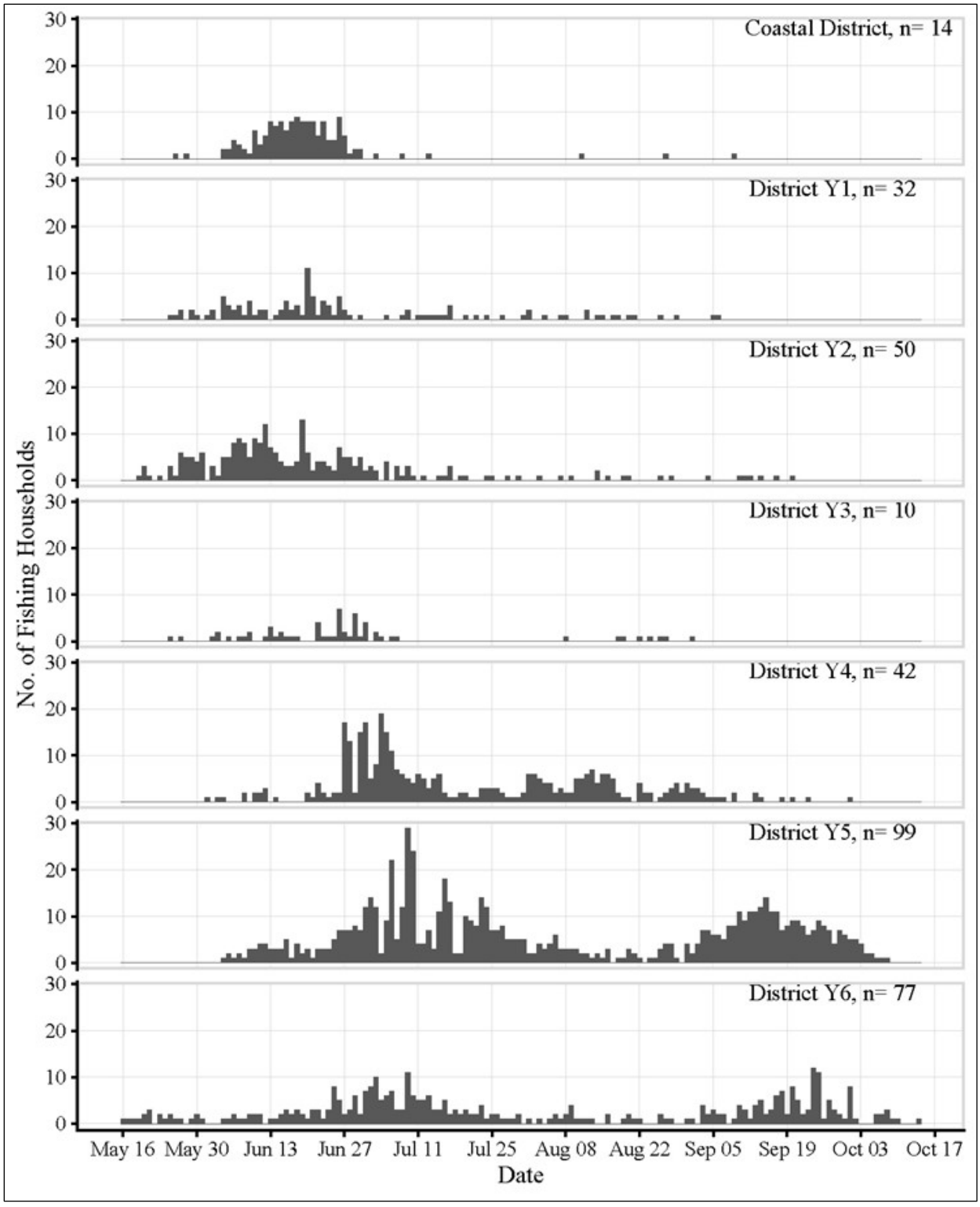


Figure 7.–Number of fishing households reporting harvest on calendars or permits by day and by district, 2016.

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

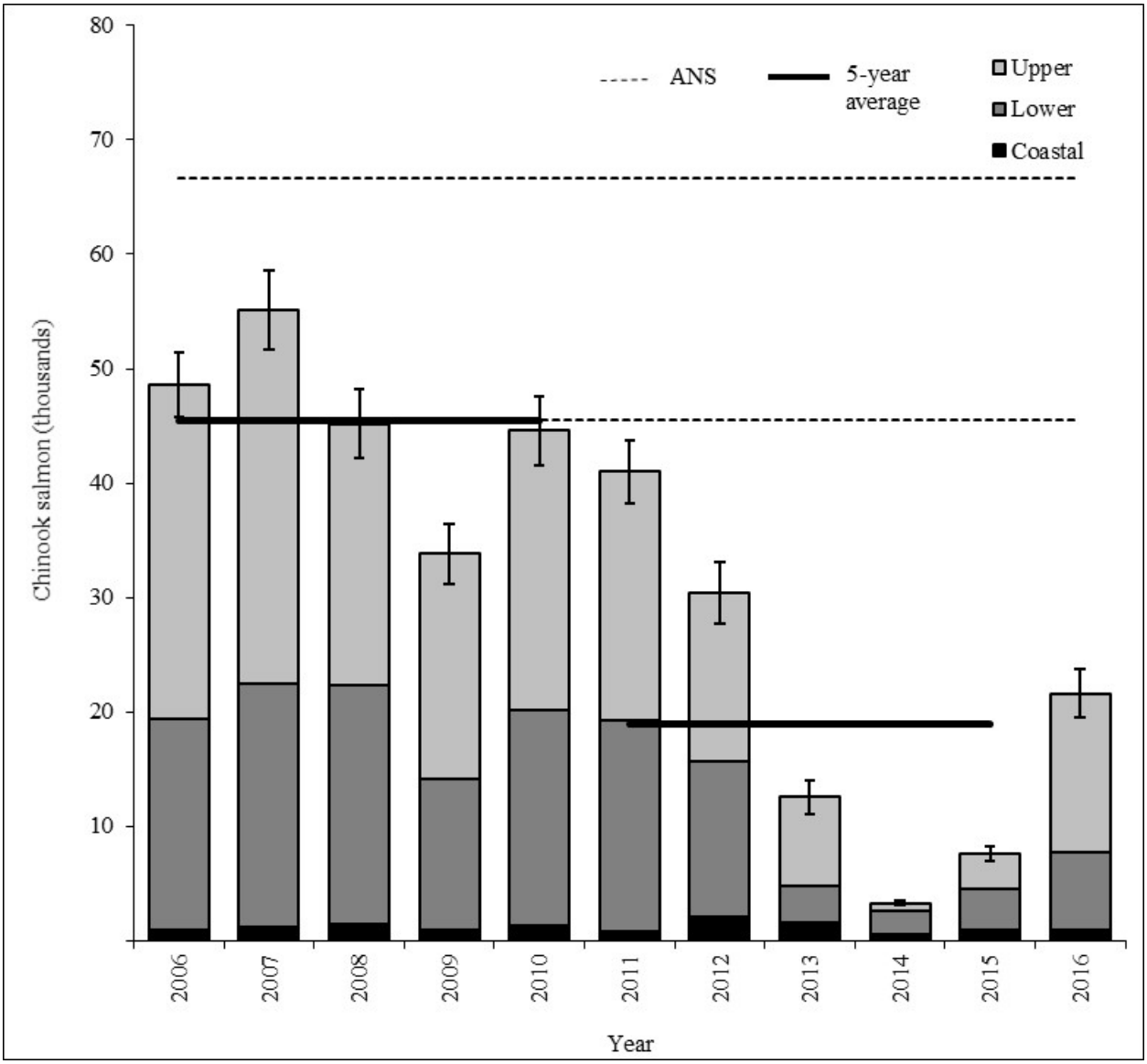


Figure 8.–Estimated Chinook salmon subsistence harvest, Yukon Area, 2006–2016.

Note: Harvest estimates and 95% confidence interval were provided. In 2001, the Alaska Board of Fisheries defined the amount necessary for subsistence (ANS) as 45,500–66,704 Chinook salmon. ANS ranges based on 1990–1999 subsistence harvest amounts and did not include salmon from personal use fisheries.

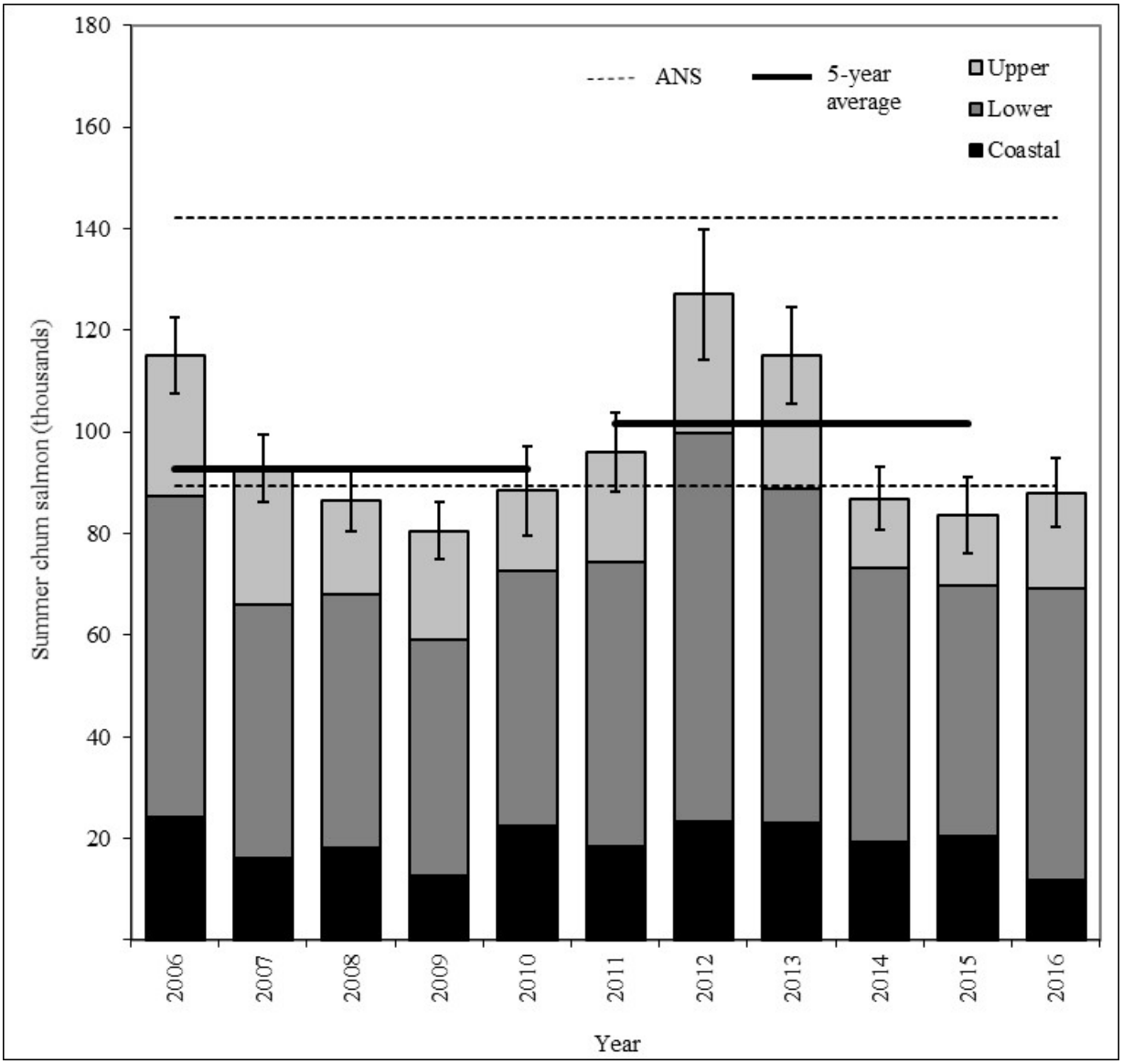


Figure 9.–Estimated summer chum salmon subsistence harvest, Yukon Area, 2006–2016.

Note: Harvest estimates and 95% confidence interval were provided. In 2001, the Alaska Board of Fisheries defined the amount necessary for subsistence (ANS) as 83,500–142,192 summer chum salmon. ANS ranges were based on 1990–1999 subsistence harvest amounts and did not include salmon from personal use fisheries.

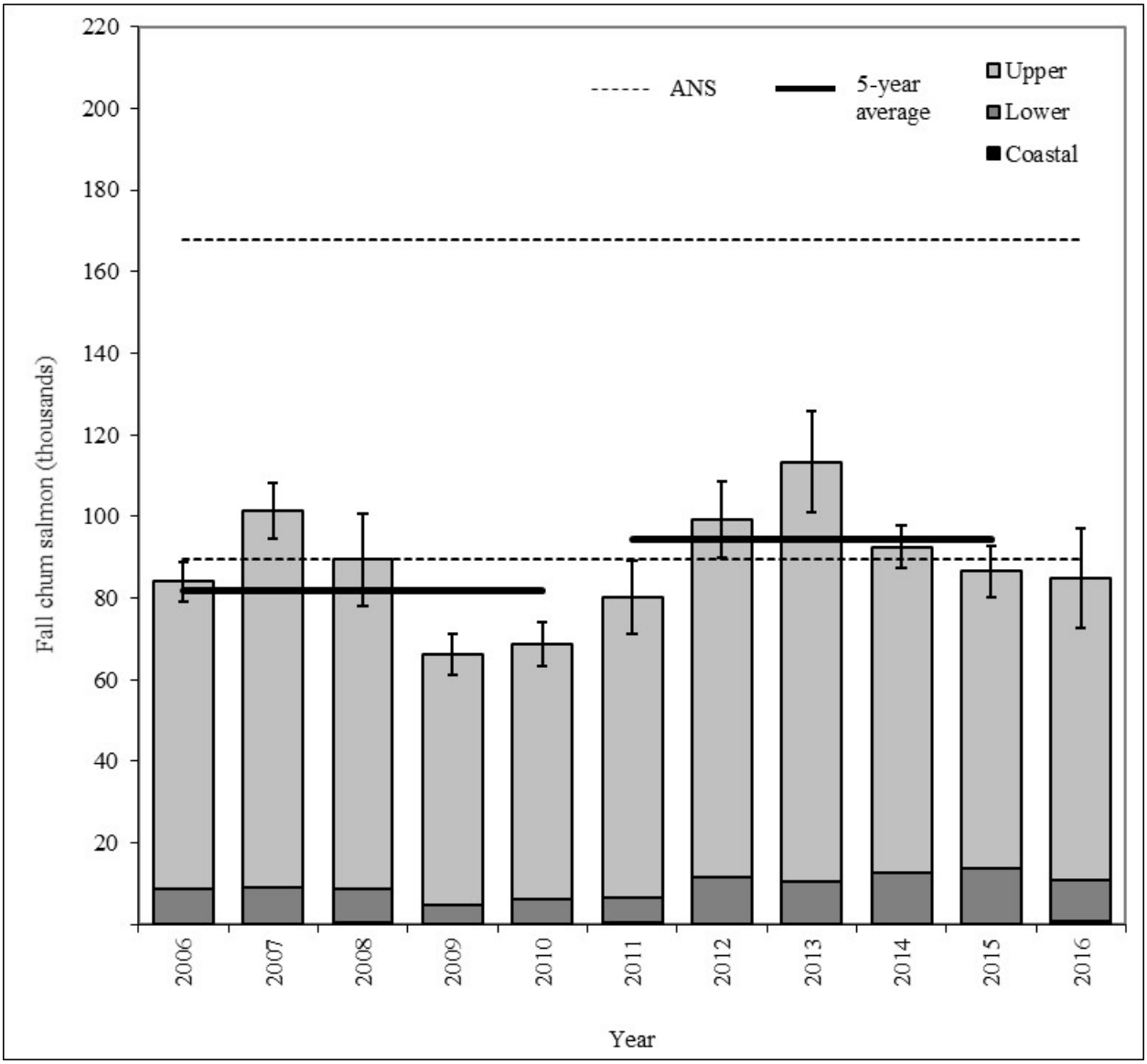


Figure 10.–Estimated fall chum salmon subsistence harvest, Yukon Area, 2006–2016.

Note: Harvest estimates and 95% confidence interval were provided. In 2001, the Alaska Board of Fisheries defined the amount necessary for subsistence (ANS) as 89,500–167,900 fall chum salmon. ANS ranges were based on 1990–1999 subsistence harvest amounts (excluding 1993 and 1998 due to restrictions) and did not include salmon from personal use fisheries.

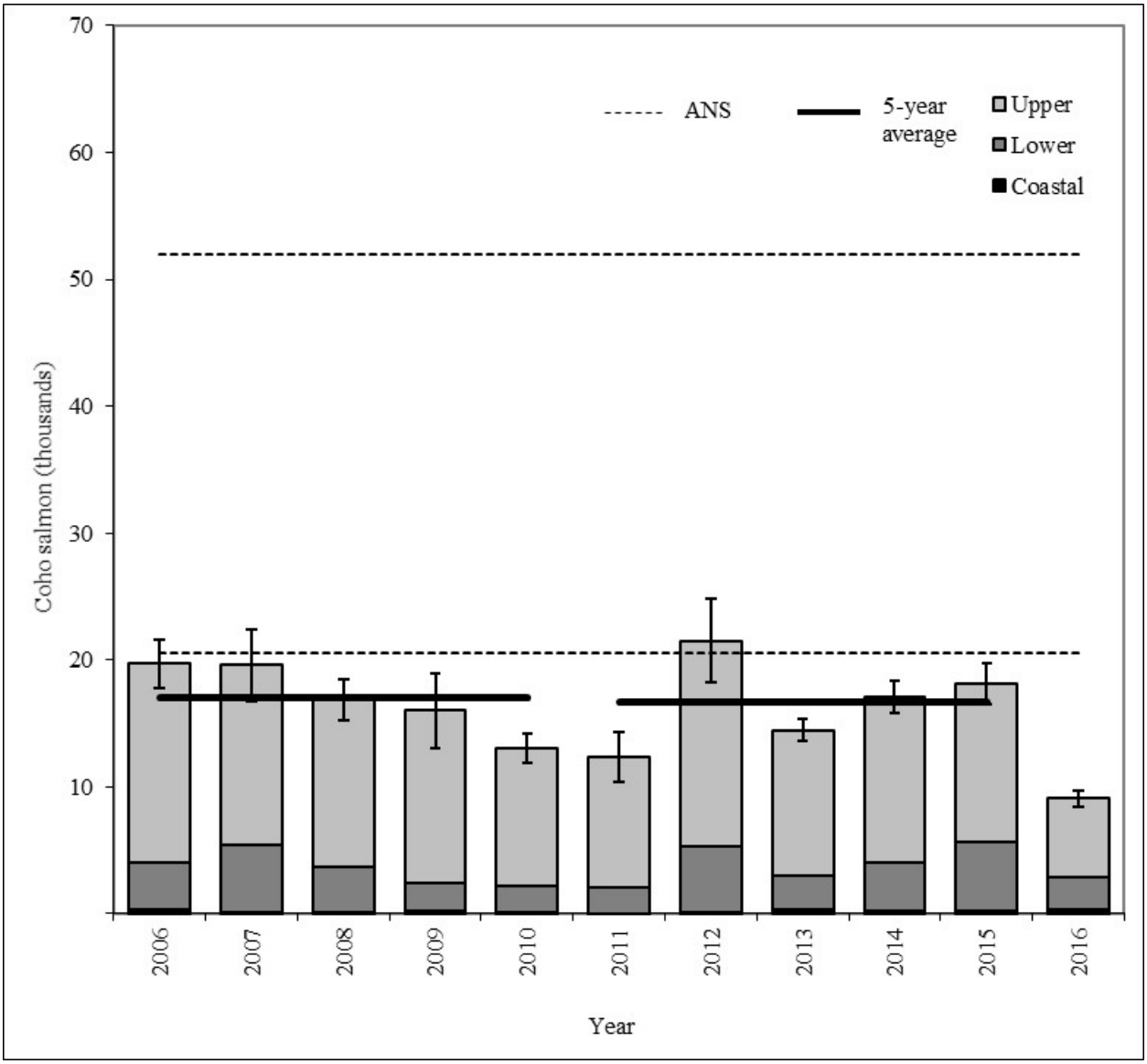


Figure 11.–Estimated coho salmon subsistence harvest, Yukon Area, 2006–2016.

Note: Harvest estimates and 95% confidence interval were provided. In 2001, the Alaska Board of Fisheries defined the amount necessary for subsistence (ANS) as 20,500–51,980 coho salmon. ANS ranges were based on 1990–1999 subsistence harvest amounts (excluding 1993 and 1998 due to restrictions) and did not include salmon from personal use fisheries.

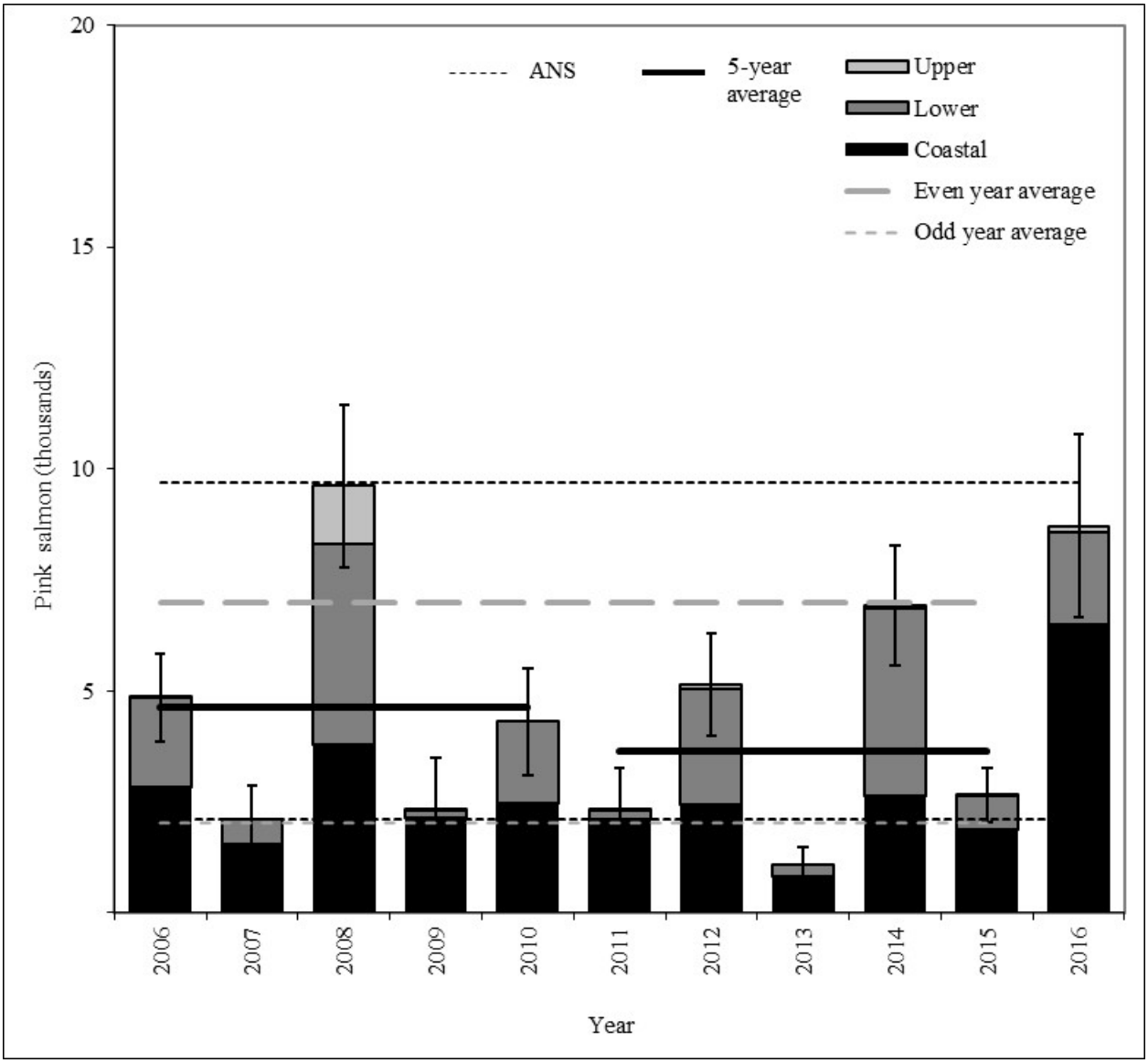


Figure 12.–Estimated pink salmon subsistence harvest, Yukon Area, 2005–2016.

Note: Harvest estimates and 95% confidence interval were provided. In 2013, the Alaska Board of Fisheries defined the amount necessary for subsistence (ANS) as 2,100–9,700 pink salmon. ANS ranges were based on 2002–2011 subsistence harvest amounts and did not include salmon from personal use fisheries. Even and odd year averages were calculated based on 2005–2014 harvest totals.

APPENDIX A: HARVEST INFORMATION

Appendix A1.–Estimated salmon subsistence harvest in surveyed communities, with community and district totals, Yukon Area, 2016.

			Chinook		Summer chum		Fall chum		Coho	
	Total		Est.	CI	Est.	CI	Est.	CI	Est.	CI
Community	*N*	*n*	total	95%	total	95%	total	95%	total	95%
Hooper Bay	218	86	284	73	6,324	2,721	105	53	121	60
Scammon Bay	118	56	602	111	5,520	890	657	253	234	56
Coastal District	336	142	886	131	11,843	2,844	761	255	355	81
Nunam Iqua	40	24	120	21	2,110	567	111	103	58	29
Alakanuk	145	67	395	142	6,277	2,695	693	591	153	135
Emmonak	192	103	442	130	6,205	1,902	1,083	448	234	133
Kotlik	115	49	958	245	8,525	2,129	1,117	474	243	156
District 1	492	243	1,915	308	23,117	3,909	3,004	873	688	243
Mountain Village	168	63	689	231	8,782	2,463	533	433	252	190
Pitkas Point	30	23	126	16	1,485	329	232	27	22	3
St. Mary's	135	65	952	300	7,379	2,120	1,088	287	128	58
Pilot Station	125	56	525	190	3,014	751	153	181	0	0
Marshall	98	51	462	117	5,180	1,417	1,106	362	409	205
District 2	556	258	2,754	433	25,839	3,582	3,112	649	810	281
Russian Mission	77	28	321	98	1,798	707	235	73	6	5
Holy Cross	62	35	557	263	991	414	583	192	134	87
Shageluk	25	13	23	12	275	80	179	223	0	0
District 3	164	76	901	275	3,064	802	997	288	140	85
Anvik	34	26	241	76	1,117	197	527	188	184	184
Grayling	54	20	370	259	878	397	499	258	35	10
Kaltag	52	19	1,358	838	467	449	680	330	53	95
Nulato	76	26	1,957	1,018	1,001	1,310	2,681	1,373	0	0
Koyukuk	44	20	612	297	119	21	297	236	1	0
Galena	143	48	993	288	1,689	940	3,319	2,155	201	93
Ruby	60	21	344	160	678	236	526	286	226	29
Huslia/Hughes	122	57	94	16	4,764	1,806	954	295	93	58
Allakaket/Alatna/Bettles	93	39	46	31	3,015	637	551	280	33	0
District 4	678	276	6,016	1,348	13,728	2,521	10,034	2,578	827	227
Tanana	93	38	2,129	1,389	3,685	2,124	21,261	8,779	639	416
Stevens Village	11	7	178	229	500	916	4,500	8,242	50	92
Beaver	29	20	165	65	23	10	228	81	0	0
Fort Yukon/Birch Creek	223	83	1,225	349	12	9	7,728	3,221	1	1
Venetie/Chalkyitsik	106	38	586	486	0	0	5,883	3,188	30	0
District 5	462	186	4,283	1,489	4,220	2,207	39,600	11,847	720	412
Survey totals	2,688	1,181	16,755	2,090	81,812	6,901	57,509	12,112	3,540	608

Note: The number of salmon harvested was estimated using the total number of households (*N*), the maximum number of households contacted (*n*) and includes 95% confidence interval (CI 95%).

Appendix A2.–Estimated number of primary gear and 95% confidence interval (CI) in surveyed communities, Yukon Area, 2016.

	Setnet		Driftnet		Fish wheel		Dip net		Beach seine		Other gear	
Community	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI
Hooper Bay	85	9	1	0	0	0	0	0	0	0	0	0
Scammon Bay	69	11	12	3	0	0	5	1	0	0	0	0
District total	153	14	14	3	0	0	5	1	0	0	0	0
Nunam Iqua	22	3	0	0	0	0	6	2	0	0	0	0
Alakanuk	13	3	38	7	0	0	25	6	0	0	0	0
Emmonak	4	0	68	8	0	0	10	4	0	0	0	0
Kotlik	38	7	52	10	0	0	0	0	0	0	0	0
District total	78	7	158	14	0	0	41	7	0	0	0	0
Mountain Village	3	0	70	12	0	0	21	5	0	0	0	0
Pitkas Point	0	0	9	2	0	0	8	2	0	0	0	0
St. Mary's	12	2	56	10	0	0	27	5	0	0	0	0
Pilot Station	0	0	38	7	0	0	9	1	3	1	0	0
Marshall	0	0	42	7	0	0	17	5	0	0	0	0
District total	15	2	214	18	0	0	82	9	3	1	0	0
Russian Mission	9	2	26	8	0	0	9	3	0	0	0	0
Holy Cross	4	1	36	3	0	0	0	0	0	0	0	0
Shageluk	2	1	4	0	0	0	0	0	0	0	0	0
District total	15	2	65	8	0	0	9	3	0	0	0	0
Anvik	7	3	11	4	0	0	0	0	0	0	0	0
Grayling	0	0	20	5	0	0	0	0	0	0	0	0
Kaltag	0	0	28	3	0	0	0	0	0	0	0	0
Nulato	0	0	57	11	0	0	0	0	0	0	0	0
Koyukuk	1	1	21	5	0	0	0	0	0	0	0	0
Galena	22	7	52	10	2	1	0	0	0	0	0	0
Ruby	6	3	11	5	1	0	0	0	3	2	0	0
Huslia/Hughes	30	5	0	0	0	0	0	0	0	0	0	0
Allakaket/Alatna/Bettles	19	5	0	0	0	0	0	0	0	0	0	0
District total	86	10	200	17	3	1	0	0	3	2	0	0
Tanana	35	8	0	0	16	4	0	0	0	0	0	0
Stevens Village/Rampart	2	0	0	0	2	3	0	0	0	0	0	0
Beaver	13	5	0	0	1	1	0	0	0	0	0	0
Fort Yukon/Birch Creek	24	6	0	0	36	4	0	0	0	0	0	0
Venetie/Chalkyitsik	33	10	0	0	0	0	3	2	0	0	0	0
District total	108	15	0	0	55	7	3	2	0	0	0	0
Survey total	455	24	649	30	59	7	139	12	6	2	0	0

Appendix A3.–Estimated number of salmon provided to communities for subsistence use by test fishery programs, Yukon Area, 2016.

Yukon River test fishery sites	Community	Chinook	Summer chum	Fall chum	Coho	Pink[a]	Total
Lower Yukon test fishery (LYTF)	Alakanuk	70	250	50	30	0	400
	Emmonak	497	2,771	1,418	483	0	5,169
	Kotlik	200	400	100	30	0	730
	Nunam Iqua	70	20	0	0	0	90
	Marshall	50	0	0	0	0	50
	Mountain Village	120	0	0	0	0	120
	St. Mary's	80	0	0	0	0	80
	Pitka's Point	30	0	0	0	0	30
LYTF project subtotal		1,117	3,441	1,568	543	0	6,669
Mountain Village test fishery	Mountain Village	0	0	677	184	4	865
Pilot Station Sonar test fishery	Pilot Station	127	1,782	750	136	5	2,800
Eagle sonar test fishery	Eagle	0	0	0	0	0	0
Test fishery totals		1,244	5,223	2,995	863	9	10,334

[a] Pink salmon harvested and distributed from test fishery projects were not always recorded. Harvest shown here is a minimum.

APPENDIX B: HISTORICAL INFORMATION

Appendix B1.–Chinook salmon subsistence harvest totals by fishing district and community of residence, and personal use harvest total for District 6, Yukon Area, 2006–2016.

Community	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Hooper Bay	376	430	388	183	584	252	1,090	1,210	455	534	284	396	708
Scammon Bay	507	768	1,104	722	716	517	1,014	332	108	432	602	828	481
Coastal District total	883	1,198	1,492	905	1,300	769	2,104	1,542	563	966	886	1,224	1,189
Nunam Iqua	371	907	163	200	404	250	195	12	62	210	190	419	146
Alakanuk	690	1,257	1,238	634	944	1,464	1,081	275	214	436	465	1,018	694
Emmonak	2,311	2,326	2,696	1,634	2,194	2,172	1,864	553	463	612	939	2,213	1,133
Kotlik	1,750	1,569	2,066	1,657	2,314	2,369	1,173	794	617	661	1,158	1,902	1,123
District 1 subtotal	5,122	6,059	6,163	4,125	5,856	6,255	4,313	1,634	1,356	1,919	2,752	5,551	3,095
Mountain Village	1,659	2,077	1,645	1,482	1,601	2,063	1,789	266	178	370	809	1,701	933
Pitkas Point	274	320	544	265	580	246	261	37	79	44	156	427	133
St. Mary's	2,233	3,573	1,756	1,929	2,800	1,734	2,344	215	68	261	1,032	2,515	924
Pilot Station	1,976	2,028	1,597	1,258	1,585	1,340	1,078	258	163	382	652	1,617	644
Marshall	1,897	2,555	3,284	1,201	2,110	2,686	1,409	328	128	128	512	2,288	936
District 2 subtotal	8,039	10,553	8,826	6,135	8,676	8,069	6,881	1,104	616	1,185	3,161	8,548	3,571
Russian Mission	1,851	1,301	2,949	978	924	1,550	1,711	236	16	365	321	1,538	776
Holy Cross	3,165	2,902	2,509	1,745	3,098	2,231	576	204	0	68	557	2,564	616
Shageluk	358	448	397	201	277	353	75	4	32	14	23	331	96
District 3 subtotal	5,374	4,651	5,855	2,924	4,299	4,134	2,362	444	48	447	901	4,432	1,487
Lower Yukon River total	18,535	21,263	20,844	13,184	18,831	18,458	13,556	3,182	2,020	3,551	6,814	18,531	8,153
Anvik	958	1,321	1,433	796	1,069	1,052	435	121	0	58	241	1,155	333
Grayling	1,702	1,500	1,761	1,133	2,122	1,374	1,081	226	3	22	370	1,629	541
Kaltag	2,833	1,456	2,403	1,970	3,191	2,488	1,346	348	10	119	1,358	2,255	862
Nulato	2,707	2,431	1,250	1,551	2,989	1,538	1,955	602	0	33	1,957	2,055	826
Koyukuk	835	811	513	982	867	1,349	614	898	52	26	612	793	588
Galena	2,380	2,511	2,232	1,370	1,357	1,434	742	275	1	372	993	1,868	565
Ruby	304	1,594	637	542	1,102	482	1,316	357	6	68	344	969	446
District 4 subtotal	11,719	11,624	10,229	8,344	12,697	9,717	7,489	2,827	72	698	5,875	10,724	4,161
Huslia/Hughes	266	154	316	1,070	128	131	165	68	51	38	94	417	91
Allakaket/Alatna/Bettles	37	53	74	100	63	45	8	6	9	35	46	73	21
Koyukuk River subtotal	303	207	390	1,170	191	176	173	74	60	73	140	490	111
District 4 total (incl. Koyukuk River)	12,022	11,831	10,619	9,514	12,888	9,893	7,662	2,901	132	771	6,015	11,213	4,272

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Appendix B1.–Page 2 of 2.

Community	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Tanana	3,794	5,498	3,981	2,950	3,215	2,936	2,100	1,200	88	141	2,129	3,911	1,293
Rampart/Stevens Village	1,674	860	889	933	731	616	520	274	0	1	228	853	282
Fairbanks (FNSB)[a]	2,184	2,510	1,898	1,509	1,670	2,186	558	610	14	263	1,318	1,897	726
Beaver	830	1,244	546	516	198	356	71	107	0	69	165	626	121
Fort Yukon/Birch Creek	3,318	4,189	2,023	861	1,756	2,521	2,141	1,561	93	480	1,225	2,207	1,359
Circle/Central	824	1,391	567	539	414	363	346	178	0	185	260	728	214
Eagle	2,303	1,999	1,068	446	867	728	167	175	76	395	864	1,095	308
Other District 5[b]	330	472	362	541	779	777	477	125	0	7	306	539	277
District 5 subtotal	15,257	18,163	11,334	8,295	9,630	10,483	6,380	4,230	271	1,541	6,495	11,856	4,581
Venetie/Chalkyitsik Teedriinjik/Draanjik River subtotal	667	1,002	292	622	767	10	86	311	17	308	586	671	146
District 5 total[c]	15,924	19,165	11,626	8,917	10,397	10,493	6,466	4,541	288	1,849	7,081	12,526	4,727
Manley	361	333	106	345	337	287	174	165	92	121	230	280	168
Minto	31	82	12	0	43	61	99	60	0	23	35	34	49
Nenana/Healy	712	893	335	473	660	681	296	87	139	263	464	590	293
Fairbanks (FNSB)[d]	125	409	108	396	91	330	58	49	41	33	87	251	102
Other District 6[e]	0	0	44	71	12	8	0	6	11	0	0	32	5
District 6 Tanana River total	1,229	1,717	605	1,285	1,143	1,367	627	367	283	440	816	1,188	617
Upper Yukon River total	29,175	32,713	22,850	19,716	24,428	21,753	14,755	7,809	703	3,060	13,912	24,927	9,616
Yukon Area total[f]	48,593	55,174	45,186	33,805	44,559	40,980	30,415	12,533	3,286	7,577	21,612	44,681	18,958
Personal Use (District 6)[g]	89	136	126	127	162	89	71	42	1	5	57	138	42
Yukon Area total with personal use	48,682	55,310	45,312	33,932	44,721	41,069	30,486	12,575	3,287	7,582	21,669	44,819	19,000

Note: Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects.

[a] Harvests by subsistence permit holders who resided in Fairbanks North Star Borough (FNSB) and fished in District 5 near the Yukon River bridge crossing.

[b] Other permit holders who fished in District 5 but did not reside in the communities listed.

[c] Included Teedriinjik (formerly Chandalar) and Draanjik (formerly Black) Rivers.

[d] Harvests by subsistence permit holders who resided in FNSB and fished in the Tanana River.

[e] Other permit holders who fished in District 6 but did not reside in the communities listed.

[f] Included Coastal District (historically, Yukon River total was used in assessing U.S./Canada harvest share objectives under the Yukon Salmon Agreement).

[g] Harvest from the personal use fishing area on the Tanana River near Fairbanks; these data were not included in communities or totals above.

Appendix B2.–Summer chum salmon subsistence harvest totals by fishing district and community of residence, and personal use harvest total for District 6, Yukon Area, 2006–2016.

Community	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Hooper Bay	19,468	12,234	12,007	9,195	17,020	13,460	15,799	13,629	13,236	11,870	6,324	13,985	13,599
Scammon Bay	4,703	3,887	6,113	3,602	5,405	4,845	7,442	9,506	6,068	8,598	5,520	4,742	7,292
Coastal District total	24,171	16,121	18,120	12,797	22,425	18,305	23,241	23,135	19,304	20,468	11,844	18,727	20,891
Nunam Iqua	2,903	2,325	1,949	2,280	2,267	2,077	1,977	2,651	2,010	2,239	2,130	2,345	2,191
Alakanuk	7,790	7,611	6,881	5,152	7,722	7,447	9,012	7,520	9,120	4,469	6,527	7,031	7,514
Emmonak	11,899	9,256	9,646	9,038	10,918	12,468	15,829	8,209	7,143	9,973	8,976	10,151	10,724
Kotlik	5,289	5,017	4,291	7,528	4,265	6,598	8,552	10,136	5,621	4,960	8,925	5,278	7,173
District 1 subtotal	27,881	24,209	22,767	23,998	25,172	28,590	35,370	28,516	23,894	21,641	26,558	24,805	27,602
Mountain Village	13,119	8,104	7,559	7,204	7,071	9,355	9,031	11,861	7,059	6,063	8,782	8,611	8,674
Pitkas Point	680	515	1,246	994	633	585	1,153	2,186	1,588	1,225	1,485	814	1,347
St. Mary's	7,394	8,107	6,451	5,831	7,443	6,760	10,763	9,167	5,570	8,216	7,379	7,045	8,095
Pilot Station	6,070	3,711	6,012	4,888	6,196	4,182	5,716	5,299	5,728	4,702	4,796	5,375	5,125
Marshall	4,392	3,070	3,023	2,172	2,395	3,810	5,903	3,986	6,189	4,351	5,180	3,010	4,848
District 2 subtotal	31,655	23,507	24,291	21,089	23,738	24,692	32,566	32,499	26,134	24,557	27,622	24,856	28,090
Russian Mission	1,328	759	2,400	849	528	1,225	2,508	3,967	3,181	2,626	1,798	1,173	2,701
Holy Cross	825	320	441	194	463	363	1,147	262	97	421	991	449	458
Shageluk	1,381	977	130	103	350	1,145	5,035	463	470	80	275	588	1,439
District 3 subtotal	3,534	2,056	2,971	1,146	1,341	2,733	8,690	4,692	3,748	3,127	3,064	2,210	4,598
Lower Yukon River total	63,070	49,772	50,029	46,233	50,251	56,015	76,626	65,707	53,776	49,325	57,244	51,871	60,290
Anvik	387	5,250	340	277	451	220	1,371	830	2,052	777	1,117	1,341	1,050
Grayling	644	641	660	1,429	1,612	838	2,616	618	1,617	509	878	997	1,240
Kaltag	159	109	916	50	102	163	186	67	954	216	467	267	317
Nulato	838	356	468	133	416	246	254	401	158	6	1,001	442	213
Koyukuk	394	995	1,104	1,378	352	890	828	4,459	300	0	119	845	1,295
Galena	1,205	571	758	1,718	1,702	3,414	718	179	377	1,059	1,689	1,191	1,149
Ruby	1,714	416	655	603	1,971	775	3,891	681	29	88	678	1,072	1,093
District 4 subtotal	5,341	8,338	4,901	5,588	6,606	6,546	9,864	7,235	5,487	2,655	5,949	6,155	6,357
Huslia/Hughes	4,376	4,456	5,321	4,277	2,227	4,120	7,734	4,070	3,214	4,609	4,764	4,131	4,749
Allakaket/Alatna/Bettles	5,280	3,462	3,295	5,093	2,887	2,500	3,957	2,456	1,280	2,513	3,015	4,003	2,541
Koyukuk River subtotal	9,656	7,918	8,616	9,370	5,114	6,620	11,691	6,526	4,494	7,122	7,779	8,135	7,291
District 4 total (incl. Koyukuk River)	14,997	16,256	13,517	14,958	11,720	13,166	21,555	13,761	9,981	9,777	13,728	14,290	13,648

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Community	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Tanana	5,474	5,229	2,877	4,665	1,856	4,381	4,333	9,565	2,612	3162	3,685	4,020	4,811
Rampart/Stevens	1,107	279	190	118	189	110	259	55	70	0	629	377	99
Fairbanks (FNSB)[a]	1,341	564	119	44	427	688	172	1,350	300	575	461	499	617
Beaver	117	41	27	22	22	393	27	12	0	0	23	46	86
Fort Yukon/Birch Creek	2,165	2,365	230	275	722	1,297	0	225	19	0	12	1,151	308
Circle/Central	60	200	5	2	37	48	0	66	0	0	0	61	23
Eagle	974	15	14	0	25	2	0	50	0	0	0	206	10
Other District 5[b]	117	81	25	29	144	790	101	94	91	8	180	79	217
District 5 subtotal	11,355	8,774	3,487	5,155	3,422	7,709	4,892	11,417	3,092	3,745	4,990	6,439	6,171
Venetie/Chalkyitsik Teedriinjik/Draanjik River subtotal	475	107	50	143	133	0	0	0	16	0	0	182	3
District 5 total[c]	11,830	8,881	3,537	5,298	3,555	7,709	4,892	11,417	3,108	3,745	4,990	6,620	6,174
Manley	89	140	144	367	102	142	58	45	182	9	32	168	87
Minto	460	82	9	1	8	27	64	258	24	0	4	112	75
Nenana/Healy	388	1,419	753	508	113	471	370	642	275	60	19	636	364
Fairbanks (FNSB)[d]	73	255	94	372	183	185	114	143	237	183	41	195	172
Other District 6[e]	0	0	311	5	16	0	72	6	13	0	0	66	18
District 6 Tanana River total	1,010	1,896	1,311	1,253	422	825	678	1,094	731	252	96	1,178	716
Upper Yukon River total	27,837	27,033	18,365	21,509	15,697	21,700	27,125	26,272	13,820	13,774	18,814	22,088	20,538
Yukon Area total	115,078	92,926	86,514	80,539	88,373	96,020	126,992	115,114	86,900	83,567	87,902	92,686	101,719
Personal Use (District 6)[f]	262	184	138	308	319	439	321	138	235	220	176	242	271
Yukon Area total with personal use	115,340	93,110	86,652	80,847	88,692	96,459	127,313	115,252	87,135	83,787	88,078	92,928	101,989

Note: Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects.

[a] Harvests by subsistence permit holders who resided in Fairbanks North Star Borough (FNSB) and fished in District 5 near the Yukon River bridge crossing.

[b] Other permit holders who fished in District 5 but did not reside in the communities listed.

[c] Included Teedriinjik (formerly Chandalar) and Draanjik (formerly Black) Rivers.

[d] Harvests by subsistence permit holders who resided in FNSB and fished in the Tanana River.

[e] Other permit holders who fished in District 6 but did not reside in the communities listed.

[f] Harvest from the personal use fishing area on the Tanana River near Fairbanks; these data were not included in communities or totals above.

Appendix B3.–Fall chum salmon subsistence harvest totals by fishing district and community of residence, and personal use harvest total for District 6, Yukon Area, 2006–2016.

Community	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Hooper Bay	26	64	329	41	116	267	1	91	137	79	105	115	115
Scammon Bay	84	170	57	117	70	48	10	58	115	119	657	100	70
Coastal District total	110	234	386	158	186	315	11	149	252	198	762	215	185
Nunam Iqua	92	152	59	41	143	51	210	93	128	210	111	97	138
Alakanuk	857	1,348	423	116	860	881	449	328	593	1067	743	721	664
Emmonak	2,056	2,360	1,670	1,589	1,718	1,540	5,890	2,165	2,465	3,244	2,501	1,879	3,061
Kotlik	487	530	671	171	481	962	1,073	1,087	886	1,356	1,217	468	1,073
District 1 subtotal	3,902	4,390	2,823	1,917	3,202	3,434	7,622	3,673	4,072	5,877	4,572	3,247	4,936
Mountain Village	2,398	1,073	926	926	133	800	685	2,174	1,484	1,398	1,210	1,091	1,308
Pitkas Point	5	44	101	76	10	30	9	65	400	172	232	47	135
St. Mary's	417	825	830	106	387	611	1,423	1,009	2,037	1,611	1,088	513	1,338
Pilot Station	785	741	917	265	833	575	1,031	777	796	1,346	903	708	905
Marshall	410	789	748	190	56	562	184	853	1,100	1,731	1,106	439	886
District 2 subtotal	4,015	3,472	3,522	1,563	1,419	2,578	3,332	4,878	5,817	6,258	4,539	2,798	4,573
Russian Mission	251	530	578	205	104	11	282	804	365	449	235	334	382
Holy Cross	224	248	920	627	21	94	339	855	1,840	763	583	408	778
Shageluk	5	147	323	105	1,200	249	16	105	252	176	179	356	160
District 3 subtotal	480	925	1,821	937	1,325	354	637	1,764	2,457	1,388	997	1,098	1,320
Lower Yukon River total	8,397	8,787	8,166	4,417	5,946	6,366	11,591	10,315	12,346	13,523	10,108	7,143	10,828
Anvik	118	429	317	176	169	202	569	763	1,028	680	527	242	648
Grayling	691	317	1,012	490	202	1,152	804	471	1,451	1,184	499	542	1,012
Kaltag	823	910	620	200	658	196	2,830	583	2,828	1,255	680	642	1,538
Nulato	751	1,345	729	552	1,049	652	2,729	2,995	3,839	2,248	2,681	885	2,493
Koyukuk	1,147	927	1,177	578	792	1,388	1,331	5,308	998	2,838	297	924	2,373
Galena	1,632	1,471	1,364	4,306	1,968	2,739	2,947	602	3,368	2,542	3,319	2,148	2,440
Ruby	227	1,959	657	134	1,026	592	4,408	2,505	972	713	526	801	1,838
District 4 subtotal	5,389	7,358	5,876	6,436	5,864	6,921	15,618	13,227	14,484	11,460	8,529	6,185	12,342
Huslia/Hughes	553	272	191	374	403	247	1,911	1,257	927	1,226	954	359	1,114
Allakaket/Alatna/Bettles	393	946	1,345	572	521	92	526	707	525	588	551	755	488
Koyukuk River subtotal	946	1,218	1,536	946	924	339	2,437	1,964	1,452	1,814	1,505	1,114	1,601
District 4 total (incl. Koyukuk River)	6,335	8,576	7,412	7,382	6,788	7,260	18,055	15,191	15,936	13,274	10,034	7,299	13,943

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Community	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Tanana	23,167	21,596	17,478	19,595	14,984	21,728	20,465	31,546	14,131	19,627	21,261	19,364	21,499
Rampart/Stevens	300	449	1,643	1,770	3,441	1,251	467	940	6,700	186	4,500	1,521	1,909
Fairbanks (FNSB)[a]	5,269	2,126	659	229	822	1,696	793	1,160	1,406	2,454	2,143	1,821	1,502
Beaver	0	354	13	120	37	122	174	21	323	76	228	105	143
Fort Yukon/Birch Creek	5,178	8,264	14,252	2,829	6,006	7,188	12,659	16,453	8,025	6,257	7,728	7,306	10,116
Circle/Central	664	1,286	3,198	110	927	299	161	1,397	1,277	1,652	1,306	1,237	957
Eagle	16,801	18,676	15,269	10,941	15,008	17,455	18,731	18,871	17,450	17,185	15,765	15,339	17,938
Other District 5[b]	44	46	3,183	71	120	208	443	121	222	229	17	693	245
District 5 subtotal	51,423	52,797	55,695	35,665	41,345	49,947	53,893	70,509	49,534	47,666	52,948	47,385	54,310
Venetie/Chalkyitsik Teedriinjik/Draanjik River subtotal	735	934	1,563	2,418	2,989	1,938	457	5,589	1,663	2,594	5,883	1,728	2,448
District 5 total[c]	52,158	53,731	57,258	38,083	44,334	51,885	54,350	76,098	51,197	50,260	58,831	49,113	56,758
Manley	3,374	3,419	2,490	4,126	2,696	2,333	2,164	1,539	2,579	1,697	414	3,221	2,062
Minto	242	155	28	0	70	1,500	2	593	472	140	40	99	541
Nenana/Healy	10,530	21,863	7,615	8,396	7,870	6,218	9,260	3,852	4,545	3,981	3,544	11,255	5,571
Fairbanks (FNSB)[d]	1,311	3,325	340	3,460	678	4,317	3,876	5,651	5,190	3,496	884	1,823	4,506
Other District 6[e]	1,468	1,131	5,662	97	77	8	0	5	12	31	0	1,687	11
District 6 Tanana River total	16,925	29,893	16,135	16,079	11,391	14,376	15,302	11,640	12,798	9,345	4,882	18,085	12,692
Upper Yukon River total	75,418	92,200	80,805	61,544	62,513	73,521	87,707	102,929	79,931	72,879	73,747	74,496	83,393
Yukon Area total[f]	84,002	101,221	89,357	66,119	68,645	80,202	99,309	113,393	92,529	86,600	84,617	81,869	94,407
Personal Use (District 6)[g]	333	173	181	78	3,209	347	410	383	278	80	283	795	300
Yukon Area total with personal use	84,335	101,394	89,538	66,197	71,854	80,549	99,719	113,776	92,807	86,680	84,900	82,664	94,706

Note: Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects.

[a] Harvests by subsistence permit holders who resided in Fairbanks North Star Borough (FNSB) and fished in District 5 near the Yukon River bridge crossing.

[b] Other permit holders who fished in District 5 but did not reside in the communities listed.

[c] Included Teedriinjik (formerly Chandalar) and Draanjik (formerly Black) Rivers.

[d] Harvests by subsistence permit holders who resided in FNSB and fished in the Tanana River.

[e] Other permit holders who fished in District 6 but did not reside in the communities listed.

[f] Included Coastal District (historically, Yukon River total was used in assessing U.S./Canada harvest share objectives under the Yukon Salmon Agreement)..

[g] Harvest from the personal use fishing area on the Tanana River near Fairbanks; these data were not included in communities or totals above.

Appendix B4.–Coho salmon subsistence harvest totals by fishing district and community of residence, and personal use harvest total for District 6, Yukon Area, 2006–2016.

Community	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Hooper Bay	175	26	66	24	45	0	7	73	118	95	121	67	59
Scammon Bay	160	84	50	222	79	55	86	214	86	79	234	119	104
Coastal District total	335	110	116	246	124	55	93	287	204	174	355	186	163
Nunam Iqua	392	92	24	71	73	23	18	83	153	229	58	130	101
Alakanuk	101	857	157	194	449	431	252	167	443	581	183	352	375
Emmonak	450	1,032	717	401	362	472	2,660	517	613	852	717	592	1,023
Kotlik	234	284	313	181	238	201	420	457	573	438	273	250	418
District 1 subtotal	1,177	2,265	1,211	847	1,122	1,127	3,350	1,224	1,782	2,100	1,231	1,324	1,917
Mountain Village	1,856	1,027	518	413	127	261	256	271	202	723	436	788	343
Pitkas Point	16	38	130	45	116	37	53	41	123	72	22	69	65
St. Mary's	171	97	591	151	92	230	141	124	408	391	128	220	259
Pilot Station	225	263	268	203	189	145	329	136	568	305	136	230	297
Marshall	191	922	490	245	33	150	567	508	468	1511	409	376	641
District 2 subtotal	2,459	2,347	1,997	1,057	557	823	1,346	1,080	1,769	3,002	1,131	1,683	1,604
Russian Mission	19	259	372	96	300	0	319	152	124	154	6	209	150
Holy Cross	16	213	38	120	0	0	237	0	103	246	134	77	117
Shageluk	48	267	0	105	53	36	0	219	113	28	0	95	79
District 3 subtotal	83	739	410	321	353	36	556	371	340	428	140	381	346
Lower Yukon River total	3,719	5,351	3,618	2,225	2,032	1,986	5,252	2,675	3,891	5,530	2,502	3,389	3,867
Anvik	0	807	40	137	28	19	214	97	197	46	184	202	115
Grayling	224	271	25	318	132	119	26	34	403	212	35	194	159
Kaltag	106	204	45	40	0	258	928	306	514	18	53	79	405
Nulato	214	130	195	171	242	118	41	125	454	48	0	190	157
Koyukuk	330	189	84	198	254	137	62	3,267	50	416	1	211	786
Galena	137	425	558	2,353	549	1,013	276	170	718	654	201	804	566
Ruby	11	168	291	314	148	312	1,806	345	335	185	226	186	597
District 4 subtotal	1,022	2,194	1,238	3,531	1,353	1,976	3,353	4,344	2,671	1,579	700	1,868	2,785
Huslia/Hughes	255	692	100	412	289	83	165	360	282	310	93	350	240
Allakaket/Alatna/Bettles	25	66	152	43	88	13	38	236	109	52	33	75	90
Koyukuk River subtotal	280	758	252	455	377	96	203	596	391	362	126	424	330
District 4 total (incl. Koyukuk River)	1,302	2,952	1,490	3,986	1,730	2,072	3,556	4,940	3,062	1,941	826	2,292	3,114

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Community	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Tanana	3,619	2,369	1,511	2,373	2,314	312	3,060	1,135	1,788	2,434	639	2,437	1,746
Rampart/Stevens	0	50	0	90	452	0	0	0	0	2	52	118	0
Fairbanks (FNSB)[a]	79	26	7	13	2	2	0	0	0	0	101	25	0
Beaver	0	354	6	0	1	0	2	0	2	0	0	72	1
Fort Yukon/Birch Creek	35	567	1,618	2	244	1,040	4	7	201	2	1	493	251
Circle/Central	22	0	0	13	164	0	5	150	0	0	38	40	31
Eagle	0	0	0	0	1	1	0	0	1	0	0	0	0
Other District 5[b]	0	0	61	7	0	0	21	0	0	0	0	14	4
District 5 subtotal	3,755	3,366	3,203	2,498	3,178	1,355	3,092	1,292	1,992	2,438	831	3,200	2,034
Venetie/Chalkyitsik Teedriinjik/Draanjik River subtotal	24	0	0	0	426	34	0	6	38	24	30	90	20
District 5 total[c]	3,779	3,366	3,203	2,498	3,604	1,389	3,092	1,298	2,030	2,462	861	3,290	2,054
Manley	1,671	1,126	1,901	2,308	1,832	1,482	1,374	447	1,177	1,263	323	1,768	1,149
Minto	14	155	0	0	0	0	0	266	37	270	0	34	115
Nenana/Healy	8,141	5,950	3,880	4,166	3,511	4,248	6,664	1,962	3,002	3,359	2,970	5,130	3,847
Fairbanks (FNSB)[d]	745	609	230	577	212	1,109	1,502	2,576	3,689	3,108	978	475	2,397
Other District 6[e]	0	5	2,417	0	0	3	0	6	6	0	0	484	3
District 6 Tanana River total	10,571	7,845	8,428	7,051	5,555	6,842	9,540	5,257	7,911	8,000	4,271	7,890	7,510
Yukon River total	19,371	19,514	16,739	15,760	12,921	12,289	21,440	14,170	16,894	17,933	8,460	16,861	16,545
Yukon Area total	19,706	19,624	16,855	16,006	13,045	12,344	21,533	14,457	17,098	18,107	8,815	17,047	16,708
Personal Use (District 6)[f]	279	135	50	70	1,062	232	100	109	174	145	266	319	152
Yukon Area total with personal use	19,985	19,759	16,905	16,076	14,107	12,576	21,633	14,566	17,272	18,252	9,081	17,366	16,860

Note: Subsistence harvest data were estimated from postseason survey, returned permits, and test fishery projects.

[a] Harvests by subsistence permit holders who resided in Fairbanks North Star Borough (FNSB) and fished in District 5 near the Yukon River bridge crossing.

[b] Other permit holders who fished in District 5 but did not reside in the communities listed.

[c] Includes Teedriinjik (formerly Chandalar) and Draanjik (formerly Black) Rivers.

[d] Harvests by subsistence permit holders who resided in FNSB and fished in the Tanana River.

[e] Other permit holders who fished in District 6 but did not reside in the communities listed.

[f] Harvest from the personal use fishing area on the Tanana River near Fairbanks; these data were not included in communities or totals above.

Appendix B5.–Estimated pink salmon subsistence harvest by residents of surveyed communities, with community and district totals, Yukon Area, 2006–2016.

Community	2006	2007	2008[a]	2009[a]	2010[a]	2011[a]	2012[a]	2013	2014[a]	2015	2016[a]	Even years average	Odd years average	All years average
Hooper Bay	1,433	113	1,013	957	219	210	1,101	302	712	451	4,007	896	407	651
Scammon Bay	1,381	1,435	2,766	1,186	2,245	1,888	1,343	507	1,923	1,414	2,490	1,932	1,286	1,609
Coastal District	2,814	1,548	3,779	2,143	2,464	2,098	2,444	809	2,635	1,865	6,497	2,827	1,693	2,260
Nunam Iqua	555	170	757	61	306	8	1,051	0	670	352	352	668	118	393
Alakanuk	115	32	494	24	151	13	174	92	970	15	713	381	35	208
Emmonak	225	51	641	5	206	0	199	0	588	7	228	372	13	192
Kotlik	219	129	1,161	42	124	32	195	23	1,064	14	502	553	48	300
District 1	1,114	382	3,053	132	787	53	1,619	115	3,292	388	1,795	1,973	214	1,094
Mountain Village	616	87	500	6	217	24	207	0	233	57	93	355	35	195
Pitkas Point	44	66	15	0	143	0	2	2	45	288	48	50	71	61
St. Mary's	236	32	367	5	543	1	643	0	614	18	104	481	11	246
Pilot Station	1	0	117	4	125	34	23	131	27	0	8	59	34	46
Marshall	3	0	26	0	21	66	5	7	1	0	5	11	15	13
District 2	900	185	1,025	15	1,049	125	880	140	920	363	258	955	166	560
Russian Mission	8	3	436	0	2	0	76	12	8	0	0	106	3	55
Holy Cross	17	0	20	0	0	0	0	0	0	0	2	7	0	4
Shageluk	0	0	0	9	0	9	24	0	3	0	9	5	4	5
District 3	25	3	456	9	2	9	100	12	11	0	11	119	7	63
Anvik	0	0	23	2	0	0	0	0	0	0	0	5	0	3
Grayling	0	0	200	0	0	40	0	0	39	0	33	48	8	28
Kaltag	0	0	383	0	0	0	0	0	0	0	73	77	0	38
Nulato	1	0	35	0	0	0	0	0	8	0	0	9	0	4
Koyukuk	0	0	67	0	0	0	0	0	0	0	0	13	0	7
Galena	0	0	31	0	0	0	3	0	6	16	11	8	3	6
Ruby	0	0	184	0	0	0	0	0	13	0	0	39	0	20
Hughes/Huslia	0	0	100	0	0	0	101	0	0	0	0	40	0	20
Allakaket/Alatna/Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 4	1	0	1,023	2	0	40	104	0	66	16	117	239	12	125

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Community	2006	2007	2008[a]	2009[a]	2010[a]	2011[a]	2012[a]	2013	2014[a]	2015	2016[a]	Estimated total: Even years average	Estimated total: Odd years average	Estimated total: All years average
Tanana	0	0	80	0	0	0	3	0	8	13	34	18	3	10
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	196	0	0	0	0	0	0	0	0	39	0	20
Venetie/Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 5	0	0	276	0	0	0	3	0	8	13	34	57	3	30
Survey totals	4,854	2,118	9,612	2,301	4,302	2,325	5,150	1,076	6,932	2,645	8,712	6,170	2,093	4,132
CI (95%)	990	739	1,818	1,184	1,209	918	918	918	1,356	612	2,064	1,258	874	1,066
Test fishery[b]	0	0	83	1	103	34	216	0	120	0	9	104	7	56

Note: CI (95%) is the annual 95% confidence interval.

[a] Included test fishery. 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.

[b] Number of test fishery fish added to community harvest estimates.

Appendix B6.–Subsistence harvests taken under authority of a permit in the Rampart Area and Yukon River Bridge Area of District 5, Yukon Area, 2006–2016.

Yukon River Rampart Village Area subsistence salmon fishery[a]													
Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	19	19	16	1,083	647	318	0	177	0	6	11	10	30
2007	23	19	15	1,744	495	2,050	50	75	0	11	20	3	0
2008	18	18	15	1,049	43	1,000	0	20	0	0	0	0	0
2009	25	24	20	1,404	159	1,070	4	147	0	0	10	0	8
2010	28	27	22	1,344	304	1,235	24	162	1	5	20	0	1
2011	29	29	24	1,586	429	768	1	76	1	0	11	0	0
2012	32	32	28	635	397	1,411	21	395	2	13	7	11	0
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
2006–2010 Avg.	23	21	18	1,325	330	1,135	16	116	0	4	12	3	8
2011–2015 Avg.	24	24	17	556	350	781	5	192	20	3	6	2	1

Yukon River Bridge Area subsistence fishery[b]													
Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	68	66	53	1,972	1,063	4,855	79	69	10	6	6	0	4
2007	85	80	51	1,707	177	626	26	61	26	25	43	0	0
2008	74	70	46	1,431	128	688	7	177	65	25	45	0	0
2009	68	66	38	1,248	28	996	106	60	9	37	60	0	0
2010	85	81	43	1,300	448	422	2	67	10	0	12	0	0
2011	74	73	43	1,552	1,139	1,828	1	315	5	12	36	20	1
2012	63	62	26	629	147	259	0	75	35	3	19	0	0
2013	48	48	22	409	1,020	1,055	0	68	5	4	16	0	0
2014	42	42	20	3	221	798	0	142	16	2	27	0	0
2015	39	39	16	158	479	2,199	0	281	85	5	51	0	0
2016	62	62	40	996	518	1,449	101	329	15	3	42	1	0
2006–2010 Avg.	76	73	46	1,532	369	1,517	44	87	24	19	33	0	1
2011–2015 Avg.	53	53	25	550	601	1,228	0	176	29	5	30	4	0

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

[a] The portion of the Yukon River drainage from Garnett Island to Hess Creek.

[b] The portion of the Yukon River drainage from Hess Creek to Dall River.

Appendix B7.–Subsistence fish harvests taken under authority of a permit in the Circle-Eagle Area of District 5, Yukon Area, 2006–2016.

Upper Yukon River Circle-Eagle Area subsistence salmon fishery[a,b]													
Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	85	82	59	3,208	1,034	17,960	22	191	50	23	55	83	384
2007	78	71	51	3,548	218	20,005	0	582	32	11	21	189	478
2008[b]	99	90	53	1,796	19	21,271	0	199	36	10	17	78	368
2009[b]	73	71	35	1,142	2	11,064	0	308	37	9	4	63	239
2010[b]	93	89	56	1,415	62	16,092	28	254	58	17	41	40	156
2011[b]	88	87	50	1,181	51	17,851	1	307	64	5	71	120	349
2012[b]	68	66	32	545	0	18,896	5	232	63	5	5	7	44
2013[b]	51	47	32	350	116	20,294	150	194	30	5	7	14	77
2014[b]	39	37	21	63	0	18,760	1	189	125	3	4	2	49
2015[b]	49	48	30	561	0	18,878	0	136	22	6	21	7	64
2016[b]	59	59	42	1,282	0	17,123	38	124	37	6	10	8	36
2006–2010 Avg.	86	81	51	2,222	267	17,278	10	307	43	14	28	91	325
2011–2015 Avg.	59	57	33	540	33	18,936	31	212	61	5	22	30	117
Subsistence salmon fishery above mainstem Yukon sonar project near Eagle[c]													
Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	–	–	–	–	–	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–	–	–	–	–	–
2008	27	26	19	803	6	12,398	0	52	18	0	5	0	18
2009	28	28	13	382	0	6,995	0	128	7	8	3	1	15
2010	26	26	20	604	17	11,415	1	106	25	7	1	8	12
2011	28	28	19	413	0	12,477	1	127	22	2	15	12	1
2012	26	24	13	91	0	11,681	0	166	44	1	2	7	16
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
2006–2010 Avg.	27	27	17	596	8	10,269	0	95	17	5	3	3	15
2011–2015 Avg.	22	21	14	210	10	12,583	0	105	39	2	4	8	21

Note: Tables should not be added. Lower table is used to show harvest above mainstem Yukon sonar project near Eagle for run reconstruction. Data may have been updated from previous annual reports. En dashes indicate no data.

[a] The portion of the Yukon River drainage from Twenty-Two Mile Slough, located downstream of the village of Circle, to the U.S./Canada border.

[b] Included harvest that occurred between the Yukon River mainstem sonar site and the U.S./Canada border. The number of permits included duplicate permits issued to households that fished above and below the sonar site.

[c] Harvest occurred between the Yukon River mainstem sonar site located near the community of Eagle and the U.S./Canada border.

Appendix B8.–Harvest from permits in Subdistrict 6-A of the Tanana River and Kantishna River, Yukon Area, 2006–2016.

Subdistrict 6-A subsistence salmon fishery[a]													
Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	19	19	15	362	85	3,355	1,546	12	1	1	0	0	0
2007	17	17	13	333	144	2,879	1,182	19	3	4	8	0	0
2008	34	32	17	115	146	3,381	2,587	107	1	1	71	0	0
2009	24	23	16	543	422	4,213	2,369	105	5	2	9	0	0
2010	22	22	11	360	106	3,094	1,963	69	6	0	3	0	0
2011	24	24	16	330	98	4,565	1,435	236	4	6	5	0	0
2012	23	22	11	228	58	2,166	1,374	77	2	14	5	0	2
2013	19	19	12	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
2006–2010 Avg.	23	23	14	343	181	3,384	1,929	62	3	2	18	0	0
2011–2015 Avg.	21	21	13	203	86	2,663	1,160	89	3	4	4	0	0
Kantishna River subsistence fishery[b]													
Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	5	5	3	141	29	339	737	27	0	34	30	282	0
2007	5	5	2	0	0	0	639	0	0	0	37	0	0
2008	NA	NA	NA	0	0	95	15	0	0	0	10	0	0
2009	NA	NA	NA	0	0	436	311	57	0	32	21	71	0
2010	NA	NA	NA	1	0	82	23	3	0	3	28	0	0
2011	6	6	3	1	49	698	105	28	1	9	33	28	0
2012	3	3	3	0	0	285	51	2	0	1	4	1	0
2013	NA	NA	NA	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	NA	NA	NA	0	0	115	67	20	0	2	5	0	1
2006–2010 Avg.	4	4	3	28	6	190	345	17	0	14	25	71	0
2011–2015 Avg.	4	4	2	0	10	299	88	11	0	2	9	6	0

Note: NA = data not available. Data may have been updated from previous annual reports.

[a] The portion of the Tanana River drainage from Yukon River confluence to the upstream edge of Kantishna River confluence.

[b] Kantishna River drainage upstream of Tanana River confluence.

Appendix B9.–Harvest from permits in Subdistrict 6-B and the Tolovana River drainage, Yukon Area, 2006–2016.

Subdistrict 6-B subsistence salmon fishery[a]

Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	78	76	42	457	885	16,589	8,726	734	12	26	88	21	4
2007	79	75	39	1,127	1,750	12,477	4,521	656	17	32	108	26	2
2008	73	71	35	486	854	7,815	4,009	403	0	4	121	21	11
2009	70	69	37	730	830	9,112	4,064	1,073	10	33	25	21	0
2010	93	86	34	593	336	7,625	3,429	543	46	6	18	34	1
2011	85	82	42	656	665	7,463	4,584	641	27	13	4	12	1
2012	85	79	39	375	436	10,428	6,674	550	37	16	62	44	12
2013	91	86	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	24	372	60	2,992	2,495	586	16	3	18	8	0
2006–2010 Avg.	79	75	37	679	931	10,724	4,950	682	17	20	72	25	4
2011–2015 Avg.	83	79	37	313	573	8,660	5,694	868	19	16	34	22	6

Tolovana River drainage subsistence fishery[b]

Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	101	97	56	0	11	6	2	117	2	27	830	9	0
2007	118	109	55	12	2	1	0	137	4	1	1,835	0	0
2008	147	137	80	0	0	0	0	273	4	3	1,348	1	47
2009	112	107	52	0	1	0	0	202	14	6	563	0	0
2010	96	91	43	0	0	0	0	181	39	0	125	9	0
2011	70	70	28	0	0	0	0	36	0	70	110	0	0
2012	73	68	35	0	0	2	0	130	8	6	525	0	0
2013	77	74	45	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
2006–2010 Avg.	115	108	57	2	3	1	0	182	13	7	940	4	9
2011–2015 Avg.	89	87	46	0	0	13	8	46	2	16	422	2	0

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

[a] The 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.

[b] Includes the Tolovana River drainage outside of the Fairbanks Nonsubsistence Area.

Appendix B10.–Harvest from permits in the upper Tanana River drainage and Koyukuk River, Yukon Area, 2006–2016.

Upper Tanana River Drainage subsistence fishery[a]													
Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	23	22	17	0	0	19	0	1,756	0	0	28	181	83
2007	34	33	17	0	0	41	5	1,786	0	15	19	24	35
2008	58	50	19	0	0	17	6	2,185	0	10	62	27	35
2009	42	40	17	0	0	84	0	2,035	0	0	44	35	98
2010	41	35	20	10	0	12	0	1,619	0	11	13	21	38
2011	41	40	24	0	0	0	0	3,181	0	24	58	78	79
2012	58	49	22	0	0	0	0	2,522	0	10	199	97	31
2013	52	46	16	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
2006–2010 Avg.	40	36	18	2	0	35	2	1,876	0	7	33	58	58
2011–2015 Avg.	41	38	17	0	0	7	0	2,118	0	12	93	84	48
Upper south and middle forks of the Koyukuk River subsistence fishery permit area[b]													
Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2006	1	1	1	0	0	0	0	0	0	0	0	0	1
2007	1	1	1	0	0	0	0	5	0	0	0	1	10
2008	1	1	1	0	0	0	0	10	0	0	0	15	27
2009	1	1	1	0	0	0	0	4	0	0	0	13	18
2010	1	1	1	0	0	0	0	8	0	0	0	0	0
2011	1	1	1	0	0	0	0	25	0	0	1	20	45
2012	1	1	1	0	0	0	0	11	0	0	1	3	15
2013	1	1	1	0	0	0	0	8	0	6	0	25	25
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
2006–2010 Avg.	1	1	1	0	0	0	0	5	0	0	0	6	11
2011–2015 Avg.	1	1	1	0	0	0	0	11	0	2	0	11	27

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

[a] The 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.

[b] The 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 this harvest of less than 3 participants in the fishery.

Appendix B11.–Harvests from personal use permit areas of the Tanana River, Yukon Area, 2006–2016.

Year	No. of permits issued	No. of permits returned	No. reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Subdistrict 6-C Personal Use salmon fishery[a]													
2006	60	60	35	92	262	333	279	14	5	1	2	0	0
2007	65	63	32	136	184	173	135	4	1	0	1	0	0
2008	51	50	25	126	138	181	50	13	2	0	2	0	0
2009	57	57	22	127	308	71	65	2	1	0	0	1	0
2010	67	67	38	162	319	3,208	1,062	192	0	3	6	9	5
2011	67	65	34	98	439	354	249	20	1	1	0	0	0
2012	60	59	29	71	321	410	100	3	0	0	0	0	0
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
2006–2010 Avg.	60	59	30	129	242	793	318	45	2	1	2	2	1
2011–2015 Avg.	54	54	26	43	271	297	158	22	1	0	0	0	1
Upper Tanana River Personal Use whitefish/sucker fishery[b]													
2006	7	7	4	0	0	0	0	273	0	3	0	184	1
2007	3	3	NA	0	0	0	0	0	0	0	0	0	0
2008	6	6	4	0	0	0	0	28	0	0	0	157	0
2009	11	11	6	0	0	7	5	46	0	0	0	314	0
2010	8	6	NA	0	0	1	0	14	1	0	1	57	0
2011	7	7	5	0	0	0	0	42	0	0	0	142	0
2012	12	11	NA	0	0	0	0	19	0	0	0	233	0
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
2006–2010 Avg.	7	7	5	0	0	2	1	72	0	1	0	142	0
2011–2015 Avg.	15	15	9	0	0	4	2	97	0	0	1	217	0

Note: NA = data not available. Data may have been updated from previous annual reports.

[a] 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.

[b] 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 non-permitted species if gear allows.

Appendix B12.–Households with dogs, number of dogs, and salmon fed to dogs, as estimated in surveyed communities or reported in permit areas, Yukon Area, 2006–2016.

Districts survey or permit and year with totals	No. of households with dogs	No. of dogs	Salmon fed to dogs			
			Summer chum	Fall chum	Coho	Total
2006	1,738	5,885	18,287	25,539	3,694	75,648
2007	1,494	4,925	21,935	29,677	4,391	89,839
2008	1,726	5,279	14,367	38,588	3,132	80,535
2009	1,495	4,220	17,090	23,549	4,296	66,837
2010	1,752	5,064	8,363	23,779	3,089	60,949
2011						
Coastal District survey	174	341	0	0	0	0
District 1 survey	264	502	85	0	0	85
District 2 survey	275	524	111	70	115	296
District 3 survey	112	280	528	9	0	537
District 4 survey	413	1,028	9,743	1,359	1,150	12,252
District 5 survey	272	1,282	6,798	32,224	1,156	40,178
District 5 permit [a,b]	55	363	–	–	–	15,759
District 6 permit [b]	162	1,033	–	–	–	15,140
Totals	1,727	5,353	17,265	33,662	2,421	84,247
2012						
Coastal District survey	181	397	524	0	0	524
District 1 survey	279	582	90	43	22	155
District 2 survey	211	508	396	5	51	452
District 3 survey	86	303	2,553	5	6	2,564
District 4 survey	440	2,037	19,719	6,680	84	26,483
District 5 survey	243	917	4,772	30,569	2,409	37,750
District 5 permit [a,b]	48	480	–	–	–	16,404
District 6 permit [b]	167	947	–	–	–	14,566
Totals	1,655	6,171	28,054	37,302	2,572	98,898
2013						
Coastal District survey	215	467	14	28	0	42
District 1 survey	308	567	489	0	0	489
District 2 survey	300	530	226	149	0	375
District 3 survey	82	185	103	0	0	103
District 4 survey	418	1,138	10,387	5,740	4,066	20,193
District 5 survey	271	984	7,671	45,510	191	53,372
District 5 permit [a,b]	64	406	–	–	–	17,663
District 6 permit [b]	112	730	–	–	–	7,210
Totals	1,770	5,007	18,890	51,427	4,257	99,447
2014						
Coastal District survey	238	490	13	0	0	13
District 1 survey	269	550	1	8	12	21
District 2 survey	301	575	0	0	0	0
District 3 survey	85	292	10	100	0	110
District 4 survey	415	1,171	3,876	425	633	4,934
District 5 survey	308	1,154	1,205	27,685	1,301	30,191
District 5 permit [a b]	31	260	–	–	–	15,704
District 6 permit [b]	112	896	–	–	–	15,715
Totals	1,759	5,388	5,105	28,218	1,946	66,688

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Districts survey or permit and year with totals	No. of households with dogs	No. of dogs	Salmon fed to dogs			
			Summer chum	Fall chum	Coho	Total
2015						
Coastal District survey	217	411	0	0	0	0
District 1 survey	334	656	47	0	0	47
District 2 survey	318	752	498	244	650	1,392
District 3 survey	103	269	35	0	0	35
District 4 survey	427	1,095	4,969	2,067	437	7,473
District 5 survey	246	910	2,299	21,873	2,567	26,739
District 5 permit [a,b]	36	386	–	–	–	18,090
District 6 permit [b]	114	696	–	–	–	11,169
Totals	1,795	5,175	7,848	24,184	3,654	64,945
2016						
Coastal District survey	235	527	159	0	0	159
District 1 survey	305	579	366	0	0	366
District 2 survey	348	703	311	34	17	362
District 3 survey	95	204	107	78	6	191
District 4 survey	457	1,215	5,243	1,497	330	7,070
District 5 survey	315	1,089	3,055	34,677	674	38,492
District 5 permit [a,b]	130	552	–	–	–	15,917
District 6 permit [b,c]	173	502	–	–	–	3,018
Totals	2,058	5,371	9,241	36,286	1,027	65,575
5-year average 2006–2010	1,641	5,075	16,008	28,226	3,720	74,762
5-year average 2011–2015						
Coastal District survey	205	421	110	6	0	116
District 1 survey	291	571	142	10	7	159
District 2 survey	281	578	246	94	163	503
District 3 survey	94	266	646	23	1	670
District 4 survey	423	1,294	9,739	3,254	1,274	14,267
District 5 survey	268	1,049	4,549	31,572	1,525	37,646
District 5 permit [a,b]	47	379	–	–	–	16,724
District 6 permit [b]	133	860	–	–	–	12,760
Totals	1,741	5,419	15,432	34,959	2,970	82,845

Note: The estimated number of salmon includes those retained from subsistence and commercial related harvests. En dashes indicate information was not collected. Permit areas only report combined salmon species (summer and fall chum and coho salmon) fed to dogs.

[a] Permit totals do not include the community of Stevens Village as included in District 5 survey.

[b] Does not include duplicate information from households with more than 1 permit.

[c] Includes salmon harvests from the personal use fishery that were fed to dogs.

Appendix B13.–Estimated and reported subsistence and personal use harvest of miscellaneous fish species, Yukon Area, 2006–2016.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006–2010 Average	2011–2015 Average
Survey estimates[a]													
Northern pike	28,133	25,947	16,053	8,061	14,086	14,270	18,450	11,264	14,852	20,109	24,580	18,456	15,789
Sheefish	12,745	13,203	10,154	7,861	9,231	10,139	17,094	15,553	12,583	12,828	14,451	10,639	13,639
Whitefish[b]	60,923	64,338	54,729	51,778	50,232	44,890	70,486	64,766	84,889	79,740	69,578	56,400	68,954
Survey reported[c]													
Alaska blackfish	218,695	131,712	110,356	47,320	68,873	87,064	62,731	63,235	92,080	97,586	90,207	115,391	80,539
Arctic grayling	1,145	2,296	857	667	1,571	1,273	2,674	1,435	1,772	1,832	1,518	1,307	1,797
Arctic lamprey[d]	2,092	12,584	803	9,083[e]	13,611[e]	10,574[e]	1,657[e]	2,608[e]	19,888[e]	42,237[e]	17,609	7,635	15,393
Burbot	5,069	3,500	3,273	2,027	2,743	2,477	2,422	2,115	2,016	3,364	2,501	3,322	2,479
Herring[f]	–	–	–	–	–	–	10,449	9,082	17,164	24,591	15,959	–	15,322
Tomcod	13,652	7,121	6,391	2,709	3,978	6,797	4,023	5,221	10,020	4,697	5,795	6,770	6,152
Permit reported													
Arctic grayling	507	525	488	363	201	475	104	210	83	131	62	417	201
Burbot	127	99	89	119	45	140	68	68	27	23	43	96	65
Longnose suckers	770	243	298	518	170	420	396	347	371	358	214	400	378
Northern pike	1,008	2,094	1,678	736	267	329	827	403	648	891	1,190	1,157	620
Sheefish	80	83	111	76	160	103	147	48	215	166	70	102	136
Whitefish[b]	3,399	3,330	3,403	4,039	3,112	4,907	4,016	2,766	3,747	3,771	3,562	3,457	3,841
Total harvest of species from survey and permit communities in the Yukon Area													
Arctic grayling	1,652	2,821	1,345	1,030	1,772	1,748	2,778	1,645	1,855	1,963	1,580	1,724	1,998
Burbot	5,196	3,599	3,362	2,146	2,788	2,617	2,490	2,183	2,043	3,387	2,544	3,418	2,544
Northern pike	29,141	28,041	17,731	8,797	14,353	14,599	19,277	11,667	15,500	21,000	25,770	19,613	16,409
Sheefish	12,825	13,286	10,265	7,937	9,391	10,242	17,241	15,601	12,798	12,994	14,521	10,741	13,775
Whitefish[b]	64,322	67,668	58,132	55,817	53,344	49,797	74,502	67,532	88,636	83,511	73,140	59,857	72,796

Note: En dashes indicate information was not collected.

[a] Subsistence harvests of northern pike, sheefish, and whitefish from surveyed communities were estimated using methods developed for salmon harvest estimates.

[b] Includes 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.

[c] Total number of each species reported by households in surveyed communities. Harvest totals for these species are not estimated.

[d] Harvest of Arctic lamprey reported in each year occurred from October–December of the previous year.

[e] Included harvest of Arctic lamprey reported on postcards. Household surveys and postcards were compared to avoid double counting fish.

[f] Households in the Coastal District and District 1 were asked about their harvest herring starting in 2012. Reports of "smelt" were included in herring totals.

Appendix B14.–Estimated number of Chinook salmon harvested and 95% confidence interval (CI) by gear type in surveyed communities, Yukon Area, 2016.

	Gillnet mesh size													
	4 in or less		6.0 in		7.5 in		Fish wheel		Dip net		Beach seine		Other gear	
Community	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI
Hooper Bay	55	45	188	38	41	21	0	0	0	0	0	0	0	0
Scammon Bay	30	14	494	97	4	0	0	0	73	7	0	0	0	0
Coastal District total	85	47	682	103	45	20	0	0	73	7	0	0	0	0
Nunam Iqua	5	9	102	17	0	0	0	0	12	2	0	0	0	0
Alakanuk	0	0	355	122	0	0	0	0	42	60	0	0	0	0
Emmonak	3	0	363	113	72	56	0	0	4	1	0	0	0	0
Kotlik	4	2	924	239	29	8	0	0	0	0	0	0	0	0
District 1 total	12	9	1,744	287	101	56	0	0	58	59	0	0	0	0
Mountain Village	24	13	582	190	11	2	0	0	72	27	0	0	0	0
Pitkas Point	0	0	101	13	0	0	0	0	26	3	0	0	0	0
St. Mary's	0	0	746	246	96	20	0	0	109	58	0	0	0	0
Pilot Station	0	0	359	144	116	33	0	0	11	7	39	28	0	0
Marshall	0	0	293	91	57	8	0	0	113	33	0	0	0	0
District 2 total	24	12	2,080	349	280	39	0	0	331	71	39	28	0	0
Russian Mission	17	4	230	85	66	15	0	0	8	5	0	0	0	0
Holy Cross	0	0	543	263	14	2	0	0	0	0	0	0	0	0
Shageluk	0	0	23	12	0	0	0	0	0	0	0	0	0	0
District 3 total	17	4	796	271	80	15	0	0	8	5	0	0	0	0
Anvik	0	0	158	76	82	1	0	0	0	0	0	0	0	0
Grayling	0	0	228	120	142	229	0	0	0	0	0	0	0	0
Kaltag	0	0	1,358	838	0	0	0	0	0	0	0	0	0	0
Nulato	0	0	1,627	808	330	225	0	0	0	0	0	0	0	0
Koyukuk	0	0	612	297	0	0	0	0	0	0	0	0	0	0
Galena	0	0	824	253	100	40	69	0	0	0	0	0	0	0
Ruby	0	0	268	160	0	0	76	0	0	0	0	0	0	0
Huslia/Hughes	0	0	41	13	52	8	0	0	0	0	0	0	0	0
Allakaket/Alatna/Bettles	10	0	13	0	0	0	0	0	0	0	0	0	0	0
District 4 total	10	0	5,131	1,184	706	307	146	0	0	0	0	0	0	0

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	Gillnet mesh size													
	4 in or less		6.0 in		7.5 in		Fish wheel		Dip net		Beach seine		Other gear	
Community	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI
Tanana	299	112	1,331	1,314	0	0	409	201	0	0	0	0	0	0
Stevens Village	0	0	178	229	0	0	0	0	0	0	0	0	0	0
Beaver	44	19	91	62	0	0	30	0	0	0	0	0	0	0
Fort Yukon/Birch Creek	12	2	415	134	43	25	755	290	0	0	0	0	0	0
Venetie/Chalkyitsik	47	32	495	484	0	0	0	0	0	0	0	0	0	0
District 5 total	402	115	2,510	1,385	43	24	1,194	348	0	0	0	0	0	0
Survey total	550	124	12,943	1,891	1,255	316	1,340	346	470	93	39	27	0	0

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

Appendix B15.–Estimated number of summer chum salmon harvested and 95% confidence intervals (CI) by gear type in surveyed communities, Yukon Area, 2016.

	Gillnet mesh size													
	4 in or less		6.0 in		7.5 in		Fish wheel		Dip net		Beach seine		Other gear	
Community	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI
Hooper Bay	1,203	600	4,239	2,500	882	182	0	0	0	0	0	0	0	0
Scammon Bay	934	284	3,843	606	64	4	0	0	679	58	0	0	0	0
Coastal District total	2,137	660	8,082	2,557	945	181	0	0	679	57	0	0	0	0
Nunam Iqua	275	489	809	240	0	0	0	0	1,026	106	0	0	0	0
Alakanuk	0	0	4,182	1,002	0	0	0	0	2,095	2,405	0	0	0	0
Emmonak	0	0	5,214	1,848	511	85	0	0	480	169	0	0	0	0
Kotlik	21	10	8,272	2,091	0	0	0	0	232	59	0	0	0	0
District 1 total	296	467	18,477	2,931	511	85	0	0	3,834	2,382	0	0	0	0
Mountain Village	169	19	6,669	1,855	3	0	0	0	1,942	712	0	0	0	0
Pitkas Point	0	0	693	86	0	0	0	0	792	243	0	0	0	0
St. Mary's	245	28	5,408	1,989	62	7	0	0	1,663	299	0	0	0	0
Pilot Station	0	0	2,149	507	0	0	0	0	717	217	148	131	0	0
Marshall	0	0	3,806	1,199	49	8	0	0	1,324	364	0	0	0	0
District 2 total	414	34	18,724	2,970	114	10	0	0	6,439	898	148	129	0	0
Russian Mission	109	14	1,306	465	0	0	0	0	382	242	0	0	0	0
Holy Cross	0	0	990	414	1	0	0	0	0	0	0	0	0	0
Shageluk	0	0	275	80	0	0	0	0	0	0	0	0	0	0
District 3 total	109	13	2,571	612	1	0	0	0	382	235	0	0	0	0
Anvik	0	0	1,013	197	104	1	0	0	0	0	0	0	0	0
Grayling	0	0	665	195	213	343	0	0	0	0	0	0	0	0
Kaltag	0	0	125	85	0	0	0	0	0	0	0	0	0	0
Nulato	0	0	664	789	337	500	0	0	0	0	0	0	0	0
Koyukuk	0	0	114	20	0	0	0	0	0	0	0	0	0	0
Galena	0	0	854	940	135	0	700	0	0	0	0	0	0	0
Ruby	0	0	475	236	0	0	203	0	0	0	0	0	0	0
Huslia/Hughes	20	5	4,229	1,768	514	220	0	0	0	0	0	0	0	0
Allakaket/Alatna/Bettles	30	0	2,414	0	0	0	0	0	0	0	0	0	0	0
District 4 total	50	5	10,555	2,136	1,303	617	903	0	0	0	0	0	0	0

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	Gillnet mesh size													
	4 in or less		6.0 in		7.5 in		Fish wheel		Dip net		Beach seine		Other gear	
Community	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI	Est.	CI
Tanana	642	432	217	122	0	0	2,583	1,538	82	55	0	0	0	0
Stevens Village	0	0	0	0	0	0	500	916	0	0	0	0	0	0
Beaver	0	0	6	4	0	0	5	0	0	0	0	0	0	0
Fort Yukon/Birch Creek	0	0	0	0	0	0	12	9	0	0	0	0	0	0
Venetie/Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 5 total	642	421	223	119	0	0	3,100	1,683	82	54	0	0	0	0
Survey total	3,649	906	58,632	5,351	2,875	647	4,003	1,673	11,416	2,547	148	128	0	0

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