Fishery Data Series No. 17-38

Subsistence and Personal Use Salmon Harvests in the Alaska Portion of the Yukon River Drainage, 2014

by

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and

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October 2017

Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

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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

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SUBSISTENCE AND PERSONAL USE SALMON HARVESTS IN THE ALASKA PORTION OF THE YUKON RIVER DRAINAGE, 2014

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ABSTRACT

This annual report contains estimates of subsistence and personal use salmon harvests within the Alaska portion of the Yukon River drainage. Most Yukon Area communities have no regulatory requirements to report their subsistence salmon harvest. For these remote communities, the Alaska Department of Fish and Game used a voluntary survey program. Harvest information was collected through 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 2014, a total of 1,312 households was surveyed in 33 communities. Data from surveyed households were expanded to estimate the total harvest, including that of unsurveyed households. In more accessible portions of the Yukon Area, fishermen are required to document their harvest on a subsistence or personal use permit. In 2014, 400 subsistence and personal use permits were issued, of which 98% were returned. Of these returned permits, 207 reported fishing. This report also documents subsistence salmon given to households from various test fishery projects. The total subsistence and personal use harvest throughout the Yukon Area was estimated to be 3,287 Chinook *Oncorhynchus tshawytscha*, 87,135 summer chum *O. keta*, 92,807 fall chum *O. keta*, and 17,272 coho *O. kisutch* salmon. The primary fishing gear types used were set gillnets (40%), drift gillnets (33%), dip nets and other gear types (20%), and fish wheels (6%). Approximately 1,759 households owned 5,388 dogs and 197 households fed an estimated 66,688 salmon to dogs.

Key words: 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 information on subsistence salmon harvests 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 is used in conjunction with commercial, sport and personal use harvests, and escapement estimates to calculate total run size. Harvest and escapement information, combined with age composition data, is used to construct brood tables, estimate the number of returning offspring per spawner for some stocks, and contribute to forecasts or preseason outlooks for fisheries management.

Yukon Area communities have long traditions of harvesting salmon for subsistence use and fishing activities are usually based from a fish camp or a home community within the drainage. Extended family groups, representing 2 or more households, often work together to harvest, cut, and preserve salmon for subsistence use. 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 (Figure 1). Subsistence salmon harvested for human consumption are commonly dried, smoked, canned, or frozen. 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.

The average rural population in the Yukon Area has remained stable and the number of people in 2014 was nearly equal to the most recent 5-year (2009–2013) average of approximately 22,300 people (Hunsinger 2015). Excluding the Fairbanks North Star Borough (FNSB; approximately 97,970 people), the most recent census indicates the population of rural Yukon Area residents within the Denali Borough, Southeast Fairbanks, Yukon-Koyukuk, and Kusilvak Census Areas was approximately 22,280 people in 2014 (Hunsinger 2015).

Subsistence and personal use fishermen in the Yukon Area primarily use drift gillnets, set gillnets, and fish wheels to harvest salmon. Set gillnets are used to harvest salmon throughout the Yukon Area, whereas drift gillnets are only allowed from the mouth of the Yukon River to

approximately 18 miles below the community of Galena (River Mile 530). State regulations (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) during weekly subsistence openings from June 10 to July 14 (Estensen et al. 2015b). Although fish wheels are a legal gear type for subsistence fishing throughout the drainage, they are essentially used only in the Upper Yukon Area where river conditions and fishing locations are more suitable.

Subsistence fishermen are not required to have a fishing permit in most of the Yukon Area; however, permits are required for subsistence or personal use fishing in parts of the Koyukuk, Tanana and upper Yukon rivers that are accessible by road (Figure 1). Where permits are not required, voluntary household surveys are conducted in each community in order to estimate the subsistence harvest. In contrast, fishermen in areas where permits are required must submit their harvest records annually.

Personal use fishing permits and a resident sport fish license are required to fish within the Fairbanks nonsubsistence area established in 1992 (Figure 2). Nonsubsistence areas are defined as areas where subsistence is 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 when taken after August 16.

In some parts of the Yukon Area, commercial fishing occurs alongside subsistence fishing and local fishermen participate in both. Commercial fishermen are required to have a valid limited entry commercial fishing permit to participate in commercial fisheries, 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, but 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. Alaska state law dictates that subsistence is the highest priority use of salmon and a primary consideration in fishery management actions. As such, commercial, sport, and personal use harvests all have lower priority than subsistence fishing.

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. 2017). 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 more common in the Upper Yukon Area (Districts 4–6; Figure 1), where larger numbers of sled dogs are used for recreation, transportation, and as haul animals. The practice of keeping sled dogs is less common in the Lower Yukon Area (Districts 1–3); therefore, 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 or not dogs were used for transportation or were kept as pets. Salmon were found to account for 25% to 92% of all fish species fed to sled dogs among 6

Yukon River communities (Andersen and Scott 2010). However, because Chinook salmon are so prized for human use, the Alaska Board of Fisheries 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 often "cribbed" (frozen in the open air). The average number of salmon fed to dogs has declined (Holder and Hamner 1991; Borba and Hamner 2001; Jallen et al. 2017). Reasons for this decline include poor chum salmon runs from 1998 to 2002, a reduction in carcasses left over from roe fisheries, the steep rise in cost of equipment (boat, motor, nets, fuel) needed to harvest fish for dog food, and less reliance on dogs as haul animals.

The 2014 subsistence salmon harvest survey and permit programs collected quantitative information on salmon harvest by species. The primary method of estimating Yukon Area subsistence harvest was the annual door to door postseason salmon harvest survey. In 2014, some questions remained on the survey form in regards to salmon needs met or salmon lost that were not included in the published results; however asking about these quantities helped households recall their salmon harvest information. 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. 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 2014 season.

STUDY AREA

The study area comprised 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 and Koyukuk rivers and all communities along the Tanana River were documented through permits and excluded from the household surveys. The Lower Yukon Area consists of coastal waters and the Yukon River drainage from its mouth upstream to Old Paradise Village (river mile 301), comprising 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), comprising 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). Two communities within the Yukon Area, Chevak and Arctic Village, are not included in this harvest survey based on their distance from the Yukon River proper and their very low historic harvests of salmon. In this report, the difference between the designations "Yukon River" and "Yukon Area" is that the Yukon Area includes the Coastal District. Yukon River totals apply to data considered for the U.S./Canada border passage objectives and do not include salmon harvested from the Coastal District.

The Yukon River drainage supports 5 species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*), chum (*O. keta*), coho (*O. kisutch*), pink (*O. gorbuscha*), and sockeye (*O. nerka*) salmon. The majority of subsistence and personal use 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, and are later followed by fall chum and coho salmon. Pink salmon are much more abundant in even-numbered years and typically only present and available for harvest in the coastal, lower, and middle 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 harvest of less than 400 fish per year (Jallen et al. 2017); information about sockeye salmon was not collected in 2014.

Many nonsalmon fish species are also present in the Yukon River. Some of those important for subsistence use include: whitefish (*Coregonus* spp. and *Prosopium cylindraceum*), sheefish (*Stenodus leucichthys*), burbot (*Lota lota*), northern pike (*Esox lucius*), Alaska blackfish (*Dallia pectoralis*), Arctic grayling (*Thymallus arcticus*), Arctic lamprey (*Lethenteron camtschatica*), saffron cod (tomcod, *Eleginus gracilis*), and Pacific herring (*Clupea pallasii*).

OBJECTIVES

The objectives of the study are as follows:

1. Update community household lists to provide the basis for stratified random sampling of fishing and nonfishing households sufficient to support community harvest estimates, and estimate the number of people in each surveyed community.
2. Estimate the number of salmon and nonsalmon fish species harvested for subsistence in the Yukon Area, by community, using household surveys, harvest documented on subsistence and personal use permits, commercial fisheries reports of salmon caught but not sold, and records of salmon given to communities from test fishery projects.
3. Estimate the number of salmon harvested from each fishing community, district, and subdistrict in the Yukon Area.
4. Document gear types used by subsistence and personal use fishermen and estimate the percentage of Chinook salmon harvested by gear types in surveyed communities.
5. Document the number of dogs and salmon fed to dogs within Yukon Area communities.
6. Collect additional information on species and month of fishing effort for small whitefish (cisco and round whitefish species).
7. Document comments and concerns conveyed by subsistence users during household surveys.

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, and postcards. Total subsistence and personal use harvest includes fish harvested for direct personal or family use, fish distributed to households from various test fishery projects, and fish caught in commercial fisheries and retained for household use. 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. Surveys interviews were conducted in the Coastal District and Lower Yukon Area through Anvik in September and in Kaltag and upriver communities in October. Communities were surveyed roughly in order, from downriver to upriver, after most households finished harvesting salmon for subsistence. To maintain consistency in administration of the survey, household survey interviews were primarily conducted by the same 2 ADF&G technicians throughout the season.

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 consists of 1 or more people living together in a dwelling and sharing the same phone 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, and distributing resources and shared contact information.

The database of Yukon Area households was updated using information from the previous years' surveys. Community census lists, telephone directories, news items, and other sources of information were also used to maintain the database. 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 household list in the community 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.

Households were stratified into 5 harvest groups based on the level of harvest, which was determined by the total number of salmon harvested annually by each household in the most recent 2 of the previous 5 years. Total salmon harvest included Chinook, summer chum, fall chum, and coho salmon but did not include pink or sockeye salmon. When 2 recent years of harvest data were unavailable, such as from new households or households that have not participated in the survey, the household's harvest group designation remained the same as the previous year or the household was classified as unknown. 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%.

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 2009, 2012, and 2013 fishing seasons, and this was taken into account when assigning household

to groups for the 2014 survey. As a result, households may have been moved from the unknown group or a lower harvest group to a higher harvest group, but were not downgraded to a lower harvest group based on their 2009, 2012, or 2013 harvest data. The household database was updated in May with harvest group changes in order to generate the mailing list for subsistence calendars sent out prior to the fishing season.

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% of households in those groups. When any harvest group contained 5 or fewer households, all households in that group were included in the survey (i.e., 100% coverage). In communities with fewer than 40 households, all households were included in the survey (100% coverage).

Fishing households included all households that participated in subsistence salmon fishing activities. Frequently, 2 or more households fished together at a fish camp or as a group where 1 household operated fishing gear, and the other household processed fish (cutting and drying). Each of these households was considered to be a "fishing" household. The number of fish harvested by each household was recorded as the number of fish that household took home from the group catch. In cases where fishing households distributed fish to nonfishing households that did not participate in the group, the receiving households were not considered fishing households.

Survey Questionnaire

To maintain comparability of data between years, the subsistence survey questions have generally remained consistent from year to year (Figure 3). The total number of salmon harvested was derived by asking households about group harvests, harvest area, and salmon that the household kept. Salmon retained from commercial fishing were included in subsistence harvest totals for each household. If a household harvested Chinook salmon, they were asked what gear types were used to harvest those fish. If a household lost part of its subsistence catch and could not use the fish for human consumption, the surveyor verified these fish were included in the harvest total. If a household was able to feed the lost fish to dogs, these fish were also included in a household's total subsistence use amounts.

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 and shared harvest. Households were asked about the number of salmon received from a test fishery project to help clarify that these fish were received but not harvested by subsistence fishermen themselves.

Households were also asked about dogs and the number of salmon harvested for dog food. They were asked about their harvest of pink salmon and about their harvest of nonsalmon species throughout the previous 12 months. For example, Arctic lamprey harvested from October to December of 2013 were reported by households during the survey interviews that occurred during September 2014.

In 2014, minor changes were made to the survey forms. For example, households in the middle and upper Yukon Area were not asked about harvest of tomcod or Pacific herring. Households in all the surveyed communities were asked for additional information about whitefish species. Large whitefish were broken out into broad and humpback whitefish (*Coregonus nasus* and

C. pidschian). Small whitefish species including Bering cisco, least cisco, and round whitefish (*C. laurettae*, *C. sardinella*, and *Prosopium cylindraceum*) were still grouped together, but households were asked what time of year they harvested small whitefish species. Surveyed households in Kotlik were asked where they harvested small whitefish, and households in the Coastal District and District 1 were asked about their harvest of Pacific herring. Fish that were reported as smelt in response to the herring question were entered as herring.

Survey Implementation

Household survey interviews were conducted in September and October when the majority of salmon fishing activities had ended but while fishermen 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 later by phone or letter.

Before conducting the interviews, surveyors were trained in interviewing techniques that included learning the local names of salmon 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 so that interviewed household members were able to recall as accurately as possible their household harvest and use of salmon and share any fishery-related knowledge and concerns pertinent to the survey outcome. After the interview was completed, survey participants were given a small token of appreciation (a magnetic clip) for participating in the survey.

After the household interviews were conducted, survey forms were edited for clarity and completion. When fishermen 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 number of fish harvested. Follow-up calls were occasionally made for further clarification or to reconcile information among households that harvested or shared salmon with each other.

Subsistence Assistants (residents with local knowledge) were employed 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.

Inseason Surveys

In 2014, a pilot project was conducted in the community of Marshall led by staff from the Divisions of Subsistence and Commercial Fisheries. Division of Subsistence staff traveled to Marshall in June to train local survey technicians to conduct inseason community surveys.

Interviews were conducted with households that were selected based on the stratified harvest groups used in the postseason survey. Households were asked some questions during an initial interview (e.g., number of people in household, number of dogs, harvest of nonsalmon species over the last winter). Weekly surveys were conducted from June through August by the local survey technicians. Households who chose to participate in the surveys were asked how many

salmon of each species were harvested or received, what gear types were used, and whether or not households fished in a group or gave salmon away. Staff from Divisions of Commercial Fisheries and Subsistence maintained contact with these technicians by phone and in person to receive the weekly survey data.

Exit interviews were conducted with participants in September. Households were provided totals from their inseason responses and had the opportunity to confirm or correct any information they had reported during the weekly surveys.

DATA ANALYSIS AND ESTIMATION METHODS

Denote that:

i = individual household,

j = harvest group (j = 1 … 5)

k = community,

l = harvest location, and

m = harvest gear.

Survey responses are denoted by:

y_{ijkl} = the number of salmon (Chinook, chum, coho, and pink) harvested by a sampled household (i) in a harvest group (j) of a community (k), at a location (l);

y_{ijkm} = the number of Chinook salmon harvested by the sampled household (i) in the harvest group (j) of the community (k) with a fishing gear (m);

y_{ijk} = response of a sampled household (i) in the harvest group (j) of the community (k);

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

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

Community population and total harvest estimates

Simple means and expansions were used to estimate human and dog populations in each community, including the number of people and number of dogs. Harvest totals for the community by species, in subsistence and commercial fisheries, and use of salmon harvested (kept for household use, given away, or fed to dogs), were also estimated with these methods. When the number of surveyed households in a harvest group was greater than or equal to 10 or the proportion of surveyed households was greater than 0.2, mean response of a harvest group of a community ($\bar{y}_{jk}$) was calculated as:

$$\bar{y}_{jk} = \frac{\sum_i y_{ijk}}{n_{jk}} \ . \qquad (1)$$

Its standard error (SE_{jk}) was calculated as:

$$SE_{jk} = \sqrt{\frac{s_{jk}^2}{n_{jk}}\left(\frac{N_{jk}-n_{jk}}{N_{jk}}\right)} \text{ where } s_{jk}^2 = \hat{V}(y_{jk}) = \frac{\sum_j \left(y_{ijk} - \bar{y}_{jk}\right)^2}{n_{jk}-1} \ . \quad (2)$$

Estimate of total response of the community ($\hat{Y}_k$) was calculated as:

$$\hat{Y}_k = \sum_{j=1}^{5} N_{jk}\bar{y}_{jk} \ ; \quad (3)$$

and its 95% confidence interval (95%CI$_k$) was calculated as:

$$95\%\text{CI}_k = t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(Y_k)} \text{ where } \hat{V}(Y_k) = \sum_{j=1}^{5} N_{jk}^2 \left(\frac{N_{jk}-n_{jk}}{N_{jk}}\right)\left(\frac{s_{jk}^2}{n_{jk}}\right). \quad (4)$$

When the estimation criteria for the equation (1) was not met, response of a harvest group of a community ($\bar{y}_{jk}$) was treated as missing. In this case, harvest of the missing harvest group was assumed to be an average harvest of the rest of the harvest groups.

In this case, the total response of the community ($\hat{Y}_k$) was calculated as:

$$\hat{Y}_k = \frac{N_k}{\sum_{j=1} N_{jk}} \sum_{j=1} N_{jk}\bar{y}_{jk} \ ; \quad (5)$$

where N_k is the total number of households in a surveyed community.

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

$$95\%\text{CI}_k = t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(Y_k)} \text{ where } \hat{V}(Y_k) = \left(\frac{N_k}{\sum_{j=1} N_{jk}}\right)^2 \sum_{j=1} N_{jk}^2 \left(\frac{N_{jk}-n_{jk}}{N_{jk}}\right)\left(\frac{s_{jk}^2}{n_{jk}}\right). \quad (6)$$

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

$$\hat{Y} = \sum_{k=1}^{5} \hat{Y}_k \ , \quad (7)$$

and its 95% confidence interval (95%CI) was calculated as:

$$95\%\text{CI} = t_{(0.025, df=n-1)} \cdot \sqrt{\hat{V}(Y)} \text{ where } \hat{V}(Y) = \sum_{k=1} \hat{V}(Y_k) \ . \quad (8)$$

Salmon harvest by location

Salmon harvests were also estimated by location (district, subdistrict, or tributary where the fish were caught). The proportion of salmon harvested at a fishing location (l) by harvest group (j) in community (k) was estimated as:

$$\hat{p}_{jkl} = \frac{\sum_i y_{ijkl}}{\sum_i \sum_l y_{ijkl}} . \quad (9)$$

The number of salmon harvested at a fishing location by all harvest groups in a community was calculated as:

$$\hat{Y}_{kl} = \sum_j N_{jk} \bar{y}_{jk} \hat{p}_{jkl} . \quad (10)$$

Finally, the total number of salmon harvested at the fishing location was estimated by summing harvests at that location across communities:

$$\hat{Y}_l = \sum_k \hat{Y}_{kl} . \quad (11)$$

Household characteristics: Subsistence fishing, dog ownership, and use of salmon to feed dogs

Within each community, the number of households who a) subsistence fished, b) owned dogs, or c) fed salmon to their dogs was estimated by expanding the proportion of households with those characteristics in each harvest group. Denoting that $n_{kj(s)}$ is the number of sampled households in harvest group (j) in the community (k) with characteristic (s) (i.e., subsistence fished, owned dogs, or fed salmon to dogs), the proportion of households with each characteristic ($\hat{p}_{jk(s)}$) was calculated as:

$$\hat{p}_{jk(s)} = \frac{n_{jk(s)}}{n_{jk}} . \quad (12)$$

Estimated number of households with each characteristic in the community ($\hat{N}_{k(s)}$) was calculated as:

$$\hat{N}_{k(s)} = \sum_{j=1}^{5} N_{jk} \hat{p}_{jk(s)} . \quad (13)$$

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

$$95\%\mathrm{CI}_k = t_{(0.025, df=n-1)} \cdot \sqrt{\hat{V}(\hat{N}_{k(s)})} \text{ where } \hat{V}(\hat{N}_{k(s)}) = \sum_{j=1}^{5} N_{jk}^2 \left(\frac{N_{jk} - n_{jk}}{N_{jk}} \right) \left(\frac{\hat{p}_{jk(s)}(1 - \hat{p}_{jk(s)})}{n_{jk} - 1} \right) . \quad (14)$$

The estimated number of households in the survey wide total ($\hat{T}_{(s)}$) with each characteristic was calculated as:

$$\hat{N}_{(s)} = \sum_{k} \hat{N}_{k} \ , \tag{15}$$

and its 95% confidence interval (95%CI) was calculated as:

$$95\%\text{CI} = t_{(0.025,df=n-1)} \cdot \sqrt{\hat{V}(\hat{N}_{(s)})} \ \text{ where } \hat{V}(\hat{N}_{(s)}) = \sum_{k=1} \hat{V}(\hat{N}_{k(s)}) \ . \tag{16}$$

Primary gear type usage by community

Information about primary gear types used in subsistence fishing was used to estimate the proportion of households within each community using specific gear types. Denoting that $n_{jkm(s)}$ is the number of sampled households that used a primary fishing gear in a harvest group in a community, the proportion of subsistence fishing households in a harvest group in a community using a gear type (m) was calculated as:

$$\hat{q}_{jkm} = \frac{n_{jkm(s)}}{n_{jk(s)}} \ . \tag{17}$$

Applying primary gear type proportion ($\hat{q}_{jkm}$) to the proportion of fishing households ($\hat{p}_{jk}$) multiplied by the total number of fishing households in the harvest group and community (N_{jk}) and summing across harvest groups, provides an estimated number of households using that gear type. The proportion of fishing households in the community using each primary gear type ($\hat{P}_{km}$) is then obtained by dividing by the sum of all households using all gear types:

$$\hat{P}_{km} = \frac{\sum_{j} N_{jk} \hat{p}_{jk} \hat{q}_{jkm}}{\sum_{m} \sum_{j} N_{jk} \hat{p}_{jk} \hat{q}_{jkm}} \ . \tag{18}$$

Chinook salmon harvest by gear type

The harvest of Chinook salmon, specifically, was estimated by gear type within each community. The proportion harvested with each gear type was estimated by dividing the sum of Chinook salmon harvest (y) by individuals (i) within a harvest group (j) and community (k) using gear type (m) by the total Chinook harvest within the harvest group and community:

$$\hat{p}_{jkm} = \frac{\sum_{i} y_{ijkm}}{\sum_{i} \sum_{m} y_{ijkm}} . \tag{19}$$

The variance of this proportion was calculated as:

$$V(\hat{p}_{jkm}) = \frac{\hat{p}_{jkm} \cdot (1 - \hat{p}_{jkm})}{\sum_{i} \sum_{m} y_{ijkm} - 1} \ . \tag{20}$$

Denoting that $\bar{y}_{jk}$ is mean harvest within harvest group and community, the mean number of Chinook salmon harvested by fishing gear (*m*) in that group was calculated as:

$$\hat{\bar{y}}_{jkm} = \bar{y}_{jk}\hat{p}_{jkm} \ . \tag{21}$$

Its variance was calculated as:

$$V(\hat{\bar{y}}_{jkm}) = (\bar{y}_{jk})^2 V(\hat{p}_{jkm}) + (\hat{p}_{jkm})^2 V(y_{jk}) - V(\hat{p}_{jkm})V(y_{jk}) \ . \tag{22}$$

The total number Chinook salmon harvested by each gear type in the community ($\hat{Y}_{km}$) was estimated by multiplying average harvest by total households using that gear type in the harvest group, and summing across all harvest groups in the community:

$$\hat{Y}_{km} = \sum_{j=1}^{5} N_{jk}\hat{\bar{y}}_{jkm} \ . \tag{23}$$

A 95% confidence interval (95%CI$_k$) for the gear-specific Chinook salmon harvest was estimated as:

$$95\%\mathrm{CI}_k = t_{(0.025, df=n_k-1)} \cdot \sqrt{\hat{V}(Y_{km})} \text{ where } \hat{V}(Y_{km}) = \sum_{j=1}^{5} N_{jk}^2 \left(\frac{N_{jk} - n_{jk}}{N_{jk}}\right)\left(\frac{V(\hat{\bar{y}}_{jkm})}{n_{jk}}\right) \ . \tag{24}$$

Unexpanded totals

Reported harvests of Alaska blackfish, Arctic char, Arctic grayling, Arctic lamprey, burbot, Pacific herring, and tomcod/saffron cod were not expanded because of limited harvest information. Harvest groups stratified for salmon were not adequate to estimate species captured with different harvest methods and at different times of year.

PERMIT PROGRAM

Households wanting to subsistence fish in the Tanana River drainage (District 6) or where the Yukon River is accessible by the Alaska Highway road system (portions of District 5 and upper Subdistrict 4-A in the Koyukuk River drainage), are required to obtain subsistence or personal use fishing permits. Permits were issued at the ADF&G offices in Fairbanks, Delta Junction, and Tok (Table 1). For residents of communities outside the Fairbanks area, subsistence permit applications were mailed with a postage paid return envelope, and permits were mailed to all fishermen who returned their permits from the previous year. Department representatives also visited communities to issue permits, and permits were issued by ADF&G staff stationed at the sonar projects near Eagle and Manley. In 2014, permit issuing trips were conducted in the communities of Central, Circle, Delta Junction, Dot Lake, Manley Hot Springs, Minto, Nenana, Northway, Tanacross, and Tok (Figure 1).

Permit holders were required to record their daily fish harvest on the permit and return it to ADF&G within 10 days of the expiration date (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%. Households that did not report their harvest by the expiration date were mailed up to 2 reminder letters. Official state news releases and newspaper advertisements were published as reminders of permit due dates. Further, households that did not respond to the reminder letters were contacted by telephone.

Follow-up phone calls were made as needed to fishermen postseason to clarify harvest, gear types, and locations of harvest by species. Households that were issued and fished permits in more than 1 permit area were only included once in overall fishing household totals (Table 1). The number of fishing households did not include households issued permits for the harvest of northern pike in the Tolovana River. The community of Stevens Village was surveyed as part of the annual household harvest survey area (Figure 1) and its permit information was used to supplement data collected from that community in the household harvest survey.

Commercially harvested salmon reported as caught but not sold on fish tickets but not recorded on subsistence or personal use permits were added to permit harvest totals in the community where the harvest occurred (Table 1; Appendices B1–B4). Information about dogs and salmon fed to dogs was collected from subsistence permits, but not from personal use permits (Table 2).

Fishermen who obtained permits for the upper portion of Subdistrict 5-D were asked to note on their permits how many salmon were harvested above and below the sonar project operated near Eagle (Figure 1). This distinction was necessary because harvest above the sonar must be subtracted from the sonar estimate to determine U.S./Canada border passage of Chinook and fall chum salmon.

SUBSISTENCE HARVEST CALENDARS AND POSTCARDS

Prior to the salmon fishing season, subsistence harvest calendars were distributed to households in surveyed communities in the Yukon Area. Calendars were also sent to previously identified households that did not live in surveyed communities and fished outside of permit areas. Information printed in an accompanying letter and on each calendar encouraged fishermen to record their harvest daily to improve accuracy of harvest reports and provide information on harvest timing.

In May 2014, 1,827 calendars (1,166 to Lower Yukon Area and 661 to Upper Yukon Area) were mailed to all households except those in the do not fish category. Calendars were also mailed to households with a history of subsistence fishing in the community of Rampart, and extra calendars were available upon request. Prior to surveyor visits to each community, fliers were sent to post offices, stores, schools, or city offices to remind fishermen to have their harvest calendars available during the household surveys. Each household that returned a properly completed 2014 harvest calendar before January 1, 2015, became eligible to win one of thirty-one $100 or two $500 lottery prizes.

To collect additional information on the harvest of Arctic lamprey, 809 postcards were mailed to every household in the communities of Anvik, Grayling, Holy Cross, Marshall, Mountain Village, Pilot Station, Pitkas Point, Russian Mission, Shageluk, and St. Mary's in November, 2013. Households were asked to record their subsistence and commercial Arctic lamprey harvests from October to December of 2013 (Figure 4), because the fishery usually occurs after salmon fishing has concluded. To avoid double counting Arctic lamprey harvest, postcards were compared to survey interview responses.

RESULTS

OVERALL ESTIMATION OF HARVEST

An estimated total of 3,287 Chinook, 87,135 summer chum, 92,807 fall chum, and 17,272 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 954 Chinook, 4,381 summer chum, 2,533 fall chum, and 979 coho salmon (Appendix A5). Chinook salmon accounted for 2% of the total subsistence salmon harvest (excluding pink salmon). Summer chum accounted for 43% of the total, fall chum 46%, and coho salmon 9% (Table 1; Figure 5).

By far the largest share (over 99%) of the combined subsistence and personal use harvest was from subsistence harvests. The estimated number of salmon caught in subsistence fisheries only (i.e., excluding personal use harvest), was 199,813 fish consisting of 3,286 Chinook, 86,900 summer chum, 92,529 fall chum, and 17,098 coho salmon (Table 1; Figure 5; Appendices B1–B4). The number of salmon harvested in nonsubsistence personal use salmon fisheries was 1 Chinook, 235 summer chum, 278 fall chum, and 174 coho salmon (Table 1; Appendix B11).

A third of the salmon harvested for subsistence in the Yukon Area were fed to dogs (not including pink or sockeye salmon). An estimated total of 66,688 summer chum, fall chum, and coho salmon were utilized for dog food (Table 2; Appendix B12). Households in surveyed communities and households that obtained subsistence permits owned approximately 5,388 dogs and approximately 197 households reported feeding subsistence caught salmon to their dogs (Table 2).

SUBSISTENCE SURVEYS

Prior to the survey season, a total of 1,652 households were selected from the 2,752 households identified within the 33 communities to be surveyed. Included were 23 households that traveled to the Yukon River to fish in or near surveyed communities but live outside of the surveyed communities most of the year, representing about 1% of the total number of households.

Division of Commercial Fisheries surveyors traveled to 31 of the 33 Yukon Area communities between September 4 and October 24; the community of Alatna was surveyed by phone due to its small size and travel difficulties, and Marshall was surveyed as part of the inseason project. During the community visits, surveyors updated household lists to add new households and to remove households whose members had moved, combined with another household, or were deceased. The updated database contained a total of 2,795 households (Table 3).

In the updated household database, a total of 1,531 selected households remained (Table 3). Of these, 1,141 households were interviewed in person or by phone; an additional 37 households responded to questionnaires or returned calendars by mail; and 68 households had participated through the inseason survey in the community of Marshall. An additional 66 unselected households from 21 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 and not statistically significant in regards to the stratified household selection; therefore, their responses were included in the analysis. In total, information was collected from 1,312 households (86% of total number selected and 47% of the total identified households in the surveyed area). Within the stratified harvest groups designated for 100% survey coverage, 86% of medium and 89% of heavy harvest group households were interviewed. Nearly all (95%) of selected households from the light harvester group were surveyed. Overall, 41% of households that do not fish were selected to be surveyed, and 83% of these selected households were contacted. The lowest success rate (77%) occurred in the unknown group; this was the largest group designated for 100% survey coverage (511 households; Table 3).

Based on responses to the survey questions, an estimated 1,336 households participated in the subsistence fishery in 2014 (Table 4). An estimated 40% of unknown households and 20% of households in the does not harvest salmon group harvested salmon. Of the harvester groups, we estimated that 60%, 80%, and 90% of light, medium, and heavy harvesters harvested salmon in 2014 (Table 4). A total population of 10,777 people was estimated in surveyed communities (Table 5).

Half of the households in surveyed communities were categorized into salmon harvesting groups. Fishing households were split between the light harvest group (33%), the medium harvest group (16%), and the heavy harvest group (1%; Table 3). Households in the medium harvest group harvested nearly half (43% each) of the Chinook and summer chum salmon taken for subsistence (Appendices A1 and A2). Heavy harvesters represented a very small number of the households in the drainage; however, they took more than a third of fall chum (36%) and coho salmon (34%; Appendices A3 and A4).

Households did not always harvest fish in the district where their community is located. Therefore estimated harvest totals from districts do not always equal totals from communities in that district. Districts from which the greatest numbers of each salmon species were harvested were as follows: District 1 with a harvest of 668 Chinook salmon; District 2 with 23,147 summer chum salmon; District 5 with 28,649 fall chum salmon; and District 4 with 2,784 coho salmon (Tables 6–9). Most communities harvested salmon from 1 or 2 districts, subdistricts, or tributaries, but households in Galena and Fort Yukon harvested salmon from more than 2 districts to take advantage of harvest opportunities for different salmon stocks (Tables 8 and 9). Surveyed communities from Yukon River tributaries harvested 4–7% of the total survey area harvest of each salmon species. The largest tributary harvest was from the Koyukuk River, with 60 Chinook, 4,494 summer chum, 1,746 fall chum, and 391 coho salmon. Harvests from the Tanana River confluence area (Subdistricts 4-C and 5-A) were estimated to be 3 Chinook salmon, 2,023 fall chum salmon, and 777 coho salmon (Tables 6, 8, and 9).

In addition to subsistence fishing, some households were able to receive salmon or supplement their subsistence harvests through other means. At least 5 surveyed communities (Alakanuk, Emmonak Kotlik, Pilot Station, and Fort Yukon) received salmon from test fishery projects, which were added to community harvest estimates. Salmon caught in test fisheries made up nearly half of the Chinook salmon subsistence harvest in surveyed communities. Summer chum, fall chum, and coho salmon from test fisheries made up 5–12% of subsistence harvest of each species from surveyed communities (Table 1; Appendix A5). Households in some portions of the Yukon Area also had the opportunity to retain commercially harvested salmon for subsistence. Estimates from surveyed communities included 217 Chinook, 1,509 summer chum, 308 fall chum, and 113 coho salmon reported as retained from commercial catches for subsistence use (Table 1).

The estimated subsistence harvest of other fish species in Yukon Area surveyed communities included 6,932 pink salmon, 33,582 large whitefish, 51,307 small whitefish, 14,852 northern pike, and 12,583 sheefish (Table 10). Of the large whitefish species harvested, broad whitefish composed 71% of the estimated number of large whitefish and humpback whitefish made up the remaining 29% (Table 10). The majority of each species was harvested in the Lower Yukon (Coastal District through District 3); this is also where the majority of surveyed households live (57% of the total number of surveyed households). Households in the Upper Yukon (Districts 4 and 5) harvested 1% of pink salmon and between 33% and 46% of other fish species.

Nonsalmon species with unexpanded totals included species only available in parts of the drainage such marine based species (Pacific herring and tomcod). Totals for Pacific herring also included the number of smelt reported by households. Although other species such as Alaska blackfish, Arctic grayling, and burbot are widely distributed they are not evenly harvested (Table 11). In 2014, all households were asked what month they harvested small whitefish; overall the largest response was September (Appendix A6). Households in Kotlik were also asked where they harvested small whitefish. Of the 30 households that gave location information, 13 harvested small whitefish from the Pastoliak River, 9 from Pastol Bay, 5 from the subsistence only whitefish area near Kotlik, and 1 household each said they harvested small whitefish from Piiuliaq, Westside, or the commercial fishing only area near Kotlik.

Households also reported harvesting 19,888 Arctic lamprey primarily in Districts 2–4, between the communities of Marshall and Grayling (Figure 4; Table 11). This total includes lamprey harvest reported during survey interviews (1,722 Arctic lamprey reported by 18 households) and on postcards (19,182 Arctic lamprey reported by 24 households). Arctic lamprey reported on both surveys and postcards (1,116 lamprey) were subtracted from the total to avoid double counting (Table 11). Several fishermen from every community except Grayling commented on returned postcards that they were unable to harvest eels (Arctic lamprey) due to a run that was late. Poor weather and ice conditions were mentioned on postcards from Mountain Village, Shageluk, and St. Mary's.

Primary gear types used to harvest salmon in surveyed communities consisted of set gillnets (37%), drift gillnets (36%), fish wheels (5%), and other gear (22%) including dip nets and beach seines (Table 1). Almost all (97%) of the 249 surveyed households that reported harvesting Chinook salmon reported the gear type or types they used to harvest Chinook salmon and gave an estimate of how many Chinook salmon they harvested with each gear type. These responses were expanded to obtain estimates of total Chinook salmon harvested by gear type. In 2014, an estimated 53% of Chinook salmon were harvested by set gillnets, 31% by drift gillnets, 14% by other gear types (such as dip nets, beach seines, or hook and line), and 2% by fish wheels. Communities in the Coastal District and Districts 1 and 2 reported using more than 1 gear type to harvest Chinook salmon. Except for the community of Tanana, communities in Districts 3–5 either used 1 gear type, or did not report any Chinook salmon harvest by gear (Appendix B14).

At the end of each household survey interview surveyors asked if the household had any comments about the fishing season or management actions. The most numerous comments 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 next largest group of comments addressed difficulties harvesting salmon due to management actions and run dynamics. A smaller number of fishermen said that the 2014 salmon run dynamics were positive. Several households were concerned about conserving Chinook salmon and approved of the conservative management actions, or wanted more protections for Chinook salmon. Issues with equipment and expenses were mentioned by some households, and a few households were in favor of management actions taken in 2014 such as openings for dip nets. River conditions and poor weather impacted a small number of households. The 2014 fire season was fairly active, and some households were involved in firefighting activities during the summer instead of fishing.

SUBSISTENCE PERMITS

In areas that require subsistence fishing permits in upper Subdistrict 4-A (Koyukuk River drainage), District 5 (Yukon River) and District 6 (Tanana River), 323 (98%) of the total subsistence permits issued were returned and 175 households reported participating in salmon and nonsalmon subsistence fisheries (Tables 12 and 13). This includes 10 households that fished in the Tanana River upstream of Subdistrict 6-C and 57 households that participated in the pike fishery on the Tolovana River that primarily occurs during the winter under the ice. The timing and distribution of fishing effort by district and by day, as recorded on permits (Figure 6, bottom panel) in District 5, showed a decrease in fishing effort between summer and fall salmon runs in early August. Fishing was closed in portions of District 6 during part of the summer season until late July. The majority of the late season fishing effort targeted fall chum and coho salmon from August to October.

The 2014 subsistence permit harvest information was based on permits returned by June 11, 2015 (Tables 12 and 13). Total subsistence harvests of 349 Chinook, 1,173 summer chum, 32,257 fall chum, and 7,527 coho salmon were reported. The total harvest of other fish species included: 3,602 whitefish, 212 sheefish, 27 burbot, 648 northern pike, 101 longnose suckers, and 83 Arctic grayling (Tables 12 and 13; Appendices B6–B10).

Additionally, salmon were obtained and utilized from test fisheries and commercial harvests in subsistence permit areas; tickets from the commercial fishery in District 6 included 11 Chinook, 840 fall chum, and 352 coho salmon recorded as “Not sold/Personal use”. These salmon were added to the community harvests from Fairbanks, Manley, and Nenana (Table 1). Thirteen Chinook salmon were distributed to the community of Eagle from the drift gillnet test fishery conducted as part of the sonar project. Nineteen summer chum, 56 fall chum, and 33 coho salmon were distributed to Manley or other communities from the Tanana River from a sonar project near the community of Manley (Table 1; Appendix A5).

The total number of salmon fed to dogs represented just below 77% of the subsistence harvest of summer chum, fall chum, and coho salmon reported on permits. In permit areas where reporting information about dogs and salmon fed to dogs is required, 85 households indicated that they fed 31,419 salmon to dogs (Tables 1 and 2). Dog-related information is not required on Tolovana River area pike permits.

The 123 households that reported gear types on their permits for subsistence salmon included 88 households (71%) using set gillnets, 34 (28%) households using fish wheels, and 1 (5%) household using other gear types (dip net; Table 1). This does not include households that fished in the Tolovana River pike fishery and primarily used jigging gear, households from Stevens Village, or additional gear types used by households with more than 1 permit.

PERSONAL USE

In 2014, 71 (100%) of the personal use permits issued were returned (Table 12). Of these, 33 permits reported fishing, of which 23 were issued for salmon and 10 were issued for nonsalmon species. Fourteen households were issued both subsistence and personal use permits and 5 households fished 2 types of personal use permits (salmon and nonsalmon). Personal use permit holders reported harvesting 1 Chinook, 235 summer chum, 278 fall chum, and 174 coho salmon; and 145 whitefish, 3 sheefish, and 270 longnose suckers (Tables 12 and 13; Appendix B11). The 28 individual households that reported fishing for personal use by gear type included 23

households (82%) using set gillnets, 3 households using fyke nets (11%), and 2 households (7%) using dip nets (Table 1).

CALENDARS

In 2014, households returned 288 subsistence harvest calendars (approximately 18% of total issued). A total of 232 calendars (81% of those returned) documented salmon harvest information. The remaining households that returned harvest calendars indicated they did not fish or returned a blank calendar (19%). The greatest number of households that reported fishing on a single day in a district was 21 households in District 2 (Figure 6, top panel). The number of days during the fishing season where more than 1 household reported harvest ranged from 72 days in District 2 to 21 days in the Coastal District. Fishing effort in the Lower Yukon Area occurred mainly in the summer season. Districts 3 and 5 reported more consistent fishing effort throughout the summer and fall seasons, and fishing effort in District 4 occurred mainly in the fall season. The majority of the late season fishing effort targeted fall chum salmon in the Upper Yukon Area districts.

DISCUSSION

Run size and fishery management actions can significantly impact the ability of subsistence fishing households to harvest salmon. Although the passage of Chinook salmon across the U.S./Canada border exceeded the interim management escapement goal range (JTC 2015), this escapement was accomplished by eliminating commercial harvest and drastically reducing subsistence and personal use fishing opportunities for Chinook salmon. The 2014 Chinook salmon harvest in the Yukon River was the lowest recorded in the previous 25 years of the subsistence survey project (Estensen et al. 2012). Subsistence fishing closures occurred in several districts that are normally open 7 days a week, including the northern portion of the Coastal District, the Innoko River, Koyukuk River, and Subdistrict 5-D (the uppermost part of the Yukon River drainage in Alaska). The Koyukuk and Innoko rivers were closed or were restricted to 6 inch or smaller mesh during the Chinook salmon run. Closures on the first pulse of Chinook salmon in District 5 were extended until at least 95% of the run had passed (Estensen et al. 2015b). Long districts and subdistricts were subdivided to enable more precise management actions and reduce fishing pressure on Chinook salmon, specifically through management of the Coastal District as 2 sections (Southern and Northern), division of Subdistrict 4-A into lower and upper areas, and division of Subdistrict 5-D into 3 areas (lower, middle, and upper; Estensen et al. 2015b).

To further protect Chinook salmon, additional live release gear restrictions were implemented and included limiting fishermen to dip nets, beach seines, or continuously manned fish wheels in Districts 1–4, and Subdistricts 6-A and 6-B during the Chinook salmon run to target summer chum salmon and nonsalmon species for subsistence. Prior to 2013, no Chinook salmon were estimated to be harvested by gear types other than gillnets or fish wheels. In comparison, 11% to 14% of Chinook salmon were harvested by other gear types in 2013 to 2014 (Appendix B14). Retention of Chinook salmon from selective gear types was not allowed in 2014 (Estensen et al. 2015b), so it is unclear if these fish were unable to be released to the water alive, or were harvested illegally. A 7-day closure for all gear types was enacted in Subdistricts 5-A, 5-B, and 5-C to prevent any incidental harvest of Chinook salmon; the use of 4-inch or smaller gear to harvest nonsalmon species was not allowed during this closure.

In 2014 the runs of summer chum, fall chum, and coho salmon were strong and abundant enough to meet escapement goals and allow for subsistence and commercial fishing. However, to protect Chinook salmon, subsistence fishermen were restricted by fishing time and/or gear during the summer season. At the beginning of the fall season subsistence fishing restrictions were relaxed back to the regulatory schedule in each area (Estensen et al. 2015b) or open 24 hours a day, 7 days a week. Commercial fishermen had the opportunity to retain summer chum, fall chum, and coho salmon for subsistence use from commercial openings. The estimated number of salmon retained from commercial fisheries represented just over 1% of the total subsistence harvest (Table 1). Information about salmon retained from commercial harvests was sometimes difficult to obtain if the household member who processed but did not catch the fish was interviewed. The respondent may not have known whether fish were harvested from commercial or subsistence openings. Fisheries managers required harvesters to report Chinook salmon retained for subsistence use from commercial catches on their fish tickets. The number of Chinook salmon estimated from survey responses as retained from commercial fisheries (217 fish) was less than the number of Chinook salmon reported on fish tickets (481 fish). Other salmon species retained from commercial harvests were not recorded on fish tickets.

Overall, the total Yukon Area subsistence salmon harvest (Chinook, chum, and coho salmon) in 2014 was approximately 15% below the 2009–2013 average, and 20% under the 2004–2008 average of 251,331 fish (Figure 5). These harvest averages include other years with fishing restrictions, such as the closures during the Chinook salmon run in 2008 and 2009 and 2011–2013 (Figures 5 and 7–10). In contrast, the subsistence harvest of pink salmon was the largest since 2008 and slightly above the average even-year harvest from 2004–2012 (Figure 11; Appendix B5).

SALMON SURVEY AND AMOUNTS NECESSARY FOR SUBSISTENCE

In 2014, summer chum, fall chum, and pink salmon harvests were within their respective amounts necessary for subsistence (ANS) ranges (Figures 8, 9, and 11). The subsistence harvest of Chinook salmon was far below its ANS range (Figure 7). Coho salmon harvest was below its ANS range, but higher than 5 of the previous 6 years (Figure 10). 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 salmon, and 2,100–9,700 pink salmon (ADF&G 2001; Estensen et al. 2015a). The ANS ranges provide one index of the extent to which reasonable opportunity was provided in the subsistence fishery. Personal use harvests are not included.

Due to restrictions on Chinook salmon harvest in times of conservation, some households may have shifted to other subsistence foods such as other fish species or non-fish resources. The proportion of Chinook salmon in the total annual harvest for the Yukon Area decreased from nearly a fifth of the harvest 2004–2008 average to a 14% average in 2009–2014 (Figure 5); however, in 2014, Chinook salmon represented less than 2% of the total number of salmon harvested. From 2004 to 2013 harvests of summer chum and fall chum as a percentage of the overall harvest have increased (Figure 5).

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 salmon fed to dogs. Subsistence harvest information was included in the calculation of the ANS levels and in the 10 years prior to the establishment of the ANS levels (1990–1999),

an average of 202,400 chum and coho salmon were fed to dogs annually (Borba and Hamner 2001). A large number of the additional fish that used to be fed to dogs were probably carcasses generated from large commercial salmon roe fisheries which no longer occur (Estensen et al. 2012, Estensen et al. 2015b). By comparison, an average of 82,076 chum and coho salmon were fed to dogs annually from 2009 to 2013 (Appendix B12). Annual variations in the amount of salmon fed to dogs were probably due to owners feeding nonsalmon fish species, meat, or commercial dog food to a fluctuating number of dogs.

NONSALMON SPECIES

Although harvest of nonsalmon fish species was probably underestimated by this project, there are few or no other annually available sources of information about these species in the Yukon Area. Information collected during the survey project on nonsalmon species helps document where harvests of nonsalmon species are occurring and which species are important to communities in the Yukon Area. This annual harvest survey project and subsistence permits represent the only reoccurring quantification of these species in the Yukon Area.

PROJECT AND REPORT

The 2014 survey project progressed similarly to previous years. The household interviews were conducted by a surveyor with 4 previous years with the project, and a new surveyor with solid experiences in similar harvest surveys. As occurs each year, travel to communities was affected by weather, flight delays, and community events such as funerals. Although many of the interviewed households generally reacted positively to the surveyors and were willing to answer all questions, some households were antagonistic 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. Harvest information from calendars could replace or additionally supplement in-person surveys; however, on average only 16% of subsistence calendars were returned per year. Additional monetary incentives were offered in 2012–2014 and the number of calendars returned in 2014 increased to 18%; however, these returns do not represent total salmon harvest or provide enough information to support harvest estimates. Further efforts such as additional reminders or incentives may be needed to increase the return rate.

The timeline of data collection for this report is affected by the 2 main sources of data (surveys and permits); surveys are collected and entered by January of the next year. Although households were asked about the number of salmon harvested to meet subsistence needs in 2014 (Figure 3), results from these questions were not analyzed or included in the report. In order to further reduce data collection and entry time questions about needs met and whitefish harvest timing and location will be removed from the survey questionnaire in future years. To improve timely production of the harvest estimates from permit areas, in 2014 staff began reporting the names of non-responding permit holders to the State Troopers.

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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, 2014.

Community	Number of fishing households [b]	Estimated salmon harvest				Primary gear used [a]			
		Chinook	Summer chum	Fall chum	Coho	Set gillnet	Drift gillnet	Fish wheels	Other
Hooper Bay	146	455	13,236	137	118	137	9	0	0
Scammon Bay	71	108	6,068	115	86	61	0	0	10
Coastal District total	217	563	19,304	252	204	198	9	0	10
Nunam Iqua	23	62	2,010	128	153	12	1	0	10
Alakanuk [c]	121	214	9,120	593	443	26	45	0	50
Emmonak [c]	79	463	7,143	2,465	613	7	53	0	19
Kotlik [c]	76	617	5,621	886	573	29	31	0	16
District 1 subtotal	299	1,356	23,894	4,072	1,782	74	130	0	95
Mountain Village	103	178	7,059	1,484	202	12	71	0	20
Pitkas Point	20	79	1,588	400	123	2	14	0	4
St. Marys	94	68	5,570	2,037	408	4	46	0	44
Pilot Station [c]	36	163	5,728	796	568	1	21	0	14
Marshall	80	128	6,189	1,100	468	0	22	0	58
District 2 subtotal	333	616	26,134	5,817	1,769	19	174	0	140
Russian Mission	58	16	3,181	365	124	15	15	0	28
Holy Cross	23	0	97	1,840	103	9	12	0	2
Shageluk	7	32	470	252	113	6	1	0	0
District 3 subtotal	88	48	3,748	2,457	340	30	28	0	30
Lower Yukon River total	720	2,020	53,776	12,346	3,891	123	332	0	265
Anvik	23	0	2,052	1,028	197	15	8	0	0
Grayling	43	3	1,617	1,451	403	23	3	0	17
Kaltag	47	10	954	2,828	514	0	42	5	0
Nulato	67	0	158	3,839	454	8	56	3	0
Koyukuk	23	52	300	998	50	0	23	0	0
Galena	42	1	377	3,368	718	31	10	1	0
Ruby	12	6	29	972	335	9	0	1	2
District 4 Yukon River subtotal	257	72	5,487	14,484	2,671	86	142	10	19
Huslia	12	38	2,325	579	265	12	0	0	0
Hughes	3	13	889	348	17	2	0	1	0
Allakaket	16	8	1,276	510	109	16	0	0	0
Alatna	5	0	0	15	0	5	0	0	0
Bettles	1	1	4	0	0	0	1	0	0
Koyukuk River subtotal	37	60	4,494	1,452	391	35	1	1	0
District 4 subtotal	294	132	9,981	15,936	3,062	121	143	11	19

-continued-

Table 1.–Page 2 of 3.

Community	Number of fishing households [b]	Estimated salmon harvest				Primary gear used [a]			
		Chinook	Summer chum	Fall chum	Coho	Set gillnet	Drift gillnet	Fish wheels	Other
Tanana	33	88	2,612	14,131	1,788	12	0	21	0
Rampart [d]	3	0	70	0	0	3	0	0	0
Fairbanks NSB [d]	21	14	300	1,406	0	20	0	1	0
Stevens Village	3	0	0	6,700	0	1	0	2	0
Birch Creek	0	0	0	0	0	0	0	0	0
Beaver	5	0	0	323	2	5	0	0	0
Fort Yukon [c]	46	93	19	8,025	201	18	0	28	0
Circle [d]	7	0	0	1,277	0	2	0	5	0
Central [d]	2	0	0	0	0	2	0	0	0
Eagle [c, d, e]	12	76	0	17,450	1	7	0	5	0
Other District 5 [d, f]	6	0	91	222	0	6	0	0	0
District 5 Yukon River subtotal	138	271	3,092	49,534	1,992	76	0	62	0
Venetie	14	12	0	1,538	0	7	0	0	7
Chalkyitsik	3	5	16	125	38	3	0	0	0
Chandalar and Black Rivers subtotal	17	17	16	1,663	38	10	0	0	7
District 5 subtotal	155	288	3,108	51,197	2,030	86	0	62	7
Manley [d]	9	92	239	2,579	1,177	6	0	3	0
Minto [d, g]	6	0	24	472	37	4	0	2	0
Nenana [d]	20	139	275	2,810	2,138	11	0	9	0
Healy [d]	3	0	0	1,735	864	3	0	0	0
Fairbanks NSB [d]	49	41	415	5,468	3,863	37	0	9	3
Other District 6 [d, h]	13	12	13	12	6	10	0	0	3
District 6 Tanana River subtotal	100	284	966	13,076	8,085	71	0	23	6
Upper Yukon River total	549	704	14,055	80,209	13,177	278	143	96	32
Alaska, Yukon River total [i]	1,269	2,724	67,831	92,555	17,068	401	475	96	297
Alaska, Yukon Area total	1,486	3,287	87,135	92,807	17,272	599	484	96	307
AK, Yukon Area percentages of the total	-	2%	44%	46%	8%	40%	33%	6%	21%
Select subtotals included in the communities above									
Survey community subtotal	1,335	1,972	81,346	56,899	8,240	488	484	62	301
Retained from commercial fisheries [j]	-	217	1,509	308	113				
Subsistence permit subtotal	123	349	1,173	32,257	7,527	88	0	34	1
Test fishery subtotal	-	954	4,381	2,533	979	-	-	-	-
District 6 commercial retained [k]	-	11	0	840	352	-	-	-	-
Subsistence harvests subtotal	1,458	3,286	86,900	92,529	17,098	576	484	96	301
Personal Use permit subtotals	28	1	235	278	174	23	0	0	5

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[a] Other gear types included dip nets and beach seines. Primary gear is the gear type used to harvest the largest number of salmon by each household.

[b] Does not include 57 households that fished with a Tolovana River pike permit; includes 9 households that fished more than one permit in District 5 or District 6 permit areas.

[c] Includes salmon distributed from test fishery projects.

[d] Permit data from permits returned by June 11, 2015. Additional late permits were entered January 13, 2017.

[e] Permit holders harvested 152 Chinook, 50 summer chum, and 12,642 fall chum salmon above the mainstem Yukon River sonar project located near the community of Eagle.

[f] "Other District 5" includes residents of Anchorage, Manley, Minto, Nenana, Tanana, Wasilla, Willow, and Wiseman, and the Upper Tanana River drainage community of Tok who obtained a household permit and fished in a Yukon River permit required area.

[g] Includes the harvest of 1 coho salmon from Tolovana River pike permits.

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

[i] Total excluding Coastal District is used to assess objectives under the Yukon River Salmon Agreement.

[j] Estimated number of salmon retained from commercial fisheries and used for subsistence in surveyed communities. These salmon are included in subsistence harvest estimates by community. Households from the Coastal District, and Districts 1–3 reported salmon retention from commercial periods.

[k] 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 permit information by community of residence, Yukon Area, 2014.

	Households		Households with dogs		Number of dogs		Households feeding fish		Summer chum salmon		Fall chum salmon		Coho salmon		Total salmon [a]
			Est	CI	Est	CI	Est	CI	Est	CI	Est	CI	Est	CI	Est
Community	Total	*C*	Total	95%	Total	95%	Total	95%	Total	95%	Total	95%	Total	95%	Total
Hooper Bay	233	85	167	22	382	82	3	2	13	13	0	0	0	0	13
Scammon Bay	121	59	71	13	108	24	0	0	0	0	0	0	0	0	0
Coastal District	354	144	238	26	490	85	3	2	13	13	0	0	0	0	13
Nunam Iqua	36	27	21	4	53	13	1	1	0	0	0	0	0	0	0
Alakanuk	149	66	77	15	168	37	7	6	1	1	0	0	0	0	1
Emmonak	188	101	104	13	197	33	6	5	0	0	0	0	0	0	0
Kotlik	119	58	67	14	132	67	4	7	0	0	8	14	12	20	20
District 1	492	252	269	25	550	83	18	10	1	1	8	13	12	20	21
Mountain Village	169	74	97	18	168	50	0	0	0	0	0	0	0	0	0
Pitkas Point	33	18	23	3	66	63	0	0	0	0	0	0	0	0	0
St. Marys	138	64	58	14	104	42	1	1	0	0	0	0	0	0	0
Pilot Station	125	62	60	11	87	22	0	0	0	0	0	0	0	0	0
Marshall	102	61	63	8	150	51	2	2	0	0	0	0	0	0	0
District 2	567	279	301	27	575	102	3	2	0	0	0	0	0	0	0
Russian Mission	80	27	36	18	179	75	0	0	0	0	0	0	0	0	0
Holy Cross	64	26	28	6	62	26	0	0	0	0	0	0	0	0	0
Shageluk	29	19	21	3	51	12	3	3	10	0	100	148	0	0	110
District 3	173	72	85	19	292	78	3	3	10	0	100	141	0	0	110
Anvik	34	22	22	2	84	15	4	2	1,177	664	0	0	0	0	1,177
Grayling	54	26	48	6	152	23	3	3	140	207	0	0	4	4	144
Kaltag	57	18	44	6	96	33	5	9	0	0	0	0	0	0	0
Nulato	87	32	44	11	124	46	1	1	0	0	0	0	144	125	144
Koyukuk	45	18	26	9	53	28	1	0	300	0	50	0	50	0	400
Galena	155	55	65	17	173	68	1	0	0	0	0	0	0	0	0
Ruby	68	23	36	16	81	27	2	1	0	0	218	2	218	2	436
Huslia	89	28	55	14	178	43	7	2	990	238	142	135	217	0	1,349
Hughes	35	28	14	3	71	23	2	0	889	0	0	0	0	0	889
Allakaket	62	24	36	11	97	21	5	5	380	58	0	0	0	0	380
Alatna	8	5	8	0	24	0	5	0	0	0	15	0	0	0	15
Bettles	30	20	17	3	38	12	0	0	0	0	0	0	0	0	0
District 4	724	299	415	34	1,171	110	36	11	3,876	701	425	129	633	121	4,934

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Table 2.–Page 2 of 2.

Community	Households Total	Households *C*	Households with dogs Est total	Households with dogs CI 95%	Number of dogs Est total	Number of dogs CI 95%	Households feeding fish Est total	Households feeding fish CI 95%	Summer chum salmon Est total	Summer chum salmon CI 95%	Fall chum salmon Est total	Fall chum salmon CI 95%	Coho salmon Est total	Coho salmon CI 95%	Total salmon [a] Est total
Tanana	95	40	59	13	331	83	16	5	1,197	509	14,143	4,538	1,087	609	16,427
Stevens Village	8	5	7	2	106	2	3	0	0	0	6,700	0	0	0	6,700
Birch Creek	12	6	7	3	25	3	0	0	0	0	0	0	0	0	0
Beaver	30	24	12	4	21	7	5	4	0	0	20	0	0	0	20
Fort Yukon	230	75	137	24	418	120	12	2	8	5	5,387	1,373	176	85	5,571
Venetie	79	28	66	10	221	81	11	8	0	0	1,375	833	0	0	1,375
Chalkyitsik	31	20	20	4	32	10	2	1	0	0	60	47	38	35	98
District 5	485	198	308	29	1,154	164	49	10	1,205	496	27,685	4,685	1,301	601	30,191
Survey totals	2,795	1,244	1,616	67	4,232	263	112	18	5,105	856	28,218	4,665	1,946	610	35,269
Subsistence Permits	Permits [a] Issued	Permits [a] Returned	Households with dogs		Number of dogs		Households feeding fish		Information about salmon fed to dogs by species is not collected on permits						Total salmon
Circle	12	10	10		79		8		–	–	–	–	–	–	610
Eagle	17	17	14		170		14		–	–	–	–	–	–	15,094
Other District 5 [b]	11	11	7		11		5		–	–	–	–	–	–	0
District 5 permit subtotal	40	38	31		260		27								15,704
Fairbanks (FNSB) [c]	171	169	45		512		20		–	–	–	–	–	–	7,674
Healy	3	3	3		31		3		–	–	–	–	–	–	2,166
Manley	16	16	11		52		5		–	–	–	–	–	–	2,928
Minto	35	35	17		75		9		–	–	–	–	–	–	508
Nenana	37	35	23		193		18		–	–	–	–	–	–	2,439
Other District 6 [b]	25	25	13		33		3		–	–	–	–	–	–	0
District 6 permit subtotal	287	283	112		896		58		–	–	–	–	–	–	15,715
Subsistence permit subtotal	327	321	143		1,156		85		–	–	–	–	–	–	31,419
District 5 survey and permit total		–	339		1,414		89								45,895
Total Survey and Permit		–	1,759		5,388		197		–	–	–	–	–	–	66,688

Note: No households reported retaining salmon from commercial harvests for dog food. *C* is the number of households contacted in surveyed communities. Does not include permits from Stevens Village, Tolovana River, or Personal Use fishery.

[a] Includes 19 households that were issued more than one subsistence permit.

[b] Households from other communities including Anchorage, Central, Delta Junction, Dot Lake, Fort Yukon, Northway, Rampart, Tanacross, Tanana, Tok, Wasilla, and Wiseman that owned dogs, but did not report feeding any salmon to dogs.

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

Table 3.–Estimated total number of households in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2014.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Community totals			
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*
Hooper Bay	33	19	11	58	70	21	14	67	76	22	20	91	54	54	45	83	–	–	–	–	233	116	90	78
Scammon Bay	32	16	15	94	25	9	8	89	39	13	11	85	25	25	25	100	–	–	–	–	121	63	59	94
Coastal District	65	35	26	74	95	30	22	73	115	35	31	89	79	79	70	89	–	–	–	–	354	179	149	83
Nunam Iqua	1	1	1	100	8	8	6	75	12	12	11	92	15	15	14	93	–	–	–	–	36	36	32	89
Alakanuk	22	13	7	54	39	12	9	75	49	15	14	93	39	39	37	95	–	–	–	–	149	79	67	85
Emmonak	34	25	15	60	51	25	23	92	54	27	25	93	47	47	39	83	2	2	1	50	188	126	103	82
Kotlik	17	13	13	100	24	8	8	100	51	16	14	88	27	27	24	89	–	–	–	–	119	64	59	92
District 1	74	52	36	69	122	53	46	87	166	70	64	91	128	128	114	89	2	2	1	50	492	305	261	86
Mountain Village	41	26	24	92	34	11	8	73	57	16	13	81	37	37	31	84	–	–	–	–	169	90	76	84
Pitkas Point	6	3	1	33	4	4	2	50	14	14	11	79	9	9	5	56	–	–	–	–	33	30	19	63
St. Marys	28	22	13	59	23	8	8	100	52	16	15	94	34	34	29	85	1	1	1	100	138	81	66	81
Pilot Station	20	10	9	90	31	14	14	100	54	27	23	85	20	20	19	95	–	–	–	–	125	71	65	92
Marshall	36	25	25	100	13	4	4	100	33	10	23	230	19	19	18	95	1	1	0	0	102	59	70	119
District 2	131	86	72	84	105	41	36	88	210	83	85	102	119	119	102	86	2	2	1	50	567	331	296	89
Russian Mission	17	14	9	64	15	4	3	75	38	12	10	83	10	10	8	80	–	–	–	–	80	40	30	75
Holy Cross	12	3	1	33	17	9	7	78	20	11	11	100	15	15	12	80	–	–	–	–	64	38	31	82
Shageluk	12	6	7	117	8	8	4	50	6	6	6	100	2	2	1	50	1	1	1	100	29	23	19	83
District 3	41	23	17	74	40	21	14	67	64	29	27	93	27	27	21	78	1	1	1	100	173	101	80	79
Anvik	3	2	2	100	7	7	2	29	14	14	12	86	9	9	7	78	1	1	0	0	34	33	23	70
Grayling	7	1	2	200	7	3	2	67	29	9	15	167	11	11	9	82	–	–	–	–	54	24	28	117
Kaltag	10	2	2	100	8	2	2	100	33	10	11	110	6	6	4	67	–	–	–	–	57	20	19	95
Nulato	17	12	8	67	13	4	3	75	46	15	13	87	11	11	9	82	–	–	–	–	87	42	33	79
Koyukuk	5	5	3	60	13	4	4	100	21	7	8	114	4	4	2	50	2	2	2	100	45	22	19	86
Galena	17	11	8	73	62	19	18	95	65	21	22	105	9	9	8	89	2	2	2	100	155	62	58	94
Ruby	9	7	5	71	41	13	11	85	11	2	2	100	6	6	5	83	1	1	1	100	68	29	24	83
Huslia	7	4	0	0	54	16	14	88	16	5	5	100	9	9	7	78	3	3	3	100	89	37	29	78
Hughes	5	3	3	100	18	18	15	83	9	9	8	89	2	2	2	100	1	1	1	100	35	33	29	88
Allakaket	9	3	3	100	37	12	12	100	10	3	3	100	4	4	4	100	2	2	2	100	62	24	24	100
Alatna	5	3	3	100	1	1	1	100	2	2	2	100	–	–	–	–	–	–	–	–	8	6	6	100
Bettles	12	7	6	86	17	17	14	82	1	1	0	0	–	–	–	–	–	–	–	–	30	25	20	80
District 4	106	60	45	75	278	116	98	84	257	98	101	103	71	71	57	80	12	12	11	92	724	357	312	87

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Table 3.–Page 2 of 2.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Community totals			
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*
Tanana	12	7	5	71	30	14	11	79	34	17	13	76	8	8	5	63	11	11	11	100	95	57	45	79
Stevens Village	–	–	–	0	2	2	1	50	3	3	3	100	2	2	1	50	1	1	1	100	8	8	6	75
Birch Creek	2	2	1	50	7	7	4	57	3	3	1	33	–	–	–	0	–	–	–	0	12	12	6	50
Beaver	7	2	4	200	6	6	6	100	15	15	14	93	2	2	2	100	–	–	–	0	30	25	26	104
Fort Yukon	44	24	17	71	122	37	32	86	38	12	8	67	17	17	16	94	9	9	8	89	230	99	81	82
Venetie	15	9	5	56	46	15	14	93	13	3	4	133	5	5	5	100	–	–	–	0	79	32	28	88
Chalkyitsik	14	8	8	100	15	15	12	80	2	2	2	100	–	–	–	0	–	–	–	0	31	25	22	88
District 5	94	52	40	77	228	96	80	83	108	55	45	82	34	34	29	85	21	21	20	95	485	258	214	83
Survey totals	511	308	236	77	868	357	296	83	920	370	353	95	458	458	393	86	38	38	34	89	2,795	1,531	1,312	86

Note: Total number of households (*N*), the number of households selected (*S*), the number of households contacted (*n*), and the percent of the sampled households that were contacted (*%S*) 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%. Dashes indicate indefinable values.

Table 4.–Estimated number of subsistence fishing households in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2014.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	PF	SE	*N*	*n*	PF	SE	*N*	*n*	PF	SE	*N*	*n*	PF	SE	*N*	*n*	PF	SE	*N*	*n*	total	95%
Hooper Bay	33	11	0.5	0.1	70	14	0.5	0.1	76	20	0.7	0.1	54	42	0.9	0.0	–	–	–	–	233	87	146	24
Scammon Bay	32	15	0.5	0.1	25	8	0.3	0.1	39	11	0.6	0.1	25	25	0.9	0.0	–	–	–	–	121	59	71	14
Coastal District	65	26	0.5	0.1	95	22	0.4	0.1	115	31	0.6	0.1	79	67	0.9	0.0	–	–	–	–	354	146	217	27
Nunam Iqua	1	1	0.0	–	8	5	0.0	0.0	12	9	0.9	0.1	15	12	0.8	0.1	–	–	–	–	36	27	23	2
Alakanuk	22	7	0.7	0.2	39	8	0.1	0.1	49	14	0.9	0.1	39	37	0.8	0.0	–	–	–	–	149	66	121	14
Emmonak	34	15	0.2	0.1	51	22	0.1	0.1	54	25	0.6	0.1	47	39	0.7	0.0	2	1	1.0	–	188	102	79	12
Kotlik	17	13	0.8	0.1	24	8	0.1	0.1	51	14	0.7	0.1	27	24	0.8	0.0	–	–	–	–	119	59	76	12
District 1	74	36	0.5	0.1	122	43	0.1	0.0	166	62	0.7	0.0	128	112	0.8	0.0	2	1	1.0	–	492	254	299	22
Mountain Village	41	24	0.4	0.1	34	8	0.5	0.2	57	13	0.5	0.1	37	30	0.9	0.0	–	–	–	–	169	75	103	19
Pitkas Point	6	1	1.0	–	4	2	0.0	0.0	14	10	0.5	0.1	9	5	1.0	0.0	–	–	–	–	33	18	20	3
St. Marys	28	13	0.6	0.1	23	8	0.4	0.1	52	15	0.7	0.1	34	29	0.9	0.0	1	1	1.0	–	138	66	94	14
Pilot Station	20	9	0.1	0.1	31	13	0.0	0.0	54	22	0.5	0.1	20	19	0.5	0.0	–	–	–	–	125	63	36	10
Marshall	36	25	0.7	0.1	13	4	0.5	0.2	33	23	1.0	0.0	19	18	0.9	0.0	1	0	–	–	102	70	81	8
District 2	131	72	0.5	0.0	105	35	0.2	0.1	210	83	0.6	0.0	119	101	0.8	0.0	2	1	1.0	–	567	292	334	26
Russian Mission	17	9	0.8	0.1	15	2	0.5	0.5	38	10	0.7	0.1	10	8	0.8	0.1	–	–	–	–	80	29	58	13
Holy Cross	12	1	0.0	–	17	7	0.0	0.0	20	10	0.6	0.1	15	9	0.4	0.1	–	–	–	–	64	27	23	7
Shageluk	12	7	0.1	0.1	8	4	0.0	0.0	6	6	0.3	0.0	2	1	1.0	–	1	1	1.0	–	29	19	7	2
District 3	41	17	0.5	0.1	40	13	0.0	0.0	64	26	0.6	0.1	27	18	0.6	0.1	1	1	1.0	–	173	75	88	15
Anvik	3	2	0.5	0.3	7	2	0.0	0.0	14	12	0.5	0.1	9	7	1.0	0.0	1	0	–	–	34	23	23	3
Grayling	7	2	0.5	0.4	7	2	0.5	0.4	29	14	0.7	0.1	11	8	1.0	0.0	–	–	–	–	54	26	43	7
Kaltag	10	2	0.5	0.4	8	2	0.0	0.0	33	10	0.8	0.1	6	4	1.0	0.0	–	–	–	–	57	18	47	11
Nulato	17	7	0.3	0.1	13	3	0.0	0.0	46	13	0.9	0.1	11	9	0.9	0.0	–	–	–	–	87	32	67	9
Koyukuk	5	3	0.3	0.2	13	4	0.0	0.0	21	8	0.8	0.1	4	2	1.0	0.0	2	2	1.0	0.0	45	19	23	6
Galena	17	7	0.1	0.1	62	17	0.2	0.1	65	22	0.4	0.1	9	8	0.4	0.1	2	2	1.0	0.0	155	56	42	16
Ruby	9	5	0.6	0.2	41	10	0.0	0.0	11	2	0.0	0.0	6	5	0.6	0.1	1	1	1.0	–	68	23	12	4
Huslia	7	0	–	–	54	13	0.1	0.1	16	5	0.0	0.0	9	7	0.4	0.1	3	3	1.0	0.0	89	28	12	8
Hughes	5	3	0.0	0.0	18	15	0.1	0.0	9	8	0.0	0.0	2	2	0.5	0.0	1	1	1.0	–	35	29	3	1
Allakaket	9	3	0.0	0.0	37	12	0.3	0.1	10	3	0.3	0.3	4	4	0.3	0.0	2	2	1.0	0.0	62	24	16	10
Alatna	5	2	1.0	0.0	1	1	0.0	–	2	2	0.0	0.0	–	–	–	–	–	–	–	–	8	5	5	0
Bettles	12	6	0.0	0.0	17	14	0.1	0.0	1	0	–	–	–	–	–	–	–	–	–	–	30	20	1	1
District 4	106	42	0.3	0.0	278	95	0.1	0.0	257	99	0.6	0.0	71	56	0.7	0.0	12	11	1.0	0.0	724	303	294	26

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Table 4.–Page 2 of 2.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	PF	SE	*N*	*n*	PF	SE	*N*	*n*	PF	SE	*N*	*n*	PF	SE	*N*	*n*	PF	SE	*N*	*n*	total	95%
Tanana	12	4	0.3	0.2	30	10	0.1	0.1	34	13	0.3	0.1	8	5	0.8	0.1	11	10	0.9	0.0	95	42	33	10
Stevens Village	–	–	–	–	2	1	0.0	–	3	3	0.0	0.0	2	1	1.0	–	1	1	1.0	–	8	6	3	0
Birch Creek	2	1	0.0	–	7	4	0.0	0.0	3	1	0.0	–	–	–	–	–	–	–	–	–	12	6	0	0
Beaver	7	4	0.0	0.0	6	6	0.0	0.0	15	14	0.2	0.0	2	2	1.0	0.0	–	–	–	–	30	26	5	1
Fort Yukon	44	16	0.3	0.1	122	30	0.1	0.0	38	8	0.3	0.1	17	16	0.6	0.0	9	8	0.6	0.1	230	78	46	16
Venetie	15	5	0.0	0.0	46	14	0.1	0.1	13	4	0.3	0.2	5	5	0.8	0.0	–	–	–	–	79	28	14	9
Chalkyitsik	14	8	0.1	0.1	15	12	0.1	0.0	2	2	0.0	0.0	–	–	–	–	–	–	–	–	31	22	3	3
District 5	94	38	0.2	0.1	228	77	0.1	0.0	108	45	0.2	0.1	34	29	0.7	0.0	21	19	0.8	0.0	485	208	104	21
Survey totals	511	231	0.4	0.0	868	285	0.2	0.0	920	346	0.6	0.0	458	383	0.8	0.0	38	33	0.9	0.0	2,795	1,278	1,336	57

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

Table 5.–Estimated number of people in households in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2014.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Hooper Bay	33	9	4.7	0.7	70	13	5.9	0.9	76	18	5.5	0.6	54	43	6.1	0.2	–	–	–	–	233	83	1,353	191
Scammon Bay	32	14	5.6	0.5	25	8	4.6	0.7	39	10	5.5	0.5	25	25	6.0	0.0	–	–	–	–	121	57	661	61
Coastal District	65	23	5.6	0.5	95	21	5.6	0.7	115	28	5.5	0.4	79	68	6.1	0.2	–	–	–	–	354	140	2,014	199
Nunam Iqua	1	1	4.0	–	8	5	4.0	0.6	12	9	5.3	0.4	15	11	5.5	0.4	–	–	–	–	36	26	183	18
Alakanuk	22	7	4.1	0.6	39	6	4.7	1.0	49	13	5.6	0.6	39	36	5.2	0.1	–	–	–	–	149	62	772	88
Emmonak	34	14	3.5	0.4	51	22	4.5	0.4	54	22	5.2	0.4	47	38	5.0	0.2	2	1	4.0	–	188	97	870	69
Kotlik	17	13	4.5	0.2	24	8	3.5	0.7	51	12	4.8	0.5	27	21	4.8	0.2	–	–	–	–	119	54	538	63
District 1	74	35	3.9	0.3	122	41	4.1	0.3	166	56	5.2	0.3	128	106	5.1	0.1	2	1	4.0	–	492	239	2,363	128
Mountain Village	41	24	4.3	0.3	34	8	4.8	0.8	57	13	4.8	0.7	37	28	5.6	0.2	–	–	–	–	169	73	819	100
Pitkas Point	6	1	4.0	–	4	2	3.5	1.8	14	10	3.8	0.2	9	5	5.2	0.6	–	–	–	–	33	18	139	24
St. Marys	28	12	4.4	0.3	23	8	2.1	0.5	52	14	4.1	0.6	34	29	3.9	0.2	1	1	5.0	–	138	64	524	67
Pilot Station	20	9	5.4	0.4	31	13	3.7	0.6	54	21	5.7	0.4	20	19	5.6	0.2	–	–	–	–	125	62	641	56
Marshall	36	21	3.2	0.3	13	4	5.0	1.2	33	19	5.8	0.4	19	13	4.5	0.4	1	0	–	–	102	57	465	48
District 2	131	67	4.2	0.2	105	35	3.4	0.4	210	77	4.9	0.3	119	94	4.9	0.1	2	1	5.0	–	567	274	2,588	141
Russian Mission	17	8	3.6	0.5	15	2	3.5	0.5	38	9	4.4	0.8	10	8	5.9	0.3	–	–	–	–	80	27	357	53
Holy Cross	12	1	4.0	–	17	7	3.3	0.7	20	10	2.0	0.3	15	8	3.1	0.4	–	–	–	–	64	26	176	36
Shageluk	12	7	3.3	0.4	8	4	3.5	1.1	6	5	3.4	0.3	2	1	2.0	–	1	1	1.0	–	29	18	93	21
District 3	41	16	3.5	0.3	40	13	3.4	0.6	64	24	2.3	0.2	27	17	4.1	0.3	1	1	1.0	–	173	71	626	65
Anvik	3	2	1.0	0.0	7	2	1.0	0.0	14	12	2.8	0.2	9	6	3.3	0.6	1	0	–	–	34	22	94	17
Grayling	7	2	2.5	1.3	7	2	4.0	2.5	29	14	3.4	0.3	11	8	3.5	0.4	–	–	–	–	54	26	183	27
Kaltag	10	2	1.5	0.4	8	2	2.0	0.9	33	10	3.2	0.4	6	3	2.0	0.0	–	–	–	–	57	17	172	38
Nulato	17	7	1.7	0.3	13	3	1.3	0.3	46	13	2.8	0.5	11	8	1.8	0.2	–	–	–	–	87	31	207	52
Koyukuk	5	3	3.7	0.8	13	3	2.3	0.8	21	8	2.9	0.5	4	2	2.5	0.4	2	2	2.0	0.0	45	18	130	33
Galena	17	6	3.2	0.9	62	17	2.4	0.3	65	22	2.7	0.2	9	7	2.3	0.2	2	2	2.0	0.0	155	54	402	58
Ruby	9	5	3.6	0.6	41	10	2.2	0.4	11	2	2.0	0.9	6	5	2.2	0.2	1	1	2.0	–	68	23	164	43
Huslia	7	0	–	–	54	12	3.5	0.5	16	4	3.5	0.9	9	7	5.4	0.5	3	3	3.0	0.0	89	26	333	73
Hughes	5	3	2.7	0.8	18	15	3.1	0.2	9	8	3.4	0.2	2	1	1.0	–	1	1	3.0	–	35	28	104	11
Allakaket	9	3	3.3	1.0	37	12	3.0	0.4	10	2	3.5	2.2	4	4	1.8	0.0	2	2	2.5	0.0	62	23	182	43
Alatna	5	2	2.0	0.0	1	1	3.0	–	2	1	6.0	–	–	–	–	–	–	–	–	–	8	4	25	0
Bettles	12	6	1.3	0.1	17	14	1.4	0.1	1	0	–	–	–	–	–	–	–	–	–	–	30	20	40	4
District 4	106	41	2.5	0.2	278	93	2.7	0.2	257	96	2.9	0.1	71	51	2.8	0.1	12	11	2.5	0.0	724	292	2,036	131

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Table 5.–Page 2 of 2.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Tanana	12	3	1.3	0.3	30	10	2.3	0.3	34	12	2.5	0.3	8	5	3.0	0.4	11	10	2.0	0.1	95	40	229	32
Stevens Village	–	–	–	–	2	1	1.0	–	3	2	1.5	0.3	2	1	5.0	–	1	1	3.0	–	8	5	20	2
Birch Creek	2	1	1.0	–	7	4	2.5	0.8	3	1	2.0	–	–	–	–	–	–	–	–	–	12	6	26	13
Beaver	7	4	3.0	0.7	6	6	1.3	0.0	15	13	1.9	0.1	2	2	3.5	0.0	–	–	–	–	30	25	65	11
Fort Yukon	44	16	2.4	0.3	122	30	2.2	0.3	38	8	2.8	0.5	17	15	3.2	0.2	9	8	2.5	0.2	230	77	537	95
Venetie	15	5	2.2	0.7	46	14	2.3	0.4	13	4	3.3	0.9	5	5	4.0	0.0	–	–	–	–	79	28	200	47
Chalkyitsik	14	7	2.1	0.4	15	12	2.5	0.2	2	2	2.5	0.0	–	–	–	–	–	–	–	–	31	21	73	13
District 5	94	36	2.4	0.2	228	77	2.2	0.2	108	42	2.5	0.2	34	28	3.4	0.1	21	19	2.3	0.1	485	202	1,150	111
Survey totals	511	218	3.5	0.1	868	280	3.2	0.1	920	323	4.2	0.1	458	364	4.7	0.1	38	33	2.5	0.1	2,795	1,218	10,777	329

Note: The number of people in surveyed communities was estimated from the total number of households (*N*), the number of households contacted (*n*), average number of people in households (Mean), standard error (SE), and includes 95% confidence interval (CI 95%). Dashes indicate indefinable values.

Table 6.–Estimated subsistence harvest including commercially related (not including test fish) of Chinook salmon by fishing location in surveyed communities, Yukon Area, 2014.

Community	Coastal District	Districts			Subdistricts [a]								River drainages					Total by community [b]
		1	2	3	4A	4B	4C	5A	5B	5C	5D–down	5D–up	Innoko	Koyukuk	Chandalar	Porcupine	Black	
Hooper Bay	455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	455
Scammon Bay	48	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108
Coastal District	503	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	563
Nunam Iqua	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62
Alakanuk	0	167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	167
Emmonak	0	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
Kotlik [c]	31	204	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
District 1	31	550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	581
Mountain Village	0	55	123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178
Pitkas Point	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79
St. Marys	0	3	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
Pilot Station	0	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83
Marshall	0	0	128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128
District 2	0	58	478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	536
Russian Mission	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Holy Cross	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shageluk	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	32
District 3	0	0	0	16	32	0	0	0	0	0	0	0	0	0	0	0	0	48
Anvik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grayling	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Kaltag	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Nulato	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Koyukuk	0	0	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	52
Galena	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Ruby	0	0	0	0	0	5	2	0	0	0	0	0	0	0	0	0	0	6
Huslia	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38
Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13
Allakaket	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
Alatna	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
District 4	0	0	0	3	62	5	3	0	0	0	0	0	0	60	0	0	0	132

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Table 6.–Page 2 of 2.

Community	Coastal District	Districts			Subdistricts [a]								River drainages					Total by community [b]
		1	2	3	4A	4B	4C	5A	5B	5C	5D–down	5D–up	Innoko	Koyukuk	Chandalar	Porcupine	Black	
Tanana	0	0	0	0	0	0	0	0	88	0	0	0	0	0	0	0	0	88
Stevens Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Birch Creek	0	0	0	0	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	0	0	0	0
Fort Yukon	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	0	0	7
Venetie	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12
Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
District 5	0	0	0	0	0	0	0	0	88	0	4	3	0	0	12	0	5	112
Survey totals	534	668	478	19	94	5	3	0	88	0	4	3	0	60	12	0	5	1,972

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

[a] Harvest in Subdistrict 5-D near Ft. Yukon is divided according to whether harvest occurred downriver (5D-down) or upriver (5D-up) of the confluence of the Porcupine River with the Yukon River.

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

[c] Some of the harvest was reported from Pastoliak Bay outside of District 1.

Table 7.–Estimated subsistence harvest including commercially related (not including test fish) of summer chum salmon by fishing location in surveyed communities, Yukon Area, 2014.

Community	Coastal District	Districts			Subdistricts [a]								River drainages					Total by community [b]
		1	2	3	4A	4B	4C	5A	5B	5C	5D–down	5D–up	Innoko	Koyukuk	Chandalar	Porcupine	Black	
Hooper Bay	13,236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13,236
Scammon Bay	5,581	487	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,068
Coastal District	18,817	487	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19,304
Nunam Iqua	0	2,010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,010
Alakanuk	0	8,816	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,816
Emmonak	0	5,878	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,878
Kotlik [c]	22	4,693	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,715
District 1	22	21,397	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21,419
Mountain Village	0	772	6,287	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,059
Pitkas Point	0	0	1,588	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,588
St. Marys	0	328	5,242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,570
Pilot Station	0	0	3,841	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,841
Marshall	0	0	6,189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,189
District 2	0	1,100	23,147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24,247
Russian Mission	0	0	0	3,181	0	0	0	0	0	0	0	0	0	0	0	0	0	3,181
Holy Cross	0	0	0	97	0	0	0	0	0	0	0	0	0	0	0	0	0	97
Shageluk	0	0	0	0	470	0	0	0	0	0	0	0	0	0	0	0	0	470
District 3	0	0	0	3,278	470	0	0	0	0	0	0	0	0	0	0	0	0	3,748
Anvik	0	0	0	110	1,942	0	0	0	0	0	0	0	0	0	0	0	0	2,052
Grayling	0	0	0	0	1,617	0	0	0	0	0	0	0	0	0	0	0	0	1,617
Kaltag	0	0	0	0	954	0	0	0	0	0	0	0	0	0	0	0	0	954
Nulato	0	0	0	0	158	0	0	0	0	0	0	0	0	0	0	0	0	158
Koyukuk	0	0	0	0	300	0	0	0	0	0	0	0	0	0	0	0	0	300
Galena	0	0	0	0	0	377	0	0	0	0	0	0	0	0	0	0	0	377
Ruby	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	29
Huslia	0	0	0	0	0	0	0	0	0	0	0	0	0	2,325	0	0	0	2,325
Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	889	0	0	0	889
Allakaket	0	0	0	0	0	0	0	0	0	0	0	0	0	1,276	0	0	0	1,276
Alatna	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4
District 4	0	0	0	110	4,971	406	0	0	0	0	0	0	0	4,494	0	0	0	9,981

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Table 7.–Page 2 of 2.

Community	Coastal District	Districts 1	2	3	Subdistricts [a] 4A	4B	4C	5A	5B	5C	5D–down	5D–up	River drainages Innoko	Koyukuk	Chandalar	Porcupine	Black	Total by community [b]
Tanana	0	0	0	0	0	0	0	0	2,612	0	0	0	0	0	0	0	0	2,612
Stevens Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Birch Creek	0	0	0	0	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	0	0	0	0
Fort Yukon	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	7	0	19
Venetie	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16
District 5	0	0	0	0	0	0	0	0	2,612	0	0	12	0	0	0	7	16	2,647
Survey totals	18,839	22,984	23,147	3,388	5,441	406	0	0	2,612	0	0	12	0	4,494	0	7	16	81,346

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

[a] Harvest in Subdistrict 5-D near Ft. Yukon is divided according to whether harvest occurred downriver (5D-down) or upriver (5D-up) of the confluence of the Porcupine River with the Yukon River.

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

[c] Some of the harvest was reported from Pastoliak Bay outside of District 1.

Table 8.–Estimated subsistence harvest including commercially related (not including test fish) of fall chum salmon by fishing location in surveyed communities, Yukon Area, 2014.

	Coastal	Districts			Subdistricts [a]								River drainages						Total by
Community	District	1	2	3	4A	4B	4C	5A	5B	5C	5D–down	5D–up	Innoko	Koyukuk	Chandalar	Porcupine	Black		community [b]
Hooper Bay	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		137
Scammon Bay	90	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		115
Coastal District	227	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		252
Nunam Iqua	0	128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		128
Alakanuk	0	516	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		516
Emmonak	0	940	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		940
Kotlik	0	594	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		594
District 1	0	2,178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		2,178
Mountain Village	0	90	1,394	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1,484
Pitkas Point	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0		400
St. Marys	0	600	1,437	0	0	0	0	0	0	0	0	0	0	0	0	0	0		2,037
Pilot Station	0	0	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0		213
Marshall	0	0	1,100	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1,100
District 2	0	690	4,544	0	0	0	0	0	0	0	0	0	0	0	0	0	0		5,234
Russian Mission	0	0	0	365	0	0	0	0	0	0	0	0	0	0	0	0	0		365
Holy Cross	0	0	0	1,840	0	0	0	0	0	0	0	0	0	0	0	0	0		1,840
Shageluk	0	0	0	8	244	0	0	0	0	0	0	0	0	0	0	0	0		252
District 3	0	0	0	2,213	244	0	0	0	0	0	0	0	0	0	0	0	0		2,457
Anvik	0	0	0	67	961	0	0	0	0	0	0	0	0	0	0	0	0		1,028
Grayling	0	0	0	0	1,451	0	0	0	0	0	0	0	0	0	0	0	0		1,451
Kaltag	0	0	0	0	2,828	0	0	0	0	0	0	0	0	0	0	0	0		2,828
Nulato	0	0	0	0	3,839	0	0	0	0	0	0	0	0	0	0	0	0		3,839
Koyukuk	0	0	0	0	794	0	204	0	0	0	0	0	0	0	0	0	0		998
Galena	0	0	0	0	1,450	676	947	0	0	0	0	0	0	294	0	0	0		3,368
Ruby	0	0	0	0	0	369	603	0	0	0	0	0	0	0	0	0	0		972
Huslia	0	0	0	0	0	0	0	0	0	0	0	0	0	579	0	0	0		579
Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	348	0	0	0		348
Allakaket	0	0	0	0	0	0	0	0	0	0	0	0	0	510	0	0	0		510
Alatna	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0		15
Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
District 4	0	0	0	67	11,324	1,046	1,754	0	0	0	0	0	0	1,746	0	0	0		15,936

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Table 8.–Page 2 of 2.

Community	Coastal District	Districts 1	2	3	Subdistricts [a] 4A	4B	4C	5A	5B	5C	5D–down	5D–up	River drainages Innoko	Koyukuk	Chandalar	Porcupine	Black	Total by community [b]
Tanana	0	0	0	0	0	0	0	269	13,862	0	0	0	0	0	0	0	0	14,131
Stevens Village	0	0	0	0	0	0	0	0	0	0	6,700	0	0	0	0	0	0	6,700
Birch Creek	0	0	0	0	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	323	0	0	0	0	0	0	323
Fort Yukon	0	0	0	0	0	0	0	0	0	0	2,976	4,519	0	0	0	530	0	8,025
Venetie	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,538	0	0	1,538
Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	125	125
District 5	0	0	0	0	0	0	0	269	13,862	0	9,999	4,519	0	0	1,538	530	125	30,842
Survey totals	227	2,892	4,544	2,280	11,567	1,046	1,754	269	13,862	0	9,999	4,519	0	1,746	1,538	530	125	56,899

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

[a] Harvest in Subdistrict 5-D near Ft. Yukon is divided according to whether harvest occurred downriver (5D-down) or upriver (5D-up) of the confluence of the Porcupine River with the Yukon River.

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

Table 9.–Estimated subsistence harvest including commercially related (not including test fish) of coho salmon by fishing location in surveyed communities, Yukon Area, 2014.

Community	Coastal District	Districts			Subdistricts [a]								River drainages					Total by community [b]
		1	2	3	4A	4B	4C	5A	5B	5C	5D–down	5D–up	Innoko	Koyukuk	Chandalar	Porcupine	Black	
Hooper Bay	118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118
Scammon Bay	75	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86
Coastal District	193	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	204
Nunam Iqua	0	153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	153
Alakanuk	0	308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	308
Emmonak	0	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114
Kotlik	0	444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	444
District 1	0	1,019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,019
Mountain Village	0	0	202	0	0	0	0	0	0	0	0	0	0	0	0	0	0	202
Pitkas Point	0	0	123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	123
St. Marys	0	0	408	0	0	0	0	0	0	0	0	0	0	0	0	0	0	408
Pilot Station	0	0	385	0	0	0	0	0	0	0	0	0	0	0	0	0	0	385
Marshall	0	0	468	0	0	0	0	0	0	0	0	0	0	0	0	0	0	468
District 2	0	0	1,586	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,586
Russian Mission	0	0	0	124	0	0	0	0	0	0	0	0	0	0	0	0	0	124
Holy Cross	0	0	0	103	0	0	0	0	0	0	0	0	0	0	0	0	0	103
Shageluk	0	0	0	0	113	0	0	0	0	0	0	0	0	0	0	0	0	113
District 3	0	0	0	227	113	0	0	0	0	0	0	0	0	0	0	0	0	340
Anvik	0	0	0	0	197	0	0	0	0	0	0	0	0	0	0	0	0	197
Grayling	0	0	0	0	403	0	0	0	0	0	0	0	0	0	0	0	0	403
Kaltag	0	0	0	0	514	0	0	0	0	0	0	0	0	0	0	0	0	514
Nulato	0	0	0	0	454	0	0	0	0	0	0	0	0	0	0	0	0	454
Koyukuk	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	50
Galena	0	0	0	0	191	269	258	0	0	0	0	0	0	0	0	0	0	718
Ruby	0	0	0	0	0	115	220	0	0	0	0	0	0	0	0	0	0	335
Huslia	0	0	0	0	0	0	0	0	0	0	0	0	0	265	0	0	0	265
Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	17
Allakaket	0	0	0	0	0	0	0	0	0	0	0	0	0	109	0	0	0	109
Alatna	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 4	0	0	0	0	1,809	384	478	0	0	0	0	0	0	391	0	0	0	3,062

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Table 9.–Page 2 of 2.

Community	Coastal District	Districts			Subdistricts [a]								River drainages					Total by community [b]
		1	2	3	4A	4B	4C	5A	5B	5C	5D–down	5D–up	Innoko	Koyukuk	Chandalar	Porcupine	Black	
Tanana	0	0	0	0	0	0	0	299	1,489	0	0	0	0	0	0	0	0	1,788
Stevens Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Birch Creek	0	0	0	0	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	2	0	0	0	0	0	0	2
Fort Yukon	0	0	0	0	0	0	0	0	0	0	178	23	0	0	0	0	0	201
Venetie	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38
District 5	0	0	0	0	0	0	0	299	1,489	0	180	23	0	0	0	0	38	2,029
Survey totals	193	1,030	1,586	227	1,922	384	478	299	1,489	0	180	23	0	391	0	0	38	8,240

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

[a] Harvest in Subdistrict 5-D near Ft. Yukon is divided according to whether harvest occurred downriver (5D-down) or upriver (5D-up) of the confluence of the Porcupine River with the Yukon River.

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

Table 10.–Estimated subsistence harvest of pink salmon, whitefish, northern pike, and sheefish by surveyed communities, Yukon Area, 2014.

			Estimated subsistence harvest										Total	
			Pink salmon [a]		Large whitefish [b]		Small whitefish [b]		Northern pike		Sheefish		est.	Percent
Community	Total households	Households contacted [c]	Est. total	CI 95%	Est. total	CI 95%	Est. total	CI 95%	Est. total	CI 95%	Est. total	CI 95%	fish harvest	broad whitefish [d]
Hooper Bay	233	87	712	312	957	428	5,103	1,901	380	194	38	32	7,190	59%
Scammon Bay	121	59	1,923	589	1,373	668	2,908	1,309	1,542	709	62	39	7,808	46%
Coastal District	354	146	2,635	659	2,330	785	8,011	2,290	1,922	726	100	50	14,998	51%
Nunam Iqua	36	27	670	378	66	32	371	125	13	8	462	246	1,582	67%
Alakanuk	149	66	970	827	1,496	410	7,890	2,169	1,030	594	2,131	834	13,517	94%
Emmonak	188	103	588	387	2,049	1,029	6,981	3,651	934	394	1,391	373	11,943	98%
Kotlik	119	59	1,064	557	751	313	7,193	6,051	1,766	1,338	1,037	465	11,811	98%
District 1	492	255	3,292	1,116	4,362	1,141	22,435	7,292	3,743	1,494	5,021	1,039	38,853	96%
Mountain Village	169	73	233	138	3,125	2,474	1,665	921	862	328	784	308	6,669	77%
Pitkas Point	33	18	45	48	2,697	3,041	171	154	35	24	270	192	3,218	96%
St. Marys	138	66	614	399	2,803	1,930	202	100	534	265	547	155	4,700	63%
Pilot Station	125	63	27	3	989	430	218	128	177	104	267	107	1,678	59%
Marshall	102	70	1	0	314	154	1,345	1,514	1,729	1,522	694	611	4,083	39%
District 2	567	290	920	419	9,928	4,233	3,601	1,753	3,337	1,551	2,562	719	20,348	75%
Russian Mission	80	29	8	9	1,026	508	95	95	494	332	520	495	2,143	86%
Holy Cross	64	27	0	0	284	133	0	0	78	57	65	37	427	60%
Shageluk	29	19	3	0	101	57	0	0	78	25	26	0	208	83%
District 3	173	75	11	8	1,411	514	95	93	650	329	611	483	2,778	80%
Anvik	34	22	0	0	681	326	25	17	1,147	1,173	148	43	2,001	76%
Grayling	54	26	39	36	570	282	201	122	106	50	330	211	1,246	74%
Kaltag	57	18	0	0	940	947	47	48	79	90	236	195	1,302	91%
Nulato	87	32	8	14	1,281	1,501	246	358	92	63	433	218	2,060	81%
Koyukuk	45	19	0	0	63	22	0	0	33	4	42	49	138	100%
Galena	155	56	6	10	1,529	1,060	0	0	171	120	173	98	1,879	70%
Ruby	68	23	13	1	330	56	35	19	64	20	53	24	495	92%
Huslia	89	28	0	0	669	252	70	67	1,844	1,361	93	30	2,676	45%
Hughes	35	29	0	0	616	248	7,895	5,369	41	8	29	1	8,581	62%
Allakaket	62	24	0	0	321	106	0	0	66	10	539	524	926	72%
Alatna	8	5	0	0	207	0	0	0	0	0	33	0	240	100%
Bettles	30	20	0	0	0	0	0	0	0	0	0	0	0	–
District 4	724	302	66	39	7,207	2,066	8,519	5,179	3,643	1,725	2,109	618	21,544	75%

-continued-

Table 10.–Page 2 of 2.

Community	Total households	Households contacted [c]	Estimated subsistence harvest: Pink salmon [a] Est. total	Pink salmon CI 95%	Large whitefish [b] Est. total	Large whitefish CI 95%	Small whitefish [b] Est. total	Small whitefish CI 95%	Northern pike Est. total	Northern pike CI 95%	Sheefish Est. total	Sheefish CI 95%	Total est. fish harvest	Percent broad whitefish [d]
Tanana	95	40	8	7	7,447	3,780	5,418	1,780	263	127	1,408	638	14,544	50%
Stevens Village	8	6	0	0	0	0	0	0	0	0	0	0	0	–
Birch Creek	12	6	0	0	75	0	15	0	60	0	45	0	195	20%
Beaver	30	26	0	0	67	22	0	0	137	20	27	4	231	39%
Fort Yukon	230	76	0	0	642	223	3,213	2,880	904	332	644	301	5,403	92%
Venetie	79	28	0	0	65	111	0	0	0	0	0	0	65	100%
Chalkyitsik	31	22	0	0	48	41	0	0	193	125	56	39	297	60%
District 5	485	204	8	6	8,344	3,697	8,646	3,338	1,557	371	2,180	691	20,735	53%
Survey totals	2,795	1,272	6,932	1,356	33,582	6,142	51,307	9,933	14,852	2,884	12,583	1,633	119,256	71%

Note: Estimates include a plus or minus 95% confidence interval (CI 95%). Dashes indicate indefinable values.

[a] Includes 120 pink salmon distributed to communities from test fishery projects. Confidence intervals are based on survey estimates and do not include test fish.

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

[c] The number of households contacted per species may vary. The number of households indicated is the greatest number of households contacted in each community for any species.

[d] 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.–Reported subsistence harvest of other fish species by surveyed communities, Yukon Area, 2014.

Community	Total households	Households contacted [a]	Reported harvest of miscellaneous fish species (not expanded)					
			Alaska blackfish	Arctic grayling	Arctic lamprey [b]	Burbot	Pacific Herring [c]	Tomcod
Hooper Bay	233	87	8,467	3	0	187	2,293	1,136
Scammon Bay	121	59	12,968	0	0	89	13,919	3,786
Coastal District	354	146	21,435	3	0	276	16,212	4,922
Nunam Iqua	36	27	2,050	0	0	49	50	1,546
Alakanuk	149	66	12,330	0	10	210	170	517
Emmonak	188	103	16,158	20	0	164	0	2,145
Kotlik	119	59	2,095	0	0	115	632	370
District 1	492	255	32,633	20	10	538	852	4,578
Mountain Village [b]	169	73	7,220	153	0	217	100	400
Pitkas Point [b]	33	18	8,400	35	0	47	0	120
St. Mary's [b]	138	66	17,220	49	14	318	0	0
Pilot Station [b]	125	63	2,702	0	0	15	0	0
Marshall [b, d]	101	70	1,990	0	1,361	73	0	0
District 2	566	290	37,532	237	1,375	670	100	520
Russian Mission [b, d]	80	29	168	5	3,540	212	0	0
Holy Cross [b, d]	64	27	0	0	75	26	0	0
Shageluk [b]	29	19	0	0	0	0	0	0
District 3	173	75	168	5	3,615	238	0	0
Anvik [b, d]	34	22	12	216	390	9	0	0
Grayling [b, d]	54	26	0	28	14,478	9	0	0
Kaltag	57	18	0	230	0	13	0	0
Nulato	87	32	0	590	20	20	0	0
Koyukuk	45	19	0	0	0	0	0	0
Galena	155	56	300	3	0	138	0	0
Ruby	68	23	0	10	0	0	0	0
Huslia	89	28	0	4	0	18	0	0
Hughes	35	29	0	0	0	4	0	0
Allakaket	62	24	0	31	0	0	0	0
Alatna	8	5	0	4	0	0	0	0
Bettles	30	20	0	7	0	0	0	0
District 4	724	302	312	1,123	14,888	211	0	0

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Table 11.–Page 2 of 2.

Community	Total households	Households contacted [a]	Reported harvest of miscellaneous fish species (not expanded)					
			Alaska blackfish	Arctic grayling	Arctic lamprey [b]	Burbot	Pacific herring	Tomcod
Tanana	95	40	0	7	0	36	0	0
Stevens Village	8	6	0	0	0	0	0	0
Birch Creek	12	6	0	0	0	0	0	0
Beaver	30	26	0	8	0	4	0	0
Fort Yukon	230	76	0	4	0	42	0	0
Venetie	79	28	0	360	0	0	0	0
Chalkyitsik	31	22	0	5	0	1	0	0
District 5	485	204	0	384	0	83	0	0
Survey totals	2,794	1,272	92,080	1,772	19,888	2,016	17,164	10,020

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

[b] Arctic lamprey harvest reported occurred during 2013. Postcards were mailed to all 809 households in 10 communities in November of 2013. Surveys were conducted in September of 2014 prior to lamprey fishing that occurs in November and December.

[c] Includes harvest of smelt reported by households.

[d] Includes Arctic lamprey harvest reported on postcards.

Table 12.–Reported subsistence and personal use fish harvested under the authority of a permit, listed by permit area, Yukon Area, 2014.

Permit fishing area	Permit [a] Type	Issued [b]	Returned	Percent returned	Number of permits returned that fished [c]	Reported Harvest: Chinook	Summer chum	Fall chum	Coho	White-fish	Shee-fish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Koyukuk Middle and South Fork Rivers	SF	1	1	100%	1	0	0	0	0	9	0	3	0	8	18
Yukon River Rampart Area	SR	18	18	100%	9	11	240	797	0	398	60	0	6	0	0
Yukon River near Haul Road Bridge [d]	SY	42	42	100%	20	3	221	798	0	142	16	2	27	0	0
Yukon River near	SE	24	22	92%	10	8	0	5,185	0	87	16	1	2	0	2
Circle and Eagle	SEU [e]	15	15	100%	11	55	0	13,575	1	102	109	2	2	2	47
Tanana River Subdistrict 6-A	SA	22	22	100%	16	104	179	3,450	1,420	100	3	1	1	0	0
Tanana River Subdistrict 6-B	SB	81	78	96%	38	168	533	8,381	5,277	1,241	8	15	64	28	16
Tanana River Upstream of Subdistrict 6-C	SU	15	15	100%	10	0	0	0	0	1,510	0	3	62	62	0
Kantishna River Subdistrict 6-A	SK	5	5	100%	3	0	0	70	129	10	0	0	6	0	0
Tolovana River Pike Subdistrict 6-B	ST	106	105	99%	57	0	0	1	0	3	0	0	478	1	0
Subsistence permit subtotals		329	323	98%	175	349	1,173	32,257	7,527	3,602	212	27	648	101	83

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Table 12.–Page 2 of 2.

Personal use permit fishing area	Permit [a] Type	Issued [b]	Returned	Percent returned	Number of permits returned that fished [c]	Reported Harvest Chinook	Summer chum	Fall chum	Coho	White-fish	Shee-fish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Tanana River salmon Subdistrict 6-C	PC	50	50	100%	23	1	235	278	174	39	3	0	0	0	0
Tanana River whitefish upstream of Subdistrict 6-C	PW	21	21	100%	10	0	0	0	0	106	0	0	0	270	0
Personal use permit subtotals		71	71	100%	33	1	235	278	174	145	3	0	0	270	0
All permit totals		400	394	99%	208	350	1,408	32,535	7,701	3,747	215	27	648	371	83

Note: Does not include salmon retained from test fishery projects or commercial fisheries. Permit Type is the first letter in the code used on permits that refers to the fishery type (S = subsistence or P = personal use), the second letter of the code refers to a particular fishing area or species targeted.

[a] Permits returned as of June 11, 2015. Additional late permits were entered January 13, 2017.

[b] Includes 19 households that were issued permits for more than one area.

[c] Includes 9 households that "fished" in 2 different permit areas.

[d] Includes permits issued to residents from Stevens Village. No harvest was reported on permits from Stevens Village.

[e] Harvest occurring in the 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, 2014.

Subsistence permit community	Harvest by drainage	Permits Issued [a]	Permits Returned	Percent returned	Number of permits fished [b]	Reported harvest: Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Central	Yukon River	7	7	100%	2	0	0	0	0	7	0	2	25	0	0
	Central subtotal	7	7	100%	2	0	0	0	0	7	0	2	25	0	0
Circle	Yukon River	12	10	83%	7	0	0	1,277	0	79	2	0	1	0	0
Eagle	Yukon River	17	17	100%	12	63	0	17,450	1	107	123	3	3	2	8
Fairbanks (FNSB) [c]	Yukon River	46	46	100%	21	14	300	1,406	0	482	75	0	8	0	0
	Tanana River	31	30	97%	20	41	237	5,140	3,525	869	6	9	4	11	11
	Tolovana River	93	92	99%	52	0	0	0	0	0	0	0	381	0	0
	Kantishna River	1	1	0%	0	0	0	0	0	0	0	0	0	0	0
	FNSB subtotal	171	169	99%	93	55	537	6,546	3,525	1,351	81	9	393	11	11
Healy	Tanana River	2	2	100%	2	0	0	1,700	863	94	0	0	6	0	0
	Kantishna River	1	1	100%	1	0	0	35	1	0	0	0	0	0	0
	Healy subtotal	3	3	100%	3	0	0	1,735	864	94	0	0	6	0	0
Manley	Yukon River	1	1	100%	1	0	0	60	0	2	0	0	0	0	0
	Tanana River	14	14	100%	8	91	171	2,414	1,102	35	3	1	0	0	0
	Tolovana River	1	1	0%	0	0	0	0	0	0	0	0	0	0	0
	Manley subtotal	16	16	100%	9	91	171	2,474	1,102	37	3	1	0	0	0
Minto	Yukon River	3	3	100%	1	0	0	65	0	0	0	0	0	0	0
	Tanana River	22	22	100%	6	0	24	471	37	42	0	0	52	6	0
	Tolovana River	10	10	100%	4	0	0	1	0	3	0	0	93	1	0
	Minto subtotal	35	35	100%	11	0	24	537	37	45	0	0	145	7	0
Nenana	Yukon River	1	1	100%	0	0	0	0	0	0	0	0	0	0	0
	Tanana River	33	31	94%	17	128	275	2,106	1,870	301	2	6	3	11	5
	Kantishna River	3	3	100%	2	0	0	35	128	10	0	0	6	0	0
	Nenana subtotal	37	35	95%	19	128	275	2,141	1,998	311	2	6	9	11	5

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Table 13.–Page 2 of 2.

Subsistence permit community	Harvest by drainage	Permits Issued [a]	Permits Returned	Percent returned	Number of permits fished [b]	Reported harvest: Chinook	Summer chum	Fall chum	Coho	White-fish	Shee-fish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Rampart	Yukon River	4	4	100%	3	0	70	0	0	12	0	0	0	0	0
Stevens Village	Yukon River	2	2	100%	0	0	0	0	0	0	0	0	0	0	0
Upper Tanana	Yukon River	2	2	100%	1	0	0	33	0	3	0	0	0	0	41
Villages (UTV) [d]	Tanana River	13	13	100%	9	0	0	0	0	1,510	0	3	62	62	0
	UTV subtotal	15	15	100%	10	0	0	33	0	1,513	0	3	62	62	41
Other	Yukon River	4	4	100%	2	0	91	64	0	37	1	0	0	0	0
subsistence [e]	Tanana River	3	3	100%	1	12	5	0	0	0	0	0	0	0	0
	Tolovana River	2	2	100%	1	0	0	0	0	0	0	0	4	0	0
	Koyukuk River	1	1	100%	1	0	0	0	0	9	0	3	0	8	18
	Other subtotal	10	10	100%	5	12	96	64	0	46	1	3	4	8	18
Subsistence permit subtotals		329	323	98%	174	349	1,173	32,257	7,527	3,602	212	27	648	101	83
Personal Use permit community															
Fairbanks (FNSB) [c]	Tanana River	64	64	100%	29	0	178	278	174	80	3	0	0	15	0
Other Personal Use [f]	Tanana River	7	7	100%	4	1	57	0	0	65	0	0	0	255	0
Personal Use permit subtotals		71	71	100%	33	1	235	278	174	145	3	0	0	270	0
All permit totals		400	394	99%	207	350	1,408	32,535	7,701	3,747	215	27	648	371	83

Note: Does not include salmon from test fishery projects or salmon retained from commercial fisheries. Information is from permits returned as of June 11, 2015. Additional late permits were entered January 13, 2017.

[a] Includes 19 households that were issued permits for more than one area.

[b] Includes 9 households that fished in more than one permit area.

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

[d] Upper Tanana Villages (UTV) include residents from the communities of Delta Junction, Dot Lake, Northway, Tanacross, and Tok.

[e] "Other Subsistence" represents residents from Anchorage, Chugiak, Lake Minchumina, Palmer, Wasilla, and Wiseman who were issued a subsistence fishing permit for Yukon, Tanana, Tolovana, Kantishna, and upper Koyukuk rivers.

[f] "Other Personal Use" includes residents from Delta Junction, Nenana, and Wasilla who were issued a personal use permit.

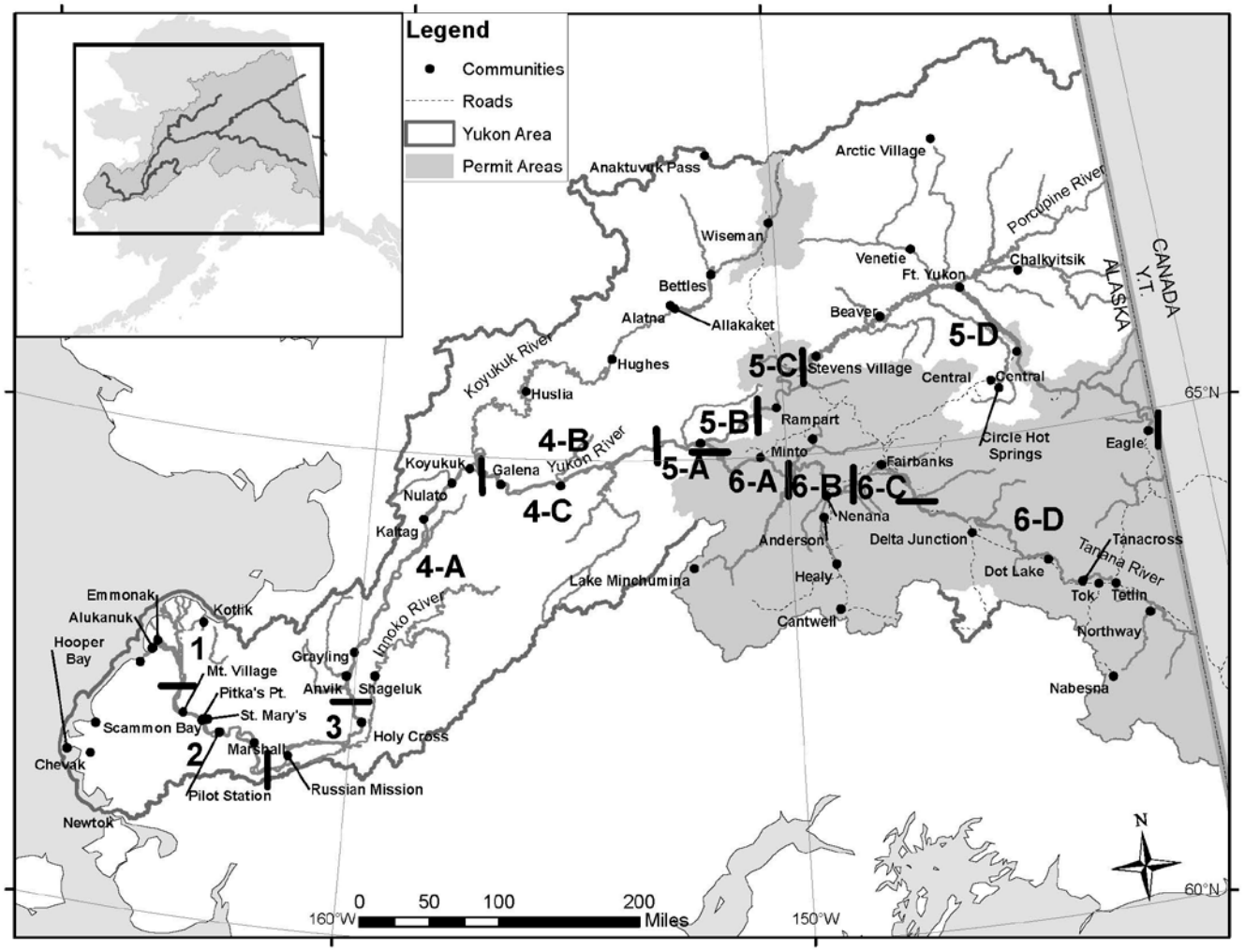


Figure 1.–Map of Alaska portion of the Yukon River drainage showing communities and subsistence and personal use permit areas.

Note: Subsistence and personal use permit areas are shaded.

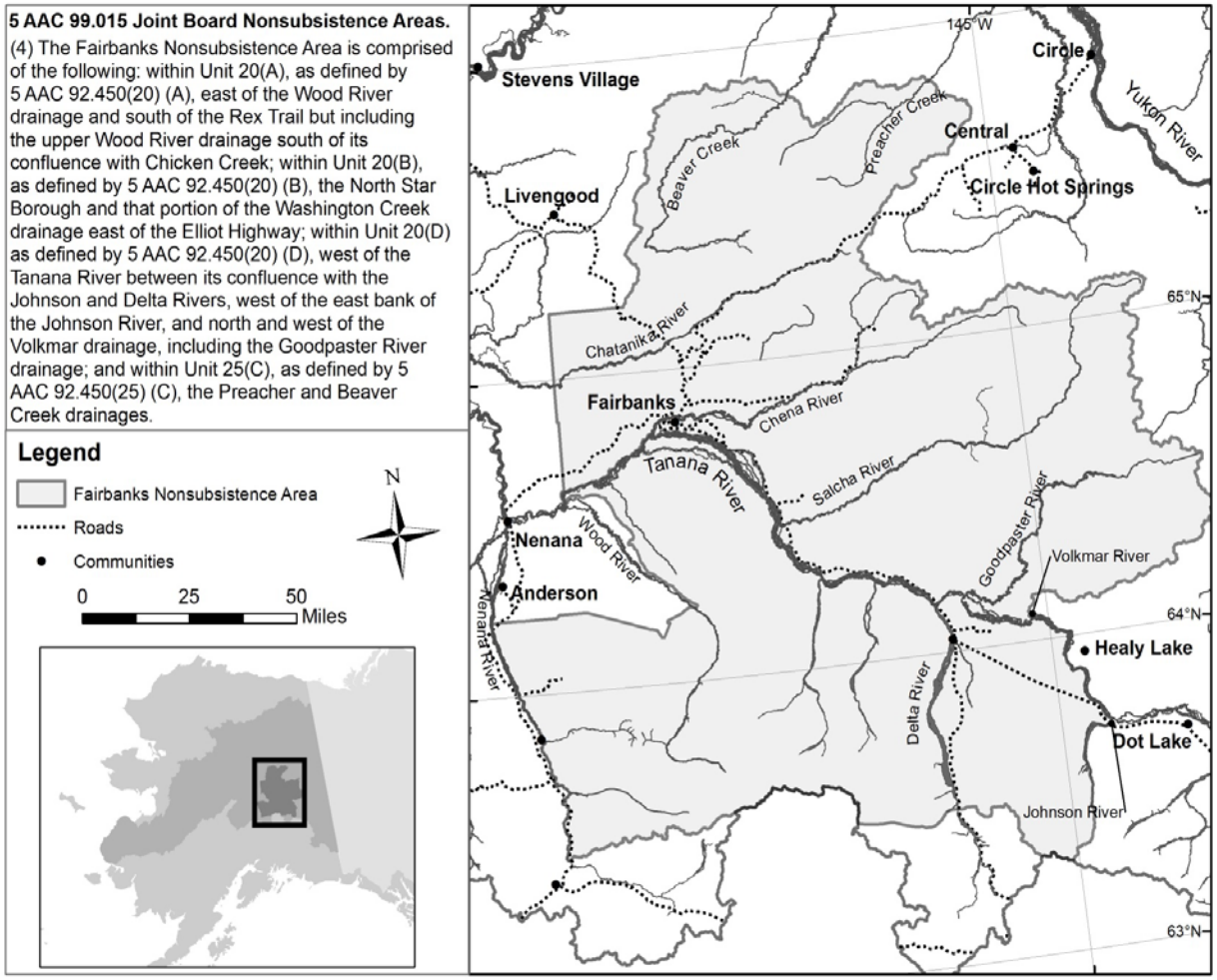
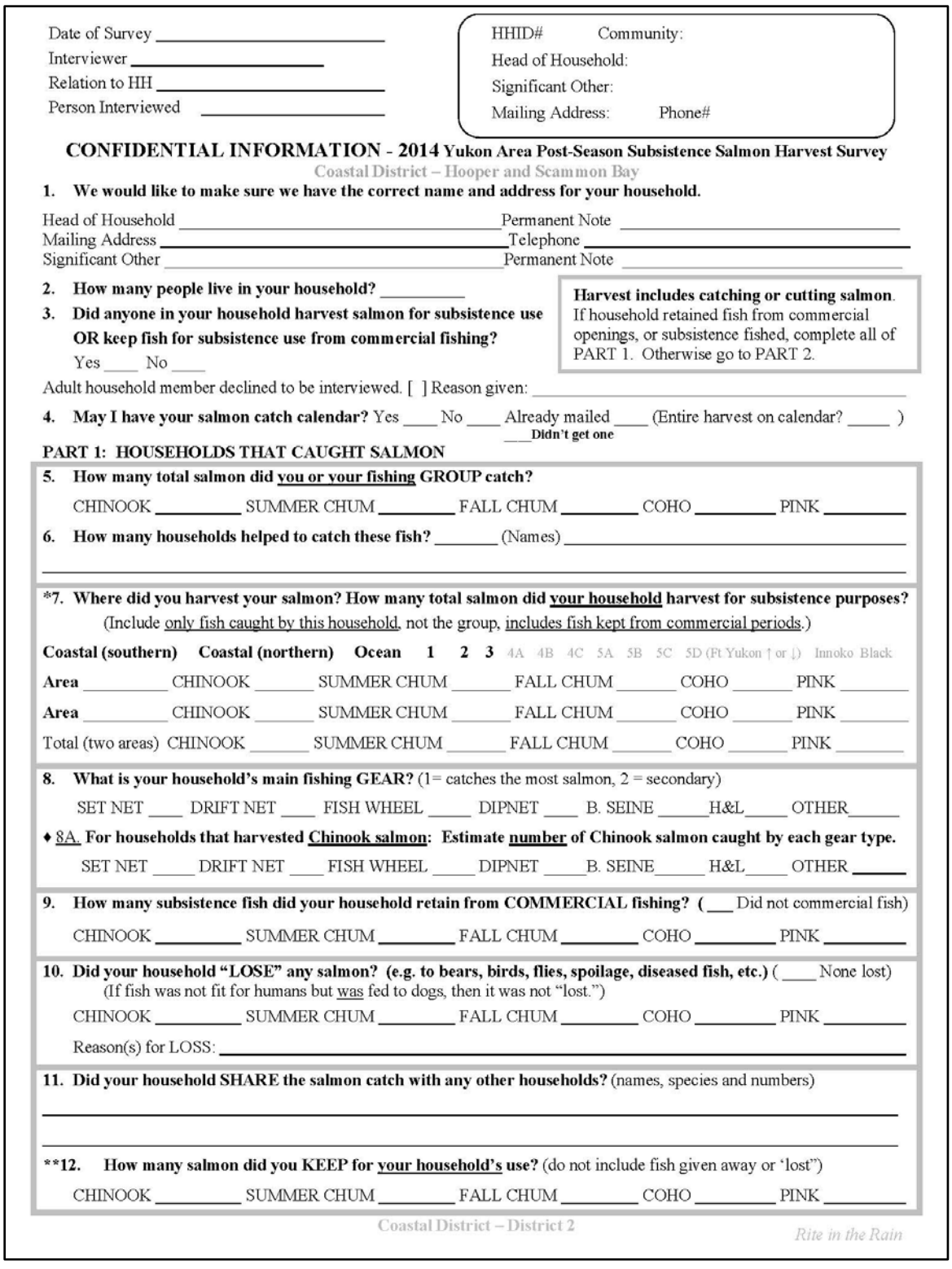


Figure 2.–Map of the Fairbanks Nonsubsistence Area.

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



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

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

CONFIDENTIAL INFORMATION - 2014 Yukon Area Post-Season Subsistence Salmon Harvest Survey

Coastal District – Hooper and Scammon Bay

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. Where did you harvest your salmon? How many total salmon did your household harvest for subsistence purposes?**
(Include only fish caught by this household, not the group, includes fish kept from commercial periods.)

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. **For households that harvested Chinook salmon: Estimate number of Chinook salmon caught by each gear type.**
SET NET ____ DRIFT NET ____ FISH WHEEL ____ DIPNET ____ B. SEINE ____ H&L ____ OTHER ____

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, spoilage, diseased fish, etc.) (____ None lost)
(If fish was not fit for humans but was fed to dogs, then it was not "lost.")
CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____
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 – District 2

Rite in the Rain

Figure 3.–Yukon Area postseason subsistence salmon harvest survey form, 2014.

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

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. How many salmon does your household like to have for subsistence? (compared to Question 7 or 13). If no need or usually does not harvest the species, indicate '0'. If the number needed/wanted is more/less than the household got, ask why.)

CHINOOK	How many : _____	Comment: _____
SUMMER CHUM	How many : _____	Comment: _____
FALL CHUM	How many : _____	Comment: _____
COHO	How many : _____	Comment: _____

15. 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 _____ HALIBUT _____ OTHER _____

*MONTHS WHEN CISCO WERE HARVESTED or Other FISH Notes _____

16. How many DOGS (including puppies) does your household have? _____ (if "none" go to question 21)

17. Do you feed WHOLE salmon to your dogs? Yes _____ No _____ Only Feed **SCRAPS** ____ (if "No" go to question 21)

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

19. 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 _____

20. Do you have any additional comments? _____

_____

_____

How did this year compare to last year? _____

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)

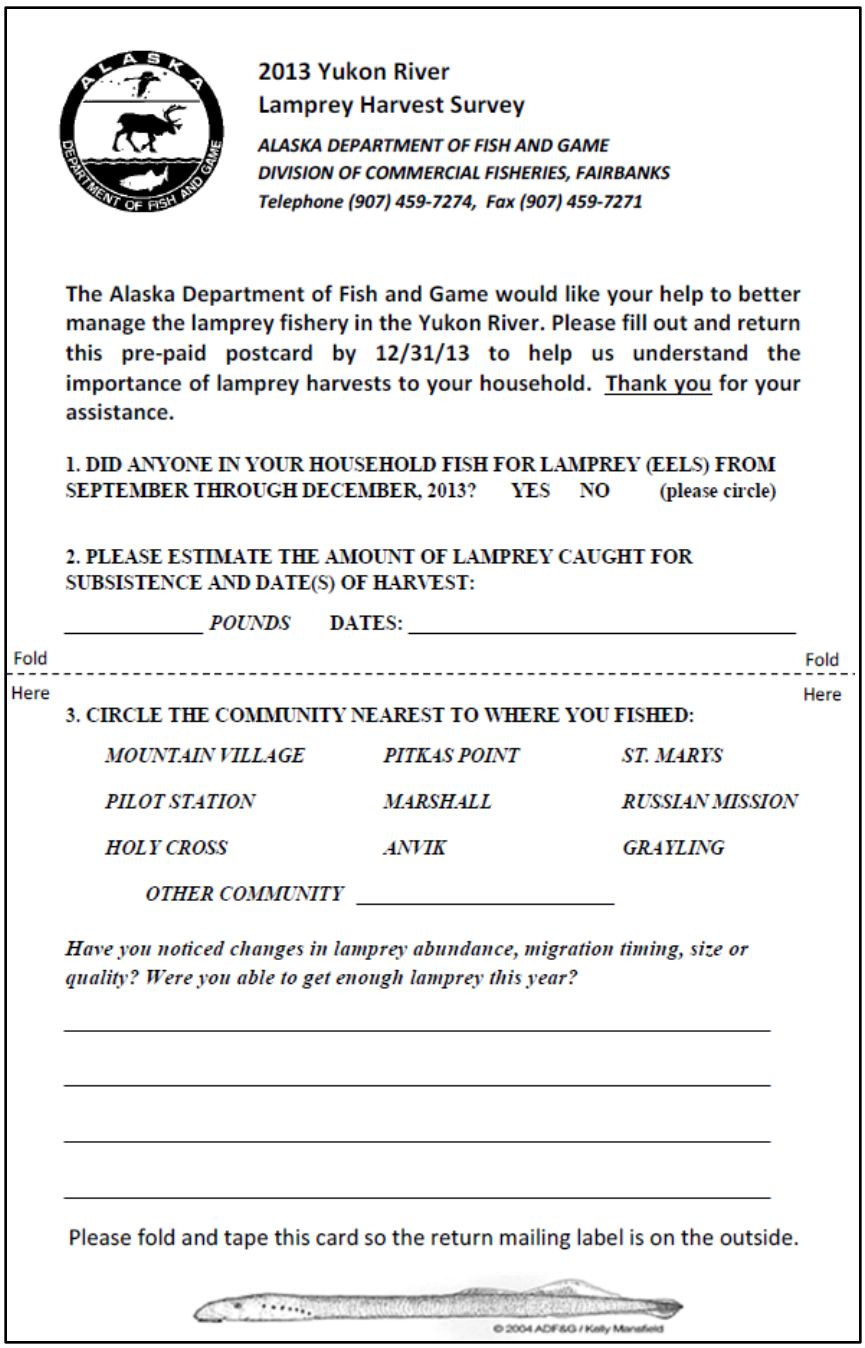
CHINOOK _____ SUMMER CHUM _____ FALL CHUM _____ COHO _____ PINK _____

Complete Survey _____ Partial Survey _____ No Survey _____

Rite in the Rain

Coastal District – District 2

Figure 3.–Page 2 of 2.



2013 Yukon River
Lamprey Harvest Survey

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES, FAIRBANKS
Telephone (907) 459-7274, Fax (907) 459-7271

The Alaska Department of Fish and Game would like your help to better manage the lamprey fishery in the Yukon River. Please fill out and return this pre-paid postcard by 12/31/13 to help us understand the importance of lamprey harvests to your household. Thank you for your assistance.

1. DID ANYONE IN YOUR HOUSEHOLD FISH FOR LAMPREY (EELS) FROM SEPTEMBER THROUGH DECEMBER, 2013? YES NO (please circle)

2. PLEASE ESTIMATE THE AMOUNT OF LAMPREY CAUGHT FOR SUBSISTENCE AND DATE(S) OF HARVEST:

_____ *POUNDS* DATES: _____

Fold Here — Fold Here

3. CIRCLE THE COMMUNITY NEAREST TO WHERE YOU FISHED:

MOUNTAIN VILLAGE	*PITKAS POINT*	*ST. MARYS*
PILOT STATION	*MARSHALL*	*RUSSIAN MISSION*
HOLY CROSS	*ANVIK*	*GRAYLING*

OTHER COMMUNITY _____

Have you noticed changes in lamprey abundance, migration timing, size or quality? Were you able to get enough lamprey this year?

_____

_____

_____

_____

Please fold and tape this card so the return mailing label is on the outside.

Figure 4.–Supplemental postcard mailed to lamprey harvesting communities.

Note: Arctic lamprey harvest survey postcards mailed November 2013 to all households in the communities listed. Cards were also mailed to households in Shageluk (not listed). Surveys took place in these communities in September 2014, and households were asked about lamprey harvested in the winter of 2013.

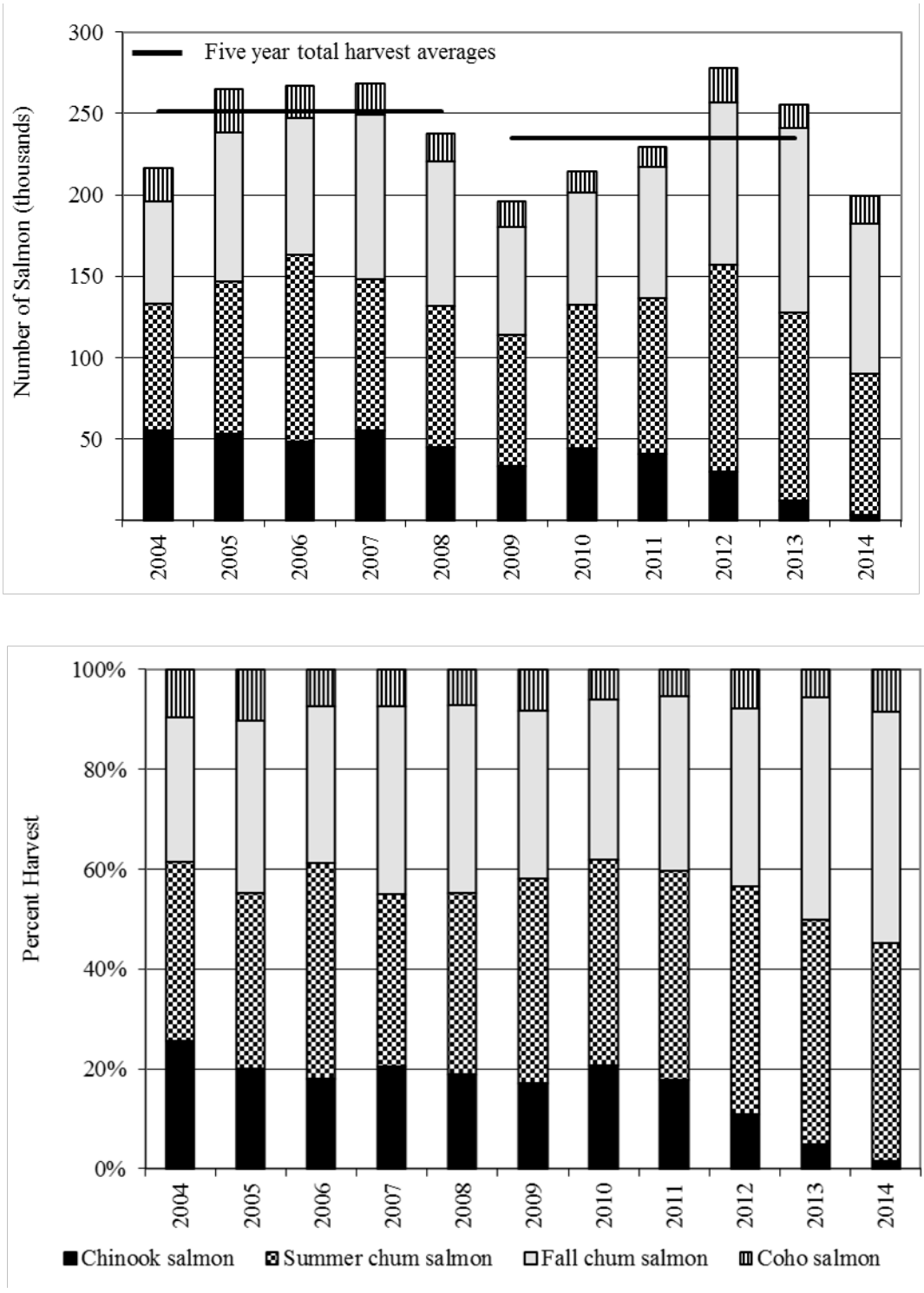


Figure 5.–Estimated total subsistence salmon harvest by species, Yukon Area, 2004–2014.

Note: Annual harvest of salmon species from 1999 through 2014 by number (top) and proportion (bottom). Totals include survey, permit, test fish and retained from commercial. Does not include salmon caught in the personal use fishery or summer chum, fall chum, and coho salmon carcasses retained from the commercial fishery and used for subsistence.

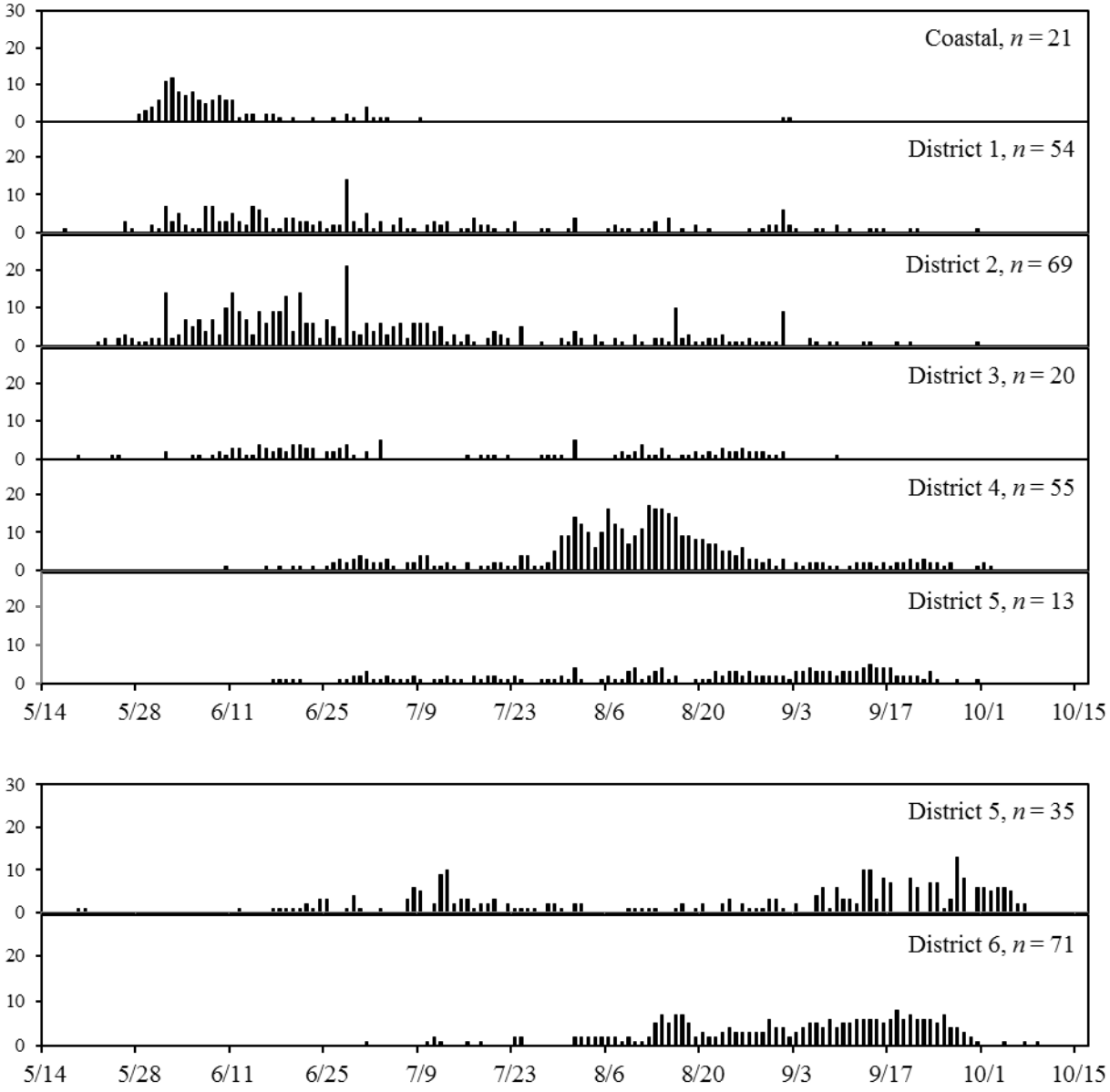


Figure 6.–Subsistence and personal use fishing effort, shown as number of households reporting harvest, by day and by district, in 2014.

Note: Top panel: fishing effort by day as recorded on harvest calendars. Bottom panel: fishing effort by day as recorded on permits. District 5 is represented in both panels because it includes both survey and permit communities. Bars represent the number of households in each district that recorded harvest by day on calendars or permits and (*n*) is the total number of calendar or permits that reported harvest. Does not include permits issued in District 6 primarily for the harvest of northern pike.

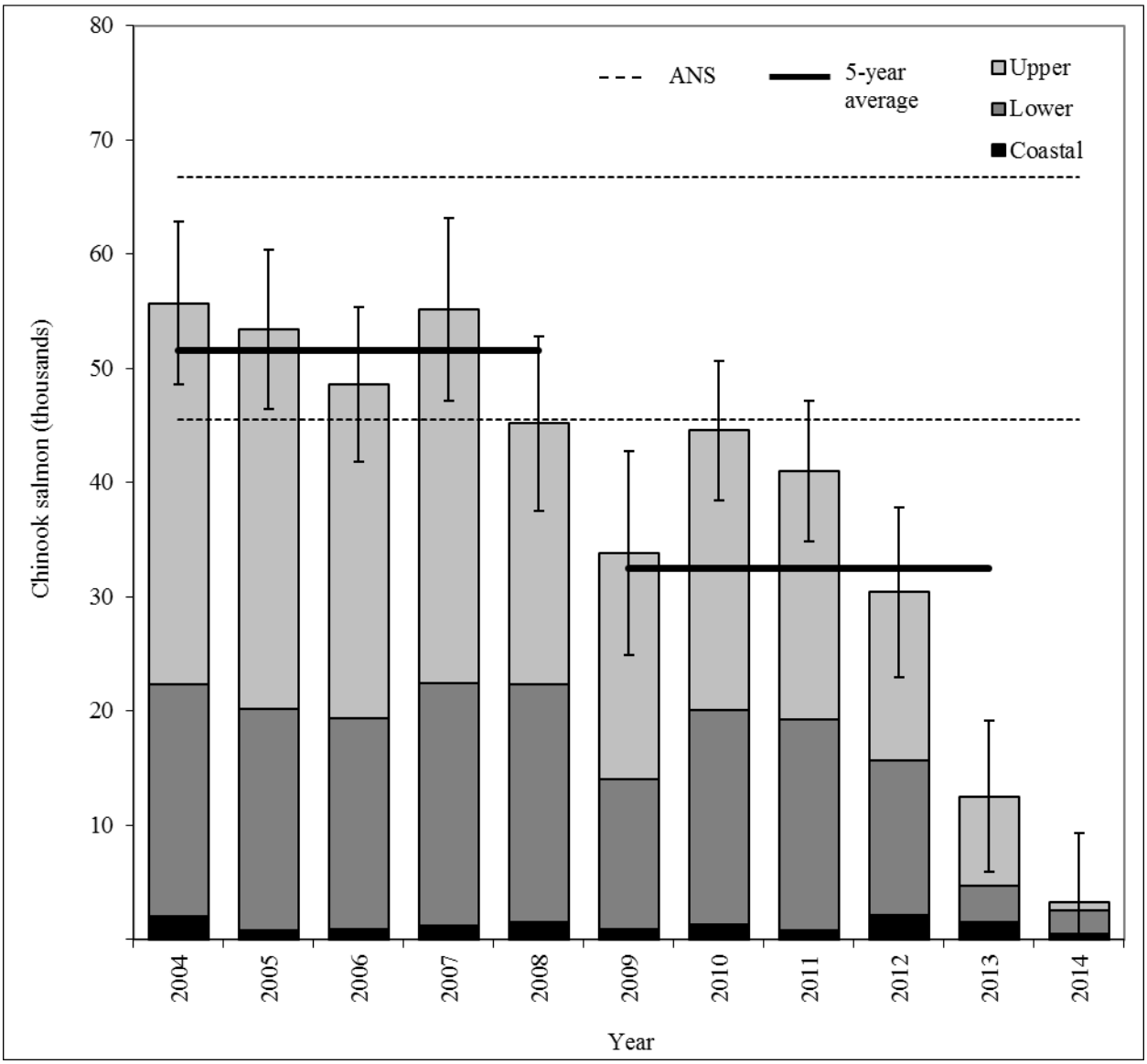


Figure 7.–Estimated Chinook salmon subsistence harvest, Yukon Area, 2004–2014.

Note: Harvest estimates and 95% confidence interval are provided. In 2001 the Alaska Board of Fisheries defined the Amount Necessary for Subsistence (ANS) as 45,500 to 66,704 Chinook salmon. ANS ranges and harvest amounts do not include salmon from the personal use fishery.

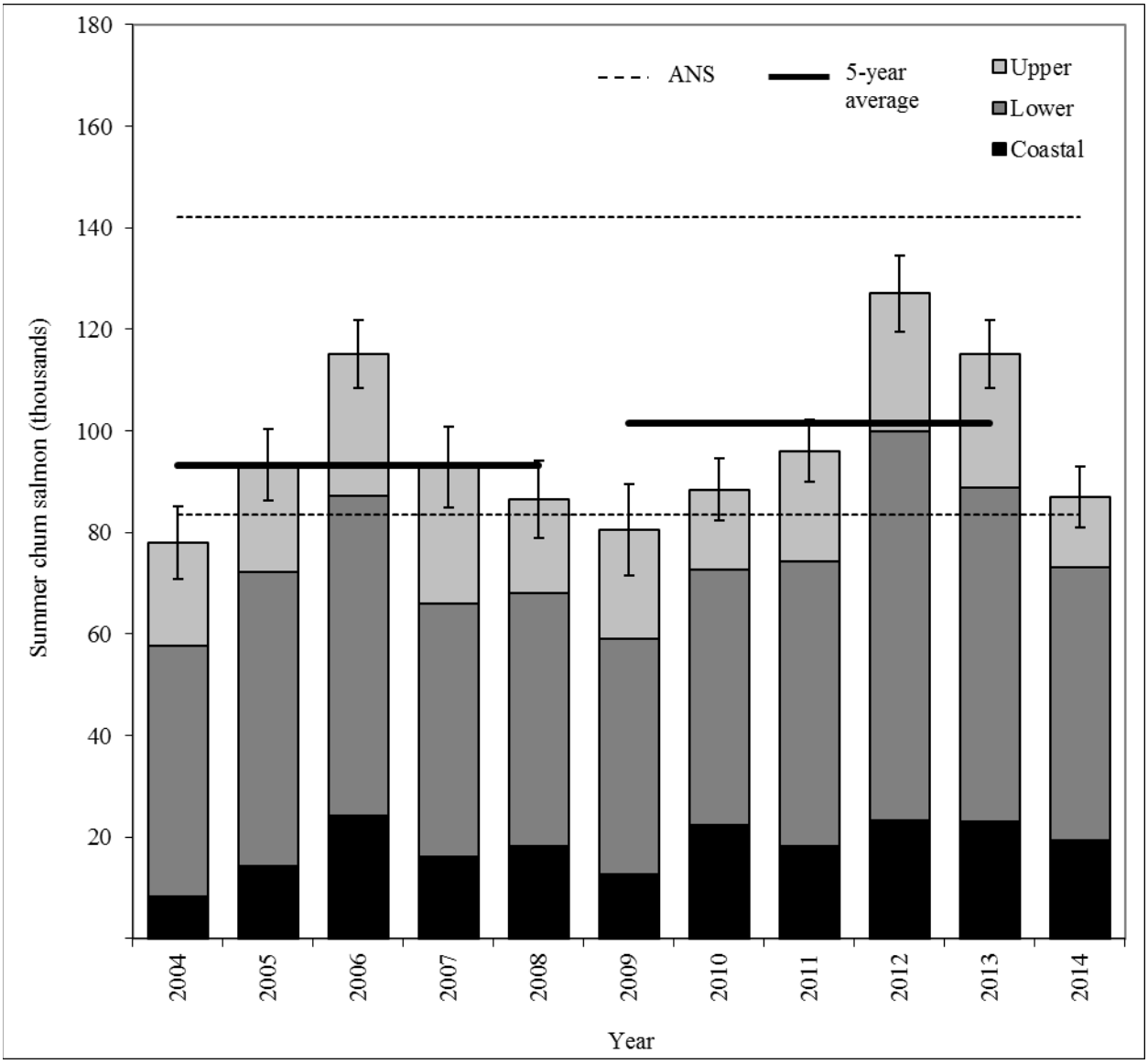


Figure 8.–Estimated summer chum salmon subsistence harvest, Yukon Area, 2004–2014.

Note: Harvest estimates and 95% confidence interval are provided. In 2001, the Alaska Board of Fisheries defined the Amount Necessary for Subsistence (ANS) as 83,500 to 142,192 summer chum salmon. ANS ranges and harvest amounts do not include salmon from the personal use fishery.

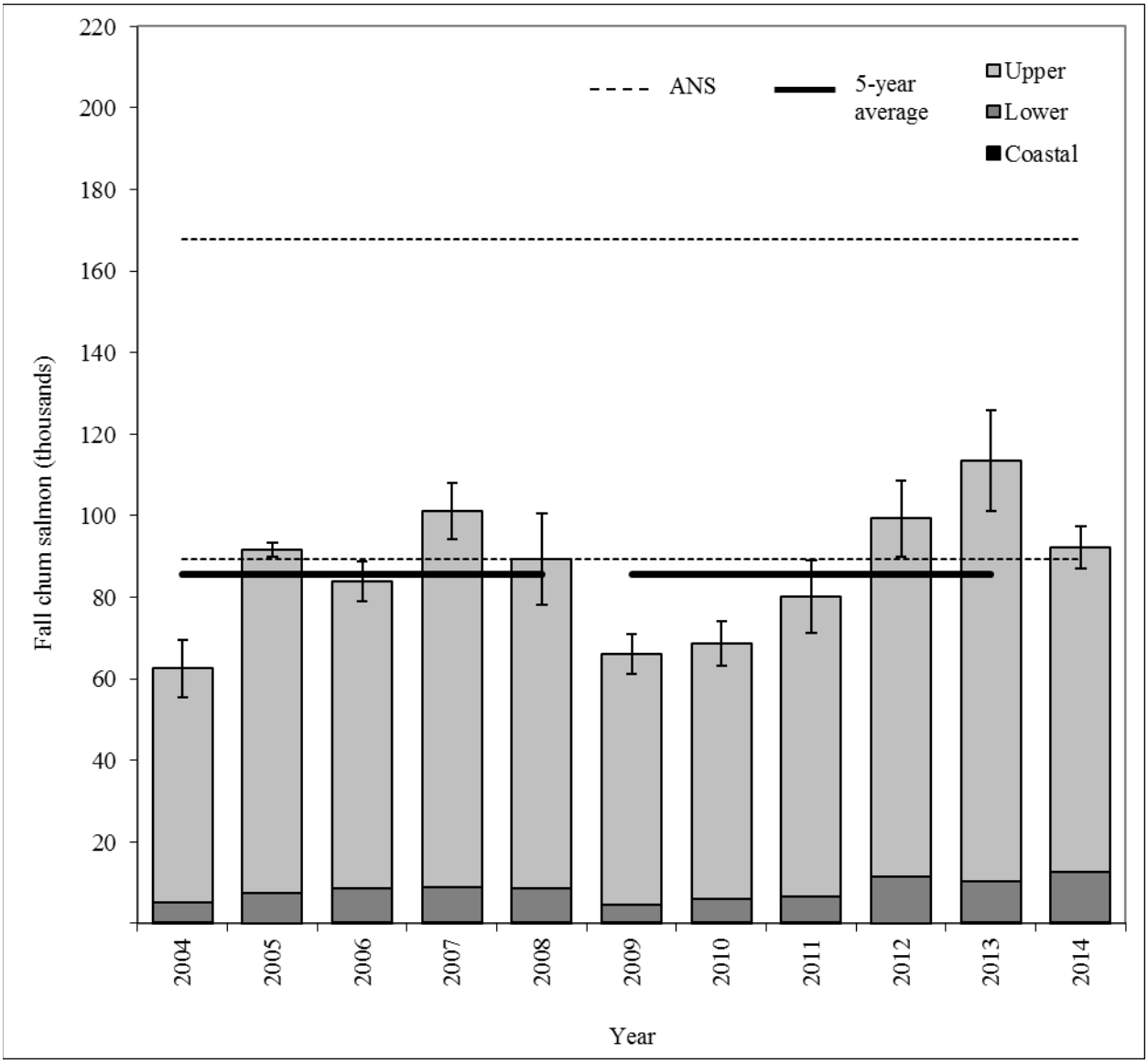


Figure 9.–Estimated fall chum salmon subsistence harvest, Yukon Area, 2004–2014.

Note: Harvest estimates and 95% confidence interval are provided. In 2001, the Alaska Board of Fisheries defined the Amount Necessary for Subsistence (ANS) as 89,500 to 167,900 fall chum salmon. Does not include fall chum salmon sold commercially for roe and carcasses returned to fishermen in District 6. ANS ranges and harvest amounts do not include salmon from the personal use fishery.

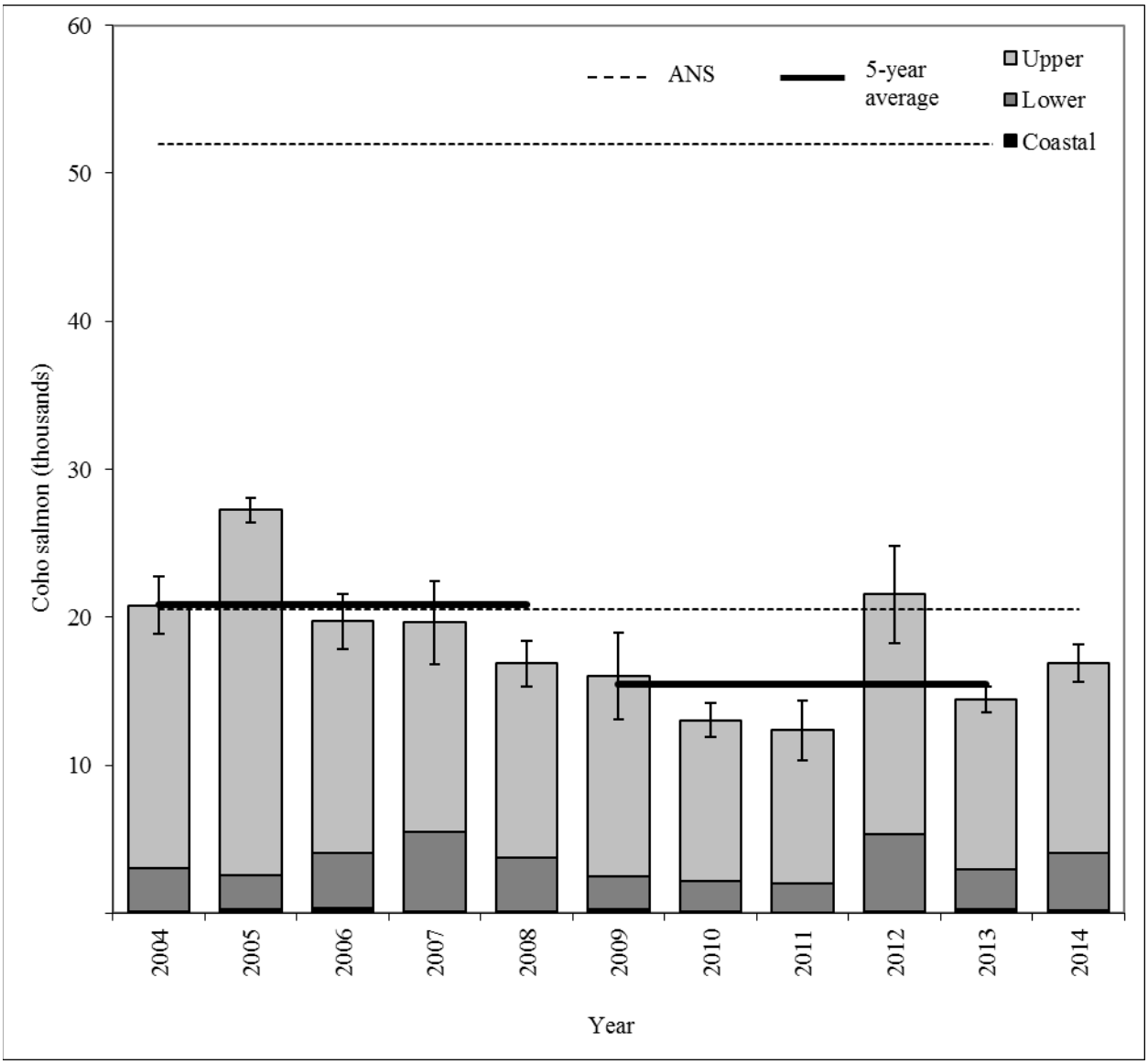


Figure 10.–Estimated coho salmon subsistence harvest, Yukon Area, 2004–2014.

Note: Harvest estimates and 95% confidence interval are provided. In 2001, the Alaska Board of Fisheries defined the Amount Necessary for Subsistence (ANS) as 20,500 to 51,980 coho salmon. Does not include carcasses returned to fishermen from coho salmon sold commercially for roe in District 6. ANS ranges and harvest amounts do not include salmon from the personal use fishery.

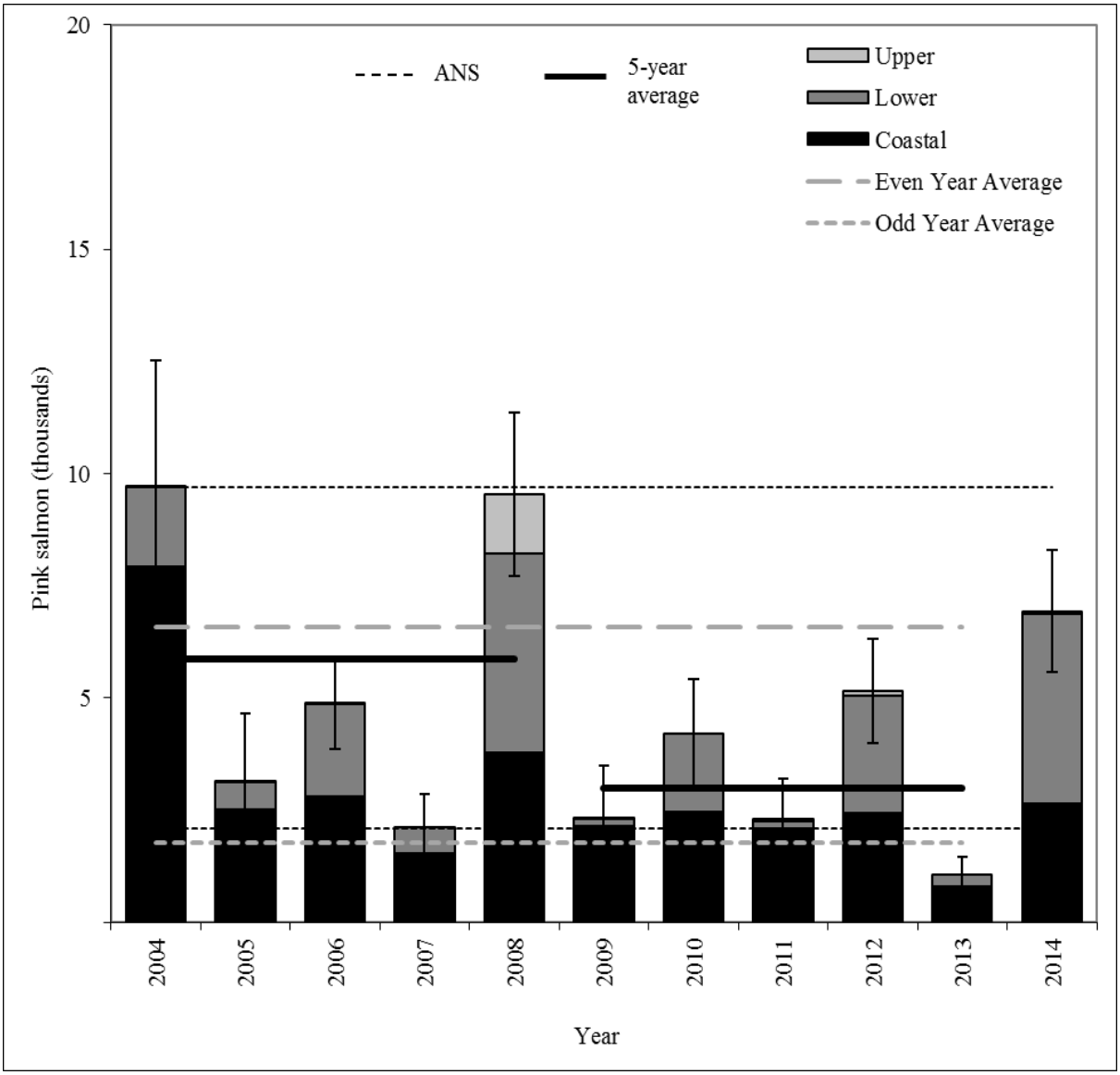


Figure 11.–Estimated pink salmon subsistence harvest, Yukon Area, 2004–2014.

Note: Harvest estimates and 95% confidence interval are provided. In 2013, the Alaska Board of Fisheries defined the Amount Necessary for Subsistence (ANS) as 2,100 to 9,700 pink salmon. Even and odd year averages were calculated from 2004–2013 harvest totals.

APPENDIX A. 2014 HARVEST INFORMATION

Appendix A1.–Estimated Chinook salmon subsistence harvest in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2014.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Hooper Bay	33	11	1	0.4	70	14	0.4	0.2	76	20	2	0.7	54	42	4.5	0.4	–	–	–	–	233	87	455	120
Scammon Bay	32	15	0.3	0.2	25	8	1	0.8	39	11	0.9	0.4	25	25	1.6	0	–	–	–	–	121	59	108	52
Coastal District	65	26	0.6	0.2	95	22	0.6	0.3	115	31	1.6	0.5	79	67	3.5	0.3	–	–	–	–	354	146	563	129
Nunam Iqua	1	1	0	–	8	5	0	0	12	9	2.1	0.9	15	12	2.4	0.4	–	–	–	–	36	27	62	25
Alakanuk	22	7	1.1	0.6	39	8	0	0	49	14	0.9	0.4	39	37	1.4	0.1	–	–	–	–	149	66	167	61
Emmonak	34	15	0.1	0.1	51	22	0	0	54	24	0.7	0.2	47	40	1.4	0.2	2	1	4	–	188	102	117	32
Kotlik	17	13	3.6	1.1	24	8	0	0	51	14	1.1	0.6	27	24	4.4	0.8	–	–	–	–	119	59	235	84
District 1	74	36	1.2	0.3	122	43	0	0	166	61	1	0.2	128	113	2.1	0.2	2	1	4	–	492	254	581	110
Mountain Village	41	24	0.7	0.3	34	7	0	0	57	13	0.7	0.3	37	29	2	0.4	–	–	–	–	169	73	178	66
Pitkas Point	6	1	0	–	4	2	0	0	14	10	2.2	0.8	9	5	3.8	1.2	–	–	–	–	33	18	79	40
St. Marys	28	12	0.4	0.2	23	8	0.1	0.1	52	15	0.3	0.1	34	29	1.2	0.2	1	1	0	–	138	65	68	22
Pilot Station	20	9	0	0	31	13	0	0	54	22	1	0.4	20	19	1.6	0.1	–	–	–	–	125	63	83	41
Marshall	36	25	0.6	0.1	13	4	0.3	0.2	33	23	2.1	0.4	19	18	1.8	0.1	1	0	–	–	102	70	128	27
District 2	131	71	0.5	0.1	105	34	0.1	0.1	210	83	1	0.2	119	100	1.8	0.2	2	1	0	–	567	289	536	92
Russian Mission	17	9	0	0	15	2	0	0	38	10	0.3	0.3	10	8	0.1	0.1	–	–	–	–	80	29	16	25
Holy Cross	12	1	0	–	17	7	0	0	20	10	0	0	15	9	0	0	–	–	–	–	64	27	0	0
Shageluk	12	7	0	0	8	4	0	0	6	6	2.7	0	2	1	8	–	1	1	0	–	29	19	32	0
District 3	41	17	0	0	40	13	0	0	64	26	0.4	0.2	27	18	0.6	0	1	1	0	–	173	75	48	24
Anvik	3	2	0	0	7	2	0	0	14	11	0	0	9	6	0	0	1	0	–	–	34	21	0	0
Grayling	7	2	0	0	7	2	0	0	29	14	0.1	0.1	11	8	0	0	–	–	–	–	54	26	3	4
Kaltag	10	2	1	0.9	8	2	0	0	33	10	0.2	0.2	6	4	0	0	–	–	–	–	57	18	10	17
Nulato	17	7	0	0	13	3	0	0	46	13	0	0	11	9	0	0	–	–	–	–	87	32	0	0
Koyukuk	5	3	10.3	6.5	13	4	0	0	21	8	0	0	4	2	0	0	2	2	0	0	45	19	52	68
Galena	17	7	0	0	62	17	0	0	65	22	0	0	9	8	0	0	2	2	0.5	0	155	56	1	0
Ruby	9	5	0	0	41	10	0	0	11	2	0	0	6	5	0.8	0.2	1	1	0	–	68	23	6	4
Huslia	7	0	–	–	54	13	0.1	0.1	16	5	0	0	9	7	3	1.2	3	3	1.3	0	89	28	38	25
Hughes	5	3	0	0	18	15	0	0	9	8	0	0	2	2	0	0	1	1	13	–	35	29	13	0
Allakaket	9	3	0	0	37	12	0	0	10	3	0.3	0.3	4	4	0.3	0	2	2	2	0	62	24	8	6
Alatna	5	2	0	0	1	1	0	–	2	2	0	0	–	–	–	–	–	–	–	–	8	5	0	0
Bettles	12	6	0	0	17	14	0.1	0	1	0	–	–	–	–	–	–	–	–	–	–	30	20	1	1
District 4	106	42	0.6	0.4	278	95	0	0	257	98	0	0	71	55	0.5	0.2	12	11	2	0	724	301	132	71

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Appendix A1.–Page 2 of 2.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Total	95%
Tanana	12	4	0.0	0.0	30	10	0.0	0.0	34	13	0.0	0.0	8	4	0.3	0.2	11	9	7.8	1.9	95	40	88	42
Stevens Village	–	–	–	–	2	1	0.0	–	3	3	0.0	0.0	2	1	0.0	–	1	1	0.0	–	8	6	0	0
Birch Creek	2	1	0.0	–	7	4	0.0	0.0	3	1	0.0	–	–	–	–	–	–	–	–	–	12	6	0	0
Beaver	7	4	0.0	0.0	6	6	0.0	0.0	15	14	0.0	0.0	2	2	0.0	0.0	–	–	–	–	30	26	0	0
Fort Yukon	44	15	0.0	0.0	122	30	0.0	0.0	38	8	0.1	0.1	17	15	0.3	0.1	9	8	0.0	0.0	230	76	7	5
Venetie	15	5	0.0	0.0	46	14	0.0	0.0	13	4	0.0	0.0	5	5	2.4	0.0	–	–	–	–	79	28	12	0
Chalkyitsik	14	8	0.4	0.2	15	12	0.0	0.0	2	2	0.0	0.0	–	–	–	–	–	–	–	–	31	22	5	7
District 5	94	37	0.1	0.0	228	77	0.0	0.0	108	45	0.0	0.0	34	27	0.6	0.1	21	18	4.1	1.0	485	204	112	42
Survey totals	511	229	0.5	0.1	868	284	0.1	0.0	920	344	0.7	0.1	458	380	1.8	0.1	38	32	3.2	0.6	2,795	1,269	1,972	210

Note: The number of Chinook salmon harvested was estimated using the total number of households (*N*), the number of households contacted (*n*), the average number of salmon harvested by households (Mean), standard error (SE), and includes 95% confidence interval (CI 95%). Dashes indicate indefinable values.

Appendix A2.–Estimated summer chum salmon subsistence harvest in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2014.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Hooper Bay	33	11	23.6	11.7	70	14	30.0	13.7	76	20	59.3	17.5	54	42	108.3	7.1	–	–	–	–	233	87	13,236	3,431
Scammon Bay	32	15	25.4	8.2	25	8	7.5	5.4	39	11	50.0	13.7	25	25	124.7	0.0	–	–	–	–	121	59	6,068	1,222
Coastal District	65	26	24.5	7.2	95	22	24.1	10.2	115	31	56.1	12.5	79	67	113.5	4.8	–	–	–	–	354	146	19,304	3,619
Nunam Iqua	1	1	0.0	–	8	5	0.0	0.0	12	9	52.2	14.2	15	12	92.3	11.2	–	–	–	–	36	27	2,010	491
Alakanuk	22	7	28.7	11.5	39	8	2.3	2.0	49	14	55.4	14.7	39	37	81.1	4.0	–	–	–	–	149	66	8,816	2,102
Emmonak	34	15	20.3	9.2	51	22	6.6	3.3	54	25	14.3	6.1	47	40	78.3	5.2	2	1	200.0	–	188	103	5,878	1,076
Kotlik	17	13	62.9	9.6	24	8	2.1	1.7	51	14	32.9	9.8	27	24	71.0	4.1	–	–	–	–	119	59	4,715	1,078
District 1	74	36	32.3	5.9	122	43	4.7	2.1	166	62	34.9	5.7	128	113	79.2	2.8	2	1	200.0	–	492	255	21,419	2,605
Mountain Village	41	24	27.6	7.5	34	7	6.7	5.3	57	13	33.4	9.8	37	29	70.4	5.2	–	–	–	–	169	73	7,059	1,658
Pitkas Point	6	1	100.0	–	4	2	0.0	0.0	14	10	21.2	5.3	9	5	111.4	29.9	–	–	–	–	33	18	1,588	716
St. Marys	28	13	34.2	15.0	23	8	7.1	5.0	52	15	33.8	12.1	34	29	77.3	5.0	1	1	60.0	–	138	66	5,570	1,565
Pilot Station	20	9	0.9	0.7	31	13	0.0	0.0	54	22	54.0	21.5	20	19	45.4	3.1	–	–	–	–	125	63	3,841	2,326
Marshall	36	25	48.7	8.5	13	4	15.5	10.3	33	23	77.4	7.7	19	18	85.2	3.8	1	0	–	–	102	70	6,189	858
District 2	131	72	30.9	4.8	105	34	5.1	2.5	210	83	44.9	6.9	119	100	73.6	3.2	2	1	60.0	–	567	290	24,247	3,388
Russian Mission	17	9	17.9	9.9	15	2	0.0	0.0	38	10	41.6	11.6	10	8	70.0	8.1	–	–	–	–	80	29	3,181	1,202
Holy Cross	12	1	0.0	–	17	7	0.0	0.0	20	10	1.1	0.8	15	9	3.8	2.2	–	–	–	–	64	27	97	93
Shageluk	12	7	0.0	0.0	8	4	0.0	0.0	6	6	45.0	0.0	2	1	100.0	–	1	1	0.0	–	29	19	470	0
District 3	41	17	10.5	5.8	40	13	0.0	0.0	64	26	29.3	6.9	27	18	35.4	3.2	1	1	0.0	–	173	75	3,748	1,174
Anvik	3	2	0.0	0.0	7	2	0.0	0.0	14	11	6.3	1.7	9	7	164.6	45.1	1	0	–	–	34	22	2,052	1,103
Grayling	7	2	37.5	31.7	7	2	0.0	0.0	29	14	16.2	6.2	11	8	66.1	12.9	–	–	–	–	54	26	1,617	635
Kaltag	10	2	15.0	13.4	8	2	0.0	0.0	33	10	17.6	4.4	6	4	12.0	6.9	–	–	–	–	57	18	954	468
Nulato	17	7	6.4	3.2	13	3	0.0	0.0	46	13	0.5	0.3	11	9	0.3	0.1	–	–	–	–	87	32	158	134
Koyukuk	5	3	0.0	0.0	13	4	0.0	0.0	21	8	0.0	0.0	4	2	0.0	0.0	2	2	150.0	0.0	45	19	300	0
Galena	17	7	0.0	0.0	62	17	0.0	0.0	65	22	2.7	2.2	9	8	0.0	0.0	2	2	100.0	0.0	155	56	377	289
Ruby	9	5	0.0	0.0	41	10	0.0	0.0	11	2	0.0	0.0	6	5	4.0	1.6	1	1	0.0	–	68	23	29	24
Huslia	7	0	–	–	54	13	7.7	6.7	16	5	0.0	0.0	9	7	80.7	23.8	3	3	333.3	0.0	89	28	2,325	935
Hughes	5	3	0.0	0.0	18	15	0.0	0.0	9	8	0.0	0.0	2	2	150.0	0.0	1	1	589.0	–	35	29	889	0
Allakaket	9	3	0.0	0.0	37	12	16.8	13.7	10	3	5.3	4.5	4	4	5.5	0.0	2	2	290.5	0.0	62	24	1,276	1,050
Alatna	5	2	0.0	0.0	1	1	0.0	–	2	2	0.0	0.0	–	–	–	–	–	–	–	–	8	5	0	0
Bettles	12	6	0.0	0.0	17	14	0.2	0.1	1	0	–	–	–	–	–	–	–	–	–	–	30	20	4	3
District 4	106	42	1.3	0.7	278	95	4.3	2.6	257	98	5.7	1.1	71	56	47.3	6.8	12	11	242.7	0.0	724	302	9,981	1,888

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Appendix A2.–Page 2 of 2.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Tanana	12	4	0.0	0.0	30	10	0.0	0.0	34	13	0.0	0.0	8	4	53.5	34.6	11	9	198.6	46.1	95	40	2,612	1,168
Stevens Village	–	–	–	–	2	1	0.0	–	3	3	0.0	0.0	2	1	0.0	–	1	1	500.0	–	8	6	0	0
Birch Creek	2	1	0.0	–	7	4	0.0	0.0	3	1	0.0	–	–	–	–	–	–	–	–	–	12	6	0	0
Beaver	7	4	0.0	0.0	6	6	0.0	0.0	15	14	0.0	0.0	2	2	0.0	0.0	–	–	–	–	30	26	0	0
Fort Yukon	44	15	0.0	0.0	122	30	0.0	0.0	38	8	0.0	0.0	17	15	0.5	0.2	9	8	0.8	0.3	230	76	19	9
Venetie	15	5	0.0	0.0	46	14	0.0	0.0	13	4	0.0	0.0	5	5	0.0	0.0	–	–	–	–	79	28	0	0
Chalkyitsik	14	8	1.1	0.7	15	12	0.0	0.0	2	2	0.0	0.0	–	–	–	–	–	–	–	–	31	22	16	21
District 5	94	37	0.2	0.1	228	77	0.0	0.0	108	45	0.0	0.0	34	27	13.2	8.1	21	18	128.1	24.2	485	204	2,647	1,140
Survey totals	511	230	17.6	1.9	868	284	5.5	1.6	920	345	28.7	2.7	458	381	76.0	1.9	38	32	161.7	14.1	2,795	1,272	81,346	6,100

Note: The number of summer chum salmon harvested was estimated using the total number of households (*N*), the number of households contacted (*n*), the average number of salmon harvested by households (Mean), standard error (SE), and includes 95% confidence interval (CI 95%). Dashes indicate indefinable values.

Appendix A3.–Estimated fall chum salmon subsistence harvest in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2014.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined Total		Combined Est.	Combined CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Hooper Bay	33	11	0.0	0.0	70	14	0.2	0.2	76	20	0.3	0.2	54	42	1.9	0.6	–	–	–	–	233	87	137	76
Scammon Bay	32	15	0.5	0.3	25	8	0.0	0.0	39	11	1.5	0.9	25	25	1.7	0.0	–	–	–	–	121	59	115	76
Coastal District	65	26	0.2	0.1	95	22	0.2	0.1	115	31	0.7	0.4	79	67	1.8	0.4	–	–	–	–	354	146	252	106
Nunam Iqua	1	1	0.0	–	8	5	0.0	0.0	12	9	2.2	1.1	15	12	6.8	1.8	–	–	–	–	36	27	128	62
Alakanuk	22	7	0.3	0.2	39	8	4.4	3.9	49	14	1.4	0.9	39	37	7.8	0.8	–	–	–	–	149	66	516	145
Emmonak	34	15	0.0	0.0	51	22	2.3	1.7	54	25	2.0	0.8	47	40	11.2	1.7	2	1	94.0	–	188	103	940	249
Kotlik	17	13	5.3	2.4	24	8	2.5	2.0	51	14	3.9	2.0	27	24	9.2	1.2	–	–	–	–	119	59	594	247
District 1	74	36	1.3	0.6	122	43	2.1	1.2	166	62	2.4	0.7	128	113	9.2	0.7	2	1	94.0	–	492	255	2,178	380
Mountain Village	41	24	9.8	5.4	34	7	2.9	1.6	57	13	8.7	5.6	37	29	7.8	1.5	–	–	–	–	169	73	1,484	977
Pitkas Point	6	1	0.0	–	4	2	0.0	0.0	14	10	23.4	8.4	9	5	0.0	0.0	–	–	–	–	33	18	400	304
St. Marys	28	12	3.9	1.4	23	8	0.0	0.0	52	15	14.9	7.1	34	29	31.6	3.2	1	1	80.0	–	138	65	2,037	776
Pilot Station	20	9	0.0	0.0	31	13	0.0	0.0	54	22	2.0	1.4	20	19	5.3	1.2	–	–	–	–	125	63	213	154
Marshall	36	25	2.1	0.6	13	4	0.8	0.6	33	23	18.1	5.5	19	18	21.4	1.4	1	0	–	–	102	70	1,100	375
District 2	131	71	4.7	1.8	105	34	0.1	0.1	210	83	11.0	2.6	119	100	15.7	1.1	2	1	80.0	–	567	289	5,234	1,326
Russian Mission	17	9	8.3	4.0	15	2	50.0	46.5	38	10	2.6	1.5	10	8	5.6	2.2	–	–	–	–	80	29	365	232
Holy Cross	12	1	0.0	–	17	7	0.0	0.0	20	10	36.5	9.5	15	9	51.0	18.6	–	–	–	–	64	27	1,840	852
Shageluk	12	7	0.0	0.0	8	4	0.0	0.0	6	6	31.8	0.0	2	1	20.0	–	1	1	21.0	–	29	19	252	0
District 3	41	17	4.9	2.4	40	13	0.0	0.0	64	26	15.9	3.1	27	18	31.9	10.3	1	1	21.0	–	173	75	2,457	858
Anvik	3	2	0.0	0.0	7	2	0.0	0.0	14	11	14.9	4.7	9	6	64.2	11.9	1	0	–	–	34	21	1,028	341
Grayling	7	2	7.5	6.3	7	2	27.0	22.8	29	14	29.0	7.4	11	8	21.3	5.5	–	–	–	–	54	26	1,451	621
Kaltag	10	2	0.0	0.0	8	2	0.0	0.0	33	10	39.5	11.1	6	4	105.3	25.8	–	–	–	–	57	18	2,828	1,222
Nulato	17	7	5.7	2.8	13	3	0.0	0.0	46	13	53.9	8.6	11	9	62.6	7.9	–	–	–	–	87	32	3,839	979
Koyukuk	5	3	0.0	0.0	13	4	0.0	0.0	21	8	25.1	5.7	4	2	87.5	23.0	2	2	60.0	0.0	45	19	998	317
Galena	17	7	3.6	2.7	62	17	7.4	5.0	65	22	17.1	5.3	9	8	74.0	20.4	2	2	536.0	0.0	155	56	3,368	1,008
Ruby	9	5	33.2	20.3	41	10	0.0	0.0	11	2	0.0	0.0	6	5	52.6	14.2	1	1	200.0	–	68	23	972	498
Huslia	7	0	–	–	54	13	1.2	1.0	16	5	0.0	0.0	9	7	35.7	11.2	3	3	50.0	0.0	89	28	579	254
Hughes	5	3	0.0	0.0	18	15	0.0	0.0	9	8	0.0	0.0	2	2	0.5	0.0	1	1	347.0	–	35	29	348	0
Allakaket	9	3	0.0	0.0	37	12	1.7	1.4	10	3	0.0	0.0	4	4	0.0	0.0	2	2	224.0	0.0	62	24	510	105
Alatna	5	2	3.0	0.0	1	1	0.0	–	2	2	0.0	0.0	–	–	–	–	–	–	–	–	8	5	15	0
Bettles	12	6	0.0	0.0	17	14	0.0	0.0	1	0	–	–	–	–	–	–	–	–	–	–	30	20	0	0
District 4	106	42	5.8	2.4	278	95	2.4	1.3	257	98	26.4	2.8	71	55	53.3	4.6	12	11	212.5	0.0	724	301	15,936	2,006

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	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Tanana	12	4	2.5	2.0	30	10	1.0	0.8	34	13	18.3	8.9	8	4	66.5	33.3	11	9	1174.2	173.5	95	40	14,131	3,944
Stevens Village	–	–	–	–	2	1	0.0	–	3	3	0.0	0.0	2	1	3100.0	–	1	1	500.0	–	8	6	6,700	0
Birch Creek	2	1	0.0	–	7	4	0.0	0.0	3	1	0.0	–	–	–	–	–	–	–	–	–	12	6	0	0
Beaver	7	4	0.0	0.0	6	6	0.0	0.0	15	14	11.4	1.9	2	2	76.0	0.0	–	–	–	–	30	26	323	58
Fort Yukon	44	15	23.5	17.0	122	30	2.7	1.7	38	8	6.0	5.3	17	15	105.9	11.5	9	8	393.5	60.7	230	76	8,025	2,307
Venetie	15	5	0.0	0.0	46	14	0.5	0.3	13	4	50.0	41.6	5	5	173.0	0.0	–	–	–	–	79	28	1,538	1,108
Chalkyitsik	14	8	0.0	0.0	15	12	8.3	3.7	2	2	0.0	0.0	–	–	–	–	–	–	–	–	31	22	125	116
District 5	94	37	11.3	7.9	228	77	2.2	0.9	108	45	20.6	8.9	34	27	279.4	9.7	21	18	807.7	94.6	485	204	30,842	4,578
Survey totals	511	229	5.1	1.7	868	284	1.7	0.5	920	345	13.5	1.3	458	380	37.6	1.2	38	32	544.1	55.2	2,795	1,270	56,899	5,246

Note: The number of fall chum salmon harvested was estimated using the total number of households (*N*), the number of households contacted (*n*), the average number of salmon harvested by households (Mean), standard error (SE), and includes 95% confidence interval (CI 95%). Dashes indicate indefinable values.

Appendix A4.–Estimated coho salmon subsistence harvest in surveyed communities, by harvest level, with community and district totals, Yukon Area, 2014.

	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Hooper Bay	33	11	0.0	0.0	70	14	0.1	0.1	76	20	0.7	0.5	54	42	1.0	0.3	–	–	–	–	233	87	118	87
Scammon Bay	32	15	0.1	0.0	25	8	0.0	0.0	39	11	0.9	0.5	25	25	1.9	0.0	–	–	–	–	121	59	86	37
Coastal District	65	26	0.0	0.0	95	22	0.1	0.1	115	31	0.8	0.4	79	67	1.3	0.2	–	–	–	–	354	146	204	94
Nunam Iqua	1	1	0.0	–	8	5	0.0	0.0	12	9	4.2	1.1	15	12	6.8	1.4	–	–	–	–	36	27	153	52
Alakanuk	22	7	0.9	0.6	39	8	1.6	1.4	49	14	0.8	0.4	39	37	4.4	0.4	–	–	–	–	149	66	308	73
Emmonak	34	15	0.0	0.0	51	22	0.0	0.0	54	25	0.5	0.2	47	40	1.4	0.2	2	1	10.0	–	188	103	114	29
Kotlik	17	13	10.0	4.8	24	8	0.4	0.3	51	14	2.0	1.0	27	24	6.0	1.0	–	–	–	–	119	59	444	200
District 1	74	36	2.6	1.1	122	43	0.1	0.1	166	62	1.3	0.3	128	113	3.9	0.3	2	1	10.0	–	492	255	1,019	218
Mountain Village	41	24	0.9	0.4	34	7	4.0	3.6	57	13	0.4	0.3	37	29	2.8	0.6	–	–	–	–	169	73	202	85
Pitkas Point	6	1	0.0	–	4	2	0.0	0.0	14	10	5.4	2.7	9	5	2.8	1.9	–	–	–	–	33	18	123	105
St. Marys	28	12	0.9	0.6	23	8	0.0	0.0	52	15	2.9	1.2	34	29	6.2	1.1	1	1	20.0	–	138	65	408	152
Pilot Station	20	9	0.0	0.0	31	13	0.0	0.0	54	22	7.1	5.2	20	19	0.0	0.0	–	–	–	–	125	63	385	562
Marshall	36	25	1.1	0.4	13	4	0.0	0.0	33	23	5.8	2.0	19	18	12.2	1.1	1	0	–	–	102	70	468	140
District 2	131	71	0.8	0.2	105	34	0.0	0.0	210	83	3.9	1.4	119	100	4.8	0.4	2	1	20.0	–	567	289	1,586	603
Russian Mission	17	9	1.9	0.9	15	2	5.0	4.7	38	10	1.8	1.0	10	8	0.0	0.0	–	–	–	–	80	29	124	107
Holy Cross	12	1	0.0	–	17	7	0.0	0.0	20	10	2.1	1.4	15	9	2.8	1.8	–	–	–	–	64	27	103	97
Shageluk	12	7	3.6	2.3	8	4	0.0	0.0	6	6	5.0	0.0	2	1	20.0	–	1	1	0.0	–	29	19	113	58
District 3	41	17	2.6	1.1	40	13	0.0	0.0	64	26	2.2	0.8	27	18	3.0	1.0	1	1	0.0	–	173	75	340	151
Anvik	3	2	15.0	8.7	7	2	0.0	0.0	14	11	1.1	0.3	9	6	10.0	4.7	1	0	–	–	34	21	197	136
Grayling	7	2	4.0	3.4	7	2	0.0	0.0	29	14	4.9	2.6	11	8	14.1	4.4	–	–	–	–	54	26	403	250
Kaltag	10	2	15.0	13.4	8	2	0.0	0.0	33	10	9.7	7.4	6	4	5.3	2.8	–	–	–	–	57	18	514	749
Nulato	17	7	0.0	0.0	13	3	0.0	0.0	46	13	2.8	0.9	11	9	23.2	9.2	–	–	–	–	87	32	454	260
Koyukuk	5	3	0.0	0.0	13	4	0.0	0.0	21	8	0.0	0.0	4	2	0.0	0.0	2	2	25.0	0.0	45	19	50	0
Galena	17	7	3.6	2.7	62	17	0.0	0.0	65	22	4.6	2.4	9	8	3.6	1.0	2	2	161.5	0.0	155	56	718	329
Ruby	9	5	5.0	3.3	41	10	0.0	0.0	11	2	0.0	0.0	6	5	6.0	1.6	1	1	200.0	–	68	23	335	78
Huslia	7	0	–	–	54	13	0.0	0.0	16	5	0.0	0.0	9	7	4.3	2.0	3	3	68.7	0.0	89	28	265	40
Hughes	5	3	0.0	0.0	18	15	0.0	0.0	9	8	0.0	0.0	2	2	0.0	0.0	1	1	17.0	–	35	29	17	0
Allakaket	9	3	0.0	0.0	37	12	0.0	0.0	10	3	0.0	0.0	4	4	0.0	0.0	2	2	54.5	0.0	62	24	109	0
Alatna	5	2	0.0	0.0	1	1	0.0	–	2	2	0.0	0.0	–	–	–	–	–	–	–	–	8	5	0	0
Bettles	12	6	0.0	0.0	17	14	0.0	0.0	1	0	–	–	–	–	–	–	–	–	–	–	30	20	0	0
District 4	106	42	1.8	0.7	278	95	0.0	0.0	257	98	3.7	1.2	71	55	9.0	1.7	12	11	82.3	0.0	724	301	3,062	860

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	Unknown				Does not harvest salmon				Light harvester				Medium harvester				Heavy harvester				Combined			
																					Total		Est.	CI
Community	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	Mean	SE	*N*	*n*	total	95%
Tanana	12	4	0.8	0.6	30	10	0.0	0.0	34	13	0.0	0.0	8	4	5.0	3.5	11	9	158.1	29.8	95	40	1,788	665
Stevens Village	–	–	–	–	2	1	0.0	–	3	3	0.0	0.0	2	1	0.0	–	1	1	0.0	–	8	6	0	0
Birch Creek	2	1	0.0	–	7	4	0.0	0.0	3	1	0.0	–	–	–	–	–	–	–	–	–	12	6	0	0
Beaver	7	4	0.0	0.0	6	6	0.0	0.0	15	14	0.0	0.0	2	2	1.0	0.0	–	–	–	–	30	26	2	0
Fort Yukon	44	15	0.0	0.0	122	30	0.0	0.0	38	8	8.5	7.6	17	15	9.9	2.1	9	8	0.0	0.0	230	76	201	84
Venetie	15	5	0.0	0.0	46	14	0.0	0.0	13	4	0.0	0.0	5	5	0.0	0.0	–	–	–	–	79	28	0	0
Chalkyitsik	14	8	0.0	0.0	15	12	2.5	1.1	2	2	0.0	0.0	–	–	–	–	–	–	–	–	31	22	38	35
District 5	94	37	0.1	0.1	228	77	0.2	0.1	108	45	0.0	0.0	34	27	6.2	1.3	21	18	82.8	15.6	485	204	2,029	655
Survey totals	511	229	1.1	0.2	868	284	0.1	0.0	920	345	2.5	0.5	458	380	4.6	0.3	38	32	74.6	9.1	2,795	1,270	8,240	1,265

Note: The number of coho salmon harvested was estimated using the total number of households (*N*), the number of households contacted (*n*), the average number of salmon harvested by households (Mean), standard error (SE), and includes 95% confidence interval (CI 95%). Dashes indicate indefinable values.

Appendix A5.–Estimated number of salmon provided to communities for subsistence use by test fishery programs, Yukon Area, 2014.

Yukon River test fishery sites	Community where fish were distributed	Chinook salmon	Summer chum salmon	Fall chum salmon	Coho salmon	Pink salmon	Total salmon
Lower Yukon Test Fish gillnet (LYTF) [a]	Alakanuk	47	304	77	135	0	563
	Emmonak	346	1,265	1,525	499	76	3,711
	Kotlik	382	906	292	129	29	1,738
LYTF project subtotal:		775	2,475	1,894	763	105	6,012
Pilot Station sonar test fish drift gillnet	Pilot Station	80	1,887	583	183	15	2,748
Fort Yukon test fish wheel	Fort Yukon	86	0	0	0	0	86
Eagle sonar test fish drift gillnet	Eagle [b]	13	0	0	0	0	13
Tanana River Manley sonar	Manley [b]	0	11	44	27	-	82
	Other [b]	0	8	12	6	-	26
Manley sonar subtotal [b]		0	19	56	33	-	108
Test fishery totals		954	4,381	2,533	979	120	8,967

[a] Includes both set and drift gillnet test fishery catches.

[b] Communities from permit areas that were not surveyed.

Appendix A6.–Months when households reported harvesting small whitefish species, Yukon Area, 2014.

District	Month												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Coastal	3	2	4	3	3	17	9	11	21	13	7	5	98
District Y1	14	4	2	2	1	4	5	6	69	57	44	19	227
District Y2	18	15	7	4	4	4	4	2	3	12	15	18	106
District Y3					1			1					2
District Y4	1	1					2	4	4	1	1	1	15
District Y5					2	5	6	7	5	3			28
Households	36	22	13	9	11	30	26	31	102	86	67	43	476

Note: In 2014, 275 surveyed households harvested small whitefish, of which 208 provided information for the question "When did you harvest small whitefish?"

APPENDIX B. HISTORICAL INFORMATION

Appendix B1.–Chinook salmon subsistence harvest totals by fishing district and community of residence, as estimated from postseason survey, returned permits and test fishery projects, and personal use harvest total for District 6, Yukon Area, 2004–2014.

Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004–2008 Average	2009–2013 Average
Hooper Bay	1,042	157	376	430	388	183	584	252	1,090	1,210	455	479	664
Scammon Bay	996	691	507	768	1,104	722	716	517	1,014	332	108	813	660
Coastal District total	2,038	848	883	1,198	1,492	905	1,300	769	2,104	1,542	563	1,292	1,324
Nunam Iqua	647	338	371	907	163	200	404	250	195	12	62	485	212
Alakanuk	1,317	860	690	1,257	1,238	634	944	1,464	1,081	275	214	1,072	880
Emmonak	2,768	1,730	2,311	2,326	2,696	1,634	2,194	2,172	1,864	553	463	2,366	1,683
Kotlik	1,148	2,130	1,750	1,569	2,066	1,657	2,314	2,369	1,173	794	617	1,733	1,661
District 1 subtotal	5,880	5,058	5,122	6,059	6,163	4,125	5,856	6,255	4,313	1,634	1,356	5,656	4,437
Mountain Village	2,362	2,383	1,659	2,077	1,645	1,482	1,601	2,063	1,789	266	178	2,025	1,440
Pitkas Point	609	618	274	320	544	265	580	246	261	37	79	473	278
St. Marys	2,357	2,693	2,233	3,573	1,756	1,929	2,800	1,734	2,344	215	68	2,522	1,804
Pilot Station	2,406	1,658	1,976	2,028	1,597	1,258	1,585	1,340	1,078	258	163	1,933	1,104
Marshall	1,990	1,804	1,897	2,555	3,284	1,201	2,110	2,686	1,409	328	128	2,306	1,547
District 2 subtotal	9,724	9,156	8,039	10,553	8,826	6,135	8,676	8,069	6,881	1,104	616	9,260	6,173
Russian Mission	2,337	1,894	1,851	1,301	2,949	978	924	1,550	1,711	236	16	2,066	1,080
Holy Cross	1,993	2,817	3,165	2,902	2,509	1,745	3,098	2,231	576	204	0	2,677	1,571
Shageluk	418	420	358	448	397	201	277	353	75	4	32	408	182
District 3 subtotal	4,748	5,131	5,374	4,651	5,855	2,924	4,299	4,134	2,362	444	48	5,152	2,833
Lower Yukon River total	20,352	19,345	18,535	21,263	20,844	13,184	18,831	18,458	13,556	3,182	2,020	20,068	13,442
Anvik	1,588	1,206	958	1,321	1,433	796	1,069	1,052	435	121	0	1,301	695
Grayling	1,869	1,878	1,702	1,500	1,761	1,133	2,122	1,374	1,081	226	3	1,742	1,187
Kaltag	1,656	3,367	2,833	1,456	2,403	1,970	3,191	2,488	1,346	348	10	2,343	1,869
Nulato	5,199	2,749	2,707	2,431	1,250	1,551	2,989	1,538	1,955	602	0	2,867	1,727
Koyukuk	400	396	835	811	513	982	867	1,349	614	898	52	591	942
Galena	3,296	2,864	2,380	2,511	2,232	1,370	1,357	1,434	742	275	1	2,657	1,036
Ruby	1,620	1,193	304	1,594	637	542	1,102	482	1,316	357	6	1,070	760
District 4 subtotal	15,628	13,653	11,719	11,624	10,229	8,344	12,697	9,717	7,489	2,827	72	12,571	8,215
Huslia	285	207	258	146	255	969	65	121	165	62	38	230	276
Hughes	291	33	8	8	61	101	63	10	0	6	13	80	36
Allakaket	65	68	23	53	58	90	63	42	5	6	8	53	41
Alatna	0	0	14	0	16	10	0	3	0	0	0	6	3
Bettles	0	3	0	0	0	0	0	0	3	0	1	1	1
Koyukuk River subtotal	641	311	303	207	390	1,170	191	176	173	74	60	370	357
District 4 total (incl. Koyukuk R.)	16,269	13,964	12,022	11,831	10,619	9,514	12,888	9,893	7,662	2,901	132	12,941	8,572

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Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004–2008 Average	2009–2013 Average
Tanana	2,689	3,729	3,794	5,498	3,981	2,950	3,215	2,936	2,100	1,200	88	3,938	2,480
Rampart	287	411	429	250	136	528	262	201	190	35	0	303	243
Fairbanks [a]	1,997	2,584	2,184	2,510	1,898	1,509	1,670	2,186	558	610	14	2,235	1,307
Stevens Village	2,394	1,570	1,245	610	753	405	469	415	330	239	0	1,314	372
Birch Creek	82	131	174	113	32	15	73	49	0	0	0	106	27
Beaver	858	957	830	1,244	546	516	198	356	71	107	0	887	250
Fort Yukon	4,430	3,591	3,144	4,076	1,991	846	1,683	2,472	2,141	1,561	93	3,446	1,741
Circle	565	1,283	694	1,057	519	372	324	297	280	157	0	824	286
Central	83	175	130	334	48	167	90	66	66	21	0	154	82
Eagle	1,512	2,566	2,303	1,999	1,068	446	867	728	167	175	76	1,890	477
Other [b]	357	315	330	472	362	541	779	777	477	125	0	367	540
District 5 subtotal	15,254	17,312	15,257	18,163	11,334	8,295	9,630	10,483	6,380	4,230	271	15,464	7,804
Venetie	352	59	667	1,002	292	622	767	10	86	311	12	474	359
Chalkyitsik	60	53	0	0	0	0	0	0	0	0	5	23	0
Chandalar/Black River subtotal	412	112	667	1,002	292	622	767	10	86	311	17	497	359
District 5 total (incl. Chandalar/Black R.)	15,666	17,424	15,924	19,165	11,626	8,917	10,397	10,493	6,466	4,541	288	15,961	8,163
Manley	239	289	361	333	106	345	337	287	174	165	92	266	262
Minto	35	35	31	82	12	0	43	61	99	60	0	39	53
Nenana	633	533	712	893	322	458	658	681	296	87	139	619	436
Fairbanks [c]	449	971	125	409	108	396	91	330	58	49	41	412	185
Other [d]	32	0	0	0	57	86	14	8	0	6	11	18	23
District 6 Tanana River total	1,388	1,828	1,229	1,717	605	1,285	1,143	1,367	627	367	283	1,353	958
Upper Yukon River total	33,323	33,216	29,175	32,713	22,850	19,716	24,428	21,753	14,755	7,809	703	30,255	17,692
Yukon River total [e]	53,675	52,561	47,710	53,976	43,694	32,900	43,259	40,211	28,311	10,991	2,723	50,323	31,134
Yukon Area total	55,713	53,409	48,593	55,174	45,186	33,805	44,559	40,980	30,415	12,533	3,286	51,615	32,458
Personal Use (District 6) [f]	201	138	89	136	126	127	162	89	71	42	1	138	98
Yukon Area total with Personal Use	55,914	53,547	48,682	55,310	45,312	33,932	44,721	41,069	30,486	12,575	3,287	51,753	32,557

[a] Harvests by subsistence permit holders residing in Fairbanks who 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] Harvests by subsistence permit holders residing in Fairbanks who fished in the Tanana River.

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

[e] Does not include the Coastal District for use in assessing border passage objectives under the Yukon Salmon Agreement.

[f] Harvest from the personal use fishing area of the Tanana River near Fairbanks. Not included in communities or totals above.

Appendix B2.–Summer chum salmon subsistence harvest totals by fishing district and community of residence, as estimated from postseason survey, returned permits and test fishery projects, and personal use harvest total for District 6, Yukon Area, 2004–2014.

Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004–2008 Average	2009–2013 Average
Hooper Bay	3,242	9,771	19,468	12,234	12,007	9,195	17,020	13,460	15,799	13,629	13,236	11,344	13,821
Scammon Bay	5,020	4,586	4,703	3,887	6,113	3,602	5,405	4,845	7,442	9,506	6,068	4,862	6,160
Coastal District total	8,262	14,357	24,171	16,121	18,120	12,797	22,425	18,305	23,241	23,135	19,304	16,206	19,981
Nunam Iqua	2,698	2,794	2,903	2,325	1,949	2,280	2,267	2,077	1,977	2,651	2,010	2,534	2,250
Alakanuk	6,555	5,687	7,790	7,611	6,881	5,152	7,722	7,447	9,012	7,520	9,120	6,905	7,371
Emmonak	8,618	12,594	11,899	9,256	9,646	9,038	10,918	12,468	15,829	8,209	7,143	10,403	11,292
Kotlik	2,749	6,620	5,289	5,017	4,291	7,528	4,265	6,598	8,552	10,136	5,621	4,793	7,416
District 1 subtotal	20,620	27,695	27,881	24,209	22,767	23,998	25,172	28,590	35,370	28,516	23,894	24,634	28,329
Mountain Village	10,676	8,861	13,119	8,104	7,559	7,204	7,071	9,355	9,031	11,861	7,059	9,664	8,904
Pitkas Point	717	1,023	680	515	1,246	994	633	585	1,153	2,186	1,588	836	1,110
St. Marys	6,994	6,877	7,394	8,107	6,451	5,831	7,443	6,760	10,763	9,167	5,570	7,165	7,993
Pilot Station	5,779	4,333	6,070	3,711	6,012	4,888	6,196	4,182	5,716	5,299	5,728	5,181	5,256
Marshall	1,765	3,183	4,392	3,070	3,023	2,172	2,395	3,810	5,903	3,986	6,189	3,087	3,653
District 2 subtotal	25,931	24,277	31,655	23,507	24,291	21,089	23,738	24,692	32,566	32,499	26,134	25,932	26,917
Russian Mission	884	925	1,328	759	2,400	849	528	1,225	2,508	3,967	3,181	1,259	1,815
Holy Cross	276	760	825	320	441	194	463	363	1,147	262	97	524	486
Shageluk	1,798	4,081	1,381	977	130	103	350	1,145	5,035	463	470	1,673	1,419
District 3 subtotal	2,958	5,766	3,534	2,056	2,971	1,146	1,341	2,733	8,690	4,692	3,748	3,457	3,720
Lower Yukon River total	49,509	57,738	63,070	49,772	50,029	46,233	50,251	56,015	76,626	65,707	53,776	54,024	58,966
Anvik	248	529	387	5,250	340	277	451	220	1,371	830	2,052	1,351	630
Grayling	1,129	783	644	641	660	1,429	1,612	838	2,616	618	1,617	771	1,423
Kaltag	213	680	159	109	916	50	102	163	186	67	954	415	114
Nulato	198	634	838	356	468	133	416	246	254	401	158	499	290
Koyukuk	329	537	394	995	1,104	1,378	352	890	828	4,459	300	672	1,581
Galena	782	1,013	1,205	571	758	1,718	1,702	3,414	718	179	377	866	1,546
Ruby	2,010	967	1,714	416	655	603	1,971	775	3,891	681	29	1,152	1,584
District 4 subtotal	4,909	5,143	5,341	8,338	4,901	5,588	6,606	6,546	9,864	7,235	5,487	5,726	7,168
Huslia	3,844	2,433	1,122	3,243	4,377	2,554	1,349	3,166	7,306	3,241	2,325	3,004	3,523
Hughes	3,823	2,230	3,254	1,213	944	1,723	878	954	428	829	889	2,293	962
Allakaket	2,367	2,535	5,170	3,451	3,229	4,924	2,864	2,368	3,850	2,116	1,276	3,350	3,224
Alatna	16	5	110	11	66	163	23	132	100	340	0	42	152
Bettles	0	4	0	0	0	6	0	0	7	0	4	1	3
Koyukuk River subtotal	10,050	7,207	9,656	7,918	8,616	9,370	5,114	6,620	11,691	6,526	4,494	8,689	7,864
District 4 total (incl. Koyukuk R.)	14,959	12,350	14,997	16,256	13,517	14,958	11,720	13,166	21,555	13,761	9,981	14,416	15,032

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Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004–2008 Average	2009–2013 Average
Tanana	1,490	4,832	5,474	5,229	2,877	4,665	1,856	4,381	4,333	9,565	2,612	3,980	4,960
Rampart	103	315	135	25	27	112	161	67	71	5	70	121	83
Fairbanks [a]	280	780	1,341	564	119	44	427	688	172	1,350	300	617	536
Stevens Village	108	442	972	254	163	6	28	43	188	50	0	388	63
Beaver	2	68	117	41	27	22	22	393	27	12	0	51	95
Fort Yukon	1,187	67	2,165	2,365	230	275	722	1,297	0	225	19	1,203	504
Circle	52	3	58	200	5	0	37	48	0	66	0	64	30
Central	0	5	2	0	0	2	0	0	0	0	0	1	0
Eagle	171	235	974	15	14	0	25	2	0	50	0	282	15
Other [b]	3	53	117	81	25	29	144	790	101	94	91	56	232
District 5 subtotal	3,396	6,800	11,355	8,774	3,487	5,155	3,422	7,709	4,892	11,417	3,092	6,762	6,519
Venetie	15	0	475	107	50	143	0	0	0	0	0	129	29
Chalkyitsik	0	0	0	0	0	0	133	0	0	0	16	0	27
Chandalar/Black River subtotal	15	0	475	107	50	143	133	0	0	0	16	129	55
District 5 total (incl. Chandalar/Black R.)	3,411	6,800	11,830	8,881	3,537	5,298	3,555	7,709	4,892	11,417	3,108	6,892	6,574
Manley	296	163	89	140	144	367	102	142	58	45	182	166	143
Minto	7	21	460	82	9	1	8	27	64	258	24	116	72
Nenana	1,171	1,771	388	1,419	753	506	83	471	370	642	275	1,100	414
Fairbanks [c]	308	45	73	255	94	372	183	185	114	143	237	155	199
Other [d]	11	14	0	0	311	7	46	0	72	6	13	67	26
District 6 Tanana River total	1,793	2,014	1,010	1,896	1,311	1,253	422	825	678	1,094	731	1,605	854
Upper Yukon River total	20,163	21,164	27,837	27,033	18,365	21,509	15,697	21,700	27,125	26,272	13,820	22,912	22,461
Yukon River total [e]	69,672	78,902	90,907	76,805	68,394	67,742	65,948	77,715	103,751	91,979	67,596	76,936	81,427
Yukon Area total	77,934	93,259	115,078	92,926	86,514	80,539	88,373	96,020	126,992	115,114	86,900	93,142	101,408
Personal Use (District 6) [f]	231	152	262	184	138	308	319	439	321	138	235	193	305
Yukon Area total with Personal Use	78,165	93,411	115,340	93,110	86,652	80,847	88,692	96,459	127,313	115,252	87,135	93,336	101,713

[a] Harvests by subsistence permit holders residing in Fairbanks who 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] Harvests by subsistence permit holders residing in Fairbanks who fished in the Tanana River.

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

[e] Does not include the Coastal District for use in assessing objectives under the Yukon Salmon Agreement.

[f] Harvest from the personal use fishing area on the Tanana River near Fairbanks. Not included in communities or totals above.

Appendix B3.–Fall chum salmon subsistence harvest totals by fishing district and community of residence, as estimated from postseason survey, returned permits and test fishery projects, and personal use harvest total for District 6, Yukon Area, 2004–2014.

Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004–2008 Average	2009–2013 Average
Hooper Bay	264	1	146	64	329	41	116	267	1	91	137	161	103
Scammon Bay	56	69	41	170	57	117	70	48	10	58	115	79	61
Coastal District total	320	70	187	234	386	158	186	315	11	149	252	239	164
Nunam Iqua	49	310	735	152	59	41	143	51	210	93	128	261	108
Alakanuk	953	627	624	1,348	423	116	860	881	449	328	593	795	527
Emmonak	785	1,436	2,056	2,360	1,670	1,589	1,718	1,540	5,890	2,165	2,465	1,661	2,580
Kotlik	280	516	487	530	671	171	481	962	1,073	1,087	886	497	755
District 1 subtotal	2,067	2,889	3,902	4,390	2,823	1,917	3,202	3,434	7,622	3,673	4,072	3,214	3,970
Mountain Village	918	1,290	2,398	1,073	926	926	133	800	685	2,174	1,484	1,321	944
Pitkas Point	0	6	5	44	101	76	10	30	9	65	400	31	38
St. Marys	104	490	417	825	830	106	387	611	1,423	1,009	2,037	533	707
Pilot Station	1,108	838	785	741	917	265	833	575	1,031	777	796	878	696
Marshall	291	633	410	789	748	190	56	562	184	853	1,100	574	369
District 2 subtotal	2,421	3,257	4,015	3,472	3,522	1,563	1,419	2,578	3,332	4,878	5,817	3,337	2,754
Russian Mission	172	667	251	530	578	205	104	11	282	804	365	440	281
Holy Cross	76	582	224	248	920	627	21	94	339	855	1,840	410	387
Shageluk	50	55	5	147	323	105	1,200	249	16	105	252	116	335
District 3 subtotal	298	1,304	480	925	1,821	937	1,325	354	637	1,764	2,457	966	1,003
Lower Yukon River total	4,786	7,450	8,397	8,787	8,166	4,417	5,946	6,366	11,591	10,315	12,346	7,517	7,727
Anvik	398	497	118	429	317	176	169	202	569	763	1,028	352	376
Grayling	267	1,009	691	317	1,012	490	202	1,152	804	471	1,451	659	624
Kaltag	687	1,089	823	910	620	200	658	196	2,830	583	2,828	826	893
Nulato	1,246	421	751	1,345	729	552	1,049	652	2,729	2,995	3,839	898	1,595
Koyukuk	344	803	1,147	927	1,177	578	792	1,388	1,331	5,308	998	880	1,879
Galena	1,587	2,695	1,632	1,471	1,364	4,306	1,968	2,739	2,947	602	3,368	1,750	2,512
Ruby	1,064	559	227	1,959	657	134	1,026	592	4,408	2,505	972	893	1,733
District 4 subtotal	5,593	7,073	5,389	7,358	5,876	6,436	5,864	6,921	15,618	13,227	14,484	6,258	9,613
Huslia	1,139	1,614	313	272	64	86	403	183	1,909	722	579	680	661
Hughes	97	111	240	0	127	288	0	64	2	535	348	115	178
Allakaket	968	557	393	939	1,345	572	521	92	508	687	510	840	476
Alatna	0	0	0	7	0	0	0	0	18	20	15	1	8
Bettles	0	50	0	0	0	0	0	0	0	0	0	10	0
Koyukuk River subtotal	2,204	2,332	946	1,218	1,536	946	924	339	2,437	1,964	1,452	1,647	1,322
District 4 total (incl. Koyukuk R.)	7,797	9,405	6,335	8,576	7,412	7,382	6,788	7,260	18,055	15,191	15,936	7,905	10,935

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Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004–2008 Average	2009–2013 Average
Tanana	23,118	20,545	23,167	21,596	17,478	19,595	14,984	21,728	20,465	31,546	14,131	21,181	21,664
Rampart	0	358	250	250	1,000	1,000	735	340	190	100	0	372	473
Fairbanks [a]	43	1,682	5,269	2,126	659	229	822	1,696	793	1,160	1,406	1,956	940
Stevens Village	1,080	246	50	199	643	770	2,706	911	277	840	6,700	444	1,101
Beaver	48	179	0	354	13	120	37	122	174	21	323	119	95
Ft. Yukon	7,302	8,088	5,178	8,264	14,252	2,829	6,006	7,188	12,659	16,453	8,025	8,617	9,027
Circle	1,022	918	664	1,286	3,198	110	927	299	161	1,397	1,277	1,418	579
Central	0	36	0	0	0	0	0	0	0	0	0	7	0
Eagle	5,482	17,356	16,801	18,676	15,269	10,941	15,008	17,455	18,731	18,871	17,450	14,717	16,201
Other [b]	13	117	44	46	3,183	71	120	208	443	121	222	681	193
District 5 subtotal	38,108	49,525	51,423	52,797	55,695	35,665	41,345	49,947	53,893	70,509	49,534	49,510	50,272
Venetie	2,083	1,801	520	721	1,563	2,373	2,989	1,938	295	5,340	1,538	1,338	2,587
Chalkyitsik	479	337	215	213	0	45	0	0	162	249	125	249	91
Chandalar/Black River subtotal	2,562	2,138	735	934	1,563	2,418	2,989	1,938	457	5,589	1,663	1,586	2,678
District 5 total (incl. Chandalar/Black R.)	40,670	51,663	52,158	53,731	57,258	38,083	44,334	51,885	54,350	76,098	51,197	51,096	52,950
Manley	1,504	2,985	3,374	3,419	2,490	4,126	2,696	2,333	2,164	1,539	2,579	2,754	2,572
Minto	0	600	242	155	28	0	70	1,500	2	593	472	205	433
Nenana	5,367	10,594	10,530	21,863	6,585	7,623	6,802	5,268	8,665	3,112	2,810	10,988	6,294
Fairbanks [c]	1,024	6,691	1,311	3,325	340	3,460	678	4,317	3,876	5,651	5,190	2,538	3,596
Other [d]	1,058	2,076	1,468	1,131	6,692	870	1,145	958	595	736	1,747	2,485	861
District 6 Tanana River total	8,953	22,946	16,925	29,893	16,135	16,079	11,391	14,376	15,302	11,631	12,798	18,970	13,756
Upper Yukon River total	57,420	84,014	75,418	92,200	80,805	61,544	62,513	73,521	87,707	102,920	79,931	77,971	77,641
Yukon River total [e]	62,206	91,464	83,815	100,987	88,971	65,961	68,459	79,887	99,298	113,235	92,277	85,489	85,368
Yukon Area total	62,526	91,534	84,002	101,221	89,357	66,119	68,645	80,202	99,309	113,384	92,529	85,728	85,532
Personal Use (District 6) [f]	230	133	333	173	181	78	3,209	347	410	383	278	210	885
Yukon Area total with Personal Use	62,756	91,667	84,335	101,394	89,538	66,197	71,854	80,549	99,719	113,767	92,807	85,938	86,417

[a] Harvests by subsistence permit holders residing in Fairbanks who 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] Harvests by subsistence permit holders residing in Fairbanks who fished in the Tanana River.

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

[e] Does not include the Coastal District for use in assessing objectives under the Yukon Salmon Agreement.

[f] Harvest from the personal use fishing area of the Tanana River near Fairbanks. Not included in communities or totals above.

Appendix B4.–Coho salmon subsistence harvest totals by fishing district and community of residence, as estimated from postseason survey, returned permits and test fishery projects, and personal use harvest total for District 6, Yukon Area, 2004–2014.

Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004–2008 Average	2009–2013 Average
Hooper Bay	9	0	175	26	66	24	45	0	7	73	118	55	30
Scammon Bay	54	279	160	84	50	222	79	55	86	214	86	125	131
Coastal District total	63	279	335	110	116	246	124	55	93	287	204	181	161
Nunam Iqua	79	241	392	92	24	71	73	23	18	83	153	166	54
Alakanuk	207	322	101	857	157	194	449	431	252	167	443	329	299
Emmonak	296	191	450	1,032	717	401	362	472	2,660	517	613	537	882
Kotlik	593	222	234	284	313	181	238	201	420	457	573	329	299
District 1 subtotal	1,175	976	1,177	2,265	1,211	847	1,122	1,127	3,350	1,224	1,782	1,361	1,534
Mountain Village	521	246	1,856	1,027	518	413	127	261	256	271	202	834	266
Pitkas Point	0	30	16	38	130	45	116	37	53	41	123	43	58
St. Marys	258	252	171	97	591	151	92	230	141	124	408	274	148
Pilot Station	296	241	225	263	268	203	189	145	329	136	568	259	200
Marshall	425	341	191	922	490	245	33	150	567	508	468	474	301
District 2 subtotal	1,500	1,110	2,459	2,347	1,997	1,057	557	823	1,346	1,080	1,769	1,883	973
Russian Mission	151	133	19	259	372	96	300	0	319	152	124	187	173
Holy Cross	27	84	16	213	38	120	0	0	237	0	103	76	71
Shageluk	106	0	48	267	0	105	53	36	0	219	113	84	83
District 3 subtotal	284	217	83	739	410	321	353	36	556	371	340	347	327
Lower Yukon River total	2,959	2,303	3,719	5,351	3,618	2,225	2,032	1,986	5,252	2,675	3,891	3,590	2,834
Anvik	288	406	0	807	40	137	28	19	214	97	197	308	99
Grayling	233	234	224	271	25	318	132	119	26	34	403	197	126
Kaltag	138	307	106	204	45	40	0	258	928	306	514	160	306
Nulato	203	60	214	130	195	171	242	118	41	125	454	160	139
Koyukuk	166	37	330	189	84	198	254	137	62	3,267	50	161	784
Galena	1,307	607	137	425	558	2,353	549	1,013	276	170	718	607	872
Ruby	1,540	361	11	168	291	314	148	312	1,806	345	335	474	585
District 4 subtotal	3,875	2,012	1,022	2,194	1,238	3,531	1,353	1,976	3,353	4,344	2,671	2,068	2,911
Huslia	764	734	105	592	100	323	289	70	165	342	265	459	238
Hughes	110	20	150	100	0	89	0	13	0	18	17	76	24
Allakaket	17	205	25	66	152	43	88	13	38	236	109	93	84
Alatna	0	0	0	0	0	0	0	0	0	0	0	0	0
Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0
Koyukuk River subtotal	891	959	280	758	252	455	377	96	203	596	391	628	345
District 4 total (incl. Koyukuk R.)	4,766	2,971	1,302	2,952	1,490	3,986	1,730	2,072	3,556	4,940	3,062	2,696	3,257

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Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004–2008 Average	2009–2013 Average
Tanana	1,049	1,616	3,619	2,369	1,511	2,373	2,314	312	3,060	1,135	1,788	2,033	1,839
Rampart	0	10	0	50	0	0	24	0	0	0	0	12	5
Fairbanks [a]	91	10	79	26	7	13	2	2	0	0	0	43	3
Stevens Village	100	0	0	0	0	90	428	0	0	0	0	20	104
Beaver	0	0	0	354	6	0	1	0	2	0	2	72	1
Ft. Yukon	19	394	35	567	1,618	2	244	1,040	4	7	201	527	259
Circle	100	100	22	0	0	13	164	0	5	150	0	44	66
Central	0	1	0	0	0	0	0	0	0	0	0	0	0
Eagle	14	15	0	0	0	0	1	1	0	0	1	6	0
Other [b]	0	13	0	0	61	7	0	0	21	0	0	15	6
District 5 subtotal	1,373	2,159	3,755	3,366	3,203	2,498	3,178	1,355	3,092	1,292	1,992	2,771	2,283
Venetie	5	0	24	0	0	0	159	34	0	6	0	6	40
Chalkyitsik	45	0	0	0	0	0	267	0	0	0	38	9	53
Chandalar/Black River subtotal	50	0	24	0	0	0	426	34	0	6	38	15	93
District 5 total (incl. Chandalar/Black R.)	1,423	2,159	3,779	3,366	3,203	2,498	3,604	1,389	3,092	1,298	2,030	2,786	2,376
Manley	1,384	2,510	1,671	1,126	1,901	2,308	1,832	1,482	1,374	447	1,177	1,718	1,489
Minto	5	0	14	155	0	0	0	0	0	266	37	35	53
Nenana	6,494	12,395	7,032	4,487	2,775	3,475	2,313	3,304	5,904	1,762	2,138	6,637	3,352
Fairbanks [c]	1,435	3,032	745	609	230	577	212	1,109	1,502	2,576	3,689	1,210	1,195
Other [d]	2,266	1,601	1,109	1,468	3,522	691	1,198	947	760	206	870	1,993	760
District 6 Tanana River total	11,584	19,538	10,571	7,845	8,428	7,051	5,555	6,842	9,540	5,257	7,911	11,593	6,849
Upper Yukon River total	17,773	24,668	15,652	14,163	13,121	13,535	10,889	10,303	16,188	11,495	13,003	17,075	12,482
Alaska, Yukon River total [e]	20,732	26,971	19,371	19,514	16,739	15,760	12,921	12,289	21,440	14,170	16,894	20,665	15,316
Alaska, Yukon Area total	20,795	27,250	19,706	19,624	16,855	16,006	13,045	12,344	21,533	14,457	17,098	20,846	15,477
Personal Use (District 6) [f]	233	107	279	135	50	70	1,062	232	100	109	174	161	315
Yukon Area total with Personal Use	21,028	27,357	19,985	19,759	16,905	16,076	14,107	12,576	21,633	14,566	17,272	21,007	15,792

[a] Harvests by subsistence permit holders residing in Fairbanks who 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] Harvests by subsistence permit holders residing in Fairbanks who fished in the Tanana River.

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

[e] Does not include the Coastal District for use in assessing objectives under the Yukon Salmon Agreement.

[f] Harvest from the personal use fishing area of the Tanana River near Fairbanks. 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, 2004–2014.

												Estimated Total		
Community	2004	2005	2006	2007	2008	2009	2010	2011	2012 [a]	2013	2014 [a]	Even Years Average	Odd Years Average	All Years Average
Hooper Bay	5,418	860	1,433	113	1,013	957	219	210	1,101	302	712	1,837	488	1,163
Scammon Bay	2,508	1,645	1,381	1,435	2,766	1,186	2,245	1,888	1,343	507	1,923	2,049	1,332	1,690
Coastal District	7,926	2,505	2,814	1,548	3,779	2,143	2,464	2,098	2,444	809	2,635	3,885	1,821	2,853
Nunam Iqua	32	132	555	170	757	61	306	8	1,051	0	670	540	74	307
Alakanuk	233	49	115	32	494	24	151	13	174	92	970	233	42	138
Emmonak	32	54	225	51	641	5	206	0	199	0	588	261	22	141
Kotlik	318	155	219	129	1,161	42	124	32	195	23	1,064	403	76	240
District 1	615	390	1,114	382	3,053	132	787	53	1,619	115	3,292	1,438	214	826
Mountain Village	891	78	616	87	500	6	217	24	207	0	233	486	39	263
Pitkas Point	0	2	44	66	15	0	143	0	2	2	45	41	14	27
St. Marys	137	144	236	32	367	5	543	1	643	0	614	385	36	211
Pilot Station	5	0	1	0	34	3	22	0	23	131	27	17	27	22
Marshall	105	6	3	0	26	0	21	66	5	7	1	32	16	24
District 2	1,138	230	900	185	942	14	946	91	880	140	920	961	132	547
Russian Mission	6	0	8	3	436	0	2	0	76	12	8	106	3	54
Holy Cross	0	0	17	0	20	0	0	0	0	0	0	7	0	4
Shageluk	0	0	0	0	0	9	0	9	24	0	3	5	4	4
District 3	6	0	25	3	456	9	2	9	100	12	11	118	7	62
Anvik	0	0	0	0	23	2	0	0	0	0	0	5	0	3
Grayling	0	3	0	0	200	0	0	40	0	0	39	40	9	24
Kaltag	10	4	0	0	383	0	0	0	0	0	0	79	1	40
Nulato	0	0	1	0	35	0	0	0	0	0	8	7	0	4
Koyukuk	0	0	0	0	67	0	0	0	0	0	0	13	0	7
Galena	0	0	0	0	31	0	0	0	3	0	6	7	0	3
Ruby	2	0	0	0	184	0	0	0	0	0	13	37	0	19
Huslia	0	0	0	0	100	0	0	0	101	0	0	40	0	20
Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allakaket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alatna	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 4	12	7	1	0	1,023	2	0	40	104	0	66	228	10	119

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Community	2004	2005	2006	2007	2008	2009	2010	2011	2012 [a]	2013	2014 [a]	Estimated Total Even Years Average	Estimated Total Odd Years Average	Estimated Total All Years Average
Tanana	0	0	0	0	80	0	0	0	3	0	8	17	0	8
Stevens Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Birch Creek	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	0	0	0	0	196	0	0	0	0	0	0	39	0	20
Venetie	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 5	0	0	0	0	276	0	0	0	3	0	8	56	0	28
Survey totals	9,697	3,132	4,854	2,118	9,529	2,300	4,199	2,291	5,150	1,076	6,932	6,686	2,183	4,435
CI (95%)	2,829	1,521	990	739	1,818	1,184	1,209	918	918	918	1356	-	-	-

Note: CI (95%) is the annual 95% confidence interval. Dashes indicate indefinable value.

[a] Includes test fish. Confidence intervals are calculated from subsistence estimates and do not include donations of test fish to communities.

Appendix B6.–Subsistence harvests taken under authority of a permit in the Rampart Area and Yukon River Bridge Area of District 5, Yukon Area, 2004–2014.

Year	Number of permits issued	Number of permits returned	Number reporting harvest	Reported harvest									
				Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Yukon River "Rampart Village Area" subsistence salmon fishery [a]													
2004	14	11	9	832	249	0	0	0	0	0	0	0	0
2005	22	19	17	1,721	663	2,023	10	22	0	21	0	2	4
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	31	28	575	197	1,161	21	395	2	13	7	11	0
2013	23	22	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
2004–2008 Average	19	17	14	1,286	419	1,078	12	59	0	8	6	3	7
2009–2013 Average	26	26	22	1,192	226	1,047	10	160	1	4	10	2	2
Yukon River “Bridge Area” subsistence fishery [b]													
2004	69	67	51	2,032	164	43	91	56	6	15	26	0	0
2005	76	72	57	1,847	643	17	9	52	31	11	33	4	0
2006	68	66	53	1,952	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	73	69	45	1,456	130	705	7	192	71	61	57	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	9	0	12	0	0
2011	74	73	43	1,552	1,139	1,828	1	315	5	12	36	20	1
2012	63	61	26	629	147	259	0	75	35	3	19	0	0
2013	49	48	22	379	1,020	1,055	0	62	5	4	16	0	0
2014	42	42	20	3	221	798	112	142	16	2	27	0	0
2004–2008 Average	74	71	51	1,799	435	1,249	42	86	29	24	33	1	1
2009–2013 Average	68	66	34	1,022	556	912	22	116	13	11	29	4	0

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

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

Appendix B7.–Subsistence harvests taken under authority of a permit in the Circle-Eagle Area of District 5, Yukon Area, 2004–2014.

Upper Yukon River "Circle-Eagle" Area subsistence salmon fishery [a, b]														
					Reported harvest									
Year		Number of permits issued	Number of permits returned	Number reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2004		89	83	50	2,304	223	6,517	114	381	16	18	22	249	938
2005		89	81	55	4,004	241	18,427	130	245	56	17	46	101	741
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]	96	87	50	1,808	19	18,876	0	198	34	10	16	78	368
2009	[b]	73	71	35	1,142	2	11,051	13	308	37	9	4	63	239
2010	[b]	93	89	56	1,415	62	15,955	165	254	58	17	41	40	156
2011	[b]	87	85	49	1,138	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	45	31	343	116	20,094	150	194	30	5	7	14	77
2014	[b]	39	37	21	63	0	18,760	1	189	125	3	4	2	49
2004–2008 Average		87	81	53	2,974	347	16,357	53	319	38	16	32	140	582
2009–2013 Average		74	71	41	917	46	16,769	67	259	50	8	26	49	173

Subsistence salmon fishery above mainstem Yukon River sonar project near Eagle [c]													
				Reported harvest									
Year	Number of permits issued	Number of permits returned	Number reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2008	26	25	18	815	6	11,755	0	51	16	0	4	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	27	27	18	370	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
2009–2013 Average	27	26	16	452	5	10,865	0	116	23	4	5	6	12

[a] That 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] Includes harvest occurring between the Yukon River mainstem sonar site and the U.S./Canada border. The number of permits includes duplicate permits issued to households that fished above and below the sonar site.

[c] Harvest occurring 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 the Kantishna River, Yukon Area, 2004–2014.

Subdistrict 6-A subsistence salmon fishery [a]													
	Number	Number	Number	Reported harvest									
Year	of permits issued	of permits returned	reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2004	18	18	8	239	306	1,529	1,419	17	3	0	26	14	0
2005	18	16	11	291	166	3,015	2,414	13	0	0	4	0	0
2006	19	19	15	362	85	3,355	1,546	12	1	1	0	0	0
2007	17	17	12	333	144	3,779	1,482	24	3	4	8	0	0
2008	34	32	17	115	146	2,583	1,987	96	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
2004–2008 Average	21	20	13	268	169	2,852	1,770	32	2	1	22	3	0
2009–2013 Average	22	22	13	336	154	3,103	1,512	101	4	5	6	0	0

Kantishna River subsistence fishery [b]													
	Number	Number	Number	Reported harvest									
Year	of permits issued	of permits returned	reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2004	5	5	4	100	2	619	585	0	1	1	55	0	1
2005	6	6	4	133	2	1,302	245	58	0	0	41	7	0
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	4	3	2	0	0	95	15	0	0	0	10	0	0
2009	4	4	3	0	0	436	311	57	0	32	21	71	0
2010	4	4	3	1	0	82	23	3	0	3	28	0	0
2011	6	5	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	3	3	2	0	0	314	144	13	0	0	0	0	0
2014	5	5	3	0	0	70	129	10	0	0	6	0	0
2004–2008 Average	5	5	3	75	7	471	444	17	0	7	35	58	0
2009–2013 Average	4	4	3	0	10	363	127	21	0	9	17	20	0

[a] 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, 2004–2014.

Subdistrict 6-B subsistence salmon fishery [a]													
	Number	Number	Number	Reported harvest									
Year	of permits issued	of permits returned	reporting harvest	Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2004	60	56	30	1,049	1,485	6,805	9,580	933	35	49	58	17	46
2005	70	67	29	1,403	1,846	15,367	9,659	1,652	7	19	82	64	5
2006	78	76	42	423	885	13,047	7,897	763	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	85	32	583	316	7,625	3,429	496	7	6	18	34	1
2011	86	82	43	684	678	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	93	87	38	148	1,006	9,573	4,583	1,026	7	28	10	11	2
2014	81	78	38	168	533	8,381	5,977	1,241	8	15	64	28	16
2004–2008 Average	72	69	35	898	1,364	11,102	7,133	881	14	26	91	30	14
2009–2013 Average	85	80	38	504	653	8,840	4,667	757	18	19	24	24	3

Tolovana River drainage subsistence fishery [b]													
	Number	Number	Number	Reported harvest									
Year	of permits issued	of permits returned	reporting harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
2004	99	91	42	0	0	0	0	110	35	30	393	30	1
2005	79	69	31	1	0	0	0	304	58	0	386	30	0
2006	101	97	56	0	11	6	2	117	2	27	788	9	0
2007	118	109	55	12	2	1	0	137	4	1	1,837	0	0
2008	146	136	79	0	0	0	0	258	3	3	1,339	0	47
2009	112	107	52	0	1	0	0	202	14	6	563	0	0
2010	96	90	42	0	0	0	0	181	39	0	115	9	0
2011	70	69	27	0	0	0	0	36	0	70	100	0	0
2012	73	68	35	0	0	2	0	130	8	6	525	0	0
2013	78	65	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
2004–2008 Average	109	100	53	3	3	1	0	185	20	12	949	14	10
2009–2013 Average	86	80	40	0	0	12	8	113	12	17	307	4	0

[a] 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, 2004–2014.

Year	Number of permits issued	Number of permits returned	Number reporting harvest	Reported harvest										
				Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Upper Tanana River drainage subsistence fishery [a]														
2004	35	30	14	0	0	0	0	2,346	0	14	26	30	41
2005	29	24	13	0	0	15	0	1,235	0	2	47	61	25
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	34	19	10	0	12	0	1,619	0	11	13	21	38
2011	41	39	23	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	41	15	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
2004–2008 Average	36	32	16	0	0	18	2	1,862	0	8	36	65	44
2009–2013 Average	47	41	19	2	0	19	0	2,134	0	13	89	80	69
Upper south and middle forks of the Koyukuk River subsistence fishery [b]													
2004	NA	NA	NA	0	0	0	0	4	0	0	0	0	4
2005	NA	NA	NA	0	0	0	0	6	0	1	0	22	22
2006	NA	NA	NA	0	0	0	0	0	0	0	0	0	1
2007	NA	NA	NA	0	0	0	0	5	0	0	0	1	10
2008	NA	NA	NA	0	0	0	0	10	0	0	0	15	27
2009	NA	NA	NA	0	0	0	0	4	0	0	0	13	18
2010	NA	NA	NA	0	0	0	0	8	0	0	0	0	0
2011	NA	NA	NA	0	0	0	0	25	0	0	1	20	45
2012	NA	NA	NA	0	0	0	0	11	0	0	1	3	15
2013	NA	NA	NA	0	0	0	0	8	0	6	0	25	25
2014	NA	NA	NA	0	0	0	0	9	0	3	0	8	18
2004–2008 Average	NA	NA	NA	0	0	0	0	5	0	0	0	8	13
2009–2013 Average	NA	NA	NA	0	0	0	0	11	0	1	0	12	21

Note: NA = data not available.

[a] That portion of the Tanana River drainage from the mouth of the Volkmar River, including the Volkmar River drainage, and the mouth of the Johnson River, including the Johnson River drainage, upstream to the Tanana River drainage headwaters.

[b] That portion of the South Fork of the Koyukuk River drainage upstream from the mouth of the Jim River and the Middle Fork of the Koyukuk River drainage upstream from the mouth of the North Fork River.

Appendix B11.–Harvests from personal use permit areas of the Tanana River, Yukon Area, 2004–2014.

Year	Number of permits issued	Number of permits returned	Number reporting harvest	Reported harvest									
				Chinook	Summer chum	Fall chum	Coho	Whitefish	Sheefish	Burbot	Northern pike	Longnose sucker	Arctic grayling
Subdistrict 6-C Personal Use salmon fishery [a]													
2004	68	66	35	201	231	230	233	0	1	0	0	1	0
2005	63	59	27	138	152	133	107	3	3	3	1	0	0
2006	60	60	35	89	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	64	33	89	439	347	232	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
2004–2008 Average	61	60	31	138	193	210	161	7	2	1	1	0	0
2009–2013 Average	61	60	30	98	305	880	317	48	1	1	1	2	2
Upper Tanana River Personal Use whitefish/sucker fishery [b]													
2004	NA	NA	NA	0	0	0	0	51	0	0	0	0	0
2005	10	10	5	0	0	0	0	81	0	4	1	403	3
2006	7	7	NA	0	0	0	0	273	0	3	0	184	1
2007	NA	NA	0	0	0	0	0	0	0	0	0	0	0
2008	6	6	NA	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	13	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
2004–2008 Average	6	6	3	0	0	0	0	87	0	1	0	149	1
2009–2013 Average	10	10	5	0	0	6	3	37	0	0	1	173	0

Note: NA = data not available.

[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, 2009–2014.

Districts survey or permit and year	Number of households with dogs	Number of dogs	Summer chum salmon fed to dogs	Fall chum salmon fed to dogs	Coho salmon fed to dogs	Total salmon fed to dogs
2009						
Coastal District survey	104	133	0	0	0	0
District 1 survey	228	390	632	75	0	707
District 2 survey	269	457	100	0	44	144
District 3 survey	90	237	0	160	72	232
District 4 survey	371	938	12,973	2,855	2,502	18,330
District 5 survey	231	913	3,385	20,459	1,678	25,522
District 5 permit [a, b]	47	522	–	–	–	7,649
District 6 permit [b]	155	630	–	–	–	14,253
Totals	1,495	4,220	17,090	23,549	4,296	66,837
2010						
Coastal District survey	207	410	118	0	0	118
District 1 survey	299	595	20	0	0	20
District 2 survey	284	494	27	0	104	131
District 3 survey	85	235	63	61	183	307
District 4 survey	379	990	6,111	2,551	595	9,257
District 5 survey	255	910	2,024	21,167	2,207	25,398
District 5 permit [a, b]	59	432	–	–	–	13,707
District 6 permit [b]	184	998	–	–	–	12,011
Totals	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

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Districts survey or permit and year	Number of households with dogs	Number of dogs	Summer chum salmon fed to dogs	Fall chum salmon fed to dogs	Coho salmon fed to dogs	Total salmon fed to dogs
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
5–year average 2009–2013						
Coastal District survey	176	350	131	6	0	137
District 1 survey	276	527	263	24	4	291
District 2 survey	268	503	172	45	63	280
District 3 survey	91	248	649	47	52	749
District 4 survey	404	1,226	11,787	3,837	1,679	17,303
District 5 survey	254	1,001	4,930	29,986	1,528	36,444
District 5 permit [a, b]	55	441	–	–	–	14,236
District 6 permit [b]	156	868	–	–	–	12,636
Totals	1,680	5,163	17,932	33,944	3,327	82,076

Note: Harvest data from 1992 to 2008 are presented in earlier years of this annual report (Busher et al. 2009). The estimated number of salmon includes those retained from subsistence and commercial related harvests. 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.

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

Appendix B13.–Estimated and reported subsistence and personal use harvest of miscellaneous fish species, Yukon Area, 2004–2014.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	5–year average 2004–2008	5–year average 2009–2013
Survey estimates [a]													
Northern pike	18,738	29,799	28,133	25,947	16,053	8,061	14,086	14,270	18,450	11,264	14,852	23,734	13,226
Sheefish	16,896	13,764	12,745	13,203	10,154	7,861	9,231	10,139	17,094	15,553	12,583	13,352	11,976
Whitefish [b]	64,039	48,862	60,923	64,338	54,729	51,778	50,232	44,890	70,486	64,766	84,889	58,578	56,430
Survey reported [c]													
Alaska blackfish	229,833	259,874	218,695	131,712	110,356	47,320	68,873	87,064	62,731	63,235	92,080	190,094	65,845
Arctic grayling	1,645	1,258	1,145	2,296	857	667	1,571	1,273	2,674	1,435	1,772	1,440	1,524
Arctic lamprey [d]	33,919	38,115	2,092	12,584	803	9,083 [e]	13,611 [e]	10,574 [e]	1,657 [e]	2,608 [e]	19,888 [e]	17,503	7,507
Burbot	2,628	3,138	5,069	3,500	3,273	2,027	2,743	2,477	2,422	2,115	2,016	3,522	2,357
Herring [f]	–	–	–	–	–	–	–	–	10,449	9,082	17,164	–	–
Tomcod	5,649	4,988	13,652	7,121	6,391	2,709	3,978	6,797	4,023	5,221	10,020	7,560	4,546
Permit reported													
Arctic grayling	1,032	800	507	525	488	363	201	475	104	210	83	670	271
Burbot	127	78	127	99	89	119	45	140	68	68	27	104	88
Longnose suckers	341	694	770	243	298	518	170	420	396	347	371	469	370
Northern pike	606	641	1,008	2,094	1,678	736	267	329	827	403	648	1,205	512
Sheefish	97	155	80	83	111	76	160	103	147	48	215	105	107
Whitefish [b]	4,402	3,671	3,399	3,330	3,403	4,039	3,112	4,907	4,016	2,766	3,747	3,641	3,768
Total harvest of species from survey and permits communities in the Yukon Area													
Arctic grayling	2,677	2,058	1,652	2,821	1,345	1,030	1,772	1,748	2,778	1,645	1,855	2,111	1,795
Burbot	2,755	3,216	5,196	3,599	3,362	2,146	2,788	2,617	2,490	2,183	2,043	3,626	2,445
Northern pike	19,344	30,440	29,141	28,041	17,731	8,797	14,353	14,599	19,277	11,667	15,500	24,939	13,739
Sheefish	16,993	13,919	12,825	13,286	10,265	7,937	9,391	10,242	17,241	15,601	12,798	13,458	12,082
Whitefish [b]	68,441	52,533	64,322	67,668	58,132	55,817	53,344	49,797	74,502	67,532	88,636	62,219	60,198

Note: Dashes indicate information was not collected.

[a] Subsistence harvests of northern pike, sheefish, and whitefish from surveyed communities are 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 are combined.

[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] Includes 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.–Percentage of Chinook salmon harvested by gear type by community, 2010–2014.

	2010				2011				2012				2013				2014				Average 2010–2013			
Community	SN	DN	FW	Other	SN	DN	FW	Other	SN	DN	FW	Other	SN	DN	FW	Other	SN	DN	FW	Other	SN	DN	FW	Other
Hooper Bay	98	2	0	0	100	0	0	0	98	2	0	0	99	1	0	0	95	5	0	0	99	1	0	0
Scammon Bay	100	0	0	0	99	1	0	0	100	0	0	0	99	1	0	0	80	0	0	20	100	0	0	0
Coastal District	99	1	0	0	99	1	0	0	99	1	0	0	99	1	0	0	92	4	0	4	99	1	0	0
Nunam Iqua	97	3	0	0	98	2	0	0	100	0	0	0	100	0	0	0	44	0	0	56	99	1	0	0
Alakanuk	73	27	0	0	31	69	0	0	18	82	0	0	59	41	0	0	25	50	0	25	41	54	0	5
Emmonak	33	67	0	0	6	94	0	0	17	83	0	0	8	90	0	2	23	69	0	8	17	81	0	2
Kotlik	80	20	0	0	60	40	0	0	67	32	0	0	62	34	2	2	67	31	0	3	67	31	0	1
District 1	67	33	0	0	37	63	0	0	35	65	0	0	48	49	1	2	44	41	0	16	46	50	0	3
Mountain Village	5	95	0	0	8	92	0	0	18	82	0	0	19	81	0	0	24	44	0	33	15	79	0	7
Pitkas Point	0	100	0	0	0	100	0	0	0	100	0	0	8	92	0	0	21	60	0	19	6	90	0	4
St. Marys	14	86	0	0	0	100	0	0	1	99	0	0	0	90	0	10	24	68	0	9	8	88	0	4
Pilot Station	9	91	0	0	8	92	0	0	12	88	0	0	1	97	0	1	6	78	0	16	7	89	0	3
Marshalls	16	84	0	0	0	100	0	0	36	64	0	0	2	98	0	0	0	47	0	53	11	79	0	11
District 2	11	89	0	0	3	97	0	0	14	86	0	0	6	92	0	2	15	55	0	30	10	84	0	6
Russian Mission	36	64	0	0	15	85	0	0	8	92	0	0	8	92	0	0	100	0	0	0	33	67	0	0
Holy Cross	24	76	0	0	22	78	0	0	39	61	0	0	60	40	0	0	–	–	–	–	36	64	0	0
Shageluk	33	67	0	0	31	69	0	0	100	0	0	0	100	0	0	0	100	0	0	0	73	27	0	0
District 3	27	73	0	0	20	80	0	0	18	82	0	0	32	68	0	0	100	0	0	0	40	60	0	0
Anvik	36	64	0	0	51	49	0	0	52	48	0	0	72	28	0	0	–	–	–	–	53	47	0	0
Grayling	1	99	0	0	35	65	0	0	13	87	0	0	41	59	0	0	0	100	0	0	18	82	0	0
Kaltag	0	100	0	0	0	100	0	0	6	94	0	0	0	100	0	0	0	100	0	0	1	99	0	0
Nulato	14	86	0	0	7	93	0	0	0	100	0	0	0	100	0	0	–	–	–	–	5	95	0	0
Koyukuk	7	93	0	0	10	90	0	0	35	65	0	0	62	38	0	0	0	100	0	0	23	77	0	0
Galena	32	61	7	0	57	43	0	0	73	27	0	0	6	94	0	0	0	0	100	0	33	45	21	0
Ruby	45	0	55	0	32	0	68	0	72	0	28	0	29	0	71	0	100	0	0	0	56	0	44	0
Huslia	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0
Hughes	100	0	0	0	100	0	0	0	–	–	–	–	100	0	0	0	100	0	0	0	100	0	0	0
Allakaket	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0
Alatna	–	–	–	–	100	0	0	0	–	–	–	–	–	–	–	–	–	–	–	–	100	0	0	0
Bettles	–	–	–	–	–	–	–	–	100	0	0	0	–	–	–	–	0	100	0	0	50	50	0	0
District 4	15	79	6	0	24	72	3	0	30	65	5	0	32	59	9	0	49	50	1	0	30	65	5	0

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	2010				2011				2012				2013				2014				Average 2010–2013			
Community	SN	DN	FW	Other	SN	DN	FW	Other	SN	DN	FW	Other	SN	DN	FW	Other	SN	DN	FW	Other	SN	DN	FW	Other
Tanana	61	1	38	0	49	0	51	0	66	0	34	0	78	0	22	0	61	0	39	0	63	0	36	0
Stevens Village	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	–	–	–	–	100	0	0	0
Birch Creek	100	0	0	0	100	0	0	0	–	–	–	–	–	–	–	–	–	–	–	–	100	–	–	–
Beaver	98	0	2	0	80	0	20	0	76	8	17	0	45	0	55	0	–	–	–	–	75	2	23	0
Fort Yukon	44	0	56	0	21	5	74	0	9	0	91	0	12	0	88	0	100	0	0	0	37	1	62	0
Venetie	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0
Chalkyitsik	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	100	0	0	0	100	0	0	0
District 5	65	0	35	0	44	2	81	0	43	0	57	0	50	0	50	0	68	0	30	0	54	0	50	0
Survey totals	32	60	8	0	26	62	12	0	34	54	12	0	47	33	19	0	53	31	2	14	39	48	11	3

Note: Numbers indicate the percentage of Chinook salmon harvested in each community by set gillnet (SN), drift gillnet (DN), fish wheel (FW), or other gear types. Other gear types include beach seine, dip net, hook and line, or other/unspecified gear. Information about Chinook salmon harvested by gear types was collected starting in 2010. Dashed lines indicate no gear or harvest information was collected from a community.