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**Subsistence Harvests of Pacific Halibut in Alaska, 2018
—DRAFT**

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by
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Division of Subsistence



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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

<i>all atomic symbols</i>	
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. states	two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mid-eye-to-fork	MEF
mid-eye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

<i>all standard mathematical signs, symbols and abbreviations</i>	
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 ₀
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

TECHNICAL PAPER NO. 456

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Draft

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ABSTRACT

This report describes the results of a project to estimate the subsistence harvest of Pacific halibut *Hippoglossus stenolepis* in Alaska in 2018. The National Marine Fisheries Service adopted rules governing subsistence halibut fishing in 2003. Data were collected through a voluntary survey mailed to all holders of Subsistence Halibut Registration Certificates (SHARCs), supplemented by interviews in four communities. The survey response rate was 68% (5,852 surveyed of 8,576 potential halibut fishers). An estimated 4,094 individuals participated in the subsistence fishery for halibut in 2018, down 7% from 4,408 in 2016. The estimated harvest in 2018 was 29,963 halibut, comprising 615,789 lb (net weight; $\pm 3.1\%$). This was the lowest harvest estimate since the new regulations were adopted in 2003 and, as expressed in pounds net weight, 33% below the previous 12-year average. Of the total subsistence halibut harvested in 2018, 78% were harvested with setline gear and 22% with hand-operated gear. As in all previous study years, the largest portion of the Alaska subsistence halibut harvest in 2018 occurred in Regulatory Area 2C (Southeast Alaska), 59%, followed by Area 3A (Southcentral Alaska), 30%. Subsistence harvests represented about 2.1% of the total halibut removals in Alaska in 2018. The harvest estimates based on the surveys for 2003–2012, 2014, 2016, and 2018 serve as a basis for understanding the overall harvest, annual variability in catch, and trends in harvests since implementation of the 2003 regulations. Due to budget constraints, surveys to estimate subsistence halibut harvests in Alaska in 2013, 2015, and 2017 did not take place and a survey will not occur for 2019. The report recommends that monitoring of the subsistence harvest of halibut in Alaska be resumed in the future.

Key words: Pacific halibut, *Hippoglossus stenolepis*, subsistence harvests, Alaska

Draft

1. BACKGROUND AND METHODS

BACKGROUND

The primary goal of this project was to estimate the subsistence harvests of Pacific halibut *Hippoglossus stenolepis* in Alaska in 2018 through a survey mailed to registered subsistence halibut fishers; the survey was supplemented by interviews in selected communities. This was the 13th year for which this research was conducted. (See Fall et al. [2004] for the results for 2003, Fall et al. [2005] for the results for 2004, Fall et al. [2006] for the results for 2005, Fall et al. [2007] for the results for 2006, Fall and Koster [2008] for the results for 2007, Fall and Koster [2010] for the results for 2008, Fall and Koster [2011] for the results for 2009, Fall and Koster [2014] for the results for 2010, Fall and Koster [2013] for the results for 2011, Fall and Koster [2014] for results for 2012, Fall and Lemons [2016] for results for 2014, and Fall and Koster [2018] for the results for 2016.) Due to lack of funds, harvest estimates were not developed for 2013, 2015, or 2017. The Alaska Department of Fish and Game (ADF&G) Division of Subsistence administered the project through a grant from the National Oceanic and Atmospheric Administration (NOAA) (award number NA18NMF4370086).

In Alaska's coastal areas, subsistence halibut fisheries are local, noncommercial, customary and traditional food fisheries, as noted by Wolfe (2002) and described in *Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for a Regulatory Amendment for Defining a Halibut Subsistence Fishery Category* (an "EA/RIR/IRFA") by the North Pacific Fishery Management Council (NPFMC), ADF&G, International Pacific Halibut Commission (IPHC), and the National Marine Fisheries Service (NMFS), August 11, 2000 (National Marine Fisheries Service 2000); see also North Pacific Fishery Management Council [2003]. The EA/RIR/IRFA summarizes information about the subsistence halibut fishery in Alaska. This background information is not repeated here but provided the basis for the NPFMC's recommendation for subsistence halibut fishing regulations in Alaska. Figure 1 illustrates IPHC halibut regulatory areas in Alaska.

In April 2003, the NMFS, Alaska Region, published federal regulations implementing a subsistence halibut fishery for qualified individuals in the waters in and off Alaska (68 FR 18145, April 15, 2003; see <http://www.fakr.noaa.gov/frules/fr18145.pdf>). Current regulations state that persons eligible to subsistence halibut fish include: 1) residents of rural communities with customary and traditional uses of halibut (rural); and 2) members of federally recognized Alaska Native tribes with customary and traditional uses of halibut (tribal). In total, residents of 118 rural communities and members of 123 Alaska Native tribes are eligible to participate in the fishery.¹ (See Appendix A for a list of eligible tribes and communities as they appeared in the Federal Register in 2003.) On November 4, 2009, the U.S. Department of Commerce published a final rule (74 FR 57105, November 4, 2009), effective December 4, 2009, modifying eligibility requirements for participation in the Alaska subsistence halibut fishery. The action allowed rural residents who live outside the boundaries of the specified 118 communities to participate if they live within the boundaries of rural areas defined in §300.65(g)(3).

Subsistence halibut fishers are required to obtain a Subsistence Halibut Registration Certificate (SHARC) from the Restricted Access Management (RAM) Program office of NMFS prior to fishing.² Federal

1. In December 2004, the NPFMC adopted a recommendation to the Secretary of Commerce to add Naukati Bay to the original list of 117 eligible rural communities. Regulations implementing this change went into effect in 2008, resulting in 118 rural communities eligible for a portion of 2008 and all of 2009. Also, note that the Northern Pacific Halibut Act of 1982, under which the Alaska subsistence halibut fishery regulations are authorized, provides for fair and equitable allocations of halibut among U.S. fishers, but does not establish priorities for those allocations (70 FR 16742, April 1, 2005; see <http://www.fakr.noaa.gov/frules/70fr16742.pdf>, page 16,747).
2. The subsistence rules were amended in 2005 by regulations published in the Federal Register at 70 FR 16742, April 1, 2005. Among other things, this amendment provides for obtaining Community Harvest Permits, Ceremonial Permits, and Educational Permits.

regulations (50 CFR Part 300.65(h)(4)) also authorize periodic surveys of SHARC holders in order to estimate annual subsistence harvests and related catch and effort information. The regulation states that, “Responding to a subsistence halibut harvest survey will be voluntary.”

Table 1 provides population estimates for the eligible rural communities for 2000 and 2010 based on the federal decennial censuses. The total population of these communities in 2000 was 82,707, of which 38,990 were Alaska Natives (47%). For 2010, the federal census reported a total population of 84,353 for eligible rural communities and areas, including 40,053 Alaska Natives (47%) (U.S. Census Bureau 2011). In addition, the nonrural communities of Juneau and the Ketchikan Gateway Borough (excluding Saxman, whose residents are eligible) in 2010 had Alaska Native populations of 6,005 and 2,625, respectively (Alaska Department of Labor and Workforce Development 2011), most of whom were eligible to participate in the federal subsistence halibut fishery through their tribal membership. Also, an unknown number of eligible tribal members lived in other nonrural communities, such as Anchorage and places within the Kenai Peninsula Borough. Table 1 shows that Alaska Department of Labor and Workforce Development population estimates for eligible communities and areas for 2018 total 87,589.

PROJECT OBJECTIVES

The primary goal of the project was to estimate the subsistence harvest of halibut in Alaska in the calendar year 2018. Funding for 2018 totaled \$129,000, the same as study years 2012, 2014, and 2016. In addition to three rounds of survey mailings, outreach and supplemental interviewing occurred in Sitka and Ketchikan in Area 2C, and Hooper Bay and Tununak in Area 4E. The project objectives for 2018 were:

1. Produce an estimate of the subsistence harvest of halibut in Alaska in 2018 by community, tribe, gear type, and IPHC regulatory area, along with an estimate of the number of individuals who subsistence fished for halibut in 2018.
2. Produce an estimate of the harvest of halibut by SHARC holders while sport fishing in 2018.

An objective from previous study years to estimate lingcod and rockfish harvests by subsistence halibut fishers was dropped after the 2012 study year.

DATA COLLECTION METHODS

Public Outreach

Information about the project was available on the NMFS website for subsistence halibut fishing in Alaska (see <http://www.fakr.noaa.gov/ram/subsistence/halibut.htm>).

For additional outreach, division staff traveled to Sitka and Ketchikan in Southeast Alaska (Area 2C), and the Western Alaska (Area 4E) communities of Hooper Bay and Tununak. Meetings took place with tribal officials about the importance of the survey as well as the SHARC program. In addition, staff provided information about the SHARC program during household surveys.

Postal Household Survey

As recommended by Wolfe (2002) the survey methodology was based upon a registration system for subsistence halibut fishers, which requires fishers to obtain a SHARC before fishing under federal subsistence halibut regulations. In total, 8,489 individual SHARCs and two community or ceremonial permits were issued for 2018 (see section “Sample Achievement” below). All individuals who held a SHARC for any portion of 2018 were mailed a retrospective recall survey covering a 12-month harvest period: calendar year 2018. Data from the two community permits were returned directly to the RAM Program and are included in these study findings.

The 2018 survey instrument was very similar to the form used in past study years. It is based on recommendations by Wolfe (2002:Appendix A), with slight modifications, such as project year and return address. (See Appendix B in this report for a copy of the 2018 survey instrument.) Wolfe (2002:15–18) provided justification for the kinds of data to be collected, which include name and address of the fisher;

halibut harvests in numbers and pounds round (whole) weight by gear type in 2018; and number of hooks usually set. Questions about harvests of lingcod and rockfish taken while subsistence fishing for halibut, asked for 2003–2012, were excluded from the 2018 form (as they were for 2014 and 2016). In 2003, a question addressing the water body fished (primary location) while subsistence fishing was added at the recommendation of NMFS staff. This question was retained in subsequent study years. Another survey question was added in 2004 to record the location of sport halibut fishing by SHARC holders. The survey was designed to reduce the potential double counting of halibut taken with rod and reel gear, which could be reported in both the subsistence survey and in the ADF&G Division of Sport Fish *Statewide Harvest Survey* (Wolfe 2002:19). For 2009, a new question was added about the number of trips taken for subsistence halibut fishing in the study year. This question was retained for all later study years.

In response to a request from Dr. Marysia Szymkowiak, a social scientist with NOAA’s Alaska Fisheries Science Center based in Juneau, a short question was added to the survey for 2018 that asked “Did your household get all of the halibut it needed in 2018?” If the response was “no,” a follow-up question asked “If not, why was your household unable to get all the halibut it needed in 2018?”

A short explanatory letter with instructions on the back for completing the survey was included in the mailings (Appendix B). The survey was designed so that it could be directly returned to the Division of Subsistence, postage paid.

Presently under IPHC regulations, Community Development Quota (CDQ) fishers may retain halibut under 32 inches (U32; formerly called “sublegal” or “shorts”) while commercial CDQ fishing in areas 4D and 4E only. These regulations require the CDQ organization to report this harvest to the IPHC. To avoid double counting, subsistence fishers were instructed not to include these fish on their subsistence halibut survey.

Table 2 provides a chronology of key activities during the project. Table 3 provides a summary of response rates by mailing, SHARC type (rural or tribal), and place of residence. The first mailing to 8,489 SHARC holders occurred on January 8, 2019. The second mailing to 4,454 SHARC holders occurred on March 11, 2019, and a third mailing to 3,190 SHARC holders occurred on April 29, 2019.

The Division of Subsistence created a dedicated e-mail address that recipients of the postal survey could use if they had questions about how to respond. Also, the RAM Program set up a toll-free telephone number (1-800-304-4846) to provide information about the subsistence halibut program, including the harvest assessment program. Both the e-mail address and toll-free telephone number appeared on the survey. A set of “frequently asked questions” and responses was developed by ADF&G and NMFS staff members to guide staff responses to telephone calls and e-mail inquiries about how to fill out the survey form (Appendix C [FAQ]; Appendix B [survey]).

Community Visits and In-Person Surveys

Because the response rates to the postal survey vary by community and tribe, the mailings were again supplemented in selected communities with household surveys conducted by local research assistants (LRAs) hired through subcontracts with Alaska Native tribes or by division staff. Because of the large number of eligible communities and tribes, it was not possible to conduct surveys in most communities.

Sitka

In Southeast Alaska (Area 2C), staff from the Sitka Tribe of Alaska (STA) administered surveys in Sitka with SHARC holders who had not returned the mailed form. Subsistence Resource Specialist (SRS) Lauren Sill traveled to Sitka in early May to review the survey form and list of SHARC holders with STA staff. The surveys were administered face-to-face or by telephone. All of the surveys took place during May and June.

Ketchikan

In Southeast Alaska (Area 2C), staff from the Ketchikan Indian Community (KIC) administered surveys in Ketchikan with SHARC holders who had not returned the mailed form. Subsistence Resource Specialist (SRS) Lauren Sill traveled to Ketchikan in late May to review the survey form and list of SHARC holders

with KIC staff. The surveys were administered face-to-face or by telephone. Most of the surveys took place during June.

Tununak and Hooper Bay

Division of Subsistence staff met by teleconference with the Nunakauyak Traditional Council (TC) (Toksook Bay) and the Tununak Indian Reorganization Act (IRA) Council in February 2019 to discuss the division's plan to conduct subsistence halibut harvest surveys in their communities during spring 2019. The Nunakauyak TC declined to approve the research in their community. Staff contacted the Native Village of Hooper Bay (NVH) as an alternative study community to Toksook Bay. Both the Tununak IRA Council and the Native Village of Hooper Bay TC approved the proposed research in their communities. Prior to survey deployment, research staff contacted each council's Tribal Administrator (TA) to discuss potential Local Research Assistants (LRA). Staff also requested household lists of resident tribal members in each community. Additionally, researchers obtained lists of resident school staff names from local school site administrators. Fieldwork occurred in Hooper Bay April 9–12, 2019, and in Tununak April 29–May 3, 2019. Division staff contracted three local research assistants in Hooper Bay who were recommended by the NVH TA, and two in Tununak recommended by the Tununak IRA Council TA. Training and orientation took place in Hooper Bay on the morning of April 10, and in Tununak in the evening of April 29. During the trainings, division staff introduced the National Marine Fisheries Service Alaska Subsistence Halibut Program, including the registration and certification requirements for Alaska Native tribal members and rural resident subsistence halibut fishers. Research staff described the goals of the Alaska Subsistence Halibut Program, the purpose of completing subsistence halibut harvest surveys for each fisher, and the methods by which researchers would conduct surveys. Researchers used household lists to assist in identifying and contacting all potential subsistence halibut fishers in each community. Local research assistants aided researchers in logistical planning and accompanied division staff during all survey activities.

Three teams composed of one Division of Subsistence researcher and one LRA deployed to complete surveys in Hooper Bay. In Tununak surveys were completed by one division researcher in collaboration with two LRAs. In Hooper Bay the NVH staff and other key respondents identified all households where potential halibut fishers resided, and research teams attempted to contact each one. In Tununak, where subsistence halibut fishing is common to most households, research teams attempted to contact each residence.

When they contacted a residence, researchers asked each adult subsistence halibut fisher present to complete a survey. Upon receiving consent from subsistence halibut fishers active in 2018, research teams completed a survey with each respondent. If a potential respondent chose not to consent to complete a survey, that attempt was recorded as declined. If a potential respondent was determined to be under the age of 18 years, researchers completed a survey only in the presence of that fisher's parent or legal guardian and only with the parent's or guardian's consent. Through discussions with local research assistants and other residents in each household, researchers determined whether there were additional subsistence halibut fishers who were not present at the time of first contact by the research teams. Researchers made up to three attempts to survey all subsistence fishers in each household. A fisher was recorded as unavailable to be surveyed after the third failed attempt to contact, and no further attempts were made to survey that person. Potential respondents were also recorded as unavailable if a family member or other close associate indicated that they were not present in the community or were otherwise not available to complete a survey.

Following survey deployment, researchers transported completed survey forms to the ADF&G Division of Subsistence office in Fairbanks where they were photocopied. Photocopies were stored in the Fairbanks office. Original surveys were mailed to the Division of Subsistence Information Management section in Anchorage for data entry and analysis. At the time of each contact, research teams offered copies of the Application for Subsistence Halibut Registration Certificate, either the Alaska Native Tribal Member form or Rural Resident form as specified by each person. Research teams gave each interested person the option to complete an application immediately for submission to Division of Subsistence staff or to do so at their convenience and mail the completed application to NMFS. Researchers transported completed application forms to the ADF&G Division of Subsistence office in Fairbanks then mailed them to the Information Management section in Anchorage for submission to NMFS.

While deployed in survey communities and working under a separately funded project, division staff also completed ethnographic interviews with subsistence halibut fishing key respondents. Staff conducted an interview with one active halibut fisher in Hooper Bay and interviews with six fishers in Tununak who provided descriptions of local halibut fisheries and fishers' engagement in them. Interview data included discussions of methods and means of harvest, cultural and traditional halibut fishing practices, community and family histories relevant to halibut fishing, local observations of halibut populations, and fisher concerns regarding the management and regulation of halibut fishing in the region. Interviews also recorded fishers' perceptions of factors affecting participation in the fishery and factors influencing subsistence harvest rates. Interviews were recorded with a digital recording device and transcribed in Fairbanks. Information from interviews will provide a broader understanding of the subsistence halibut fishery in coastal Yukon-Kuskokwim Delta communities than do harvest surveys alone. This information will be analyzed for use as background research in development of future halibut research projects in the region.

SAMPLE ACHIEVEMENT

Table 3 reports sample achievement by tribe, rural community, and community of residence. Overall, 5,852 surveys were completed by 8,576 potential participants in the fishery, including SHARC holders, two returned special permits, and identified potential halibut fishers who did not hold SHARCs in two communities. The response rate was 68% (Figure 2). For residents of the 118 eligible rural communities and eligible rural areas who did not register as tribal members, 4,381 of 5,719 potential surveys were completed (77%) (tables 3 and 4). As shown in Figure 3, in 2018 there were 11 communities with more than 100 nontribal SHARC holders, accounting in total for 84% of all nontribal SHARCs issued in rural communities. Return rates were 64% or more in all 11 of these communities.

Of the 2,857 tribal members who were listed as potential participants in the fishery in 2018, 1,471 (52%) were surveyed. As shown in Figure 3, there were 13 tribes with more than 50 potential subsistence fishers. Return rates for these 13 tribes varied widely, from 79% in Tununak (where in-person interviewing occurred) to 26% for the Qagan Toyagungin Tribe in Sand Point. In total, these 13 tribes accounted for 66% of all tribal SHARCs and potential fishers.

Figure 4 illustrates survey response rates by place of residence of SHARC holders for the 18 communities with 100 or more SHARC holders in 2018. These communities accounted for 81% of all potential fishers and 83% of all returned surveys. Response rates were 50% or higher in all but three of these communities; in 11 of these communities, response rates exceeded 60%.

Figure 5 shows the survey return rate by response category (see also Table 3). After the first mailing, 4,283 surveys were returned—a response rate of 50%. Responses to the second mailing added 798 surveys, and the third mailing produced 467 responses, for a total response to the postal survey of 5,548 surveys, or 65% of all potential respondents. In addition, surveys administered by representatives of tribes and ADF&G staff added 304 surveys. This brought the total response to 5,852 surveys, 68% of the sampling goal. The overall response rate for the survey for 2018 increased slightly from 66% in 2016. The response rate in 2018 was the second-highest of the 13 study years, exceeded only by the 71% achieved in 2012.

The number of surveys returned as “undeliverable” was 414 in 2018 (Table 3). Subtracting “undeliverables” from the mailed survey target of 8,489 gives a response rate by mail of 69% in 2018, compared to 70% in 2016, 68% in 2014, 70% in 2012, and 68% in 2011. Removing “undeliverables” from the total survey goal (8,576) results in a response rate of 72%.

Due to an administrative error, the new questions about meeting needs for halibut were missing from the survey form in the first mailing. On approximately April 16, all respondents to the first mailing were sent a supplemental form with these questions. The questions were restored to the form for the second and third mailing and the in-person surveys. Although most first-mailing respondents sent back the supplemental form, the response rate for the “needs met” questions was 50% (4,282 responses) compared to 68% for the survey overall.

DATA ANALYSIS

Data Entry

All returned surveys were reviewed for completeness prior to data entry. Responses were coded following standardized conventions used by the Division of Subsistence. Staff within the Information Management Section of the division set up database structures within Microsoft (MS) SQL Server³ at ADF&G in Anchorage to hold the survey data. The database structures included rules, constraints, and referential integrity to ensure that data were entered completely and accurately. Data entry screens were available on a secure internet website. Daily incremental backups of the database occurred, and transaction logs were backed up hourly. Full backups of the database occurred twice weekly. This ensured that no more than one hour of data entry would be lost in the unlikely event of a catastrophic failure.

Survey responses were manually entered twice, and survey forms were electronically scanned. All data were compared programmatically for inconsistent data entry. Double data entry ensured a more accurate transfer of information from the coded survey forms into the database and is a standard Division of Subsistence practice. Data did not pass to the processing phase until inconsistencies within the twice-entered data set were eliminated. The scanned survey forms also facilitated efficient data correction and editing.

Information was processed and analyzed using MS SQL programming. Initial processing included the performance of standardized logic checks of the data. Logic checks are often needed in complex data sets where rules, constraints, and referential integrity do not capture all of the possible inconsistencies that may appear.

Analysis: Development of Harvest Estimates

Analysis included review of raw data frequencies, cross tabulations, table generation, and estimates of population parameters. Missing information was dealt with on a case-by-case basis. The Division of Subsistence has standard practices for dealing with missing information, such as minimal value substitution or use of an average response for similarly characterized households or communities. Typically, missing data are an uncommon, randomly occurring phenomenon in household surveys conducted by the division, as was the case in this project.

In general, estimates of harvests, levels of participation, and other findings were calculated based upon the application of weighted means (Cochran 1977). These calculations are standard methods for extrapolating sampled data. In this project, each tribe and rural community was a separate stratum for purposes of estimating total harvests. In most cases, the mean for returned SHARC surveys was applied to the total number of SHARCs issued for the tribe or community to calculate the estimated harvest. The formula for standard expansion of community harvests is:

$H_t = \sum H_i$	(1)
where $H_i = h_i W_i$	(2)
and $W_i = \frac{N_i}{n_i}$ (Harvest weight factor per strata i)	(3)

Where

H_t = the total harvest (numbers of fish or pounds),

H_i = the total harvest, numbers or pounds, for tribe or community i

W_i = the weight factor for tribe or community i ,

h_i = the total harvest, numbers or pounds, reported in returned surveys for tribe or community,

3. Product names are included for scientific completeness and do not constitute an endorsement.

n_i = the number of returned surveys in each tribe or community, and

N_i = the number of SHARCs issued for tribe or community.

The following instances are exceptions. First, 93 SHARCs were held by eligible tribal members living outside of Alaska. Of these, 72 postal surveys were returned from this group, and only five of these returned surveys indicated any subsistence fishing activity. Rather than assign the mean value for their tribe (which would likely result in an overestimate of the harvest), all nonreturned surveys for SHARC holders with out-of-state addresses were coded as “did not fish.”

Second, all SHARC holders were divided into two categories based upon the expiration date of their SHARC. SHARCs having an expiration date falling within the project period and that were not renewed were treated as separate strata from other SHARCs for the purpose of generating harvest estimates. This was done to account for potential bias and resulting overestimation of harvests for SHARCs that were fished for only part of the year. During 2018, 1,012 rural and 329 tribal SHARCs expired and were not renewed; of those, 602 (59%) rural SHARCs and 105 (32%) tribal SHARCs participated in the survey. Of those survey respondents with rural SHARCs that expired, 24% participated in the subsistence fishery, as did 33% of survey respondents with expired tribal SHARCs.

The RAM Program issued two community or ceremonial permits for 2018; both were returned with data. Harvests from the two permits were added to the estimates for the tribe of the permit holders because they are not reported by individuals in their response to the SHARC postal survey. Data from these permits were returned directly to RAM Program, and RAM Program provided the data to ADF&G for the analysis. They are classified as “returned through staff” in Table 3.

It should also be noted that not every individual who obtained a SHARC as a tribal member resided in the community where his or her tribe’s headquarters is located. Therefore, the sum of harvest estimates for tribal SHARC holders and rural resident SHARC holders does not necessarily equal the halibut harvest for particular communities of residence. Rather, an additional analysis was necessary to estimate harvests by community of residence that assigned tribal SHARC holders to a community based on their mailing addresses. Appendix tables D-2, D-3, and D-4 report project results by place of residence of the SHARC holders.

The standard deviation (*SD*; or Variance [*V*], which is the *SD* squared) of the harvest was calculated with the raw, unexpanded data. The standard error (*SE*), or *SD* of the mean, was also calculated for each community or tribe. This was used to calculate the relative precision of the mean, or the likelihood an unknown value falls within a certain distance from the mean. In this project, the relative precision of the mean is shown in the tables as a confidence interval (*CI*), expressed as a percentage. Once the standard error was calculated, the *CI* was determined by multiplying the *SE* by a constant that reflected the level of significance desired, based on a normal distribution. The constant for 95% confidence intervals is 1.96. Though there are numerous ways to express the formula below, it contains the components of a *SD*, *V*, and *SE*.

Relative precision of the mean (*CI*%):

$CI\%(\pm) = \frac{t_{\alpha/2} \times \frac{s}{\sqrt{n}} \times \sqrt{\frac{N-n}{N-1}}}{\bar{x}}$	(4)
$s = \sqrt{\frac{\sum_{i=1}^n \sum (x_i - \bar{x})^2}{n-1}}$	(5)

Where

s = sample standard deviation

x_i = reported amount harvested by individual SHARC holders

\bar{x} = mean harvest

n = total sample size

N = total population size

n_i = tribal or community sample size

$t_{\alpha/2}$ = Student's t-statistic for alpha level ($\alpha=0.95$) with $n-1$ degrees of freedom.

Project staff explored the possibility of nonresponse bias for returned mail-out surveys and its effect on harvest estimates (see Appendix F in Fall and Koster [2014] for further discussion of responses by response category for previous study years). However, it was determined that responses to the survey, including harvest levels and involvement in the fishery, were not notably different between any of the response categories (responses to the first mailing, the second mailing, the third mailing, and staff-administered surveys).

As noted above, survey respondents provided harvest estimates in pounds round (whole) weight. For ease of comparison with estimates of halibut removals in other fisheries, we have converted these estimates to pounds net (dressed, head off) weight, where $0.75 \times \text{round weight} = \text{net weight}$.⁴

Responses to the open-ended question asking respondents who reported not meeting their needs to provide reasons were coded by topic for analysis. Responses to the “needs met” questions were not weighted by tribe or rural community for analysis.

Products

The public review draft of this final report was completed in November 2019 and circulated for review and comments. The draft report was also posted at the Division of Subsistence website. A presentation of the project findings and recommendations occurred at the December 2019 meeting of the NPFMC in Anchorage, Alaska. The final report was revised in consideration of comments and suggestions received from reviewers of the public review draft. In addition to the final report, a short findings summary was prepared (Appendix E). The summary was sent to tribal government representatives and other interested individuals and groups. This report was posted on the Division of Subsistence website and the RAM Program website in PDF format for downloading and printing by the public. Printed copies of this report were sent to the Alaska Resources Library and Information Services as well as the Alaska State Library.

4. The factor of 0.75 for converting halibut round weight to net weight is the standard used by the IPHC and ADF&G Division of Sport Fish. Division of Subsistence studies, as reported in the Technical Paper series and in the Community Subsistence Information System (CSIS)*, generally use a factor of 0.72 for converting halibut round weights to net weights, based on Crapo et al. (1993:7), who reported that, on average, the weight of a dressed halibut with the head removed is 72% of the round weight, with a range of 68% to 80%. In Division of Subsistence Technical Papers, “net” weight (dressed, head off) is usually referred to as “usable weight.”

* CSIS: <http://www.subsistence.adfg.state.ak.us/CSIS/>. The CSIS was formerly the Community Profile Database (referred to as CPDB) (Scott et al. Unpublished).

2. FINDINGS

SUBSISTENCE HALIBUT HARVESTS IN 2018

Estimated Number of Subsistence Halibut Fishers

Of the 8,576 individuals who were potential subsistence halibut fishers in 2018, an estimated 4,094 (48%) participated in the subsistence halibut fishery (Table 4; Figure 6). Of the 2,857 individuals who were members of an eligible tribe, an estimated 1,211 participated in the fishery (42%). Of the 5,719 individuals who qualified as residents of rural communities, an estimated 2,883 (50%) participated in the subsistence fishery for halibut in 2018. The estimated total of 4,094 subsistence halibut fishers in 2018 is the lowest estimate since the SHARC program began in 2003, and a 7% decrease from the estimate of 4,408 fishers in 2016 (Figure 6).

Alaska Native tribes with the most (more than 20) subsistence halibut fishers in 2018 included the Central Council of Tlingit and Haida Indians (144 subsistence halibut fishers), the Ketchikan Indian Corporation (121), the Qagan Toyagungin Tribe of Sand Point (94), the Sitka Tribe of Alaska (71), the Native Village of Tununak (65), the Sun'aq Tribe of Kodiak (48), the Metlakatla Indian Community (46), the Native Village of Toksook Bay (39), the Hoonah Indian Association (33), the Native Village of Nanwalek (30), the Native Village of Eyak (Cordova) (29), the Seldovia Village Tribe (28), the Yakutat Tlingit Tribe (26), the Aleut Community of St. Paul (24), the Organized Village of Kake (24), the Craig Community Association (23), the Wrangell Cooperative Association (22), the Hyدابurg Cooperative Association (22), Agdaagux Tribe of King Cove (22), the Native Village of Larsen Bay (22), and the Chilkoot Indian Association (21). Of the non-tribal residents of eligible rural communities, the most (more than 100) subsistence fishers lived in Sitka (582), followed by Kodiak (575), Petersburg (314), Wrangell (199), Cordova (189), Haines (182), and Craig (138). Appendix Table D-1 provides details for each tribe and community regarding participation in the subsistence fishery and subsistence halibut harvests in 2018.

As noted above, not every tribal SHARC holder lives in his or her tribe's headquarters community. After assigning tribal members to a community based on their place of residence, an estimate of participation in the subsistence halibut fishery in 2018 by community can be obtained. Appendix tables D-2, D-3, and D-4 provide project findings based on place of residence. Communities with 100 or more participants in the subsistence halibut fishery in 2018 were Sitka (650), Kodiak (628), Petersburg (327), Wrangell (251), Haines (198), Cordova (215), Craig (192), and Ketchikan (159). Of the eight Alaska communities with 100 or more subsistence halibut fishers in 2018, two (Kodiak and Cordova) had about the same or slightly more fishers than in 2016 (+0.2% to +8.6%) (Figure 7). The estimated number of subsistence halibut fishers in the other six places decreased, from 3% in Petersburg to 22% in Haines (Figure 7). Twelve non-Alaska-resident tribal SHARC holders subsistence fished for halibut in Alaska in 2018, compared to a high of 24 in 2005 and low of zero (0) in 2004 and 2007.

As illustrated in Figure 8⁵ (see also Table 5), the largest number of Alaska subsistence halibut fishers in 2018 fished in waters of Regulatory Area 2C (Southeast Alaska)—2,430 (59%).⁶ There were 1,262 subsistence halibut fishers (31%) who fished in Regulatory Area 3A (Southcentral Alaska); 168 (4%) in Area 4E (East Bering Sea Coast); 154 (4%) in Regulatory Area 3B (Alaska Peninsula); and 81 (2%) in Regulatory Area

5. In reports for study years prior to 2011, the data in figures equivalent to Figure 8 were based on the location of the tribe or place of residence of the SHARC holder. For reports for the 2011, 2012, 2014, 2016, and 2018 study years, we have revised the figure to report fishers by location in which the fishing took place. Estimates of the number of subsistence halibut fishers fishing within each regulatory area are not available for 2003 or 2004; the data in Figure 8 for those years remain based on the location of the tribe or place of residence of the SHARC holder.

6. Because some SHARC holders fished in more than one regulatory area, the sum of fishers for each area exceeds the state total.

4A (Eastern Aleutians). Additionally, there were 41 (1%) subsistence halibut fishers in the 2 other regulatory areas (4B and 4C), and none in Area 4D. As also shown in Figure 8, the distribution of subsistence fishers by regulatory area in 2018 was mostly similar to that of previous study years. From 2008 through 2012, there was a sharp decrease in the estimated number of halibut fishers in Area 4E, but the estimate of 257 fishers for 2014, 199 in 2016, and 168 in 2018 reversed this trend. As discussed in Fall and Koster (2018:19–22), for the Area 4E communities of Toksook Bay and Tununak these changes were most likely caused by subsistence fishers failing to renew SHARCs plus a new sampling method employed in 2014 and 2016, rather than an increase or decrease in subsistence halibut fishing. The estimated number of subsistence halibut fishers in Area 4C (Pribilof Islands) dropped as well from 105 in 2003 to 9 in 2012 and 12 in 2014, then increasing to 25 in 2016 and 33 in 2018. The study finding of no subsistence halibut fishers in Area 4D in 2016 and 2018 is likely a result of non-renewal of SHARCs rather than a lack of fishing effort.

Estimated Alaska Subsistence Halibut Harvests in 2018 by SHARC Type and IPHC Regulatory Area

Table 4 reports estimated Alaska subsistence halibut harvests for 2018 by SHARC type and IPHC regulatory area (see also Appendix Table D-1 for detail by tribe and rural community, including subsistence harvests by gear type and confidence intervals). The total estimated subsistence halibut harvest in Alaska in 2018 was 29,963 fish ($\pm 3.1\%$) for 615,789 lb (net weight; $\pm 3.1\%$).⁷ As estimated in pounds net weight, 60.3% of the subsistence halibut harvest (371,066 lb [$\pm 4.0\%$]) was taken by fishers registered with tribes or rural communities in Regulatory Area 2C (Southeast Alaska) (Figure 9; Table 4). (Note that because some SHARC holders may fish in a regulatory area different from the location of their tribal headquarters or rural community of registration, the area totals in Table 4 do not precisely represent harvest locations. See the section on harvests by location, below.) Fishers from Area 3A (Southcentral Alaska) tribes and rural communities harvested 183,361 lb ($\pm 4.7\%$; 29.8% of the state total). For Regulatory Area 4E (East Bering Sea Coast),⁸ the estimated harvest for tribal and rural SHARC holders was 22,108 lb ($\pm 16.4\%$; 3.6% of the net harvest weight). Harvests totaled 16,895 lb ($\pm 28.2\%$; 2.7%) for communities and tribes of Regulatory Area 3B (Alaska Peninsula). For tribal and rural SHARC holders in Area 4A (Eastern Aleutians), the estimated harvest was 13,069 lb ($\pm 28.5\%$; 2.1% of the net harvest weight). For Regulatory Area 4C (Pribilof Islands), the estimated harvest for tribal and rural SHARC holders was 8,097 lb ($\pm 110.4\%$; 1.3% of the net harvest weight). In Area 4B (Western Aleutians), the estimate for tribal and rural SHARC holders was 1,193 lb ($\pm 1380\%$; 0.2%). No subsistence harvests of halibut were reported through the survey by tribes and communities in 4D (Central Bering Sea) (Table 4).

The estimated subsistence harvest of 615,789 lb of halibut in 2018 represents a decrease of 15.3% compared to the estimated harvest of 727,178 lb in 2016 (Figure 10, Figure 17). Harvests by tribal SHARC holders decreased by 10.5% from 256,249 lb in 2016 to 229,236 lb in 2018. Tribal SHARC holders harvested 37% of the Alaska subsistence halibut harvest in 2018, compared to 35% in 2016. Subsistence halibut harvests by nontribal, rural resident SHARC holders decreased by 17.9% from 470,929 lb in 2016 to 386,553 lb in 2018. This group accounted for 63% of the statewide subsistence halibut harvests in 2018, compared to 65% in 2016.

Members of 56 Alaska tribes harvested subsistence halibut in 2018. In 11 others, tribal members obtained SHARCs and returned surveys, but no one fished. Members of 15 other tribes held SHARCS, but no one returned a survey form. No one in the remaining 41 eligible tribes held a valid SHARC in 2018. As shown

7. This approximates 821,052 lb round (live or whole) weight. See footnote 4 in Chapter 1 for an explanation of the factor used to convert round weight to net weight.

8. Community Development Quota (CDQ) organizations operating exclusively in areas 4D and 4E may retain U32 halibut (under 32 inches in length) from their commercial catches for home use. In 2018, a total of 9,989 lb net weight of halibut was retained by two organizations: the Bristol Bay Economic Development Corporation (8,510 lb) and the Norton Sound Economic Development Corporation (1,479 lb) (Erikson 2018:17). The IPHC includes these fish within the “personal use” removal category, a category that also includes subsistence harvests (Gilroy and Williams 2015). See also the section in Chapter 3, “Comparisons with Nonsubsistence Harvests.”

in Figure 11, members of the 19 tribes with harvests of about 5,000 lb or more accounted for 81% of the total subsistence halibut harvest by tribal members in 2018. These 19 tribes accounted for 72% of eligible tribal members (2,047 of 2,857) (Table 3). Members of the other 37 tribes with harvests accounted for about 19% of the total harvest by tribal members (Figure 11).

Residents of 58 eligible rural communities harvested subsistence halibut in 2018.⁹ In three other communities, SHARC holders fished but were unsuccessful. In four others, individuals obtained SHARCs but no one fished. Residents of seven other eligible rural communities obtained SHARCs, but no one returned a survey form. No one in the remaining 49 eligible rural communities held a valid SHARC as a nontribal member in 2018.¹⁰ As shown in Figure 12, 11 rural communities with harvests of over 8,000 lb accounted for 83% of the subsistence halibut harvest by the holders of rural (nontribal) SHARCs in 2018. Residents of the other 47 eligible rural communities with harvests accounted for 18% of the total harvest by rural SHARC holders.

As also shown in Figure 12, rural SHARC holders from two communities accounted for 39% of the total harvest by this group in 2018: Kodiak (21%) and Sitka (18%). Adding Petersburg, the next highest rural community harvest at 10%, the top three rural communities accounted for 49% of the rural community (nontribal) subsistence halibut harvest in Alaska in 2018.

Estimated Alaska Subsistence Halibut Harvests in 2018 by Harvest Location

Survey respondents were asked to report the “water body, bay, or sound [that they] usually fished” for subsistence halibut in 2018. Multiple responses were permitted. In Table 5, estimated subsistence halibut harvests are reported for the eight Alaska halibut regulatory areas and 18 subdivisions within these areas. It should be noted that regulatory area totals in Table 5 differ slightly from those reported in Table 4 because not all SHARC holders fished within the regulatory area in which their tribal headquarters or residence is located.

Subsistence halibut harvests in Regulatory Area 2C (Southeast Alaska) accounted for 59% of the Alaska subsistence halibut harvest in 2018 (366,214 lb [net weight]) (Figure 13; Table 5). Also, as shown in figures 14 and 15, the three geographic subareas with the largest subsistence halibut harvests in 2018 were in Area 2C: southern Southeast Alaska (207,509 lb [net weight]; 34% of the state total); the Sitka LAMP area (79,757 lb; 13%); and the northern Southeast Alaska area other than the Sitka Local Area Management Plan (LAMP) area (78,948 lb; 13%).¹¹ Regulatory Area 3A (Southcentral Alaska) ranked second, with 30% of the state’s total subsistence halibut harvest (187,698 lb [net weight]) (Figure 13; Table 5). Waters bordering the Kodiak Island road system (including Chiniak Bay) (within Area 3A) ranked fourth among subareas, with a subsistence halibut harvest of 62,415 lb (10% of the state total), and other Kodiak Island waters not along the road system area (“Kodiak Island–Other”) ranked fifth (43,174 lb; 7%) (figures 14 and 15). Harvests within Cook Inlet waters of Area 3A accounted for 6% of the state total (34,638 lb; ranking sixth), those within Prince William Sound added 31,143 lb (5% of the statewide total; ranking seventh), and the Yakutat Area added 16,327 lb (3%). Among regulatory areas, Area 4E (East Bering Sea Coast) ranked third with 25,160 lb (4%) (Figure 13). Most of the harvest in Area 4E came from the Yukon–Kuskokwim Delta area (22,088 lb; ranking eighth among subareas), with a smaller amount from Norton Sound and Bristol Bay (Table 5; Figure 14). Area 3B (Alaska Peninsula, including the Chignik Area) ranked fourth among regulatory areas with 3% of the Alaska total (16,644 lb) (Figure 13). Area 4A (Eastern Aleutian Islands)

9. In this tally, Chiniak, listed separately in tables in this report, is counted as part of Kodiak, as it is for eligibility. Dutch Harbor is counted as part of Unalaska for the same reason. Because some residents of eligible rural areas had mailing addresses in non-eligible communities, 3 non-eligible communities are listed as “rural communities” in Table 3. These were Ketchikan (6 SHARCs), Ward Cove (2 SHARCs), and Anchorage (1 SHARC). These 3 places are not included in this count of participating rural communities.

10. Note that residents of these communities may have obtained SHARCs as tribal members.

11. For this project, “northern Southeast Alaska” includes those waters of Regulatory Area 2C north of Frederick Sound, including waters surrounding Baranof Island and excluding the Sitka LAMP area. For a description of the Sitka LAMP area, see FR 68 18156, April 15, 2003, § 300.65(d)(1). The remaining waters of Area 2C are referred to as “southern Southeast Alaska” in this report.

ranked fifth with 13,237 lb (2%), and Area 4C (Pribilof Islands) ranked sixth with 5,152 lb (1%). Area 4B (Western Aleutian Islands) added 1,684 lb (less than 1%). No subsistence halibut harvests were reported for Area 4D (Central Bering Sea).

Figure 16 reports estimated harvests in pounds net weight by location fished at the regulatory area level in 2003–2012, 2014, 2016, and 2018. Table 6 compares estimated subsistence halibut harvests by regulatory area and geographic area in 2018 with those estimated for previous study years, and for the 12-year average from 2003–2012, 2014, and 2016. As noted previously, for the state overall, the estimated harvest in pounds decreased by about 15% in 2018 from 2016 (Figure 17; Table 6). The estimated harvest in 2018 was 33% lower than average for the previous 12 subsistence halibut harvest annual estimates (Figure 18; Table 6).

Estimated subsistence halibut harvests decreased in three of the eight regulatory areas in 2018 compared to 2014 and increased in four. There was no change in Area 4D, where for the second consecutive study year there was no reported subsistence harvest (Figure 16; Figure 17; Table 6). As in the previous 12 years of the project, Area 2C (Southeast Alaska) accounted for the most subsistence halibut harvests in 2018 (366,214 lb; 59% of the state total); this harvest represents a decrease of 16% compared to 2016 (Table 6; Figure 16; Figure 17), and a 27% decrease compared to the 12-year average from 2003–2012, 2014, and 2016 (Figure 18). Harvests in the Sitka LAMP Area were down by 18% compared to 2016 (Table 6). Harvests also decreased in the other two subareas within Area 2C: the remainder of northern Southeast by 21%, and the southern Southeast Alaska subarea by 13%. Harvests in 2018 were substantially lower in all three Southeast subareas compared to recent 12-year averages: 24% in southern Southeast Alaska, 18% in the Sitka LAMP area, and 31% in the remainder of northern Southeast Alaska. The reasons for these changes in Area 2C are likely complex and beyond the scope of this report.¹²

Estimated harvests in Area 3A (Southcentral Alaska) dropped for the 10th straight study year. The 2018 harvest of 187,698 lb was a decline of 16% from the 2016 harvest of 222,454 lb. The estimated subsistence halibut harvest in Area 3A in 2018 was 41% lower than the previous 12-year average and was the lowest estimate of any study year (Figure 18; Table 6). Area 3A accounted for 30.5% of the statewide subsistence halibut harvest in 2018, similar to 2016 (30.6%) but a drop of about five to seven percentage points compared to most other study years between 2005 and 2012 (Table 6). Harvests dropped in all five subareas of Area 3A: Yakutat, down 29%; Prince William Sound, down 5%; Cook Inlet, down 24%; the waters of Kodiak Island along the road system, down 2%; and the remainder of the Kodiak Island area, down 25%. Harvests in 2018 were also lower than the previous 12-year averages in all subareas of Area 3A.

In Area 3B (Alaska Peninsula), harvests increased from 14,242 lb in 2016 to 16,644 lb in 2018 (up 17%) (Figure 16; Figure 17; Table 6). However, in Area 3B, the 2018 estimated harvest was the fourth-lowest of the 13 years of the project, 44% below the previous 12-year average, and notably below the estimates for 2005 (46,225 lb), 2006 (48,547 lb), and 2007 (47,748 lb) (Table 6; Figure 16; Figure 18). Earlier reports (e.g., Fall and Koster [2012:12]) suggested that improved participation in the SHARC program in 2005–2008 accounted for some of the increase in the estimated harvests in Area 3B in those years, compared to 2003 and 2004, the first two years of the harvest monitoring program. However, the number of SHARC holders for Area 3B tribes and rural communities decreased from 606 in 2008 to 369 in 2009, 369 in 2010, 358 in 2011, 338 in 2012, and 298 in 2014; this decline in program participation may partially explain the lower harvest estimates for 2009–2012 and 2014 (see discussion of Sand Point in Fall and Lemons [2016:19–20]; Table 6). However, the increase in SHARC enrollment for this area in 2016 to 441 and 354 in 2018 did not result in a corresponding increase in the estimated subsistence halibut harvest.

Estimated subsistence halibut harvests in Area 4A (Eastern Aleutians) increased 64% from 2016 (8,054 lb) to 2018 (13,237 lb). However, the harvest in Area 4A in 2018 was 32% lower than the previous 12-year average (Figure 18). There are only three communities in Area 4A: Akutan, Nikolski, and Unalaska/Dutch Harbor. Therefore, harvest estimates for individual communities strongly shape the area estimate. For example, previous reports have discussed how sampling achievement in Akutan evidently affected the

12. Further discussion of differences between harvest estimates for the 13 study years appears in Chapter 3 and Chapter 4.

area's harvest estimate (Fall and Koster 2010:13). No Akutan residents returned SHARC surveys for 2012 or 2014. As discussed in Fall and Koster (2018:3–4), for the 2016 study year, staff traveled to Akutan and surveyed five of the six SHARC holders living in the community; the estimated harvest was 910 lb. SHARC enrollments increased after this staff visit, to 49 in 2018, with a corresponding increase in the estimated harvest to 3,973 lb. For 2009, an increased harvest by SHARC holders living in Unalaska/Dutch Harbor, from 13,710 lb in 2008 to 29,306 lb in 2009, accounted for most of the change in the regulatory area's estimate between those two years, but estimated harvests in that community dropped to 13,081 lb for 2010, 12,257 lb for 2011, 10,059 for 2012, and 8,887 for 2014 (Table 13). For the 2016 study year, staff surveyed resident SHARC holders in Unalaska/Dutch Harbor; of 142 SHARC holders, surveys were obtained for 96, resulting in an estimated subsistence halibut harvest of 7,776 lb, the lowest of any study year. In 2018, there were 121 SHARC holders living in Unalaska/Dutch Harbor; the estimated subsistence harvest of halibut was 9,199 lb.

In Area 4B (Western Aleutians), the estimated harvest of 1,684 lb was an increase of 474% from the estimate of 294 lb in 2016 (Table 6; Figure 16; Figure 17). Estimated harvests in this area dropped after 2008, when the estimate of 4,737 lb was 147% higher than the previous five-year average (Fall and Koster 2010:92). This increase in 2008 was likely due in part to the larger reported average size of halibut harvested in this area in that year (30.5 lb [net weight] per fish; see Table 9 in Fall and Koster [2010:66]) compared to earlier years (19.5 lb [net weight] per fish in 2007 [Fall and Koster 2008:71]). The estimated harvest for Area 4B in 2018 was 8% above the previous 12-year average (Figure 18; Table 6). All of the reported harvest in 2018 was by residents of Adak. Notably, no members of the Atka Tribe (the only eligible tribe in Area 4B) returned surveys for 2016 or 2018.

Estimated subsistence harvests of halibut in Area 4C (Pribilof Islands) increased, by 20%, in 2018 to 5,152 lb, from 4,300 lb in 2016 (Figure 16; Figure 17; Table 6). The 2018 estimate was 36% below the previous 12-year average and the fifth-lowest since the SHARC program began in 2003 (Figure 18; Table 6). As noted in reports for previous project years (Fall et al. 2005:15; Fall and Koster 2008:15), a high response rate to the survey, based upon follow-up household surveys and inseason data collection by the Central Bering Sea Fishermen's Association, likely produced very reliable harvest estimates for St. Paul, the largest community in Area 4C, after the first project year of 2003. However, due to funding reductions, this work did not take place for 2008–2012, 2014, 2016, or 2018. The number of valid SHARCs held by St. Paul residents dropped from 246 in 2007 to an average of 43 for 2008–2011 and just 12 in 2012, increasing to 27 in 2014, 30 in 2016, and 36 in 2018. The response rate to the survey declined from 83% in 2007 to 45% in 2008, 34% in 2009, 29% in 2010, 35% in 2011, 25% in 2012, 30% in 2014, 20% in 2016, and 19% in 2018. The estimated number of subsistence halibut fishers in the community was 28 in 2018, compared to 22 in 2016, 17 in 2014, 12 in 2012 and a range of 14–19 in 2007–2010 that then dropped to 11 in 2011. In addition, only three residents of St. George held SHARCs in 2018. The extent to which the decline in SHARC enrollment or the survey response rate has affected harvest estimates for Area 4C is uncertain.

No returned surveys reported subsistence halibut harvests in Area 4D (Central Bering Sea) in 2018, nor in 2016; therefore, the harvest estimate for both years is 0. The subsistence halibut harvest estimate for 2014 of 54 lb was 92% lower than the estimate of 672 lb for 2012. The 2014 estimate was 99% lower than the previous 10-year average for Area 4D, and by far the lowest annual estimate for the area (other than 0) since the SHARC program began in 2003 (Fall and Lemons [2016:14]; Table 6). It is likely that this sharp drop in the harvest estimate for Area 4D since 2008 is the result of nonrenewal of SHARCs by subsistence fishers. The number of SHARCs held by residents of Savoonga, the principal halibut harvesting community in Area 4D, dropped from 43 in 2007, with an estimated 15 subsistence halibut fishers, to 17 SHARC holders in 2009, with an estimated 7 subsistence halibut fishers, 17 SHARC holders in 2010 with 6 fishers, 17 SHARC holders and 9 fishers in 2011, 6 SHARC holders and 5 fishers in 2012, 6 SHARC holders and 1 fisher in 2014, 1 SHARC holder and no fishers in 2016 and 2018.

For Area 4E (East Bering Sea Coast), the estimated subsistence harvest of halibut of 25,160 lb in 2018 was a 39% decrease from the 41,370 lb estimated for 2016, and was 28% lower than the 12-year average from 2003–2012, 2014, and 2016 (Figure 16; Figure 17; Figure 18; Table 6). The 2016 and 2018 estimated

harvests were substantially higher than the estimates for 2008 through 2012. The report for 2012 (Fall and Koster 2014:13–14) suggested that the drop in SHARC renewals and survey response rates from 2008 through 2012 accounted for a likely large underestimate of subsistence halibut harvests in Area 4E. SHARC registrations dropped from 1,191 in 2007 to 421 in 2008, 374 in 2009, 286 in 2010, 291 in 2011, and 185 in 2012. Also, unlike 2003–2007, no outreach, face-to-face interviewing, or telephone calls took place in Area 4E communities in 2008–2012, resulting in lower response rates compared to previous years. As discussed in Fall and Koster (2018:4–5), outreach and interviewing of likely subsistence halibut fishers who did not hold SHARCs took place in Toksook Bay and Tununak for 2016, as it did for 2014. Thus, the harvest estimates for Area 4E for 2014 and 2016 are based on a far more complete sample of halibut fishers than was achieved for 2008 through 2012. As noted in Chapter 1, for 2018 outreach and interviewing took place in Tununak and Hooper Bay, but Toksook Bay declined to participate in the project. As a result of the outreach that took place in the community for the 2016 harvest year, 55 Toksook Bay residents held SHARCs for 2018. However, only 11 (20%) surveys were returned through the mail survey. Because Toksook Bay has accounted for a large percentage of the subsistence halibut harvest in Area 4E in the past, this low response rate may have resulted in an incomplete harvest estimate for the area for 2018.

Figure 19 illustrates the average subsistence halibut harvest in pounds net weight for those SHARC holders who subsistence fished in 2018. Figure 20 illustrates the average harvest per fisher in numbers of halibut. For the state overall, the average subsistence halibut fisher harvested 150 lb net weight (compared to 165 lb in 2016 and 169 lb in 2014) or about 7.3 halibut in 2018, the lowest average harvest of fish of any study year and the second-lowest in terms of pounds. Average harvests per fisher at the regulatory area level (excluding Area 4D) ranged from 108 lb (net weight) in Area 3B to 209 lb per fisher in Area 4B. Average subsistence halibut harvests have ranged from 8.1 halibut per fisher in 2011 to 9.9 halibut per fisher in 2005, and from 148 lb per fisher in 2011 to 211 lb per fisher in 2003 (Fall and Koster [2012:14, 2013:14]; see also Table 15).

Subsistence Halibut Harvests by Place of Residence

As shown in Figure 21, there were 25 Alaska communities whose residents had combined estimated subsistence halibut harvests of approximately 6,000 lb or more (net weight) in 2018. In this figure, community totals include harvests of all SHARC holders living in the community, regardless of type of SHARC (tribal or rural) or tribal affiliation.¹³ Residents of these communities accounted for 89% of the total Alaska subsistence halibut harvest in 2018. Residents of Kodiak (Kodiak includes the city of Kodiak and other portions of the Kodiak Island Borough connected to it by roads) ranked first with 15.4% of the total Alaska harvest, and Sitka ranked second with about 13.8%. With 12,426 and 8,652 residents, respectively, these two communities included about 24.1% of the population of rural communities eligible to participate in the subsistence fishery. There were 58 other Alaska communities with at least one resident who participated in the subsistence halibut fishery in 2018. The total harvest for these other communities represented about 11% of the state total.

For 2018, 93 SHARC holders provided out-of-state addresses from 81 communities in 27 states, provinces, and territories.¹⁴ Twelve non-Alaska-resident SHARC holders subsistence fished for halibut in 2018, with a harvest of 32 fish and 1,496 lb (0.2% of the state total) (Appendix Table D-2). This level of involvement by non-Alaska residents in the subsistence halibut fishery in 2018 is similar to that of other study years (Fall and Koster 2012:14).

Subsistence Harvests by Gear Type

Table 5 Figure 22 and report the estimated subsistence harvests of halibut in Alaska in 2018 by gear type and regulatory area fished. In total, 480,731 lb (78%) of halibut (net weight) were harvested using setline (stationary) gear (i.e., longlines, or “skates,” sometimes set with a power winch attached to a vessel),

13. Note that nonrural places, such as Anchorage, Juneau, Ketchikan, and Valdez, appear in Figure 21 and in appendix tables D-2, D-3, and D-4 because members of eligible Alaska Native tribes may participate in the fishery regardless of where they live, and because some eligible residents of rural areas have mailing addresses in nonrural places.

14. Note that members of eligible tribes may obtain SHARCs regardless of their place of residence.

and 135,058 lb (22%) were harvested using hand-operated gear (i.e., handlines or lines attached to a rod or pole). As in past years, there were notable differences between regulatory areas (Table 5; Figure 22). Harvests using setline gear predominated in Area 2C (Southeast Alaska; 84% of the area's total subsistence harvest), 3A (Southcentral Alaska; 78%), 4A (Eastern Aleutian Islands; 66%); and 4B (Western Aleutian Islands; 89%); and 4C (Pribilof Islands; 78%). In Area 3B (Alaska Peninsula), 57% of the subsistence halibut harvest was taken with handlines. As in past years, most halibut in Area 4E (East Bering Sea Coast; 74%) were harvested with handlines.

Number of Hooks Fished with Setline Gear

Respondents who fished with setline (stationary) gear (longline or skate) were asked to report how many hooks they "usually set" in 2018. The findings by regulatory area are reported in Table 7. For the fishery overall, most setline fishers (40%) used 30 hooks, the maximum number allowed by regulation in areas 2C, 3A, 3B, 4A, and 4B (there is no hook limit in areas 4C, 4D, and 4E; fishers using more than 30 hooks are included in the 30 hook total) (Figure 23). The next most frequently reported number was 15 hooks, usually used by 13% of the fishers who used setline gear. Twenty hooks (13%) ranked third, followed by 25 hooks (8%), 28 hooks (4%), and 10 hooks (4%). This pattern is similar to that of all previous study years (Fall and Koster 2014:14–15).

Thirty was the most frequently used number of hooks with setline gear in the seven regulatory areas in which survey respondents reported subsistence fishing (Table 7): 2C (Southeast Alaska), 36%; 3A (Southcentral Alaska), 47%; 3B (Alaska Peninsula), 53%; 4A (Eastern Aleutian Islands), 60%; 4B (Western Aleutian Islands), 100%; 4C (Pribilof Islands), 39%; and 4E (East Bering Sea Coast), 55%.

Number of Subsistence Halibut Fishing Trips

For 2018, for the seventh time in the harvest survey program, respondents were asked to report the number of subsistence fishing trips they took for halibut in the study year. The average number of trips for subsistence halibut fishers was 4.0, similar to other study years (Fall and Koster 2013:15), with those holding tribal SHARCs averaging 4.7 trips and those holding rural SHARCs averaging 3.7 trips. In most regulatory areas, the average subsistence fisher took between three and four trips, with higher averages in Area 4B (average of 10 trips), Area 4C (5.6 trips), and Area 4E (5.7 trips) (Figure 24). As shown in Figure 25, about 80% of fishers took 5 or fewer trips, and about 15% took between 6 and 10 trips. About 4% took between 11 and 20 trips, and about 1% took more than 20 trips.

The average number of subsistence halibut harvested per fishing trip in 2018 was 1.8 (compared to 1.8 in 2009, 2010, 2011 and 2016; 1.9 in 2012; and 2.0 in 2014), with tribal SHARC holders averaging 2.0 fish and rural SHARC holders averaging 1.7 fish. The highest average harvests per trip occurred in Area 4C (3.2 fish per trip) and Area 4E (2.2 halibut per trip) (Figure 26).

Sport Harvests of Halibut by SHARC Holders

Survey respondents were asked to report the number of halibut and pounds of halibut they harvested "while sport fishing during 2018." They were instructed not to include fish they considered sport caught as part of their subsistence halibut harvest. The goal of this question was to avoid double counting harvested halibut in this survey and in the statewide survey of sport fishers administered by the Division of Sport Fish of ADF&G. Answering this question required respondents to classify their hand-operated gear (i.e., hook and line and rod and reel) harvests as either subsistence or sport; these gear types are legal gear for both sport fishing and subsistence fishing. Fish reported in the survey as "sport harvests" are not included in the estimated subsistence harvests discussed above. If SHARC holders also received the sport fish survey for 2018, they would be expected to report only their sport-caught halibut and not include any halibut they reported as subsistence harvests, even if taken with rod and reel or handheld line with two or fewer hooks. Note that the project findings do not represent the total recreational halibut harvest by residents of eligible communities and tribes in 2018 because individuals from these tribes and communities who did not obtain SHARCs could have sport fished.

As shown in Table 4 and Table 5, the estimated total sport halibut harvest by holders of SHARCs in 2018 was 6,770 fish and 125,505 lb (net weight). By area fished, most of the sport halibut harvest by SHARC holders occurred in Area 2C (Southeast Alaska) (76,776 lb; 61%) and Area 3A (Southcentral Alaska) (43,588 lb; 35%) (Table 5). In total, an estimated 1,942 SHARC holders (23%) reported that they sport fished for halibut in 2018 (Table 5). A large proportion of these fishers fished in either Area 2C (1,189; 61%) or Area 3A (697; 36%) (Table 5). (See Appendix Table D-5 for estimated sport halibut harvests by tribe and nontribal rural community SHARC holders.)¹⁵

Estimated Average Net Weights of Subsistence- and Sport-Caught Halibut

Table 8 reports the average net weight of subsistence- and sport-caught halibut by SHARC holders in 2018, based upon estimates provided by survey respondents. For the state, the estimated average net weight of subsistence-caught halibut was 20.6 lb and the average net weight of sport-harvested halibut by SHARC holders was 18.5 lb. For all halibut reported as harvested by SHARC holders in 2018, the average net weight per harvested halibut was 20.2 lb. Between regulatory areas, there was a range of average weights per halibut. Halibut harvested in the subsistence fishery in Areas 4B (29.8 lb per fish), 4A (27.9 lb), and 2C (23.5 lb) were larger than the state average. In 2018, in Area 4E, halibut harvested in the subsistence fishery averaged 11.1 lb, 54% of the statewide average subsistence-harvested halibut. Halibut harvested in Area 4C, with an average net weight of 13.8 lb per fish, were 67% of the state average.

The average weight of halibut harvested in the Alaska subsistence fishery declined steadily over the first six years of this project, from 23.7 lb per fish in 2003 to 18.2 lb per fish in 2008. This decline leveled off in 2009 when the average subsistence-harvested halibut weighed 19.0 lb, then 18.4 lb per fish in 2010, 18.3 lb per halibut in 2011, 18.5 lb in 2012, and 18.7 lb in 2014 (Fall and Koster 2014:16; Fall and Lemons 2016:17). The average of 19.8 lb per fish in 2016 and 20.6 lb in 2018 may be an indication of an increase in weight at age of halibut in Alaska.

Assessment of Meeting Needs for Halibut in 2018

As noted in Chapter 1, for the 2018 study year, a question was added to the survey asking, “Did your household get all of the halibut it needed in 2018?” If the response was “no,” the follow-up question was “If not, why was your household unable to get all the halibut it needed?” Responses to this second question were open ended and were coded by topic for analysis. The discussion that follows is based on a preliminary analysis of responses to these questions; additional analysis and follow-up research is recommended (see Recommendations in Chapter 4).

As shown in Table 9 (see also Figure 27), 57% of respondents who held SHARCs as residents of rural communities said their needs were met, including the majority in Area 2C (57%) and 3A (58%). The pattern was different for respondents who held SHARCs as members of eligible tribes: just 38% said their needs were met, including 35% in Area 2C and 40% in Area 3A. Of all respondents, 52.5% said their needs were met and 47.5% said they were not.

15. The ADF&G postal survey did not investigate the criteria by which survey respondents classified their rod and reel (hook and line attached to a rod or pole) halibut harvests as subsistence or sport. However, a supplemental mailing to 1,098 SHARC holders from Kodiak and Sitka who fished for halibut in 2004 asked respondents to provide reasons for classifying their halibut harvests as sport or subsistence. For a discussion of the findings, see Fall et al. (2006:19–20, 123–138). In short, the primary factor (for 69% of respondents) was the gear used to harvest the fish: respondents viewed rod and reel as “sport gear” and setline gear as “subsistence gear.” Another factor, reported by 12%, concerned the composition of the fishing group. If the SHARC holders had fished with relatives or friends who did not possess a SHARC, they classified their fishing as recreational. Harvest amounts were also a consideration: harvests of one or two halibut with a rod and reel were considered “sport” by some respondents, but if they harvested more than two fish with rod and reel in one day, they classified the harvest as subsistence. Finally, about 19% of the respondents gave reasons related to the uses of the fish or other cultural and lifestyle explanations.

Tables 10, 11, and 12 report reasons respondents offered for why halibut needs were not met. (Note that respondents could offer multiple reasons.) As also shown in Figure 28, the most common responses for tribal SHARC holders, rural SHARC holders, and all respondents combined included lack of effort (with no explanation offered about why), lack of equipment (usually boats and/or motors), no time to fish (primarily due to work obligations), and family/personal reasons (such as illness). Resource availability, an unexplained unsuccessful harvest (e.g. “no luck”), and weather were other common explanations. Fewer respondents cited regulations or competition with other user groups.

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3. DISCUSSION

COMPARISONS WITH OTHER HARVEST ESTIMATES

As discussed in the first report for the SHARC survey project (Fall et al. 2004:19–22), comparing the statewide subsistence halibut harvest estimates generated by the SHARC survey with subsistence halibut harvest estimates from projects conducted before 2003 is difficult. The primary reason, as noted in Chapter 1, is that the regulations that allow subsistence halibut fishing in Alaska waters using traditional gear, such as longlines with more than two hooks, and that removed the restrictive daily harvest limit of two fish, have only been in place since May 2003. Methodological differences also create challenges for comparison. For example, comprehensive community harvest surveys attempt to estimate halibut harvests for home use conducted under sport fishing rules and harvests removed from commercial fisheries for home use, as well as those taken under subsistence regulations. The statewide subsistence halibut harvest estimates from the SHARC postal survey from 2003 through 2018 include only those subsistence harvests by individuals who obtained SHARCs.

The report for the first year of this project discussed previous efforts to estimate subsistence halibut harvests at the regional and statewide levels. The report concluded that the 2003 SHARC survey estimates were not markedly different from estimates based on Division of Subsistence household survey data as reported in the CSIS. We will not repeat that full discussion here.¹⁶ However, the report also concluded that because of the limitations associated with the previous subsistence harvest estimates at the statewide level, until a time series was developed based upon the SHARC survey results, a discussion of harvest trends in the subsistence halibut fishery was speculative. After 10 years of data for the subsistence halibut fishery were available, a comparison of the project findings across study years appeared in the final report for 2012 (Fall and Koster 2014:31–35).

COMMUNITY CASE STUDIES

Previous overviews of annual subsistence halibut harvests discussed findings for nine communities to represent communities of similar size and location. Data for these nine communities are updated in Table 13. For the 2016 report (Fall and Koster 2018:18), data for Akutan were added to Table 13 because outreach and interviewing took place there for the 2016 study year. In this report, discussion is limited to two communities in which household surveys included halibut fishers who were not enrolled in the SHARC program for 2018, Tununak and Hooper Bay, as well as updated findings for Toksook Bay (although interviewing did not occur for 2018 in that community). Data for Hooper Bay were added to Table 13, because trends for this community had not been discussed in previous reports. Appendix tables D-2, D-3, and D-4 report project results for 2018 for all communities, based upon the residence of SHARC holders.

16. For example for 2000, the IPHC estimated 439,000 lb net weight for Alaska “personal use” (noncommercial, nonrecreational) harvests (Wolfe 2001). The IPHC estimate is based upon a methodology described by Trumble (n.d.). The IPHC method assumed that 50% of Alaska Native rod and reel halibut harvests, as reported in ADF&G household surveys, are “sport” and 50% “personal use,” and that 75% of the non-Native rod and reel harvests are “sport” and 25% “personal use” (Trumble n.d.:62). No justification for these assumptions is provided and changing these sport-to-personal-use ratios can result in a very different estimate for the “personal use” halibut harvest. In a report to the Alaska Board of Fisheries in May 2001, using the same data source as the IPHC, Wolfe (2001) estimated that the subsistence halibut harvest in Alaska “probably ranges between 400,000 and 1,000,000 pounds (round weight) annually,” based on harvest data in the CSIS/CPDB. This is an estimated harvest of 300,000 to 750,000 lb net weight. See Fall et al. (2004:19–21) for discussion of Wolfe’s methods. In the original analysis for the subsistence halibut program, the NPFMC estimated the Alaska subsistence halibut harvest at 1.5 million pounds net weight (68 FR 18145, April 15, 2003, EA/RIR; North Pacific Fishery Management Council [2003]).

Toksook Bay (Regulatory Area 4E)

Toksook Bay had a population of 590 in 2010 and 683 in 2018 (Table 1). The number of valid SHARCs held by Toksook Bay residents dropped from 533 (approximating the community's total population) in 2007 to 34 in 2008, and just 7 in 2012 and 2014, but rose to 20 in 2016 and 55 in 2018, largely due to Division of Subsistence outreach efforts (Fall and Koster 2018:4–5). Very few SHARCs that had been obtained in 2003 and that expired at the close of 2007 were renewed. The Division of Subsistence has not conducted a household harvest survey in this community. Wolfe (2002) estimated a subsistence halibut harvest of 12,600 lb (net weight; 16,800 lb round weight) for this community for 2000, based upon a 1986 per capita estimate for the neighboring community of Tununak. During SHARC project years from 2003–2007, Division of Subsistence staff, with the assistance of the Toksook Bay tribal government, evaluated the list of SHARC holders in the community, estimated the total number of subsistence halibut fishers, and conducted interviews with likely fishers. Based on the results of this collaboration with the tribal government, it is highly likely that most community residents who subsistence fished for halibut in 2003–2007 provided harvest data through the SHARC survey. Therefore, harvest estimates for Toksook Bay for 2003–2007 represent the harvests reported by respondents to the survey and are not expanded to the total number of SHARC holders in the community. Project staff consider harvest data for these years to be reliable. In 2008–2012, however, no outreach or interviewing occurred in Toksook Bay. Of 34 SHARC holders in 2008, 11 (32%) responded to the mailed survey, as did 13 (39%) of 33 in 2009, 12 (38%) of 32 in 2010, and 13 (41%) of 32 in 2011. Of the 7 SHARC holders in 2012, 6 (86%) returned the mailed survey. Unlike 2003–2007, returned survey data were expanded to estimate 2008–2012 halibut harvests in Toksook Bay.

The annual report for study year 2010 (Fall and Koster 2014:32–34) presented an overview of harvests and participation levels in the subsistence halibut fishery for Toksook Bay for 2003 through 2010, as well as U32 (under 32 inches in length) halibut retained for home use from commercial harvests by members of the Coastal Villages Regional Fund Community Development Quota (CDQ) group, the majority of which are landed at Toksook Bay. As summarized in Table 13, from 2003 through 2007, subsistence halibut harvests ranged widely, from 6,596 lb in 2004 to 36,481 lb in 2006. The number of subsistence halibut fishers in Toksook Bay ranged from 54 in 2003 to 113 in 2006. In all study years, hand-operated gear accounted for most of the harvest.

As noted above, the number of valid SHARCs for Toksook Bay dropped to 34 in 2008. Based on the SHARC survey returns (11 of 34; 32%), it is likely that many active halibut fishers in the community did not renew their SHARCs and therefore were not part of the SHARC survey, resulting in underestimates of participation in the fishery and in estimated harvests. For example, based on the survey results, just nine Toksook Bay residents participated in the subsistence halibut fishery in 2008, compared to an average of 79 for the previous five years (range 54 to 113; Table 13). The estimated subsistence harvest was 2,143 lb in 2008, while the previous five-year average was 18,074 lb (range 6,596 to 36,481 lb). Results for 2009 were similar to those of 2008 and results for 2010 and 2011 continued trends observed for 2008 and 2009 (Table 13).

In 2012, only seven SHARCs were active in Toksook Bay, again suggesting that many subsistence fishers were not participating in the program. Based on returned surveys (6 of 7; 86%), the estimated subsistence halibut harvest was 294 lb, with just 154 lb (52%) taken with hand-operated gear. This harvest was just 2% of the annual average from 2003–2007 (18,074 lb). The estimated number of subsistence halibut fishers in Toksook Bay in 2012 was 5, compared to 113 in 2006 and an average of 79 from 2003–2007.

The final report for 2012 concluded that “without renewed registrations in the SHARC program and outreach in the community, it is unlikely that a mail survey alone will provide reliable harvest estimates for the subsistence halibut fishery in Toksook Bay in the future” (Fall and Koster 2014:28). Therefore for 2014, division staff traveled to Toksook Bay and, with the assistance of the tribal government and key respondents, identified all potential subsistence halibut fishers in the community, only seven of whom held SHARCs in 2014. A sample of 76% was achieved for the finalized list of potential subsistence halibut fishers after outreach occurred. The estimated subsistence harvest was 32,023 lb by 121 fishers. The 2014 estimated harvest was the second highest since 2003 and similar to the 36,481 lb harvest for 2006 when

household surveys were also conducted. The estimated number of fishers was similar to those of 2006 and 2007 (Table 13). These findings confirm that harvest estimates from 2008 through 2012 based on SHARC registrations alone significantly underestimated halibut harvests in the community.

As discussed in Fall and Koster (2018:4–5,20), division staff traveled to Toksook Bay in April 2017 and, with the help of local research assistants, identified 104 potential subsistence halibut fishers for 2016, only 20 of whom held SHARCs (Table 13). Of these, surveys were obtained for 45 (43%). The estimated subsistence halibut harvest was 25,361 lb, down 21% from 2014 but within the range of harvest estimates for 2003–2006. Fishers in Toksook Bay, as well as Tununak, often reported more difficulty catching halibut in 2016 compared to other recent years because Pacific cod were more abundant while halibut were less so; indeed, some respondents reported that they had not fished for halibut in 2016 because others had experienced little to no success.

As noted in Chapter 1, the tribal government in Toksook declined to participate in this project for 2018. Therefore, harvest estimates for the community are based solely on the response to the mailed survey. Of 55 Toksook Bay SHARC holders, 11 (20%) returned the survey. The subsistence harvest estimate for 2018 is 6,892 lb by 39 fishers, with an additional 324 lb classified by respondents as sport-harvested, for a community total of 7,216 lb of halibut. Based on comparisons with other study years for which high rates of participation in the survey were achieved (such as 2014 and 2016), it is likely that the subsistence halibut harvest estimate for Toksook Bay for 2018 is an underestimate of the actual harvest.

In both Toksook Bay and Tununak, respondents for 2016 cited bycatch of halibut in Bering Sea commercial groundfish fisheries as the ongoing primary cause of scarce halibut. A prominent elder in Toksook Bay described finding halibut floating in the water, dead—he assumed from prior capture in commercial groundfish fisheries in Kuskokwim Bay.

With respect to the lack of renewals of SHARCs, a likely primary cause is a general lack of conviction that harvest data are important; additional outreach is necessary to explain the role of harvest data in fishery management and allocations. Further, internet access for renewals is extremely challenging for most households in these communities. Enrollment, and participation in annual harvest monitoring, would likely improve if the communities were responsible for providing paper copies of SHARC applications and collecting the harvest information. Maintaining confidentiality and anonymity for harvest data is also essential for achieving participation in harvest monitoring programs in these communities.

Tununak (Regulatory Area 4E)

Tununak had a population of 327 in 2010, with 314 Alaska Natives; the population estimate was 370 in 2018 (Table 1). The Division of Subsistence conducted a comprehensive household harvest survey in Tununak in 1986, which provides the only estimate of subsistence halibut harvests for the community prior to the adoption of the 2003 subsistence regulations. The harvest estimate for 1986 was 1,532 fish and 30,643 lb (net [dressed] weight), with a 95% confidence limit of $\pm 26\%$. The harvest per capita was 93 lb (net weight) (CSIS).

No residents of Tununak obtained SHARCs in 2003,¹⁷ and the Traditional Elders' Council in Tununak did not approve Division of Subsistence plans to conduct interviews with potential subsistence halibut fishers for 2003. Therefore, there is no subsistence halibut harvest estimate for this community for 2003. By the close of 2004, however, 70 residents of Tununak had obtained SHARCs (Table 13). Because only nine SHARC holders responded to the postal survey (13%), harvest estimates for Tununak for 2004 are based on a very low sample achievement. The estimated total subsistence halibut harvest was 1,954 lb (net weight) by 31 fishers, 878 lb harvested with setline gear and 1,076 lb with hand-operated gear. No Tununak SHARC holders reported sport fishing activity in any study year.

The tribal government supported Division of Subsistence interviewing of subsistence halibut fishers in Tununak for the 2005 project year (Fall et al. 2006:5). Completed surveys were obtained for 33 of 70 SHARC holders (47%). As in Toksook Bay, reported harvests were not expanded for Tununak for the 2005

17. One tribal member obtained a SHARC, but this person was not a resident of Tununak.

project year because most known halibut fishers were interviewed. The total subsistence harvest of halibut was 2,661 lb by 20 fishers. Most of the harvest (88%) was taken with hand-operated gear (Table 13).

In 2006, 70 Tununak residents held SHARCs. No interviewing took place in the community, but division staff attempted to contact SHARC holders by telephone. Sample achievement was low (10 of 70 SHARC holders; 14%). Based on this limited sample, the estimated subsistence halibut harvest at Tununak in 2006 was 4,032 lb by 33 subsistence fishers. Almost all of this harvest (3,808 lb; 94%) was with hand-operated gear (Table 13).

In 2007, 69 Tununak residents held SHARCs for a part of the year. With the support of a short-term contract with the division, staff of the Tununak IRA council conducted interviews in their community to supplement SHARC survey data. The estimated subsistence harvest in Tununak in 2007 was 7,015 lb by 38 fishers. Most of this harvest (5,479 lb; 78%) was taken with hand-operated gear (Table 13).

In 2008, 68 Tununak residents held SHARCs. No outreach or supplemental interviewing took place in the community in 2008. The response rate to the mailed survey was 10% (7 of 68 SHARC holders). Estimated harvests based on this sample were by far the lowest of any project year up to that point: 1,296 lb, all with hand-operated gear by an estimated 8 fishers (Table 13). This was almost certainly a large underestimation of the subsistence harvest of halibut in Tununak in 2008.

Few of the SHARCs active in 2008 in Tununak were renewed and only 11 were active in 2009; 6 (55%) responded to the survey. An estimated seven subsistence fishers harvested 488 lb of halibut in 2009, all with hand-operated gear (Table 13). Due to the very limited participation in the SHARC program and based on results from 2004–2007, it is highly likely that a reliable estimate of subsistence halibut harvests in Tununak was not obtained for 2009.

As in 2009, only 11 SHARCs were active in Tununak in 2010; 3 (27%) responded to the survey. An estimated nine subsistence fishers harvested 576 lb of halibut in 2010, all with hand-operated gear (Table 13). Due to the very limited participation in the SHARC program and based on results from 2004–2007, it is highly likely that, as for 2009, a reliable estimate of subsistence halibut harvests in Tununak was not obtained for 2010.

Similarly, only 11 SHARCs were active in Tununak in 2011. An estimated four SHARC holders fished, for an estimated harvest of 84 lb, all with hand-operated gear. In 2012, 11 Tununak residents had SHARCs. An estimated 3 SHARC holders fished for halibut, with an estimated harvest of 173 lb, all with hand-operated gear (Table 13). As for 2008–2010, it is unlikely that study results for 2011 and 2012 provide a reliable estimate of subsistence halibut harvests in the community.

Compared to the results of the 1986 survey, the harvest estimates for Tununak for 2004 through 2012 appear low. The low response to the mailed SHARC surveys plus a lack of outreach or follow-up interviews likely resulted in a large underestimation of the harvests. The final report for 2012 concluded that “several additional years of harvest data collection plus renewed outreach and community support will be necessary to adequately document subsistence halibut harvest trends in Tununak” (Fall and Koster 2014:29).

For the 2014 study year, division researchers traveled to Tununak and with the assistance of key respondents, identified 81 potential subsistence halibut fishers, only five of whom held a SHARC in 2014. Based on a 77% sample, the estimated subsistence halibut harvest was 27,951 lb, far exceeding any other estimate since 2003 (the previous high was 7,015 lb in 2007), and approaching the 30,643 lb harvest based on household surveys for 1986 (Table 13; CSIS). This result suggests that subsistence halibut harvests in Tununak have been substantially underestimated since the SHARC program began in 2003.

Division staff again traveled to Tununak to conduct subsistence halibut harvest surveys for 2016. Local research assistants helped identify 65 potential halibut fishers, 42 (65%) of whom were surveyed. Only six of these potential fishers held SHARCs. Estimated subsistence harvests totaled 11,000 lb, just 39% of the 2014 total. See the discussion of Toksook Bay, above, for observations about reasons for lower subsistence halibut harvests and low enrollments in the SHARC program at Tununak in 2016.

As discussed in Chapter 1, division staff traveled to Tununak in April and May 2019 to conduct halibut harvest surveys. A total of 74 potential halibut fishers were identified, including 55 who held SHARCs for 2018 (outreach efforts in prior stud years had increased the enrollment in the SHARC program). Four responses to the mailed survey were received and 57 interviews were completed, for a response rate of 82% (61 completed surveys). The total estimated subsistence harvest of halibut was 10,692 lb, very similar to the 11,000 lb estimated for 2016 for Tununak, but well below the estimate of 27,951 lb for 2014 (Table 13).

Hooper Bay (Area 4E)

Hooper Bay had a population of 1,014 in 2010, including 971 Alaska Natives. The estimated population in 2018 was 1,247 (Table 1). In 2003, the first year in which subsistence halibut fishing took place under the current regulations, 94 residents of Hooper Bay obtained SHARCs, but the total declined to 17 in 2008 when the initial enrollments expired. The number of SHARC holders in the community fell to 0 in 2012 and remained so through 2018 (Table 13).

As discussed in Chapter 1, division staff traveled to Hooper Bay in May 2019 to conduct household harvest surveys. With the help of local research assistants, 36 potential halibut fishers were identified and 31 (86%) were interviewed. The estimated subsistence harvest was 778 lb by nine fishers. The highest estimated harvest for the community was 3,608 lb in 2005 (including a small harvest classified as “sport” by respondents), when 93 SHARCs were held by Hooper Bay residents and an estimated 34 residents fished for halibut. The lowest estimate was 121 lb in 2011 by three residents, when only 14 SHARCs were held by community residents. Because there were no SHARC holders in the community for 2012, 2014, or 2016, there are no harvest estimates for those years (Table 13).

COMPARISONS WITH NONSUBSISTENCE REMOVALS IN 2018

As reported in Table 14, the preliminary estimated total halibut removal in Alaskan waters in 2018 was 30,151,032 lb (net weight) based on data compiled by the IPHC (Erickson 2018) and this project. In this total, the removal of 9,989 lb of U32 (under 32 inches in length) halibut for personal use by CDQ organizations in Area 4D and Area 4E has been added to the subsistence harvest category. Commercial harvests accounted for 55.5% of halibut removals in Alaska in 2018 (Figure 29). Sport fisheries (harvests and other mortalities) ranked second, with 19.3%. Bycatch mortality of halibut in various other commercial fisheries ranked third, with 18.7% of the statewide removals. Non-harvest discard mortalities (formerly called “wastage”) in the commercial halibut fishery added 2.2% to the total halibut removals, and IPHC research accounted for 2.2%. The subsistence fishery accounted for 2.1% of the total removals of halibut in Alaska waters in 2018.

Halibut harvests by fishery in 2018 at the regulatory area level did not differ substantially from the statewide pattern (Table 14; Figure 30). In all regulatory areas, commercial harvests accounted for 49% or more of the total pounds net weight of halibut removals. In Area 2C (Southeast Alaska) and Area 3A (Southcentral Alaska), sport fisheries took 34.7% and 27.4%, respectively, of the halibut harvest in 2018; however, sport fisheries were just 0.1% of the total harvest in Area 3B (compared to 0.5% for the subsistence harvest) and in Area 4 also just 0.1%, compared to subsistence harvests of 0.7%. Commercial bycatch accounted for 47.0% of halibut removals in Area 4. As a percentage of the total removal, subsistence halibut harvests were largest in Area 2C at 5.8% of the total (although they were about 17% of the sport harvest and 11% of the commercial harvest) and in Area 3A at 1.4%.

4. CONCLUSIONS AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

New federal regulations governing subsistence halibut fishing in Alaska went into effect in May 2003. The 2018 calendar year was the 13th for which a program was implemented to estimate the subsistence harvest of halibut under these regulations. Based upon survey return rates, the program was a success. Of 8,576 potential halibut fishers, 5,852 (68%) voluntarily provided information about their subsistence halibut fishing activities in 2018 by responding to the mail survey or agreeing to be interviewed. This was the second-highest response rate for the program, which has ranged from 58% in 2007 to 71% in 2012 (Table 15).

In 2018, the number of potential subsistence halibut fishers (8,576) dropped 4% from the number of valid SHARCS for 2016 and was 28% lower than the 12-year average from 2003–2012, 2014, and 2016 (Table 15). The 2018 total includes potential subsistence fishers in two communities who did not hold SHARCS; there were 8,489 valid SHARCS in 2018, a drop of 3% from 2016 (8,779 SHARCS). See Fall and Koster (2014:33–35) for a discussion of SHARC renewal patterns for 2003–2012.

Based on the survey returns, an estimated 4,094 individuals participated in the Alaska subsistence halibut fishery in 2018. This is a 7% decrease from 2016 and is 21% lower than the 12-year average from 2003–2012, 2014, and 2016. However, 48% of potential halibut fishers participated in the fishery in 2018, the second-highest percentage of any study year (49% participated in 2016). The estimated subsistence harvest of halibut in Alaska in 2018 is 29,963 fish and 615,789 lb, 15% lower than 2016. As estimated in pounds, the 2018 subsistence halibut harvest was the lowest of any study year and 33% lower than the 12-year average from 2003–2012, 2014, and 2016 (Table 15). The total estimated harvests for all study years since 2003 are below the 1.5 million net pounds estimated for the Alaska subsistence halibut harvest when the current regulations were developed by the North Pacific Fishery Management Council (see <http://www.fakr.noaa.gov/frules/70fr16742.pdf>, page 16748; North Pacific Fishery Management Council [2003]). The larger estimated harvest in 2004 compared to 2003 most likely corresponded to the greater number of individuals who held SHARCS through December 2004 and a proportional increase in the number of individuals who subsistence fished for halibut. The leveling off and slight decline in the harvests in 2006 and 2005, compared to 2004, are consistent with the leveling-off of the number of individuals who held SHARCS for at least a portion of these years. However, harvests as estimated in pounds dropped in 2007 despite an increase in individuals who held a SHARC for at least part of the year. In 2008, estimated harvests dropped by 14% and the number of SHARC holders dropped by 23%; in 2009, the number of SHARC holders rose slightly (1.5%) while the harvest dropped by 3%; in 2010 both the number of SHARC holders and the harvest dropped by about 7% compared to the previous year. Study year 2011 continued the trend of lower harvests begun in 2004 and was 13% below the estimated harvest for 2010 despite a 2% increase in the number of SHARC holders. In 2012, the number of SHARCS dropped 11% while the estimated harvest declined 2%. The higher estimates for 2014 and 2016 were in part a result of outreach and household surveys in two key fishing communities in Area 4E. Without this outreach, harvest estimates for Area 4E and the state overall in 2014 and 2016 would likely have been very close to the low estimates for 2011 and 2012. As noted, the estimated harvest in 2018 dropped to the lowest since the new regulations came into effect in 2003. Lack of outreach and interviewing in the key Area 4E community of Tooksok Bay likely accounts for some, but not all, of this decline in the harvest estimate.

Average harvests per fisher in the subsistence halibut fishery in 2018 at 7.3 fish and 150 lb declined slightly from the 8.4 fish and 165 lb estimated for 2016. The average harvest per fisher in pounds was 15% below the average of the previous 12 annual estimates, during which, on average, subsistence fishers harvested between 148 lb (in 2011) and 211 lb (in 2003) (Table 15).

Over the 13 project years, the average weight of subsistence-caught halibut declined from 23.7 lb in 2003 to 18.2 lb in 2008 (a decline of 23%), rose slightly to 19.0 lb in 2009, and then leveled off at 18.4 lb per fish in

2010, 18.3 lb in 2011, 18.5 lb in 2012, and 18.7 lb in 2014 (Table 15). The average weight of a subsistence-caught halibut dropped 21% from 2003 to 2014. However, in 2016, this average rose to 19.8 lb, the highest since 2006, and in 2018, the average increased again to 20.6 lb/fish.

After 13 years of the harvest assessment program, it appears likely that the overall larger statewide harvest estimates in 2004, 2005, and 2006, compared to 2003, were, at least in part, a consequence of increased participation of subsistence fishers in the SHARC program after 2003 and, perhaps, an increase in trust on the part of subsistence fishers in the survey. The lower harvest estimates for 2008–2012, 2014, 2016, and 2018 are likely in part a consequence of reduced participation in the SHARC program, especially among eligible tribal members and especially in Area 4. As community case studies demonstrate (Fall and Koster 2014:20–29), however, a number of factors, some of them methodological, appear to have caused the differences in harvest estimates over the 13 project years. On the other hand, decreases in subsistence halibut harvests in Area 2C through 2012 appear to reflect declining success in harvests and smaller fish. While survey results for 2014 and 2016 for Area 2C, with higher harvests and larger average fish size, might have been evidence of a reversal of these trends for the Southeast Alaska subsistence halibut fishery, harvests dropped in 2018 to the lowest of any study year.

In 2018, most subsistence halibut were harvested with setline (stationary) gear (78%) and the rest with hand-operated gear (22%) (Table 5). The portion of the subsistence halibut harvested with setlines has ranged since 2003 from 69% in 2007 to 78% in 2012 and 2018.

The largest portion of the Alaska subsistence halibut harvest in 2018 occurred in Regulatory Area 2C (Southeast Alaska), at 59% (366,214 lb), followed by Area 3A (Southcentral Alaska) at 30% (187,698 lb), Area 4E (East Bering Sea Coast) at 4% (25,160 lb), Area 3B (Alaska Peninsula) at 3% (16,644 lb), Area 4A (Eastern Aleutian Islands) at 2% (13,237 lb), Area 4C (Pribilof Islands) at 1% (5,152 lb), and Area 4B (Western Aleutian Islands) at less than 1% (1,684 lb) (figures 13 and 16). No harvests were reported for Area 4D (Central Bering Sea) (Table 6; Figure 16). In all previous study years, Area 2C (Southeast Alaska) and Area 3A (Southcentral Alaska) also accounted for most of the subsistence harvests (Figure 16). The portion of the estimated subsistence halibut harvest from Area 4E (East Bering Sea Coast) ranged from about 1% to 2% from 2008 through 2012, but harvest estimates for this area for those years were likely too low. Area 4E accounted for between 2% and 6% of the statewide harvest from 2003 through 2007, 9% in 2014, 6% in 2016, and 4% in 2018 (Table 6).

The proportion of the statewide subsistence halibut harvest occurring in Area 2C (Southeast Alaska) ranged from 60% in 2003 and 2016, 59% in 2018, 58% in 2012, and 57% in 2004, to between 51% and 56% from 2005 through 2011. The portion occurring in Area 3A (Southcentral Alaska) ranged from 27% in 2003 to between 30% and 39% from 2004 through 2012, 2014, 2016, and 2018 (Table 6). Subsistence harvests accounted for 2.1% of the total halibut removals in Alaska waters in 2018 (Table 13), compared to between 1.2% (in 2009) and 2.3% (in 2014 and 2016).

As discussed above, although comparisons of the harvest estimates since 2003 based on the survey of SHARC holders with those from previous research by the Division of Subsistence are complicated by different research methods, such comparisons may still be instructive. Subsistence harvest estimates for most of the larger communities (combining tribal and rural SHARC holders) such as Sitka, Petersburg, and Kodiak for the first several years of the SHARC surveys were not markedly different from the range of earlier estimates based on household surveys. This is significant in that these communities account for a very large percentage of the total harvest. On the other hand, registration in the SHARC program and survey response rates have declined in several key halibut-fishing communities in Area 4, resulting in underestimated subsistence harvests for that regulatory area. Declining numbers of SHARCs issued in the other regulatory areas also raise questions about trends in participation in the SHARC program, including the survey. We conclude, however, that the 13 years of the survey of SHARC holders produced sound estimates of subsistence harvests of halibut in Alaska based on a scientific sample and a relatively high response rate in Areas 2C and 3A, where approximately 85% to 90% of the subsistence halibut fishing in the state occurs. Future documentation of the subsistence harvests will be necessary for any meaningful discussion of long-term patterns and trends in the fishery.

RECOMMENDATIONS

As noted in Chapter 1, 2018 marked the 13th year of documentation of the subsistence halibut harvests in Alaska, with no harvest estimates available for 2013, 2015, or 2017. Due to budget constraints, the project will not continue for the 2019 harvest year. We conclude this report with the following recommendations for potential future research based on experiences during the 13 years of this project.

1. The estimates of subsistence halibut harvests in Alaska documented by this program should be updated in the future. As discussed, estimated harvest estimates declined over the first 10 years of the monitoring program, increased slightly in 2014, and then dropped in 2016 and 2018. Reasons for annual changes and longer trends are likely complex and have not been explored thoroughly. For example, the number of valid SHARCs has declined, and analysis suggests that a significant number of active subsistence halibut fishers have not renewed their SHARCs. This has resulted in underestimated harvests in the later years of the program in some communities, but may also be evidence that fewer people are participating in the fishery in other communities. Declines in the harvestable surplus of halibut leading to lower catch rates is an additional possible explanation for lower harvests.
3. Over the 13 years of the project, 95,413 SHARC surveys were returned (Table 15). Analysis of this database could reveal patterns in renewals, participation in the fishery, and harvest levels that could be applied to future harvest monitoring efforts. Linked to this analysis could be a systematic survey of a sample of SHARC holders and harvest survey respondents to explore topics such as reasons for renewing or not renewing SHARCs, factors affecting participation in the fishery, and factors influencing harvest rates.
4. Linked to this quantitative analysis, ethnographic investigations should take place in a sample of key halibut fishing communities to evaluate the effects of the 2003 subsistence fishing regulations on fishing patterns as well as patterns of involvement during the first 16 years that the regulations have been in effect. These studies would entail more detailed interviewing of fishers regarding changes in gear choice, fishing effort, harvest amounts, or other fishing activities that have resulted from the regulatory changes, as well as reasons for renewing or not renewing SHARCs. These interviews could also investigate traditional and local knowledge about halibut stocks that might prove useful to agencies, communities, and tribes for future management of the subsistence, sport, and commercial halibut fisheries in Alaska. In addition, participant observation of subsistence halibut fishing could provide important information about the fishery. Findings of these ethnographic investigations should be applied to assist in designing future harvest monitoring programs for the fishery.
5. A recommendation in the final report for the third year of the program was that “implementation of a program to collect harvest data inseason in selected communities should be considered on a trial basis to help supplement and evaluate the data collected through the postal survey” (Fall et al. 2006:37). The Division of Subsistence conducted an inseason harvest monitoring project for the subsistence halibut fishery in Sitka and Kodiak in 2006 with funding provided by NMFS. Findings were presented in Special Publication No. 2009-06 (Fall et al. 2009:37). Consideration should be given in the future to inseason monitoring programs in other communities as a method to compare harvest estimates with those from mailed surveys.
6. Further evaluation of several years of sport fishing harvest data achieved through the postal *Statewide Harvest Survey* administered by the Division of Sport Fish could take place for the larger rural communities participating in the subsistence halibut fishery. (Analysis of these data for Sitka was conducted as a pilot effort for 2004; see Fall et al. [2005:22–24]).

As discussed in Chapter 2 and Chapter 3, many SHARC holders also reported that they sport fished for halibut in all the study years. It would be instructive to learn if a shift in harvest from the “sport” category to the “subsistence” category, or in the other direction from subsistence to sport, has occurred, in order to evaluate trends in the subsistence fishery and the effect of the new subsistence halibut regulations on fishing patterns.

7. Even without harvest monitoring, additional or renewed outreach is needed in a number of communities with historically high subsistence harvests of halibut but low or declining numbers of SHARCs issued. Contracts with tribal governments could facilitate this outreach.
8. For the first time, questions about whether respondents met their needs for halibut were added to the 2018 survey. As discussed above, about 47.5% of respondents said “no,” and gave a wide range of reasons regarding why. Only a preliminary analysis of these responses has been included in this report. With funding, additional analysis could occur along with follow-up field work in selected communities to review the performance of the subsistence halibut fishery in more depth. Such research would inform future discussion of halibut management and regulations, especially in the context of declining subsistence harvests and participation in the fishery and the SHARC program.
9. In summary, the results of a quantitative analysis of the 13 years of survey data, systematic interviews, ethnographic research, and inseason harvest monitoring should be evaluated to design a sustainable harvest monitoring program for the Alaska subsistence halibut fishery consistent with available long-term funding. Such a program could be based on a postal survey linked with other data gathering methods in selected communities or regulatory areas, such as face-to-face interviews, calendars, or limited inseason monitoring. Outreach about the subsistence halibut regulations, including the requirement to obtain a SHARC, should be part of any future harvest monitoring program.

TABLES AND FIGURES

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Table 1.—Population of rural communities eligible to participate in the Alaska subsistence Pacific halibut fishery, 2000, 2010, and 2018.

Community ^a	Regulatory area	Population				
		2000		2010		2018
		Total	Alaska Native	Total	Alaska Native	Total
Angoon	2C	572	419	459	405	410
Coffman Cove	2C	199	12	176	10	168
Craig	2C	1,397	432	1,201	378	1,095
Edna Bay	2C	49	2	42	0	43
Elfin Cove	2C	32	0	20	6	12
Gustavus	2C	429	32	442	30	554
Haines	2C	1,811	332	1,713	278	1,755
Hollis	2C	139	13	112	10	124
Hoonah	2C	860	597	760	502	789
Hydaburg	2C	382	342	376	324	398
Hyder	2C	97	4	87	5	80
Kake	2C	710	530	557	449	601
Kasaan	2C	39	19	49	22	81
Klawock	2C	854	496	755	446	777
Klukwan	2C	139	123	95	86	94
Metlakatla	2C	1,375	1,125	1,405	1,245	1,398
Meyers Chuck	2C	21	2			
Naukatu Bay	2C	135	13	113	9	124
Pelican	2C	163	42	88	36	68
Petersburg	2C	3,224	388	2,948	390	2,948
Point Baker	2C	35	3	15	2	13
Port Alexander	2C	81	11	52	3	55
Port Protection	2C	63	7	48	13	31
Saxman	2C	431	302	411	276	421
Sitka	2C	8,835	2,178	8,881	2,184	8,652
Skagway	2C	862	44	920	52	1,036
Tenakee Springs	2C	104	5	131	5	144
Thorne Bay	2C	552	27	471	23	524
Whale Pass	2C	58	2	31	1	57
Wrangell	2C	2,308	550	2,369	582	2,426
Census area balances ^d	2C			1,230		1,176
Subtotal, Area 2C^e		25,956	8,052	25,957	7,772	26,054
Akhiok	3A	80	75	71	62	81
Chenega Bay	3A	86	67	76	46	56
Cordova	3A	2,454	368	2,239	344	2,360
Karluk	3A	27	26	37	35	29
Kodiak ^b	3A	12,973	1,697	12,824	1,872	12,426

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Table 1.–Page 2 of 4.

Community ^a	Regulatory area	Population				
		2000		2010		2018
		Total	Alaska Native	Total	Alaska Native	Total
Larsen Bay	3A	115	91	87	66	80
Nanwalek	3A	177	165	254	227	291
Old Harbor	3A	237	203	218	194	224
Ouzinkie	3A	225	197	161	140	154
Port Graham	3A	171	151	177	160	179
Port Lions	3A	253	163	194	119	142
Seldovia	3A	286	66	420	121	401
Tatitlek	3A	107	91	88	58	90
Yakutat	3A	680	375	662	330	523
Census area balances ^d	3A					
Subtotal, Area 3A		17,871	3,735	17,508	3,774	17,036
Chignik	3B	79	48	91	56	98
Chignik Lagoon	3B	103	85	78	58	83
Chignik Lake	3B	145	127	73	70	68
Cold Bay	3B	88	15	108	20	63
False Pass	3B	64	42	35	27	39
Ivanof Bay	3B	22	21	7	7	7
King Cove	3B	792	379	938	384	920
Nelson Lagoon	3B	83	68	52	40	32
Perryville	3B	107	105	113	110	98
Sand Point	3B	952	421	976	417	911
Census area balances ^d	3B			5		0
Subtotal, Area 3B		2,435	1,311	2,476	1,189	2,319
Akutan	4A	713	117	1,027	76	994
Nikolski	4A	39	27	18	17	18
Unalaska	4A	4,283	397	4,376	355	4,333
Census area balances ^d	4A			178		178
Subtotal, Area 4A		5,035	541	5,599	448	5,523
Adak	4B	316	118	326	46	296
Atka	4B	92	84	61	58	47
Census area balances ^d	4B					
Subtotal, Area 4B		408	202	387	104	343
St George Island	4C	152	140	102	92	68
St Paul Island	4C	532	460	479	417	390
Census area balances ^d	4C					
Subtotal, Area 4C		684	600	581	509	458

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Table 1.–Page 3 of 4.

Community ^a	Regulatory area	Population				
		2000		2010		2018
		Total	Alaska Native	Total	Alaska Native	Total
Gambell	4D	649	622	681	654	722
Savoonga	4D	643	614	671	637	751
Diomedea	4D	146	137	115	110	99
Census area balances ^d	4D					
Subtotal, Area 4D		1,438	1,373	1,467	1,401	1,572
Alakanuk	4E	652	638	677	660	728
Aleknagik	4E	221	187	219	185	202
Brevig Mission	4E	276	254	388	366	462
Bethel	4E	5,471	3,719	6,080	4,334	6,135
Chefornak	4E	394	386	418	403	442
Chevak	4E	765	734	938	912	1,074
Clark's Point	4E	75	69	62	55	55
Council ANVSA ^c	4E	0	0	0	0	0
Dillingham	4E	2,466	1,503	2,329	1,549	2,382
Eek	4E	280	271	296	289	347
Egegik	4E	116	89	109	51	77
Elim	4E	313	297	330	305	368
Emmonak	4E	767	720	762	737	867
Golovin	4E	144	133	156	148	163
Goodnews Bay	4E	230	216	243	232	283
Hooper Bay	4E	1,014	971	1,093	1,070	1,247
King Salmon	4E	442	133	374	132	287
Kipnuk	4E	644	631	639	626	699
Kongiganak	4E	359	349	439	430	525
Kotlik	4E	591	568	577	563	655
Koyuk	4E	297	280	332	319	350
Kwigillingok	4E	338	331	321	310	381
Levelock	4E	122	116	69	62	81
Manokotak	4E	399	378	442	425	508
Mekoryuk	4E	210	203	191	185	223
Naknek	4E	678	319	544	283	501
Napakiak	4E	353	341	354	344	344
Napaskiak	4E	390	383	405	393	433
Newtok	4E	321	311	354	343	345
Nightmute	4E	208	197	280	266	301
Nome	4E	3,505	2,057	3,598	2,348	3,662

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Table 1.–Page 4 of 4.

Community ^a	Regulatory area	Population				
		2000		2010		2018
		Total	Alaska Native	Total	Alaska Native	Total
Oscarville	4E	61	61	70	67	71
Pilot Point	4E	100	86	68	57	83
Platinum	4E	41	38	61	57	53
Port Heiden	4E	119	93	102	87	119
Quinhagak	4E	555	540	669	650	747
Scammon Bay	4E	465	453	474	472	598
Saint Michael	4E	368	343	401	379	398
Shaktoolik	4E	230	218	251	242	275
Nunam Iqua	4E	164	154	187	174	225
Shishmaref	4E	562	531	563	540	598
Solomon ANVSA	4E	4	3	0	0	0
South Naknek	4E	137	115	79	66	91
Stebbins	4E	547	518	556	530	646
Teller	4E	268	248	229	220	237
Togiak	4E	809	750	817	767	900
Toksook Bay	4E	532	519	590	555	683
Tuntutuliak	4E	370	366	408	396	466
Tununak	4E	325	315	327	314	370
Twin Hills	4E	69	65	74	72	96
Ugashik	4E	11	9	12	9	11
Unalakleet	4E	747	655	688	574	722
Wales	4E	152	137	145	136	165
White Mountain	4E	203	175	190	167	194
Census area balances ^d	4E			398		391
Subtotal, Area 4E		28,880	23,176	30,378	24,856	34,284
Grand Total		82,707	38,990	84,353	40,053	87,589

Sources U.S. Census Bureau (2001; 2011) for 2000 and 2010 population estimates and Alaska Department of Labor and Workforce Development (2019) for 2018 population estimates.

a. Alaska Native Village Statistical Area populations were used whenever no city or census designated place (CDP) populations were present in the census.

b. Total population for Kodiak Island road system area; includes Kodiak City, Kodiak Station, Chiniak, and other areas on the road system.

c. There is no census table for a Council CDP or municipality in 2000. The Council ANVSA table indicated that all 40 housing units were vacant in 2000.

d. Population living outside incorporated places and census designated places but eligible for participation in the subsistence halibut fishery as of December 4, 2009.

e. Non-tribal residents of Naukati Bay were not eligible for SHARCs until 2008. This community was not included in population estimates for previous study years.

Table 2.—*Project chronology, 2018.*

Date	Event/Action
October 1, 2018	NOAA Grant Award No. NA18NMF4370086 between NMFS and ADF&G in effect to support the research for study year 2018
January 8, 2019	First mailing of survey forms
March 11, 2019	Second mailing of survey forms
April through June, 2019	Administration of surveys in Sitka, Ketchikan, Tununak, and Hooper Bay
April 24, 2019	Submission of semi-annual report on project progress to NMFS
April 29, 2019	Third mailing of survey forms
October 17, 2019	Submission of semi-annual report on project progress to NMFS
December 1, 2019	Release of public review draft of final report
December 4, 2019	Presentation of study findings, NPFMC, Anchorage
January 15, 2020	Completion of revised, final report; distribution of findings summary
February 4, 2020	Presentation of 2018 study findings at IPHC annual meeting, Anchorage, AK

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Table 3.—Sample achievement, 2018.

Tribal name ^a	Regulatory area	First mailing			Second mailing			Third mailing			Totals					
		Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	SHARCs issued ^b	Returned by mail	Returned through staff	Response rate	Undeliverable	
Angoon Community Association	2C	43	14	4	27	4	1	20	4	0	43	22	1	23	53.5%	4
Central Council Tlingit and Haida Indian Tribe	2C	391	126	27	258	31	11	207	29	10	391	186	4	190	48.6%	42
Chilkat Indian Village	2C	9	4	1	4	0	0	4	0	0	9	4	1	5	55.6%	1
Chilkoot Indian Association	2C	42	21	1	24	3	0	19	6	0	42	30	0	30	71.4%	1
Craig Community Association	2C	40	14	3	25	1	3	21	4	2	40	19	0	19	47.5%	6
Douglas Indian Association	2C	7	1	2	4	0	0	3	0	0	8	2	1	3	37.5%	2
Hoonah Indian Association	2C	87	31	5	54	11	0	35	6	0	87	48	0	48	55.2%	5
Hydaburg Cooperative Association	2C	53	5	3	45	11	0	42	6	2	53	19	0	19	35.8%	5
Ketchikan Indian Corporation	2C	391	130	22	269	3	1	235	37	8	392	170	41	211	53.8%	29
Klawock Cooperative Association	2C	43	17	2	25	2	0	22	1	0	43	20	3	23	53.5%	2
Metlakatla Indian Community, Annette Island Reserv	2C	109	21	0	89	14	1	80	5	0	109	40	3	43	39.4%	1
Organized Village of Kakt	2C	66	22	1	47	0	0	37	4	2	66	33	0	33	50.0%	3
Organized Village of Kasar	2C	3	1	0	2	0	0	2	0	0	3	0	0	0	0	0
Organized Village of Saxnar	2C	12	1	3	7	0	0	6	0	0	12	1	2	3	25.0%	3
Petersburg Indian Association	2C	49	33	1	21	0	0	14	2	0	49	37	0	37	75.5%	1
Sitka Tribe of Alaska	2C	172	70	14	97	11	2	73	9	2	172	90	17	107	62.2%	18
Skagway Village	2C	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0
Wrangell Cooperative Association	2C	59	34	1	32	9	0	18	2	0	59	45	0	45	76.3%	1
Subtotal Area 2C		1,578	547	90	1,030	110	20	838	112	26	1,580	769	73	842	53.3%	124
Kenaitze Indian Tribe	3A	91	40	4	53	6	2	43	3	0	91	49	0	49	53.8%	5
Lesnoi Village (Woody Island)	3A	11	2	0	10	1	2	6	1	0	11	5	0	5	45.5%	1
Native Village of Afognak	3A	15	10	0	6	2	0	3	0	0	15	12	0	12	80.0%	0
Native Village of Akhiok	3A	10	5	0	5	0	0	3	0	0	11	5	3	8	72.7%	0
Native Village of Cheneg	3A	9	4	0	5	1	0	4	2	0	9	7	0	7	77.8%	0
Native Village of Eyak	3A	53	24	2	29	6	1	21	3	0	53	33	0	33	62.3%	3
Native Village of Karluk	3A	13	6	1	6	0	0	6	0	0	13	6	0	6	46.2%	1
Native Village of Larsen Bay	3A	32	5	1	19	4	0	15	0	0	32	9	7	16	50.0%	1
Native Village of Nanwalek	3A	34	10	0	27	9	0	22	4	0	34	23	0	23	67.6%	0
Native Village of Outzinkit	3A	11	8	0	3	0	0	3	0	0	11	8	0	8	72.7%	0
Native Village of Port Graham	3A	40	13	2	28	5	0	21	2	2	40	20	0	20	50.0%	4
Native Village of Port Lions	3A	21	10	0	14	1	0	13	2	0	21	13	0	13	61.9%	0
Native Village of Taitilek	3A	12	2	1	10	2	2	5	1	1	12	5	0	5	41.7%	4
Nimilchik Village	3A	49	22	3	26	3	0	20	4	0	49	29	0	29	59.2%	3
Sedovia Village Tribe	3A	49	21	2	28	6	0	24	4	0	49	31	0	31	63.3%	2
Sun'Aq Tribe of Kodiak (Formerly Shoonaq)	3A	94	48	0	50	7	0	39	4	0	94	59	0	59	62.8%	0
Village of Kanatak	3A	2	0	0	2	0	0	2	0	0	2	0	0	0	0	0
Village of Old Harbor	3A	19	11	0	8	1	0	6	0	0	19	12	1	13	68.4%	0
Village of Salamatoif	3A	23	12	3	9	6	0	2	0	0	23	18	0	18	78.3%	3
Yakutat Tlingit Tribe	3A	36	5	0	32	5	0	26	0	0	36	10	1	11	30.6%	0
Subtotal Area 3A		624	258	19	370	66	6	284	30	3	625	354	12	366	58.6%	27
Agdaagux Tribe of King Cove	3B	32	11	0	22	8	0	14	3	0	32	22	0	22	68.8%	1
Chignik Lake Village	3B	3	1	0	2	0	1	1	0	0	3	0	0	0	0	0
Ivanoff Bay Village	3B	4	1	1	2	0	0	2	0	0	4	2	0	2	50.0%	0
Native Village of Belkofsk	3B	2	0	0	2	0	0	2	0	0	2	0	0	0	0	0
Native Village of Chignik	3B	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Native Village of Chignik Lagoon	3B	5	2	0	3	0	0	0	0	0	5	2	0	2	40.0%	0
Native Village of False Pass	3B	11	2	0	9	0	0	9	1	0	11	3	0	3	27.3%	0
Native Village of Nelson Lagoon	3B	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0
Native Village of Perryville	3B	12	6	0	9	2	0	4	1	0	12	9	0	9	75.0%	0
Native Village of Ungi	3B	7	3	0	4	0	0	4	0	0	7	3	0	3	42.9%	0
Pauloff Harbor Village	3B	3	0	0	3	0	0	3	0	0	3	0	0	0	0	0

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Table 3.-Page 2 of 6

Tribal name ^a	First mailing			Second mailing			Third mailing			Totals					
	Regulatory area	Surveys mailed	Surveys returned	Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	SHARCs issued ^b	Returned by mail	Returned through staff	Response	Response rate	Undeliverable
Qagan Toyunguin Tribe of Sand Point Village		243	46	179	9	1	168	7	5	243	62	0	62	25.5%	27
Subtotal Area 3B	3B Totals	325	74	236	19	2	211	12	10	325	105	0	105	32.3%	34
Native Village of Akutai	4A	48	10	40	4	0	34	1	0	48	15	0	15	31.3%	0
Oswalgingin Tribe of Unalaska	4A	25	3	21	1	0	19	2	1	25	6	1	7	28.0%	2
Subtotal Area 4A	4A Totals	73	13	61	5	0	53	3	1	73	21	1	22	30.1%	2
Native Village of Atka	4B	2	0	2	0	0	1	0	0	2	0	0	0	0.0%	1
Subtotal Area 4B	4B Totals	2	0	2	0	0	1	0	0	2	0	0	0	0.0%	1
Prifolof Islands Aleut Community of St. Pau	4C	30	3	23	2	0	21	0	0	30	5	0	5	16.7%	4
Subtotal Area 4C	4C Totals	30	3	23	2	0	21	0	0	30	5	0	5	16.7%	4
Native Village of Diomede (Inalik)	4D	1	0	1	0	0	1	0	0	1	0	0	0	0.0%	0
Native Village of Savoonga	4D	1	1	0	0	0	0	0	0	1	0	0	0	0.0%	0
Subtotal Area 4D	4D Totals	2	1	1	0	0	1	0	0	2	1	0	1	50.0%	0
Chevak Native Village (Kashumamiut)	4E	1	0	1	0	0	1	0	0	1	0	0	0	0.0%	0
Chinik Eskimo Community	4E	1	1	0	0	0	0	0	0	1	0	0	0	0.0%	0
King Island Native Community	4E	2	0	2	0	0	2	0	0	2	0	0	0	0.0%	0
Manokotak Village	4E	2	1	2	0	0	1	0	0	2	0	0	0	0.0%	0
Naknek Native Village	4E	4	0	4	0	0	3	0	0	4	0	0	0	0.0%	0
Native Village of Aleknagij	4E	4	2	2	0	0	2	0	0	4	0	0	0	0.0%	0
Native Village of Council	4E	5	0	5	1	0	4	3	0	5	4	0	4	80.0%	0
Native Village of Dillingham (Curyung)	4E	8	2	6	1	0	6	2	0	8	5	0	5	62.5%	0
Native Village of Esk	4E	5	0	5	2	0	3	1	0	5	3	0	3	60.0%	0
Native Village of Ekuk	4E	3	2	1	0	0	1	0	0	3	0	0	0	0.0%	0
Native Village of Hooper Bay	4E	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	0
Native Village of Kipnuk	4E	1	1	0	0	0	0	0	0	36	0	31	31	86.1%	0
Native Village of Koyuk	4E	3	0	3	0	0	3	0	0	1	0	0	0	0.0%	0
Native Village of Mekoryuk	4E	1	0	1	0	0	1	0	0	3	0	0	0	0.0%	0
Native Village of Nighthut	4E	2	0	2	0	0	2	0	0	2	0	0	0	0.0%	0
Native Village of Seamon Bay	4E	6	4	2	0	0	2	0	0	6	4	0	4	66.7%	0
Native Village of Toksook Bay (Numakaunyak)	4E	48	4	44	6	0	38	1	0	48	11	0	11	22.9%	0
Native Village of Tunuk	4E	28	2	28	1	0	24	1	0	66	4	48	52	78.8%	0
Native Village of Unalaklee	4E	1	1	0	0	0	0	0	0	1	0	0	0	0.0%	0
Newtok Village	4E	1	0	1	0	0	1	0	0	1	0	0	0	0.0%	0
Nome Eskimo Community	4E	5	1	4	0	0	3	0	0	5	1	0	1	20.0%	1
Orutsaramut Native Village	4E	3	1	2	0	0	2	1	0	3	0	0	0	0.0%	0
Stebbins Community Association	4E	5	0	5	0	0	5	0	0	5	0	5	5	100.0%	0
Village of Alakanuk	4E	2	0	2	0	0	2	0	0	2	0	0	0	0.0%	0
Village of Chefornek	4E	1	0	1	0	0	1	0	0	1	0	0	0	0.0%	0
Village of Clark's Point	4E	4	3	2	0	0	1	0	0	4	0	0	0	0.0%	0
Subtotal Area 4E	4E Totals	146	25	125	11	1	108	9	0	220	45	85	130	59.1%	2
Tribal subtotal		2,780	921	1,848	213	30	1,517	166	40	2,857	1,300	171	1,471	51.5%	194

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Table 3.--Page 3 of 6

Rural community ^y	First Mailing				Second Mailing				Third Mailing				Totals			
	Regulatory area	Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	SHARCS issued ^b	Returned by mail	Returned through staff	Response rate	Undeliverable	
Angoon	2C	18	5	2	12	3	0	9	2	0	18	10	0	10	55.6%	
Coffman Cove	2C	36	31	2	14	0	0	5	0	0	36	31	0	31	86.1%	
Craig	2C	256	133	14	133	36	3	82	17	3	256	186	0	186	72.7%	
Edna Bay	2C	17	5	0	13	2	0	11	5	0	17	12	0	12	70.6%	
Elfin Cove	2C	9	5	1	5	1	0	4	0	0	9	6	0	6	66.7%	
Gustavus	2C	62	41	0	28	12	0	12	2	0	62	55	0	55	88.7%	
Haines	2C	364	259	9	136	39	2	73	14	0	364	312	0	312	85.7%	
Hollis	2C	46	27	3	20	4	1	13	2	0	46	33	0	33	71.7%	
Hoonah	2C	78	45	0	36	10	0	24	4	0	78	59	0	59	75.6%	
Hydaburg	2C	7	4	0	3	1	0	2	0	0	7	5	0	5	71.4%	
Hyder	2C	16	8	1	8	0	0	7	2	0	16	10	0	10	62.5%	
Juneau	2C	9	4	0	5	0	0	5	0	0	9	4	0	4	44.4%	
Kake	2C	35	17	0	21	6	1	15	0	3	35	23	0	23	65.7%	
Kasaan	2C	6	4	0	3	0	0	2	2	0	6	6	0	6	100.0%	
Ketchikan	2C	6	2	1	3	0	0	2	0	0	6	3	0	3	50.0%	
Klawock	2C	113	69	6	47	5	1	34	7	0	113	81	1	82	72.6%	
Metlakatla	2C	27	10	2	15	4	0	11	2	0	27	16	0	16	59.3%	
Meyers Chuck	2C	9	4	0	5	5	0	1	0	0	9	9	0	9	100.0%	
Naikati Bay	2C	44	25	1	23	7	0	13	5	0	44	37	0	37	84.1%	
Pelican	2C	27	16	1	12	5	1	7	1	1	27	22	0	22	81.5%	
Petersburg	2C	740	478	7	296	76	1	190	35	0	740	589	3	592	80.0%	
Port Alexander	2C	18	7	1	14	2	0	8	3	0	18	12	0	12	66.7%	
Port Protection	2C	14	5	0	10	3	0	5	1	0	14	9	1	10	71.4%	
Pt. Baker	2C	11	3	0	9	3	0	6	1	0	11	7	0	7	63.6%	
Saxman	2C	15	6	0	9	0	0	9	2	0	15	8	1	9	60.0%	
Sitka	2C	1,131	628	35	546	60	4	411	51	8	1,131	739	107	846	74.8%	
Skagway	2C	60	31	3	30	9	3	17	4	0	60	44	0	44	73.3%	
Tenakee Springs	2C	42	30	0	21	7	0	10	0	0	42	37	0	37	88.1%	
Thorne Bay	2C	124	91	3	50	1	1	34	8	0	124	100	0	100	80.6%	
Ward Cove	2C	2	0	0	2	1	0	1	0	0	2	2	0	2	92.9%	
Whale Pass	2C	28	17	2	14	7	0	4	2	0	28	26	0	26	92.9%	
Wrangell	2C	416	265	10	178	59	9	81	8	8	416	332	2	334	80.3%	
Subtotal Area 2C		3,786	2,275	104	1,721	369	28	1,108	180	15	3,786	2,824	115	2,939	77.6%	
Akhiok	3A	15	6	3	6	0	0	3	0	1	15	6	4	10	66.7%	
Anchorage	3A	1	1	0	0	0	0	0	0	0	1	0	0	0	0	
Chenega Bay	3A	5	1	0	4	1	0	3	0	0	5	2	0	2	40.0%	
Chiniak	3A	4	1	0	3	0	0	3	2	0	4	0	0	0	0	
Cordova	3A	398	251	9	159	56	3	85	20	0	398	327	1	328	82.4%	
Kodiak	3A	1,054	592	29	490	106	12	326	78	6	1,054	776	0	776	73.6%	
Larsen Bay	3A	4	2	0	1	1	0	1	0	0	4	0	0	0	0	
Nanwalek	3A	8	2	0	7	1	1	4	1	0	8	4	0	4	50.0%	
Old Harbor	3A	8	2	0	6	0	0	6	1	0	8	3	0	3	37.5%	
Ouzinkie	3A	9	6	0	5	0	0	3	1	0	9	7	0	7	77.8%	
Port Graham	3A	9	5	1	3	0	0	3	1	0	9	6	0	6	66.7%	
Port Lions	3A	12	10	0	3	0	0	2	0	0	13	10	1	11	84.6%	
Seldovia	3A	117	78	3	45	8	0	32	5	0	117	91	0	91	77.8%	
Taitilek	3A	10	5	0	7	1	0	6	2	0	10	8	0	8	80.0%	
Yakutat	3A	52	22	3	32	9	0	18	4	0	52	35	0	35	67.3%	
Subtotal Area 3A		1,706	984	48	771	183	16	495	115	7	1,707	1,282	7	1,289	75.5%	
Chignik	3B	2	2	0	0	0	0	0	0	0	2	0	0	0	0	
Chignik Lagoon	3B	1	1	0	0	0	0	0	0	0	1	0	0	0	0	
Cold Bay	3B	11	6	2	4	1	0	1	1	0	11	8	1	9	81.8%	
False Pass	3B	2	2	0	0	0	0	0	0	0	2	0	0	0	0	
King Cove	3B	8	7	0	3	0	0	1	0	0	8	7	0	7	87.5%	
Sand Point	3B	5	2	1	2	1	0	1	0	0	5	3	0	3	60.0%	
Subtotal Area 3B		29	20	3	9	2	0	3	1	0	29	23	1	24	82.8%	
Akutana	4A	2	1	0	2	0	0	1	1	0	2	0	0	0	0	

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Rural community ^y	First Mailing				Second Mailing				Third Mailing				Totals			
	Regulatory area	Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	SHARCs issued ^b	Returned by mail	Returned through staff	Response	Response rate
Unalaska	4A	105	45	6	58	18	2	37	3	2	105	66	1	67	63.8%	9
Subtotal Area 4A	4A Totals	107	46	6	60	18	2	38	4	2	107	68	1	69	64.5%	9
Adak	4B	4	1	1	4	1	1	2	0	0	4	4	0	4	100.0%	0
Subtotal Area 4B	4B Totals	4	1	1	4	1	1	2	0	0	4	2	0	2	50.0%	1
St George Island	4C	3	2	0	1	0	0	1	0	0	3	2	0	2	28.6%	1
St Paul Island	4C	7	1	1	6	1	0	4	0	0	7	2	0	2	28.6%	1
Subtotal Area 4C	4C Totals	10	3	1	7	1	0	5	0	0	10	4	0	4	40.0%	1
Gambell	4D	1	0	1	0	0	0	0	0	0	1	0	0	0	0.0%	1
Subtotal Area 4D	4D Totals	1	0	1	0	0	0	0	0	0	1	0	0	0	0.0%	1
Alakanuk	4E	1	0	0	1	0	0	1	0	0	1	0	0	0	0.0%	1
Aicknagik	4E	6	4	0	2	1	0	1	0	0	6	5	0	5	83.3%	0
Bethel	4E	1	0	0	1	0	0	1	0	0	1	0	0	0	0.0%	1
Dillingham	4E	21	18	0	3	1	0	2	0	0	21	19	0	19	90.5%	0
King Salmon	4E	4	1	0	3	3	0	0	0	0	4	4	0	4	100.0%	0
Koyuk	4E	1	0	0	1	0	0	1	0	0	1	1	0	1	100.0%	0
Naknek	4E	7	4	0	3	0	0	3	0	0	7	4	0	4	57.1%	0
Nome	4E	18	4	0	14	4	0	10	1	0	18	9	0	9	50.0%	0
Port Heiden	4E	2	1	0	2	1	0	0	0	0	2	0	0	0	0.0%	2
Stebbins	4E	1	0	0	1	1	0	0	0	0	1	0	0	0	0.0%	1
Togiak	4E	1	0	0	1	0	0	1	0	0	1	0	0	0	0.0%	1
Toksook Bay	4E	2	0	0	2	0	0	2	0	0	2	0	0	0	0.0%	2
Tumuk	4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	0
Unalakleet	4E	1	1	0	0	0	0	0	0	0	1	0	0	0	0.0%	1
Subtotal Area 4E	4E Totals	66	33	0	34	11	0	22	1	0	75	45	9	54	72.0%	0
Rural community subtotal		5,709	3,362	164	2,606	585	47	1,673	301	24	5,719	4,248	133	4,381	76.6%	220
Rural/Tribal grand total		8,489	4,283	301	4,454	798	77	3,190	467	64	8,576	5,548	304	5,852	68.2%	414

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Table 3.—Page 5 of 6

City of residence	State of residence	First Mailing			Second Mailing			Third Mailing			Totals					
		Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	SHARCs issued ^b	Returned by mail	Returned through staff	Response rate	Undeliverable	
Adak	AK	6	2	1	6	2	1	2	0	0	6	4	0	4	66.7%	1
Akhiok	AK	19	9	2	8	0	0	3	0	0	20	9	6	15	75.0%	2
Akutun	AK	49	10	0	40	4	0	35	2	0	49	16	0	16	32.7%	0
Alakamak	AK	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0
Aleknagik	AK	6	5	0	1	0	0	1	0	0	6	5	0	5	83.3%	0
Anchor Point	AK	13	7	0	7	1	0	4	1	0	13	9	1	10	76.9%	0
Anchorage	AK	116	44	7	70	12	4	57	6	4	116	62	1	63	54.3%	12
Angoon	AK	67	20	1	44	7	1	32	6	0	67	33	1	34	50.7%	7
Auke Bay	AK	2	1	0	1	0	0	1	0	0	2	0	0	0	0	0
Barrow	AK	2	0	0	2	2	0	0	0	0	2	0	0	0	0	0
Bethel	AK	4	1	0	3	1	0	2	0	0	4	0	0	3	42.9%	0
Chenega Bay	AK	7	2	0	5	1	0	4	0	0	7	3	0	0	0	0
Chignik	AK	4	3	1	0	0	0	0	0	0	4	0	0	0	0	0
Chignik Lagoon	AK	4	3	0	1	0	0	1	0	0	4	0	0	0	0	0
Chinik	AK	16	11	1	5	1	0	3	2	0	16	14	0	14	87.5%	1
Chugriak	AK	3	2	0	1	1	0	0	0	0	3	0	0	0	0	0
Clarks Point	AK	3	2	0	1	0	0	0	0	0	3	0	0	0	0	0
Coffman Cove	AK	36	30	3	15	0	0	6	0	0	36	30	0	30	83.3%	3
Cold Bay	AK	12	6	2	4	1	0	3	3	0	12	10	0	10	83.3%	2
Cordova	AK	441	269	12	183	61	4	104	23	0	441	353	1	354	80.3%	15
Crat	AK	378	195	26	189	42	4	126	25	3	378	262	0	262	69.3%	29
Dillingham	AK	32	21	0	11	3	0	9	2	0	32	26	0	26	81.3%	0
Douglas	AK	19	7	2	10	0	0	9	1	0	20	8	1	9	45.0%	2
Dutch Harbor	AK	52	23	6	25	8	1	14	1	1	52	32	1	33	63.5%	8
Eagle River	AK	9	4	0	5	0	0	4	0	0	9	4	0	4	44.4%	1
Edna Bay	AK	15	4	0	12	1	0	11	5	0	15	10	0	10	66.7%	0
Esk	AK	4	0	0	4	2	0	2	1	0	4	0	0	0	0	0
Elfin Cove	AK	10	5	2	6	1	1	5	0	1	10	6	0	6	60.0%	2
Emmonak	AK	2	2	0	1	0	0	1	0	0	2	0	0	0	0	0
Fairbanks	AK	2	1	0	1	0	0	1	0	0	2	0	0	0	0	0
False Pass	AK	11	3	0	8	0	0	8	1	0	11	4	0	4	36.4%	0
Gustavus	AK	60	41	0	26	10	0	12	2	0	60	53	0	53	88.3%	0
Haines	AK	411	274	9	167	41	2	104	21	1	411	336	0	336	81.8%	12
Hollis	AK	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0
Homer	AK	22	16	1	9	0	0	6	1	0	22	17	0	17	77.3%	1
Hoonah	AK	167	82	4	91	21	0	63	8	0	167	111	0	111	66.5%	4
Hooper Bay	AK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydaburg	AK	60	9	1	51	12	2	40	2	3	36	0	31	31	86.1%	0
Hyder	AK	16	8	1	8	0	0	7	2	0	16	10	0	10	62.5%	4
Juneau	AK	247	62	22	170	26	8	137	19	5	247	107	1	108	43.7%	31
Kake	AK	105	41	2	68	14	3	52	4	6	105	59	0	59	56.2%	8
Kartuk	AK	12	6	0	6	0	0	6	0	0	12	6	0	6	50.0%	0
Kasaan	AK	5	2	0	3	0	0	3	0	0	5	2	0	2	40.0%	0
Kasilof	AK	9	3	2	4	0	0	4	0	0	9	3	0	3	33.3%	2
Kenai	AK	74	24	5	49	8	2	38	7	0	74	39	3	42	56.8%	6
Ketchikan	AK	466	165	24	314	10	1	261	46	6	467	221	51	272	58.2%	31
King Cove	AK	32	17	1	18	7	0	8	1	0	32	25	0	25	78.1%	1
King Salmon	AK	5	1	0	4	3	0	1	0	0	5	4	0	4	80.0%	0
Kipnuk	AK	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0
Klawock	AK	152	86	6	74	8	2	53	7	0	152	101	0	101	66.4%	8
Kodiak	AK	1,144	629	29	549	113	13	375	79	6	1,144	821	0	821	71.8%	45
Larsen Bay	AK	31	4	1	18	5	0	14	0	0	31	9	8	17	54.8%	1
Manokotak	AK	2	1	0	2	0	0	1	0	0	2	0	0	0	0	0
Metlakatla	AK	125	30	3	94	18	0	83	6	0	125	54	0	54	43.2%	3
Meyers Chuck	AK	9	4	0	5	5	0	1	0	0	9	9	0	9	100.0%	0
Naknek	AK	9	3	0	6	0	0	5	0	0	9	3	0	3	33.3%	0
Nanwalek	AK	41	12	0	33	9	1	27	4	1	41	25	0	25	61.0%	2

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Table 3.—Page 6 of 6

City of residence	State of residence	First Mailing			Second Mailing			Third Mailing			Totals					
		Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	Surveys mailed	Surveys returned	Surveys returned undeliverable	SHARCs issued ^a	Returned by mail	Returned through staff	Response	Response rate	Undeliverable
Naukati Bay	AK	13	6	0	7	1	0	6	4	0	13	11	0	11	84.6%	0
Nikiski	AK	6	3	0	3	1	0	2	0	0	6	4	0	4	66.7%	0
Ninilchik	AK	16	8	0	9	2	0	6	0	0	16	10	0	10	62.5%	0
Nome	AK	20	5	0	15	4	0	11	1	0	20	10	0	10	50.0%	0
North Pole	AK	4	1	0	3	2	0	1	0	0	4	4	0	4		0
Nunapituk	AK	1	0	0	1	0	0	1	0	0	1	1	0	1		0
Old Harbor	AK	23	9	0	14	1	0	12	1	0	23	11	1	12	52.2%	0
Ouzinkie	AK	9	5	0	4	0	0	4	1	0	9	6	0	6	66.7%	0
Palmer	AK	4	3	1	0	0	0	0	0	0	4	4	0	4		0
Pelican	AK	30	19	0	12	6	0	6	1	0	30	26	0	26	86.7%	0
Perryville	AK	13	6	0	10	2	0	5	1	1	13	9	0	9	69.2%	1
Petersburg	AK	803	514	8	326	81	1	212	38	0	803	633	2	635	79.1%	9
Point Baker	AK	16	6	0	11	5	0	6	1	0	16	12	0	12	75.0%	0
Port Alexander	AK	15	7	0	12	2	0	7	2	0	15	11	0	11	73.3%	0
Port Graham	AK	37	11	3	26	4	0	19	1	1	37	16	0	16	43.2%	4
Port Heiden	AK	2	1	0	2	1	0	0	0	0	2	2	0	2		0
Port Lions	AK	25	16	0	13	1	0	11	1	0	26	18	1	19	73.1%	0
Port Protection	AK	1	0	0	1	0	0	1	0	0	1	1	0	1		0
Saint George Island	AK	3	2	0	1	0	0	1	0	0	3	3	0	3		0
Saint Paul Island	AK	36	4	4	29	3	0	25	0	0	36	7	0	7	19.4%	4
Sand Point	AK	243	46	17	181	10	8	172	5	8	243	61	0	61	25.1%	25
Savoonga	AK	1	0	0	0	0	0	0	0	0	1	1	0	1		0
Saxman	AK	6	0	1	5	0	0	4	0	1	6	0	0	0	0.0%	2
Seldovia	AK	136	83	4	59	11	0	43	9	0	136	103	0	103	75.7%	4
Seward	AK	3	1	0	2	0	0	2	0	0	3	3	0	3		0
Sitka	AK	1,272	683	49	625	62	5	477	59	10	1,272	804	125	929	73.0%	62
Skagway	AK	60	32	3	29	9	3	17	4	0	60	45	0	45	75.0%	6
Soldotna	AK	36	20	2	16	1	0	13	0	0	36	21	0	21	58.3%	2
South Naknek	AK	1	1	0	0	0	0	0	0	0	1	1	0	1		0
Sterling	AK	1	0	0	0	0	0	0	0	0	1	1	0	1		0
Stebbins	AK	9	7	0	2	0	0	2	0	0	9	7	0	7	77.8%	0
Sutton	AK	1	0	0	1	0	0	1	0	0	1	1	0	1		0
Taitilek	AK	10	4	0	7	1	0	6	1	0	10	6	0	6	60.0%	0
Tenakee Springs	AK	42	29	0	22	8	0	10	0	0	42	37	0	37	88.1%	0
Thorne Bay	AK	129	92	3	51	1	0	38	10	0	129	103	0	103	79.8%	3
Toksook Bay	AK	55	4	0	51	6	0	45	1	0	55	11	0	11	20.0%	0
Tununak	AK	27	2	0	27	1	0	23	1	0	27	4	4	61	82.4%	0
Unalakleet	AK	2	1	0	1	0	0	1	0	0	2	2	0	2		0
Unalaska	AK	69	22	1	48	6	2	40	3	2	69	31	1	32	46.4%	4
Valdez	AK	18	4	1	15	3	3	10	5	0	18	12	0	12	66.7%	4
Ward Cove	AK	29	6	2	22	1	0	20	0	2	29	7	0	7	24.1%	4
Wasilla	AK	26	15	2	14	1	1	10	2	1	26	18	0	18	69.2%	2
Whale Pass	AK	4	2	1	1	1	0	1	0	0	4	4	0	4		0
Wrangell	AK	503	312	11	227	1	10	112	13	0	503	396	8	404	80.3%	19
Yakutat	AK	84	28	3	59	12	0	41	5	5	84	45	1	46	54.8%	3
Subtotal, Alaska		8,396	4,236	299	4,404	783	72	3,174	458	63	8,483	5,477	303	5,780	68.1%	406
Subtotal, non-Alaska		93	47	2	50	15	5	16	9	1	93	71	1	72	77.4%	8
City grand total		8,489	4,283	301	4,454	798	77	3,190	467	64	8,576	5,548	304	5,852	68.2%	414

Note: To protect confidentiality, data for tribes and communities with 5 or fewer SHARCs issued are not reported in this table. Subtotals include all tribes and communities.
a. "Tribal" = individuals who obtained SHARCs as members of an eligible tribe, sorted by location of tribal headquarters. "Rural" = individuals who obtained SHARCs as residents of an eligible rural community.
b. Includes SHARCs issued and potential fishers identified in Tununak and Hooper Bay.

Table 4.—Estimated subsistence harvests of halibut in Alaska, by SHARC type and regulatory area, 2018.

Tribal name	Regulatory area	Return rate		Subsistence fished halibut		Subsistence halibut harvest		Sport fished halibut		Sport halibut harvest		
		SHARCs issued	Surveys returned	Percent	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds
Angoon Community Association	2C	43	23	53.5%	13	30.4%	310	6,548	6	13.0%	2	14
Central Council Tlingit and Haida Indian Tribes	2C	391	190	48.6%	144	36.8%	1,331	30,254	80	20.5%	255	5,877
Chilkat Indian Village	2C	9	5	55.6%	2	20.0%	0	135	0	0.0%	0	0
Chilkoot Indian Association	2C	42	30	71.4%	21	50.0%	95	2,300	7	16.7%	4	156
Craig Community Association	2C	40	19	47.5%	23	57.9%	133	4,382	4	10.5%	17	572
Douglas Indian Association	2C	8	3	37.5%	5	66.7%	11	290	0	0.0%	0	0
Hoonah Indian Association	2C	87	48	55.2%	33	37.5%	241	6,013	9	10.4%	34	449
Hydaburg Cooperative Association	2C	53	19	35.8%	22	42.1%	148	5,188	3	5.3%	14	523
Ketchikan Indian Corporation	2C	392	211	53.8%	121	30.8%	1,081	23,856	84	21.3%	281	5,530
Klawock Cooperative Association	2C	43	23	53.5%	15	34.8%	108	5,391	4	8.7%	6	42
Metlakatla Indian Community, Annette Island Reserve	2C	109	43	39.4%	46	41.9%	203	5,856	10	9.3%	25	532
Organized Village of Kake	2C	66	33	50.0%	24	36.4%	496	12,383	2	3.0%	0	0
Organized Village of Kasauk	2C	3	3	100.0%	0	0.0%	0	0	4	33.3%	4	30
Organized Village of Saxman	2C	49	37	75.5%	12	24.3%	52	998	4	8.1%	11	159
Petersburg Indian Association	2C	172	107	62.2%	71	41.1%	547	15,646	21	12.1%	61	1,507
Sitka Tribe of Alaska	2C	2	2	100.0%	0	0.0%	0	0	0	0.0%	0	0
Skegway Village	2C	59	45	76.3%	22	37.8%	254	6,976	13	22.2%	80	2,662
Wrangell Cooperative Association	2C	842	842	53.3%	574	36.3%	5,016	126,215	250	15.8%	794	18,054
Subtotal Area 2C	2C	1,580	842	53.3%	574	36.3%	5,016	126,215	250	15.8%	794	18,054
Kenaitze Indian Tribe	3A	91	49	53.8%	20	22.4%	173	2,354	9	10.2%	37	521
Lesnoi Village (Woody Island)	3A	11	5	45.5%	0	0.0%	0	0	7	60.0%	53	1,139
Native Village of Afognak	3A	15	12	80.0%	6	41.7%	10	230	6	41.7%	20	280
Native Village of Akhiok	3A	11	8	72.7%	6	50.0%	41	763	1	12.5%	0	0
Native Village of Chenega	3A	9	7	77.8%	3	28.6%	13	222	0	0.0%	0	0
Native Village of Eyak	3A	53	33	62.3%	29	54.5%	170	3,491	6	12.1%	8	120
Native Village of Katluk	3A	13	6	46.2%	9	66.7%	37	796	0	0.0%	0	0
Native Village of Larsen Bay	3A	32	16	50.0%	22	68.8%	506	8,234	8	25.0%	46	735
Native Village of Nanwalek	3A	34	23	67.6%	30	87.0%	365	6,169	4	13.0%	6	128
Native Village of Ozunlike	3A	11	8	72.7%	8	75.0%	99	2,068	1	12.5%	3	83
Native Village of Port Graham	3A	40	20	50.0%	178	50.0%	3,617	50,000	4	10.0%	8	300
Native Village of Port Lions	3A	21	13	61.9%	15	69.2%	121	1,636	5	23.1%	19	327
Native Village of Tatitlek	3A	12	5	41.7%	29	60.0%	29	1,314	0	0.0%	0	0
Ninilchik Village	3A	49	29	59.2%	7	13.8%	39	374	12	24.1%	51	805
Seldovia Village Tribe	3A	49	31	63.3%	28	58.1%	262	5,555	14	29.0%	74	800
Sun'aq Tribe of Kodiak (Formerly Shoonaq)	3A	94	59	62.8%	48	50.8%	347	6,744	16	16.9%	41	789
Village of Kanatak	3A	2	2	100.0%	0	0.0%	0	0	6	30.8%	19	663
Village of Old Harbor	3A	19	13	68.4%	9	46.2%	22	356	5	22.2%	23	355
Village of Salamattof	3A	23	18	78.3%	6	27.8%	158	2,099	5	22.2%	23	355
Yakutat Tlingit Tribe	3A	36	11	30.6%	26	72.7%	288	5,707	10	27.3%	33	712
Subtotal Area 3A	3A	625	366	58.6%	298	47.7%	2,859	51,726	115	18.5%	441	7,755
Agadagux Tribe of King Cove	3B	32	22	68.8%	22	68.2%	164	3,278	4	13.6%	19	415
Chignik Lake Village	3B	3	3	100.0%	0	0.0%	0	0	0	0.0%	0	0
Ivanoff Bay Village	3B	4	2	50.0%	0	0.0%	0	0	0	0.0%	0	0
Native Village of Belkofski	3B	2	2	100.0%	11	100.0%	37	1,320	0	0.0%	0	0
Native Village of Chignik	3B	5	3	60.0%	0	0.0%	0	0	0	0.0%	0	0
Native Village of Chignik Lagoon	3B	11	3	27.3%	8	66.7%	23	551	0	0.0%	0	0
Native Village of False Pass	3B	1	1	100.0%	2	33.3%	9	362	0	0.0%	0	0
Native Village of Nelson Lagoon	3B	1	9	75.0%	8	66.7%	23	551	0	0.0%	0	0
Native Village of Perryville	3B	12	7	58.3%	2	16.7%	9	362	0	0.0%	0	0
Native Village of Unga	3B	7	3	42.9%	2	28.6%	9	362	0	0.0%	0	0
Panloft Harbor Village	3B	3	3	100.0%	0	0.0%	0	0	0	0.0%	0	0

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Tribal name	Regulatory area		Return rate		Subsistence fished halibut		Subsistence halibut harvest		Sport fished halibut		Sport halibut harvest	
	SHARCs issued	Percent	Surveys returned	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	
Oqung Toyagungin Tribe of Sand Point Village	243	25.5%	62	94	38.7%	521	9,606	8	3.2%	16	235	
Subtotal Area 3B	325	32.3%	105	142	43.8%	772	15,268	12	3.8%	35	650	
Native Village of Akitan	48	31.3%	15	19	40.0%	138	3,898	6	13.3%	10	204	
Qawalingin Tribe of Umalaska	25	28.0%	7	18	71.4%	61	4,200	7	28.6%	4	40	
Subtotal Area 4A	73	30.1%	22	37	50.8%	198	8,098	14	18.6%	13	244	
Native Village of Alka	2	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Subtotal Area 4B	2	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Pribilof Islands Aleut Community of St Paul	30	16.7%	5	24	80.0%	528	7,565	0	0.0%	0	0	
Subtotal Area 4C	30	16.7%	5	24	80.0%	528	7,565	0	0.0%	0	0	
Native Village of Diomedes (Inalik)	1	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Native Village of Savoonga	1	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Subtotal Area 4D	2	1.0%	1	0	0.0%	0	0	0	0.0%	0	0	
Chevak Native Village (Kashunamiut)	1	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Chinik Eskimo Community	2	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
King Island Native Community	2	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Manokotak Village	4	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Naknek Native Village	4	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Native Village of Aleknagik	4	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Native Village of Council	5	0.0%	4	0	0.0%	0	0	1	25.0%	3	11	
Native Village of Dillingham (Curlyung)	8	62.5%	5	3	40.0%	32	840	5	60.0%	54	658	
Native Village of Eek	3	60.0%	3	5	100.0%	7	313	0	0.0%	0	0	
Native Village of Ekok	3	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Native Village of Hooper Bay	36	86.1%	31	9	25.8%	73	778	0	0.0%	0	0	
Native Village of Kipruk	1	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Native Village of Koyuk	3	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Native Village of Mekoryuk	1	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Native Village of Nightmute	2	0.0%	0	0	0.0%	0	0	3	50.0%	2	17	
Native Village of Siammon Bay	6	66.7%	4	0	0.0%	0	0	0	0.0%	0	0	
Native Village of Tsammon Bay (Nunakauyak)	48	22.9%	11	39	81.8%	868	6,892	4	9.1%	196	324	
Native Village of Tunukak	66	78.8%	52	65	98.1%	925	10,290	0	0.0%	0	0	
Native Village of Umalakleet	1	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Newok Village	1	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Nome Eskimo Community	5	100.0%	5	3	60.0%	2	65	3	60.0%	0	0	
Orutsarmiut Native Village	3	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Stebbins Community Association	5	100.0%	5	3	60.0%	2	65	3	60.0%	0	0	
Village of Alakanuk	2	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Village of Chefomak	1	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Village of Clark's Point	4	0.0%	0	0	0.0%	0	0	0	0.0%	0	0	
Subtotal Area 4E	220	59.1%	130	136	61.8%	1,972	20,265	18	8.1%	261	1,145	
Tribal Subtotal	2,857	51.5%	1,471	1,211	42.4%	11,345	229,236	409	14.3%	1,543	27,848	

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Community	Regulatory area	Return rate		Subsistence fished halibut		Subsistence halibut harvest		Sport fished halibut		Sport halibut harvest		
		SHARCs issued	Survey's returned	Percent	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds
Atqoon	2C	18	10	55.6%	9	50.0%	383	6,318	5	30.0%	23	439
Coffman Cove	2C	36	31	86.1%	21	58.1%	107	2,382	15	41.9%	50	1,019
Crug	2C	256	186	72.7%	138	53.8%	984	24,239	83	32.3%	401	6,654
Edna Bay	2C	17	12	70.6%	11	66.7%	40	1,687	1	8.3%	0	0
Elfin Cove	2C	9	6	66.7%	8	83.3%	15	399	2	16.7%	2	17
Gustavus	2C	62	55	88.7%	34	54.5%	198	3,555	25	40.0%	118	2,532
Haines	2C	364	312	85.7%	182	50.0%	590	13,537	58	16.0%	68	1,340
Hollis	2C	46	33	71.7%	21	45.5%	71	1,803	8	18.2%	35	552
Hoonah	2C	78	59	75.6%	36	45.8%	418	9,979	22	28.8%	94	2,482
Hydaburg	2C	7	5	71.4%	1	20.0%	9	924	0	0.0%	0	0
Hyder	2C	16	10	62.5%	8	50.0%	29	744	2	10.0%	0	0
Juneau	2C	9	4	44.4%	5	50.0%	83	1,055	2	25.0%	27	304
Kake	2C	35	23	65.7%	20	56.5%	157	3,896	3	8.7%	6	86
Kasaan	2C	6	6	100.0%	3	50.0%	8	323	2	33.3%	5	150
Ketchikan	2C	6	3	50.0%	4	66.7%	2	135	0	0.0%	0	0
Klawock	2C	113	82	72.6%	47	41.5%	409	9,890	39	34.1%	244	3,886
Metlakatla	2C	27	16	59.3%	7	25.0%	41	826	8	31.3%	46	633
Mezers Chuck	2C	9	9	100.0%	7	77.8%	35	971	0	0.0%	0	0
Nankani Bay	2C	44	37	84.1%	23	51.4%	126	3,186	7	16.2%	19	450
Pedican	2C	27	22	81.5%	18	68.2%	74	2,221	1	4.5%	0	0
Petersburg	2C	740	592	80.0%	314	42.4%	1,891	38,750	213	28.7%	771	13,182
Port Alexander	2C	18	12	66.7%	15	83.3%	75	2,055	2	8.3%	6	203
Port Protection	2C	14	10	71.4%	8	60.0%	34	1,070	1	10.0%	6	137
Pt. Baker	2C	11	7	63.6%	5	42.9%	42	448	0	0.0%	0	0
Saxman	2C	15	9	60.0%	8	55.6%	97	1,738	7	44.4%	55	581
Sitka	2C	1,131	846	74.8%	582	51.4%	2,977	70,644	239	21.2%	754	14,095
Shegway	2C	60	44	73.3%	25	40.9%	61	1,543	14	22.7%	33	691
Tenakee Springs	2C	42	37	88.1%	24	56.8%	163	3,454	15	35.1%	39	544
Thorne Bay	2C	124	100	80.6%	67	54.0%	327	8,944	53	43.0%	150	3,146
Ward Cove	2C	2	2	100.0%	0	0.0%	0	0	0	0.0%	0	0
Whale Pass	2C	28	26	92.9%	14	50.0%	67	1,480	12	42.3%	29	666
Wrangell	2C	416	334	80.3%	199	47.9%	1,234	26,655	98	23.7%	252	6,173
Subtotal Area 2C		3,786	2,939	77.6%	1,861	49.2%	10,770	244,851	938	24.8%	3,231	59,960
Akhok	3A	15	10	66.7%	8	50.0%	54	653	0	0.0%	0	0
Anchorage	3A	1	1	100.0%	0	0.0%	0	0	0	0.0%	0	0
Chenega Bay	3A	5	2	40.0%	5	100.0%	53	1,378	0	0.0%	0	0
Chimik	3A	4	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Cordova	3A	398	328	82.4%	189	47.6%	1,217	23,278	92	23.2%	263	5,956
Kodiak	3A	1,054	776	73.6%	575	54.5%	4,268	80,533	355	33.6%	1,107	21,214
Larsen Bay	3A	8	4	50.0%	4	50.0%	66	593	2	25.0%	2	30
Nanwalek	3A	8	3	37.5%	3	33.3%	0	0	3	33.3%	13	400
Old Harbor	3A	9	7	77.8%	8	85.7%	118	1,842	6	71.4%	22	306
Ouzinkie	3A	9	6	66.7%	5	50.0%	24	366	5	50.0%	11	107
Port Graham	3A	13	11	84.6%	8	63.6%	73	923	6	45.5%	17	266
Port Lions	3A	117	91	77.8%	75	63.7%	1,021	13,550	44	37.4%	260	3,462
Seldovia	3A	10	8	80.0%	6	62.5%	53	1,289	0	0.0%	0	0
Tatitlek	3A	52	35	67.3%	36	68.6%	355	6,542	21	40.0%	62	1,262
Yakutat	3A	1,707	1,289	75.5%	928	54.4%	7,343	131,635	537	31.5%	1,782	33,426
Subtotal Area 3A												
Chignik	3B	2	2	100.0%	0	0.0%	0	0	0	0.0%	0	0
Chignik Lagoon	3B	1	1	100.0%	0	0.0%	0	0	0	0.0%	0	0
Cold Bay	3B	11	9	81.8%	2	22.2%	7	147	6	55.6%	6	60
False Pass	3B	2	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
King Cove	3B	8	7	87.5%	6	71.4%	33	420	3	42.9%	34	866
Sand Point	3B	5	3	60.0%	5	100.0%	22	639	0	0.0%	0	0
Subtotal Area 3B		29	24	82.8%	16	55.7%	80	1,528	10	32.9%	40	925
Aktanuk	4A	2	2	100.0%	0	0.0%	0	0	0	0.0%	0	0

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Community	Return rate		Subsistence fished halibut		Subsistence halibut harvest		Sport fished halibut		Sport halibut harvest			
	Regulatory area	SHARCs issued	Surveys returned	Percent	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds
Unalaska	4A	105	67	63.8%	39	37.3%	263	4,972	39	37.3%	161	3,056
Subtotal Area 4A	4A Totals	107	69	64.5%	40	37.6%	263	4,972	40	37.6%	161	3,056
Adak	4B	4	4	100.0%	4	100.0%	32	1,193	2	50.0%	4	180
Subtotal Area 4B	4B Totals	4	2	50.0%	4	100.0%	32	1,193	2	50.0%	4	180
St George Island	4C	3	2	28.6%	4	50.0%	18	263	0	0.0%	0	0
St Paul Island	4C	7	4	40.0%	7	65.0%	25	533	0	0.0%	0	0
Subtotal Area 4C	4C Totals	10	4	40.0%	7	65.0%	25	533	0	0.0%	0	0
Gambell	4D	1	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Subtotal Area 4D	4D Totals	1	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Alakanuk	4E	1	5	83.3%	5	80.0%	13	159	0	0.0%	0	0
Aleknagik	4E	6	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Bethel	4E	1	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Dillingham	4E	21	19	90.5%	0	0.0%	0	0	2	10.5%	8	106
King Salmon	4E	4	4	100.0%	0	0.0%	0	0	0	0.0%	0	0
Koyuk	4E	1	1	100.0%	0	0.0%	0	0	0	0.0%	0	0
Naknek	4E	7	4	57.1%	5	75.0%	26	832	2	25.0%	0	0
Nome	4E	18	9	50.0%	6	33.3%	19	450	0	0.0%	0	0
Port Heiden	4E	2	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Stebbins	4E	1	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Togalak	4E	1	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Toksook Bay	4E	2	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Tununak	4E	9	9	100.0%	9	100.0%	46	401	0	0.0%	0	0
Unalakleet	4E	1	0	0.0%	0	0.0%	0	0	0	0.0%	0	0
Subtotal Area 4E	4E Totals	75	54	72.0%	27	36.1%	105	1,843	6	7.9%	9	111
Rural community subtotal		5,719	4,381	76.6%	2,883	50.4%	18,618	386,553	1,533	26.8%	5,227	97,658
Rural/Tribal grand total		8,576	5,852	68.2%	4,094	47.7%	29,963	615,789	1,942	22.6%	6,770	125,505

Table 5.—Estimated subsistence harvests of halibut in Alaska in number of fish and pounds net (dressed, head off) weight, by regulatory area and subarea, 2018.

Subarea	Regulatory area	Number of SHARCs subsistence fished ^a	Estimated subsistence harvest by gear type										Estimated sport harvest								
			Setline gear ^b					Hand-operated gear ^b					All gear		Estimated number respondents fished ^b	Estimated number halibut harvested ^b	Estimated pounds halibut harvested ^b				
			Estimated number respondents fished ^b	Estimated number halibut harvested	Estimated pounds halibut harvested	Estimated number respondents fished ^b	Estimated number halibut harvested	Estimated pounds halibut harvested	Estimated number respondents fished ^b	Estimated number halibut harvested	Estimated pounds halibut harvested										
Southern Southeast Alaska	2C	1,303	1,130	6,770	167,704	493	1,989	39,805	1,303	8,758	207,509	725	2,553	48,426	0	0	0	0	0	0	0
Sitka Lamp Area	2C	640	590	2,843	71,498	184	380	8,258	640	3,223	79,757	262	706	13,432	0	0	0	0	0	0	0
Northern Southeast Alaska	2C	558	507	2,904	66,991	181	667	11,958	558	3,570	78,948	248	707	14,918	0	0	0	0	0	0	0
Subtotal Area 2C		2,430	2,167	12,516	306,193	824	3,035	60,201	2,430	15,351	366,214	1,189	3,966	76,776							
Yakutat Area	3A	80	66	674	13,319	20	184	3,009	80	858	16,327	47	158	3,270	0	0	0	0	0	0	0
Prince William Sound	3A	248	215	1,211	25,029	82	314	6,115	248	1,525	31,143	108	280	6,395	0	0	0	0	0	0	0
Cook Inlet	3A	209	136	1,089	20,135	140	1,180	14,503	209	2,269	34,638	133	583	7,908	0	0	0	0	0	0	0
Kodiak Island-rod system	3A	457	416	2,880	55,201	156	413	7,214	457	3,293	62,415	279	760	14,639	0	0	0	0	0	0	0
Kodiak Island-other	3A	400	344	1,880	32,853	176	552	10,321	400	2,432	43,174	226	590	11,376	0	0	0	0	0	0	0
Subtotal Area 3A		1,262	1,064	7,735	146,536	510	2,643	41,162	1,262	10,378	187,698	697	2,371	43,588							
Chignik Area	3B	18	18	68	1,083	4	7	100	18	75	1,183	0	0	0	0	0	0	0	0	0	0
Lower Alaska Peninsula	3B	136	75	350	6,055	105	441	9,406	136	791	15,461	18	67	1,472	0	0	0	0	0	0	0
Subtotal Area 3B		154	93	417	7,138	109	448	9,506	154	865	16,644	18	67	1,472							
Eastern Aleutians-East	4A	78	58	273	7,981	55	155	4,457	78	428	12,438	50	162	3,084	0	0	0	0	0	0	0
Eastern Aleutians-West	4A	8	8	33	705	3	13	94	8	45	799	0	0	0	0	0	0	0	0	0	0
Subtotal Area 4A		81	61	306	8,687	55	168	4,551	81	474	13,237	50	162	3,084							
Western Aleutians-East	4B	8	5	51	1,505	5	6	178	8	56	1,684	5	8	261	0	0	0	0	0	0	0
Subtotal Area 4B		8	5	51	1,505	5	6	178	8	56	1,684	5	8	261							
St George Island	4C	7	4	9	131	3	8	270	7	16	401	0	0	0	0	0	0	0	0	0	0
St Paul Island	4C	26	14	321	3,896	12	36	855	26	357	4,751	0	0	0	0	0	0	0	0	0	0
Subtotal Area 4C		33	18	329	4,027	15	44	1,125	33	373	5,152	0	0	0							
Bristol Bay	4D	23	22	85	1,844	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yukon-Kuskokwim Delta	4E	139	19	294	4,351	127	1,839	17,737	139	2,133	22,088	4	196	324	0	0	0	0	0	0	0
Norton Sound	4E	6	6	19	450	0	0	0	6	19	450	0	0	0	0	0	0	0	0	0	0
Subtotal Area 4E		168	46	398	6,645	144	1,867	18,515	168	2,266	25,160	10	196	324							
Grand total		4,094	3,417	21,752	480,731	1,645	8,210	135,058	4,094	29,963	615,789	1,942	6,770	125,505							

Source: Alaska Department of Fish and Game, Division of Subsistence, SHARC Survey, 2019.

a. Setline gear = longline or skate; hand-operated gear = rod and reel or handline.

b. Because they may fish in more than one area, subtotals for estimated number of respondents who fished for regulatory areas and the state total might exceed the sum of the subarea values.

c. Weights given are "net weight" (dressed, head off) = .75 of round (whole) weight.

Table 6.—Estimated subsistence harvests of halibut in Alaska, by geographic area fished, 2003–2012, 2014, 2016, 2018, and 2018.

Geographic area	Subsistence halibut harvests, net weight (pounds)																	
	Percent change between years																	12-year average
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2014	2016	2018	2016 to average	2018 to average	2018	2018	
Southern Southeast Alaska	29,443	30,919	32,638	107,921	283,422	284,510	265,046	254,166	248,002	237,905	235,976	230,316	207,509	-13.3%	-23.9%	207,509	207,509	31.7%
Sitka LAMP Area	179,323	167,453	133,545	147,526	132,190	104,713	98,812	74,514	81,913	81,913	81,913	96,901	79,757	-17.7%	-28.7%	79,757	79,757	31.7%
Northern Southeast Alaska	625,538	677,084	598,072	580,117	524,897	458,560	456,997	424,818	386,970	393,643	422,971	436,614	366,214	-21.2%	-26.0%	366,214	366,214	59.9%
Subtotal, Area 2C	11,198	20,153	36,515	19,187	17,516	16,084	14,390	18,064	15,762	20,113	12,082	23,096	16,327	-22.6%	-12.6%	16,327	16,327	2.7%
Prince William Sound	28,409	58,429	68,063	47,965	52,407	47,112	33,796	42,279	32,822	37,323	43,805	32,690	31,143	-4.7%	-27.8%	31,143	31,143	5.1%
Cook Inlet, end-system	52,609	83,939	79,624	59,865	75,623	75,235	81,043	65,509	60,337	65,100	50,365	45,643	34,638	-24.1%	-47.8%	34,638	34,638	5.6%
Kodiak Island, end-system	114,038	139,145	134,649	140,388	130,538	96,872	108,049	103,066	79,907	72,516	71,538	63,641	63,415	-2.8%	-39.8%	63,415	63,415	10.8%
Kodiak Island-other	79,256	111,944	109,524	111,752	96,206	100,849	91,202	83,632	77,276	67,914	63,578	57,184	43,174	-24.5%	-50.7%	43,174	43,174	7.0%
Subtotal, Area 3A	285,500	406,410	429,275	379,258	372,289	357,463	324,480	312,650	266,104	253,516	241,569	222,154	187,698	-15.6%	-41.2%	187,698	187,698	36.9%
Chignik Area	10,500	12,053	14,783	17,780	15,397	11,862	5,889	5,857	3,621	2,925	1,577	1,750	1,183	-32.4%	-86.3%	1,183	1,183	0.2%
Lower Alaska Peninsula	16,977	21,467	31,442	30,767	32,351	30,606	19,603	17,152	18,590	13,164	11,801	12,692	15,461	23.8%	-27.5%	15,461	15,461	2.5%
Subtotal, Area 3B	27,477	33,519	46,225	48,547	47,748	42,448	25,492	23,009	22,011	15,859	13,378	14,442	16,644	16.9%	-44.5%	16,644	16,644	2.7%
Eastern Aleutians-east	19,345	26,715	33,882	25,993	12,753	19,043	33,090	13,343	12,816	9,061	7,647	7,429	12,438	67.4%	-32.5%	12,438	12,438	1.0%
Eastern Aleutians-west	1,852	2,162	1,734	1,069	2,193	509	409	1,205	790	482	80	626	799	27.7%	-26.8%	799	799	0.1%
Subtotal, Area 4A	21,197	28,877	35,615	27,062	14,946	19,553	33,499	14,548	13,606	9,543	7,727	8,054	13,237	64.3%	-32.2%	13,237	13,237	2.0%
Western Aleutians-east	2,582	916	1,351	2,761	1,997	4,737	1,175	450	537	1,698	254	294	1,684	473.6%	7.7%	1,684	1,684	0.3%
Subtotal, Area 4B	2,042	1,823	2,145	3,443	3,736	1,150	700	720	490	0	370	401	401	8.5%	-71.0%	401	401	0.1%
St. George Island	20,839	7,911	5,571	5,085	11,342	4,907	5,623	101,339	1,158	1,176	3,389	3,930	4,751	20.9%	-29.3%	4,751	4,751	0.1%
St. Paul Island	22,881	9,734	7,716	8,297	15,077	6,587	6,223	10,859	1,648	1,176	3,389	4,300	5,152	19.8%	-36.5%	5,152	5,152	0.7%
Subtotal, Area 4C	4,380	10,923	5,848	8,297	3,204	3,131	644	1,171	615	672	54	0	0	-100.0%	0.4%	0	0	0.0%
St. Lawrence Island	43,800	10,923	5,848	8,297	3,204	3,131	644	1,171	615	672	54	0	0	-100.0%	0.4%	0	0	0.0%
Subtotal, Area 4D	435	203	2,169	1,336	2,116	84	0	0	403	329	1,160	496	2,622	428.6%	200.3%	2,622	2,622	0.0%
Bristol Bay	52,284	28,298	51,950	69,407	50,019	14,669	7,468	9,484	5,283	7,239	69,765	39,351	22,088	-43.9%	-34.8%	22,088	22,088	1.2%
Yukon-Kuskokwim Delta	5,375	28,501	54,119	70,743	52,135	15,998	8,749	10,855	6,168	8,384	71,327	41,270	25,160	-39.2%	-70.4%	25,160	25,160	0.1%
Subtotal, Area 4E	1,044,330	1,193,162	1,178,222	1,125,512	1,022,293	886,988	861,359	797,550	697,656	686,991	760,469	727,178	615,789	-15.3%	-32.8%	615,789	615,789	10.0%
Total	1,044,330	1,193,162	1,178,222	1,125,512	1,022,293	886,988	861,359	797,550	697,656	686,991	760,469	727,178	615,789	-15.3%	-32.8%	615,789	615,789	10.0%

Source: ADF&G Division of Subsistence SHARC surveys, 2004–2013, 2015, 2017, and 2019.
a. The sum of the harvests by geographic areas for 2003 reported here differs slightly from that reported in Table 8 in Fall et al. (2004:50) due to rounding.

Table 7.—Number of hooks usually fished, setline (stationary) gear, Alaska halibut subsistence fishery, 2018.

Regulatory area	SHARC holders	Number of hooks ^b																												Missing	Total ^a		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			29	30
2C	No.	5,366	10	18	4	3	8	6	4	3	83	3	27	26	4	408	4	5	20	5	281	8	12	3	19	167	32	14	110	35	780	69	2,177
	Pct.	0.4	0.8	0.2	0.1	0.4	0.3	0.3	0.2	0.1	3.8	0.1	1.2	1.2	0.2	18.7	0.2	0.2	0.9	0.2	12.9	0.3	0.6	0.1	0.9	7.7	1.5	0.7	5.0	1.6	35.9	3.2	
3A	No.	2,332	13	5	3	2	3	1	3	1	3	31	2	16	0	49	2	0	6	1	171	3	1	1	3	108	7	8	43	23	481	41	1,031
	Pct.	1.2	0.5	0.3	0.2	0.2	0.1	0.3	0.1	0.3	3.0	0.2	1.6	0.0	0.0	4.7	0.2	0.0	0.6	0.1	16.6	0.3	0.1	0.1	0.3	10.5	0.6	0.8	4.2	2.3	46.6	3.9	
3B	No.	354	8	4	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	0	0	0	7	0	0	0	0	49	14	93
	Pct.	8.8	4.2	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	53.0	15.5	
4A	No.	180	0	0	0	4	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0	35	12	59	
	Pct.	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	60.1	20.5		
4B	No.	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
	Pct.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	
4C	No.	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	6	6	16	
	Pct.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6	0.0	0.0	0.0	38.7	38.7		
4D	No.	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Pct.																																
4E	No.	295	2	5	0	2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	22	4	40	
	Pct.	4.1	13.3	0.0	3.7	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	54.7	9.9		
Alaska	No.	8,576	32	32	7	7	14	9	5	5	123	5	43	26	4	461	5	5	26	7	459	11	14	5	23	288	39	23	153	59	1,376	146	3,417
	Pct.	0.0	0.0	0.2	0.2	0.4	0.3	0.3	0.1	0.2	3.6	0.1	1.3	0.7	0.1	13.5	0.2	0.1	0.8	0.2	13.4	0.3	0.4	0.1	0.7	8.4	1.1	0.7	4.5	17	40.3	4.3	

Table 8.—Average net weight of subsistence and sport halibut harvests, by regulatory area fished, 2018.

Area ^b	Subsistence methods			Sport harvest ^a			Total halibut		
	Number	Net weight (lb)	Average per fish	Number	Net weight (lb)	Average per fish	Number	Net weight (lb)	Average per fish
2C	15,551	366,214	23.5	3,966	76,776	19.4	19,517	442,990	22.7
3A	10,378	187,698	18.1	2,371	43,588	18.4	12,749	231,286	18.1
3B	865	16,644	19.2	67	1,472	21.9	932	18,116	19.4
4A	474	13,237	27.9	162	3,084	19.1	635	16,321	25.7
4B	56	1,684	29.8	8	261		64	1,945	30.2
4C	373	5,152	13.8	0	0		373	5,152	13.8
4D							0	0	
4E	2,266	25,160	11.1	196	324	1.7	2,462	25,484	10.4
Alaska	29,963	615,789	20.6	6,770	125,505	18.5	36,733	741,294	20.2

Source ADF&G Division of Subsistence, SHARC survey, 2019.

a. Sport harvest of halibut by SHARC holders.

b. Area totals are based on the location of the harvest (see also tables 5 and 6).

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Table 9.—Rural and Tribal SHARC holder responses to why needs weren't met by regulatory area, 2018.

SHARC type	Regulatory area	SHARCS issued	Needs Met												
			SHARCS returned			Valid responses			Yes			No			SHARCS providing valid reason
			No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
Rural	2C	3,786	2,939	77.6%	2,199	74.8%	1,259	57.3%	940	42.7%	905	96.3%			
Rural	3A	1,707	1,289	75.5%	926	71.8%	540	58.3%	386	41.7%	355	92.0%			
Rural	3B	29	24	82.8%	16	66.7%	6	37.5%	10	62.5%	10	100.0%			
Rural	4A	107	69	64.5%	52	75.4%	24	46.2%	28	53.8%	28	100.0%			
Rural	4B	4	2	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%			
Rural	4C	10	4	40.0%	3	75.0%	3	100.0%	0	0.0%	0	0.0%			
Rural	4D	1	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%			
Rural	4E	75	54	72.0%	40	74.1%	19	47.5%	21	52.5%	21	100.0%			
Rural subtotal		5,719	4,381	76.6%	3,236	73.9%	1,851	57.2%	1,385	42.8%	1,319	95.2%			
Tribal	2C	1,580	842	53.3%	595	70.7%	212	35.6%	383	64.4%	344	89.8%			
Tribal	3A	625	366	58.6%	265	72.4%	106	40.0%	159	60.0%	144	90.6%			
Tribal	3B	325	105	32.3%	71	67.6%	29	40.8%	42	59.2%	42	100.0%			
Tribal	4A	73	22	30.1%	14	63.6%	4	28.6%	10	71.4%	8	80.0%			
Tribal	4B	2	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%			
Tribal	4C	30	5	16.7%	4	80.0%	4	100.0%	0	0.0%	0	0.0%			
Tribal	4D	2	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%			
Tribal	4E	220	130	59.1%	97	74.6%	44	45.4%	53	54.6%	48	90.6%			
Tribal subtotal		2,857	1,471	51.5%	1,046	71.1%	399	38.1%	647	61.9%	586	90.6%			
Total		8,576	5,852	68.2%	4,282	73.2%	2,250	52.5%	2,032	47.5%	1,905	93.8%			

Source ADFG Division of Subsistence, mailout surveys, 2019.

Table 10.—Rural and Tribal SHARC holder responses to why needs weren't met by regulatory area

SHARC type	Regulatory area	reporting needs not met		Family/ personal		Resources less available		Too far to travel		Lack of equipment		Less sharing		Lack of effort		Unsuccessful		Weather/ environment	
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Rural	2C	905	14.9%	135	14.9%	84	9.3%	19	2.1%	141	15.6%	1	0.1%	303	33.5%	115	12.7%	61	6.7%
Rural	3A	355	12.4%	44	12.4%	42	11.8%	5	1.4%	69	19.4%	2	0.6%	97	27.3%	47	13.2%	19	5.4%
Rural	3B	10	20.0%	2	20.0%	2	20.0%	1	10.0%	1	10.0%	0	0.0%	0	0.0%	0	0.0%	3	30.0%
Rural	4A	28	7.1%	2	7.1%	3	10.7%	1	3.6%	10	35.7%	0	0.0%	7	25.0%	2	7.1%	2	7.1%
Rural	4B	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Rural	4C	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Rural	4D	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Rural	4E	21	4.8%	1	4.8%	1	4.8%	0	0.0%	3	14.3%	0	0.0%	7	33.3%	1	4.8%	4	19.0%
Total		1,319	13.9%	184	13.9%	132	10.0%	26	2.0%	224	17.0%	3	0.2%	414	31.4%	165	12.5%	89	6.7%

Table 12.—Continued.

SHARC type	Regulatory area	reporting needs not met		Other reasons		Working/ no time		Regulations		Fish were too small or diseased		Equipment/fuel expense		Did not get enough		Competition	
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Rural	2C	905	2.8%	25	2.8%	140	15.5%	14	1.5%	11	1.2%	13	1.4%	16	1.8%	45	5.0%
Rural	3A	355	1.7%	6	1.7%	83	23.4%	1	0.3%	8	2.3%	3	0.8%	9	2.5%	6	1.7%
Rural	3B	10	0.0%	0	0.0%	2	20.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Rural	4A	28	0.0%	0	0.0%	5	17.9%	2	7.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Rural	4B	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Rural	4C	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Rural	4D	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Rural	4E	21	0.0%	0	0.0%	5	23.8%	0	0.0%	0	0.0%	1	4.8%	0	0.0%	0	0.0%
Total		1,319	2.4%	31	2.4%	235	17.8%	17	1.3%	19	1.4%	17	1.3%	25	1.9%	51	3.9%

Source: ADFG Division of Subsistence, mailout surveys, 2019.

Table 11. –Reasons tribal SHARC holders reported needs not met by regulatory area, 2018.

SHARC type	Regulatory area	SHARCs reporting needs not met		Family/personal		Resources less available		Too far to travel		Lack of equipment		Less sharing		Lack of effort		Unsuccessful		Weather/environment	
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Tribal	2C	344		49	14.2%	20	5.8%	4	1.2%	104	30.2%	2	0.6%	91	26.5%	22	6.4%	19	5.5%
Tribal	3A	144		12	8.3%	6	4.2%	3	2.1%	44	30.6%	1	0.7%	37	25.7%	6	4.2%	11	7.6%
Tribal	3B	42		4	9.5%	4	9.5%	0	0.0%	11	26.2%	0	0.0%	9	21.4%	2	4.8%	9	21.4%
Tribal	4A	8		0	0.0%	1	12.5%	0	0.0%	4	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tribal	4B	0		0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tribal	4C	0		0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tribal	4D	0		0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tribal	4E	48		2	4.2%	3	6.3%	1	2.1%	5	10.4%	0	0.0%	14	29.2%	5	10.4%	7	14.6%
Total		586		67	11.4%	34	5.8%	8	1.4%	168	28.7%	3	0.5%	151	25.8%	35	6.0%	46	7.8%

Table 13. –Continued.

SHARC type	Regulatory area	SHARCs reporting needs not met		Other reasons		Working/no time		Regulations		Fish were too small or diseased		Equipment/fuel expense		Did not get enough		Competition	
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Tribal	2C	344		6	0.0%	54	0.0%	12	0.0%	5	0.0%	10	0.0%	11	0.0%	6	0.0%
Tribal	3A	144		4	0.0%	19	0.0%	5	0.0%	4	0.0%	4	0.0%	6	0.0%	8	0.0%
Tribal	3B	42		0	0.0%	3	0.0%	2	0.0%	0	0.0%	0	0.0%	1	0.0%	1	0.0%
Tribal	4A	8		0	0.0%	1	0.0%	0	0.0%	0	0.0%	0	0.0%	2	0.0%	0	0.0%
Tribal	4B	0		0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tribal	4C	0		0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tribal	4D	0		0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tribal	4E	48		0	0.0%	14	0.0%	0	0.0%	0	0.0%	1	0.0%	0	0.0%	1	0.0%
Total		586		10	1.7%	91	15.5%	19	3.2%	9	1.5%	15	2.6%	20	3.4%	16	2.7%

Source: ADFG Division of Subsistence, mailout surveys, 2019.

Table 12.—Reasons SHARC holders reported needs not met, by regulatory area, 2018.

Regulatory Area	Family/ personal		Resources less available		Too far to travel		Lack of equipment		Less sharing		Lack of effort		Unsuccessful		Weather/ environment	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2C	184	14.7%	104	8.3%	23	1.8%	245	19.6%	3	0.2%	394	31.5%	137	11.0%	80	6.4%
3A	56	11.2%	48	9.6%	8	1.6%	113	22.6%	3	0.6%	134	26.9%	53	10.6%	30	6.0%
3B	6	11.5%	6	11.5%	1	1.9%	12	23.1%	0	0.0%	9	17.3%	2	3.8%	12	23.1%
4A	36	5.6%	4	11.1%	1	2.8%	14	38.9%	0	0.0%	7	19.4%	2	5.6%	2	5.6%
4B	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4C	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4D	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4E	69	4.3%	4	5.8%	1	1.4%	8	11.6%	0	0.0%	21	30.4%	6	8.7%	11	15.9%
Total	1,905	13.2%	166	8.7%	34	1.8%	392	20.6%	6	0.3%	565	29.7%	200	10.5%	135	7.1%

Table 14.—Continued.

Regulatory Area	Other reasons		Working/ no time		Regulations		Fish were too small or diseased		Equipment / fuel expense		Did not get enough		Competition	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2C	31	2.5%	194	15.5%	26	2.1%	16	1.3%	23	1.8%	27	2.2%	51	4.1%
3A	10	2.0%	102	20.4%	6	1.2%	12	2.4%	7	1.4%	15	3.0%	14	2.8%
3B	0	0.0%	5	9.6%	2	3.8%	0	0.0%	0	0.0%	1	1.9%	1	1.9%
4A	36	0.0%	6	16.7%	2	5.6%	0	0.0%	0	0.0%	2	5.6%	0	0.0%
4B	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4C	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4D	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4E	69	0.0%	19	27.5%	0	0.0%	0	0.0%	2	2.9%	0	0.0%	1	1.4%
Total	1,905	4.1%	326	17.1%	36	1.9%	28	1.5%	32	1.7%	45	2.4%	67	3.5%

Source: ADFG Division of Subsistence, mailout surveys, 2019.

Table 13.—Estimated harvests of halibut by gear type and participation, subsistence and sport fisheries, selected Alaska communities, 2003–2012, 2014, 2016, and 2018.

Community ^a	Year	Number of SHARC holders ^b	Subsistence harvests														
			Setline (fixed) gear			Hand-operated gear			Total subsistence			Sport harvest ^d			All harvests		
			Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	
Akutan	2003	50	7	231	36	9,381	39	9,612	12	450	42	10,062					
	2004	50	0	0	36	11,239	36	11,239	9	945	41	12,184					
	2005	49	11	1,242	42	13,769	47	15,011	17	273	47	15,284					
	2006	47	5	1,008	38	11,404	38	12,412	5	367	38	12,779					
	2007	46	3	431	16	3,173	16	3,603	0	0	16	3,603					
	2008	17	7	2,186	11	3,843	13	6,029	3	1,834	13	7,863					
	2009	17	5	1,733	7	1,260	9	2,993	0	0	9	2,993					
	2010	16	3	147	9	1,512	9	1,659	0	0	9	1,659					
	2011	16	4	630	7	945	7	1,575	0	0	7	1,575					
	2012	6															
	2014	5															
	2016	6	2	350	2	560	3	910	0	0	3	910					
	2018	49	18	1,395	21	2,578	21	3,973	7	204	24	4,177					
	Cordova	2003	358	68	7,613	40	7,885	102	15,498	144	11,534	194	27,032				
2004		526	174	29,693	97	10,946	262	40,640	174	12,149	325	52,789					
2005		602	238	34,907	104	12,234	281	47,141	179	10,519	358	57,660					
2006		607	202	21,059	125	7,968	248	29,027	152	7,020	301	36,047					
2007		615	233	21,683	128	7,033	282	28,716	123	4,203	315	32,919					
2008		587	231	22,301	95	5,246	254	27,547	126	5,562	292	33,109					
2009		599	201	17,766	103	5,598	234	23,364	118	3,868	269	27,232					
2010		557	207	22,579	121	5,849	235	28,428	106	5,837	261	34,265					
2011		529	175	17,023	79	4,765	198	21,789	175	3,029	228	24,818					
2012		470	185	16,105	75	3,312	202	19,417	95	3,017	227	22,434					
2014		450	175	21,346	97	9,858	197	31,204	95	4,827	242	36,031					
2016		426	168	19,788	96	6,513	198	26,301	106	4,236	245	30,537					
2018		441	184	20,449	74	6,052	215	26,501	97	5,827	262	32,327					
Hooper Bay		2003	94	10	281	16	506	33	788	2	0	36	788				
	2004	94	3	338	18	968	24	1,305	0	0	24	1,305					
	2005	93	5	58	31	3,493	34	3,550	2	58	34	3,608					
	2006	89	5	121	16	526	18	647	0	0	18	647					
	2007	89	1	77	25	3,227	25	3,304	1	60	25	3,363					

- continued -

Table 13.-Page 2 of 5.

Community ^a	Year	Number of SHARC holders ^b	Subsistence harvests														
			Setline (fixed) gear			Hand-operated gear			Total subsistence			Sport harvest ^d			All harvests		
			Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested			
Hooper Bay (continued)	2008	17	3	820	933	5	1,753	2	300	5	2,053	0	0	5	2,053		
	2009	17	4	672	515	11	1,187	3	112	11	1,299	0	0	11	1,299		
	2010	14	0	0	345	5	345	0	0	5	345	0	0	5	345		
	2011	14	0	0	121	3	121	0	0	3	121	0	0	3	121		
	2012	0															
	2014	0															
	2016	0															
	2018	36	0	0	778	9	778	9	778	0	778	0	0	9	778		
	2003	1,320	438	101,575	51,678	278	646	153,254	498	68,170	646	221,424	498	68,170	858	221,424	
	2004	1,561	554	131,719	55,605	335	802	187,214	581	73,181	802	260,395	581	73,181	971	260,395	
	2005	1,741	650	146,781	64,047	398	871	210,828	669	82,455	871	293,283	669	82,455	1,116	293,283	
	2006	1,716	684	142,326	63,496	497	961	205,822	562	64,320	961	270,142	562	64,320	1,092	270,142	
2007	1,880	707	135,351	58,282	486	945	193,633	648	68,556	945	262,189	648	68,556	1,157	262,189		
2008	1,725	763	128,226	49,108	479	963	177,334	693	72,915	963	250,249	693	72,915	1,213	250,249		
2009	1,826	749	130,802	46,966	433	923	177,769	619	64,034	923	241,803	619	64,034	1,139	241,803		
2010	1,702	747	127,816	36,275	374	900	164,092	539	47,646	900	211,738	539	47,646	1,074	211,738		
2011	1,660	686	106,609	31,739	378	837	138,348	513	45,725	837	184,073	513	45,725	1,009	184,073		
2012	1,503	619	93,417	32,403	345	769	125,820	499	44,041	769	169,861	499	44,041	967	169,861		
2014	1,375	653	89,773	28,350	321	763	118,123	460	31,744	763	149,867	460	31,744	943	149,867		
2016	1,180	548	86,565	21,563	250	627	108,127	439	35,883	627	144,010	439	35,883	810	144,010		
2018	1,144	572	81,180	13,785	216	628	94,965	375	23,310	628	118,275	375	23,310	760	118,275		
2003	1,047	330	41,704	14,013	138	415	55,718	268	19,611	415	75,329	268	19,611	523	75,329		
2004	1,187	322	53,885	17,900	206	482	71,784	351	26,408	482	98,192	351	26,408	617	98,192		
2005	1,197	338	44,050	17,321	175	436	61,372	312	23,289	436	84,661	312	23,289	569	84,661		
2006	1,082	300	35,608	18,075	222	426	53,682	246	17,351	426	71,033	246	17,351	529	71,033		
2007	1,123	274	32,026	15,491	191	386	47,517	264	15,177	386	62,694	264	15,177	516	62,694		
2008	985	285	31,077	15,523	207	393	46,600	279	17,506	393	64,106	279	17,506	515	64,106		
2009	1,041	323	30,105	16,661	224	418	46,766	247	13,619	418	60,385	247	13,619	513	60,385		
2010	961	323	33,951	13,315	209	409	47,266	256	13,251	409	60,517	256	13,251	501	60,517		
2011	976	271	27,775	12,312	194	370	40,087	209	13,096	370	53,183	209	13,096	459	53,183		

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Table 13.-Page 3 of 5.

Community ^a	Year	Number of SHARC holders ^b	Subsistence harvests														
			Setline (fixed) gear			Hand-operated gear			Total subsistence			Sport harvest ^d			All harvests		
			Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested			
Petersburg (continued)	2012	917	315	34,066	175	10,845	383	44,912	263	14,936	510	59,848					
	2014	863	289	34,161	189	14,214	375	48,375	242	16,021	495	64,396					
	2016	788	255	32,167	145	11,870	338	44,037	227	14,414	453	58,451					
	2018	803	263	29,808	153	10,360	327	40,168	214	12,552	433	52,720					
	2003	52	10	4,398	28	7,056	35	11,454	3	156	36	11,610					
	2004	57	15	4,425	31	4,755	42	9,181	11	850	42	10,031					
	2005	52	8	7,938	18	3,190	18	11,127	9	488	18	11,615					
	2006	50	9	2,397	24	3,797	30	6,194	2	0	30	6,194					
	2007	59	22	5,347	28	3,146	36	8,493	4	233	36	8,726					
	2008	48	13	6,896	23	2,200	30	9,097	2	51	30	9,148					
Sand Point	2009	47	22	1,454	31	4,973	35	6,426	9	197	35	6,623					
	2010	47	23	5,011	18	2,211	30	7,222	5	267	30	7,489					
	2011	46	13	2,569	9	1,059	15	3,638	0	0	15	3,638					
	2012	32	10	1,677	11	1,783	18	3,460	5	44	19	3,503					
	2014	34	12	1,935	9	650	15	2,585	5	155	17	2,739					
	2016	34	14	7,964	16	1,548	23	9,512	7	469	23	9,981					
	2018	37	14	1,028	13	718	19	1,746	6	300	19	2,046					
	2003	73	15	3,409	11	1,410	21	4,819	11	410	21	5,229					
	2004	351	25	4,360	74	6,996	109	11,355	50	1,384	121	12,739					
	2005	321	35	12,201	77	9,700	100	21,901	23	1,281	105	23,182					
2006	365	59	7,406	87	12,809	133	20,214	29	6,300	140	26,514						
2007	364	49	13,278	113	11,337	138	24,615	16	3,034	138	27,649						
2008	342	71	15,766	88	9,247	130	25,013	19	2,195	132	27,208						
2009	137	28	3,987	58	7,772	70	11,759	19	2,665	70	14,424						
2010	130	22	3,408	50	3,898	61	7,306	18	1,129	67	8,435						
2011	136	51	7,358	74	6,039	85	13,397	23	1,243	87	14,640						
2012	136	30	3,401	46	2,307	61	5,708	32	1,280	75	6,989						
2014	139	33	4,046	37	2,341	64	6,387	3	0	64	6,387						
2016	303	38	1,218	93	6,468	108	7,686	4	324	108	8,010						
2018	243	52	3,289	70	6,345	91	9,634	4	132	91	9,766						

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Table 13.-Page 4 of 5.

Community ^a	Year	Number of SHARC holders ^b	Subsistence harvests												All harvests		
			Setline (fixed) gear		Hand-operated gear		Total subsistence		Sport harvest ^d		Estimated		Estimated				
			number	pounds	number	pounds	number	pounds	number	pounds	number	pounds	number	pounds	number	pounds	
Sitka	2003	1,639	760	155,276	160	19,604	821	174,880	401	32,408	956	207,288	401	32,408	956	207,288	
	2004	1,871	714	151,660	147	14,739	904	166,474	412	25,829	1,026	192,303	412	25,829	1,026	192,303	
	2005	1,974	738	126,426	172	19,893	814	146,319	417	55,913	987	202,232	417	55,913	987	202,232	
	2006	1,895	809	145,542	297	17,830	915	163,372	395	23,032	1,036	186,404	395	23,032	1,036	186,404	
	2007	1,954	839	115,162	270	26,886	921	142,049	315	16,200	1,010	158,249	315	16,200	1,010	158,249	
	2008	1,662	784	96,314	232	13,266	845	109,581	307	13,055	932	122,636	307	13,055	932	122,636	
	2009	1,731	774	86,219	265	11,205	844	97,424	265	10,516	941	107,940	265	10,516	941	107,940	
	2010	1,635	700	74,394	218	8,334	755	82,728	228	9,257	849	91,985	228	9,257	849	91,985	
	2011	1,658	739	84,426	159	8,604	784	93,030	249	8,336	867	101,366	249	8,336	867	101,366	
	2012	1,570	659	71,261	168	7,445	697	78,706	237	9,096	799	87,802	237	9,096	799	87,802	
	2014	1,530	600	81,452	182	9,657	644	91,109	262	14,900	769	106,009	262	14,900	769	106,009	
	2016	1,337	635	98,185	184	9,404	688	107,589	235	13,433	783	121,022	235	13,433	783	121,022	
	2018	1,272	602	76,592	178	8,238	650	84,830	246	13,590	750	98,420	246	13,590	750	98,420	
	Toksook Bay	2003	532	8	3,790	47	20,709	54	24,500	0	0	54	24,500	0	0	54	24,500
		2004	529	7	859	44	5,737	56	6,596	0	0	56	6,596	0	0	56	6,596
		2005	522	5	602	60	14,269	61	14,870	2	98	62	14,968	2	98	62	14,968
		2006	533	6	2,333	112	34,149	113	36,481	0	0	113	36,481	0	0	113	36,481
		2007	533	17	1,451	100	6,469	112	7,921	0	0	112	7,921	0	0	112	7,921
2008		34	6	707	8	1,436	9	2,143	0	0	9	2,143	0	0	9	2,143	
2009		33	3	266	10	789	10	1,055	0	0	10	1,055	0	0	10	1,055	
2010		32	5	315	10	560	10	875	0	0	10	875	0	0	10	875	
2011		32	2	378	7	219	8	597	0	0	8	597	0	0	8	597	
2012		7	1	140	4	154	5	294	0	0	5	294	0	0	5	294	
2014		115	0	0	121	32,023	121	32,023	0	0	121	32,023	0	0	121	32,023	
2016		104	5	284	95	25,077	98	25,361	5	732	98	26,093	5	732	98	26,093	
2018		55	4	982	39	5,911	39	6,892	4	324	39	7,216	4	324	39	7,216	
Tununak		2003	0														
		2004	70	16	878	23	1,076	31	1,954	0	0	31	1,954	0	0	31	1,954
		2005	70	3	332	18	2,329	20	2,661	0	0	20	2,661	0	0	20	2,661
		2006	70	7	224	33	3,808	33	4,032	0	0	33	4,032	0	0	33	4,032

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Table 13.—Page 5 of 5.

Community ^a	Year	Number of SHARC holders ^b	Subsistence harvests													
			Setline (fixed) gear			Hand-operated gear			Total subsistence			Sport harvest ^d			All harvests	
			Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested	Estimated number fished	Estimated pounds harvested		
Tununak	2007	69	14	1,536	38	5,479	38	7,015	0	0	0	0	0	38	7,015	
(continued)	2008	68	0	0	8	1,296	8	1,296	0	0	0	0	0	8	1,296	
	2009	11	0	0	7	488	7	488	0	0	0	0	0	7	488	
	2010	11	0	0	9	576	9	576	0	0	0	0	0	9	576	
	2011	11	0	0	4	84	4	84	0	0	0	0	0	4	84	
	2012	11	0	0	3	173	3	173	0	0	0	0	0	3	173	
	2014	81	7	3,710	80	24,241	82	27,951	0	0	0	0	82	27,951		
	2016	65	5	35	65	10,965	65	11,000	0	0	0	0	65	11,000		
	2018	74	1	0	74	10,692	74	10,692	0	0	0	0	74	10,692		
Unalaska ^c	2003	92	39	6,713	31	4,146	50	10,860	33	5,519	33	5,519	70	16,379		
	2004	131	43	9,557	39	5,973	81	15,530	34	2,165	34	2,165	93	17,695		
	2005	150	60	9,573	57	8,535	88	18,108	28	2,439	28	2,439	97	20,547		
	2006	171	53	7,526	47	8,805	81	16,331	50	3,768	50	3,768	101	20,100		
	2007	176	67	9,012	38	4,238	83	13,250	33	2,287	33	2,287	92	15,537		
	2008	173	59	7,293	42	6,417	87	13,710	43	2,962	43	2,962	101	16,672		
	2009	164	56	19,204	54	10,102	76	29,306	45	1,861	45	1,861	98	31,167		
	2010	155	58	7,417	60	5,663	92	13,081	54	2,730	54	2,730	103	15,811		
	2011	141	33	4,449	50	7,808	65	12,257	27	3,030	27	3,030	75	15,287		
	2012	141	41	5,342	41	4,717	62	10,059	44	4,221	44	4,221	83	14,280		
	2014	159	57	6,277	48	2,610	74	8,887	37	2,299	37	2,299	93	11,186		
	2016	142	51	5,193	25	2,583	64	7,776	39	3,444	39	3,444	77	11,220		
	2018	121	43	7,292	32	1,908	58	9,199	36	2,880	36	2,880	75	12,079		

Source ADF&G Division of Subsistence SHARC surveys, 2004–2012, 2015, 2017, and 2019.

a. For data on all communities for 2016, see Appendix Tables D-2, D-3, and D-4.

b. SHARC = Subsistence halibut registration certificate; for 2003–2012, includes all SHARC holders living in the community. For 2014, for Sand Point, Toksook Bay, and Tununak, and in 2016 for Toksook Bay and Tununak, totals include SHARC holders and others identified as potential halibut fishers during household surveys. For 2014, the number of SHARC holders was 92 in Sand Point, 7 in Toksook Bay, and 5 in Tununak. For 2016, the number of SHARC holders was 20 in Toksook Bay and 6 in Tununak.

c. Includes Dutch Harbor.

d. Sport harvests by SHARC holders only.

Table 14.—Halibut removals in Alaska, by regulatory area, 2018.

Area	Pounds net weight						Total
	Commercial landings ^a	Sport ^b	Subsistence ^c	Commercial discard mortality	Bycatch mortality	IPHC research	
2C	3,432,611	2,172,365	366,214	59,000	32,000	199,324	6,261,514
3A	7,197,255	3,642,052	187,698	285,000	1,654,000	304,608	13,270,613
3B	2,437,783	2,000	16,644	208,000	463,000	74,303	3,201,730
4	3,663,813	11,000	55,222	114,000	3,489,000	84,140	7,417,175
Alaska	16,731,462	5,827,417	625,778	666,000	5,638,000	662,375	30,151,032

Sources Erikson (2018:2–3,17); ADF&G Division of Subsistence, SHARC surveys, 2019.

a. Commercial catch includes the Metlakatla fishery catch in Area 2C.

b. Projected harvests; includes sport landings in guided and unguided fisheries and sport mortality.

c. Includes 9,989 pounds of U32 (sublegal) halibut legally retained by CDQ organizations in areas 4D and 4E for personal use. The subsistence harvest by SHARC holders was 615,789 pounds, including 45,233 pounds in Area 4.

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Table 15.—Comparison of selected SHARC survey results, 2003–2012, 2014, 2016, and 2018.

	Study years												Percent change: 2018 compared to...		
												Previous 12-year average			
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2014			2016	2018
Response to survey															
Number of SHARCs issued ^{a, b, c}	11,635	13,813	14,306	14,206	15,047	11,565	11,733	10,953	11,145	9,944	9,719	8,925	8,576	-3.9%	-28.0%
Number of surveys returned	7,593	8,524	8,565	8,426	8,682	7,316	6,944	6,670	7,589	7,054	6,336	5,862	5,852	-0.2%	-21.6%
Response rate	65.3%	61.7%	59.9%	59.3%	57.7%	63.3%	59.2%	60.9%	68.1%	70.9%	65.2%	65.7%	68.2%	3.9%	8.2%
Subsistence halibut fishing															
Estimated number of subsistence halibut fishers	4,942	5,984	5,621	5,909	5,933	5,303	5,296	4,991	4,705	4,394	4,506	4,408	4,094	-7.1%	-20.7%
Percent of all SHARC holders subsistence fishing	42.5%	43.3%	39.3%	41.6%	39.4%	45.9%	45.1%	45.6%	42.2%	44.2%	46.4%	49.4%	47.7%	-3.3%	9.2%
Estimated number of subsistence halibut	43,926	52,412	55,875	54,089	53,697	48,604	45,434	43,332	38,162	37,093	40,698	36,815	29,963	-18.6%	-34.6%
Estimated net pounds of subsistence halibut	1,041,330	1,193,162	1,178,222	1,125,312	1,032,293	886,988	861,359	797,560	697,656	686,991	760,469	727,178	615,789	-15.3%	-32.8%
Average weight of subsistence-harvested halibut	23.7	22.8	21.1	20.8	19.2	18.2	19.0	18.4	18.3	18.5	18.7	19.8	20.6	4.0%	3.4%
Average harvest per fisher, fish	8.9	8.8	9.9	9.2	9.1	9.2	8.6	8.7	8.1	8.4	9.0	8.4	7.3	-12.4%	-17.3%
Average harvest per fisher, net pounds	210.7	199.4	209.6	190.4	174.0	167.3	162.6	159.8	148.3	156.3	168.8	165.0	150.4	-8.8%	-14.6%
Sport halibut fishing by SHARC holders															
Estimated number of sport halibut fishers	2,580	3,107	3,147	2,894	2,566	2,609	2,528	2,297	2,070	2,231	2,228	2,127	1,942	-8.7%	-23.3%
Percent of all SHARC holders sport fishing	22.2%	22.5%	22.0%	20.4%	17.1%	22.6%	21.5%	21.0%	18.6%	22.4%	22.9%	23.8%	22.6%	-5.0%	5.8%
Estimated number of sport halibut	10,784	12,530	14,096	11,219	10,959	11,427	9,938	8,651	8,235	8,727	8,543	7,814	6,770	-13.4%	-33.9%
Estimated net pounds of sport halibut	245,947	251,092	293,415	223,639	196,198	197,760	165,318	149,241	135,224	146,174	150,717	144,638	125,505	-13.2%	-34.5%
Average weight of sport-harvested halibut	22.8	20.0	20.8	19.9	17.9	17.3	16.6	17.3	16.4	16.7	17.6	18.5	18.5	0.1%	0.2%
Average harvest per fisher, fish	4.2	4.0	4.5	3.9	4.3	4.4	3.9	3.8	4.0	3.9	3.8	3.7	3.5	-5.1%	-13.4%
Average harvest per fisher, net pounds	95.3	80.8	93.2	77.3	76.5	75.8	65.4	65.0	65.3	65.5	67.6	68.0	64.6	-5.0%	-13.4%
Total number of halibut fishers															
Estimated number of fishers, subsistence or sport	5,941	6,980	6,876	6,899	6,787	6,202	6,153	5,835	5,496	5,358	5,570	5,341	4,977	-6.8%	-18.7%
Percent of total SHARC holders who fished	51.1%	50.5%	48.1%	48.6%	45.1%	53.6%	52.4%	53.3%	49.3%	53.9%	57.3%	59.8%	58.0%	-3.0%	11.8%

Sources: Fall and Koster 2018; ADF&G Division of Subsistence, SHARC surveys, 2019.
a. In 2014, equals total SHARCs issued (9,474) plus potential subsistence halibut fishers in 4 study communities.
b. In 2016, equals total SHARCs issued (8,779) plus potential subsistence halibut fishers in 2 study communities.
c. In 2018, equals total SHARCs issued (8,489) plus potential subsistence halibut fishers in 2 study communities.

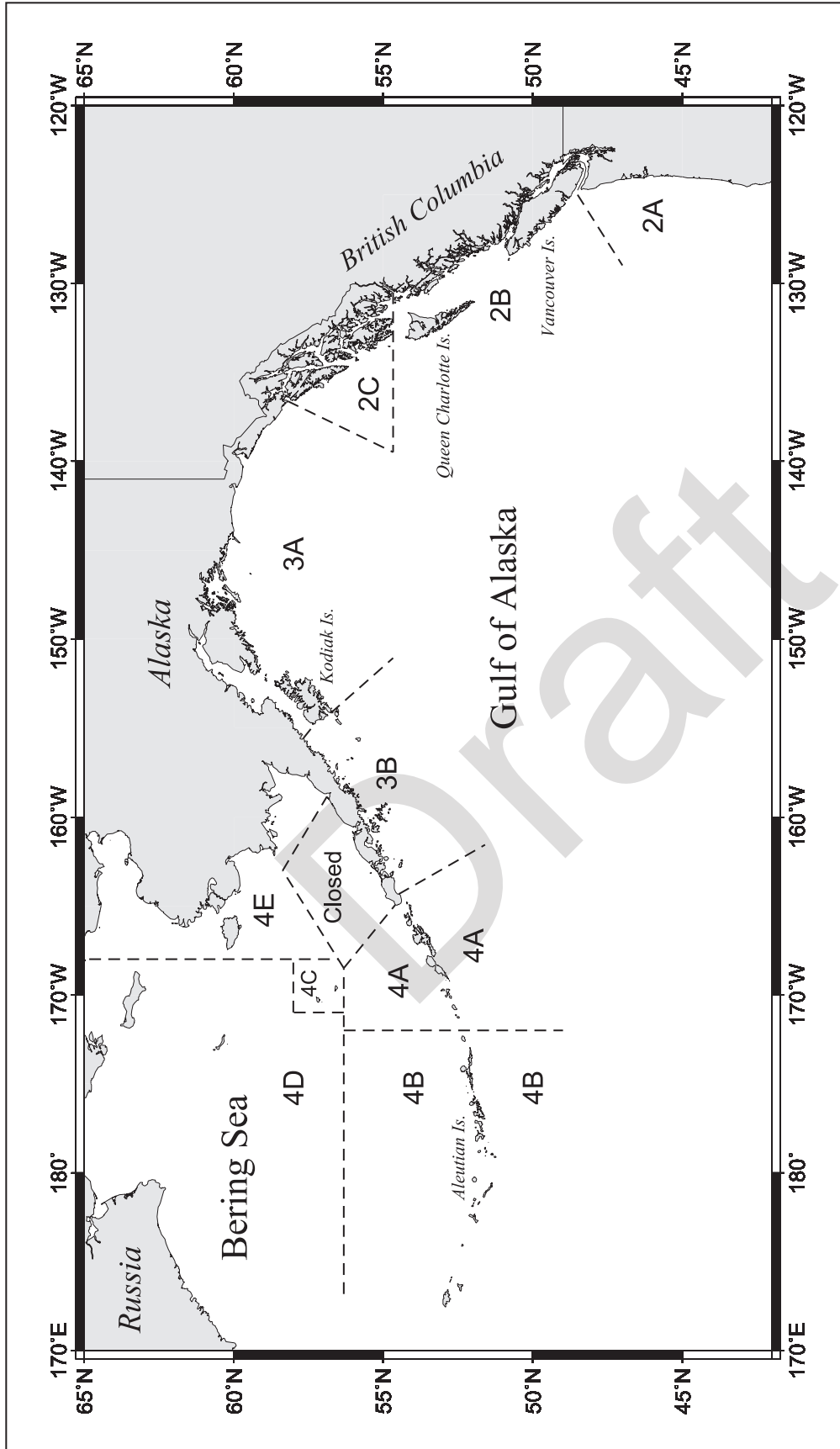


Figure 1.—Regulatory areas for the halibut fishery.

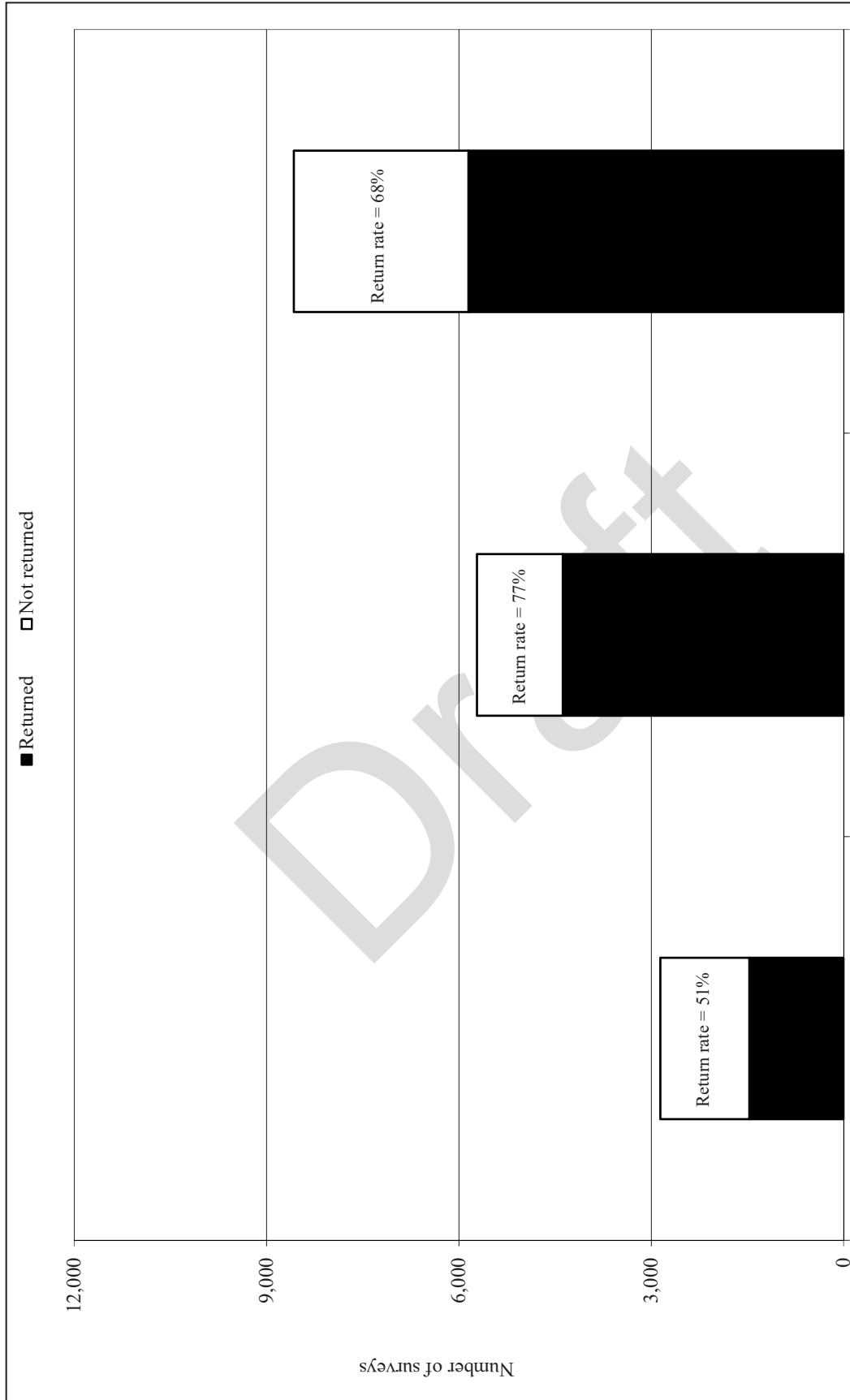


Figure 2.—Number of surveys returned and return rates for subsistence halibut surveys, by SHARC type, 2018.

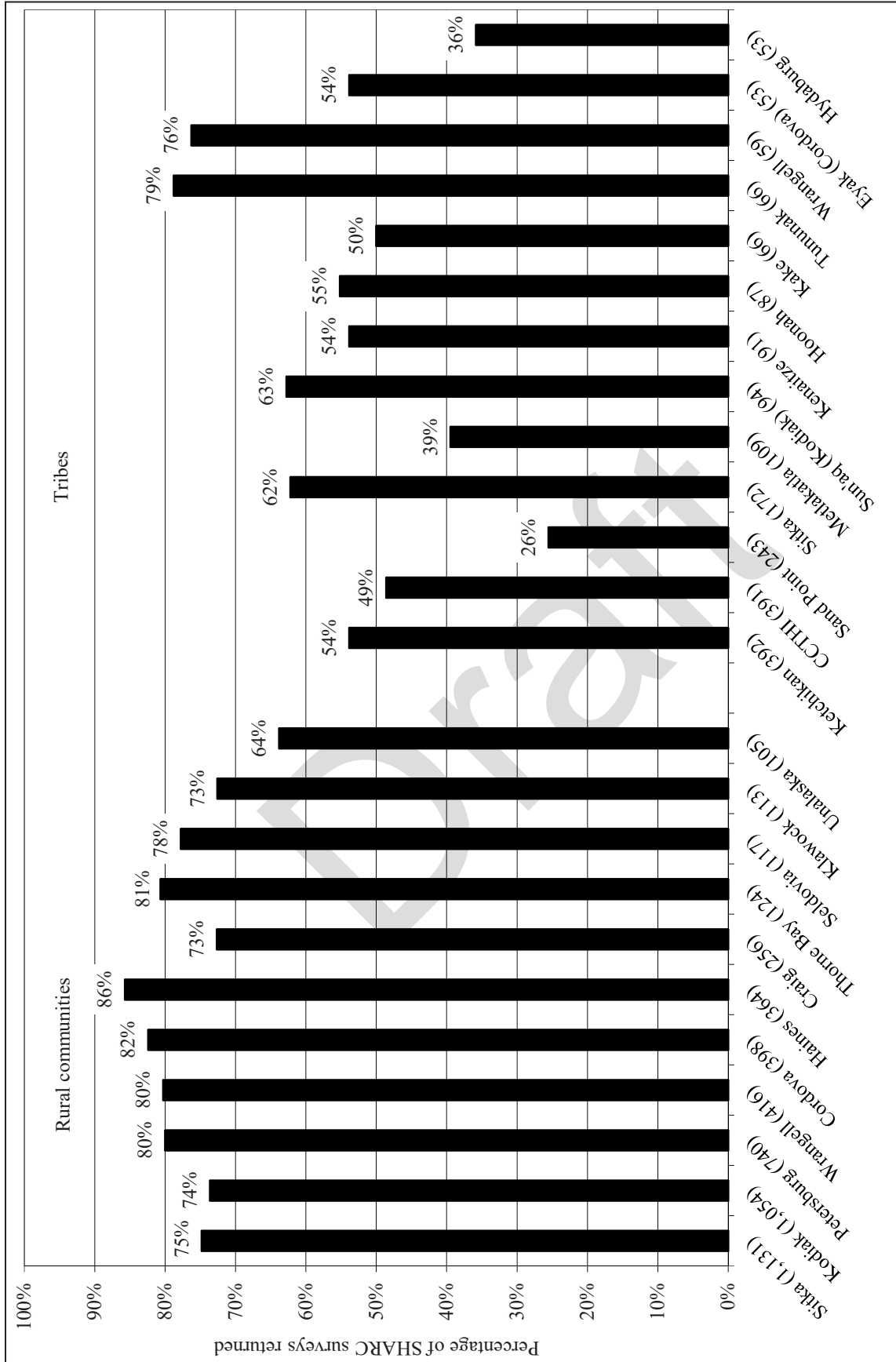


Figure 3.—SHARC survey return rates, communities with more than 100 SHARCs issued and tribes with more than 60 SHARCs issued, 2018.

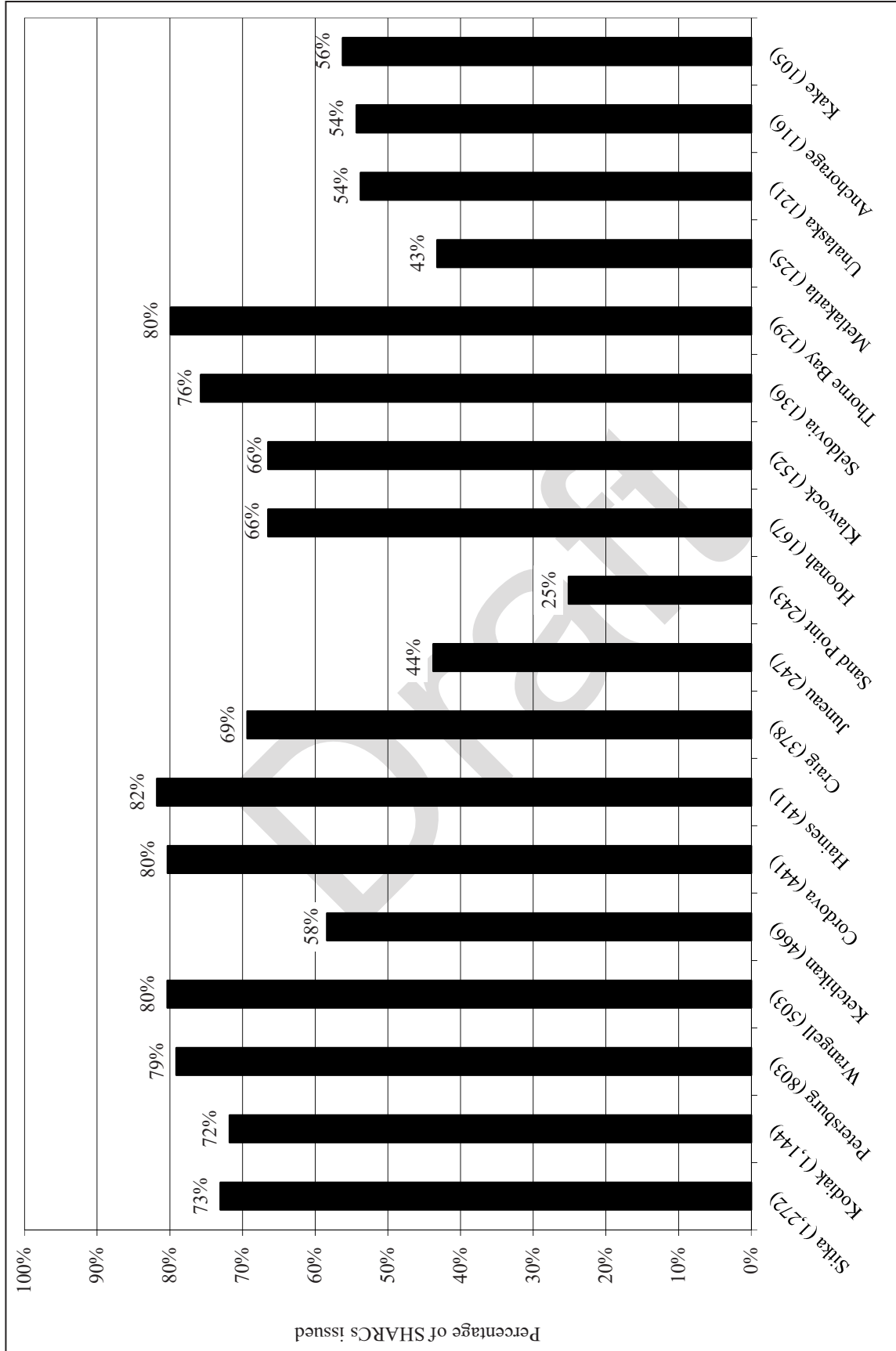


Figure 4.—Return rate by place of residence, communities with 100 or more SHARCs issued, 2018.

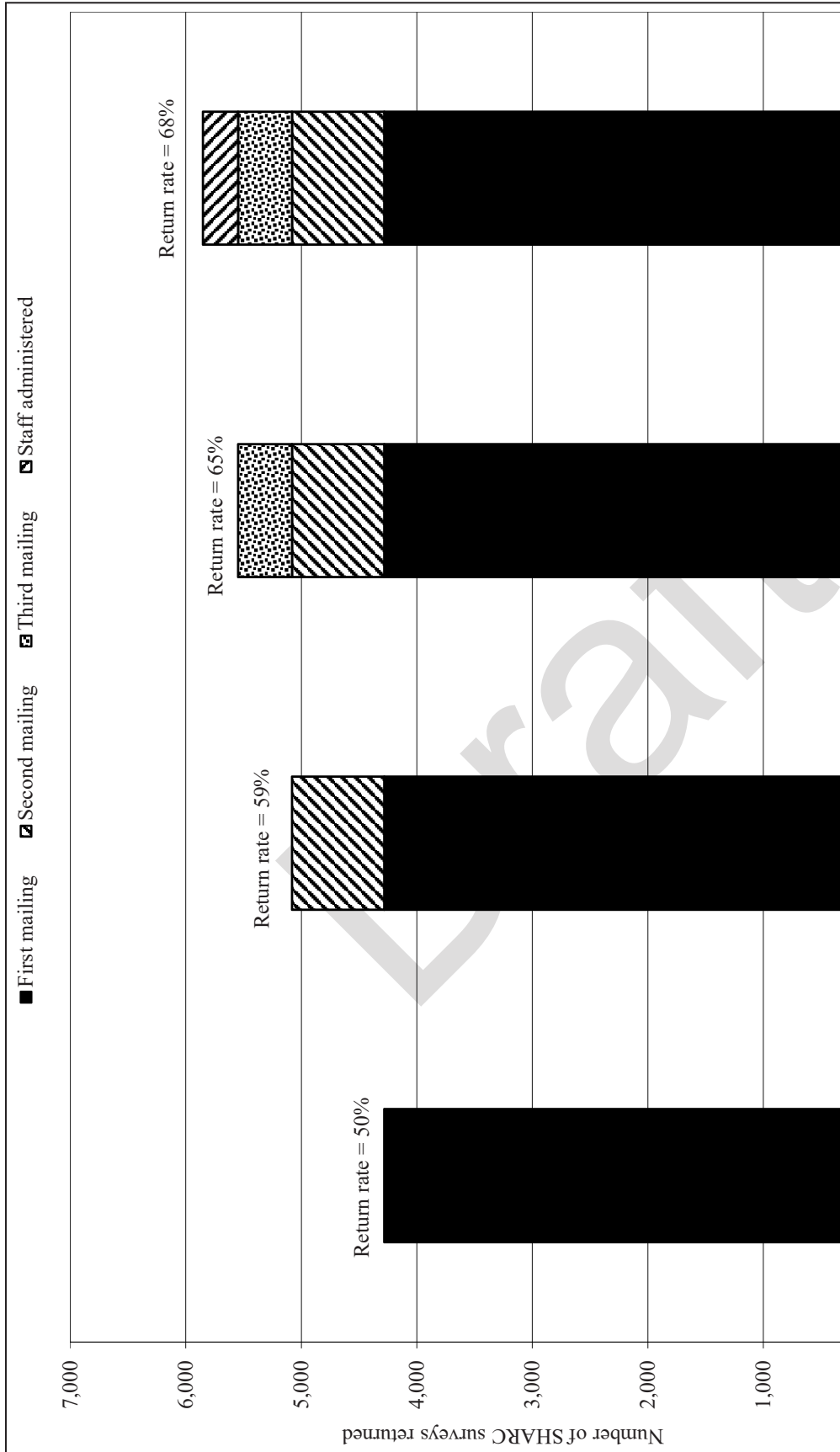
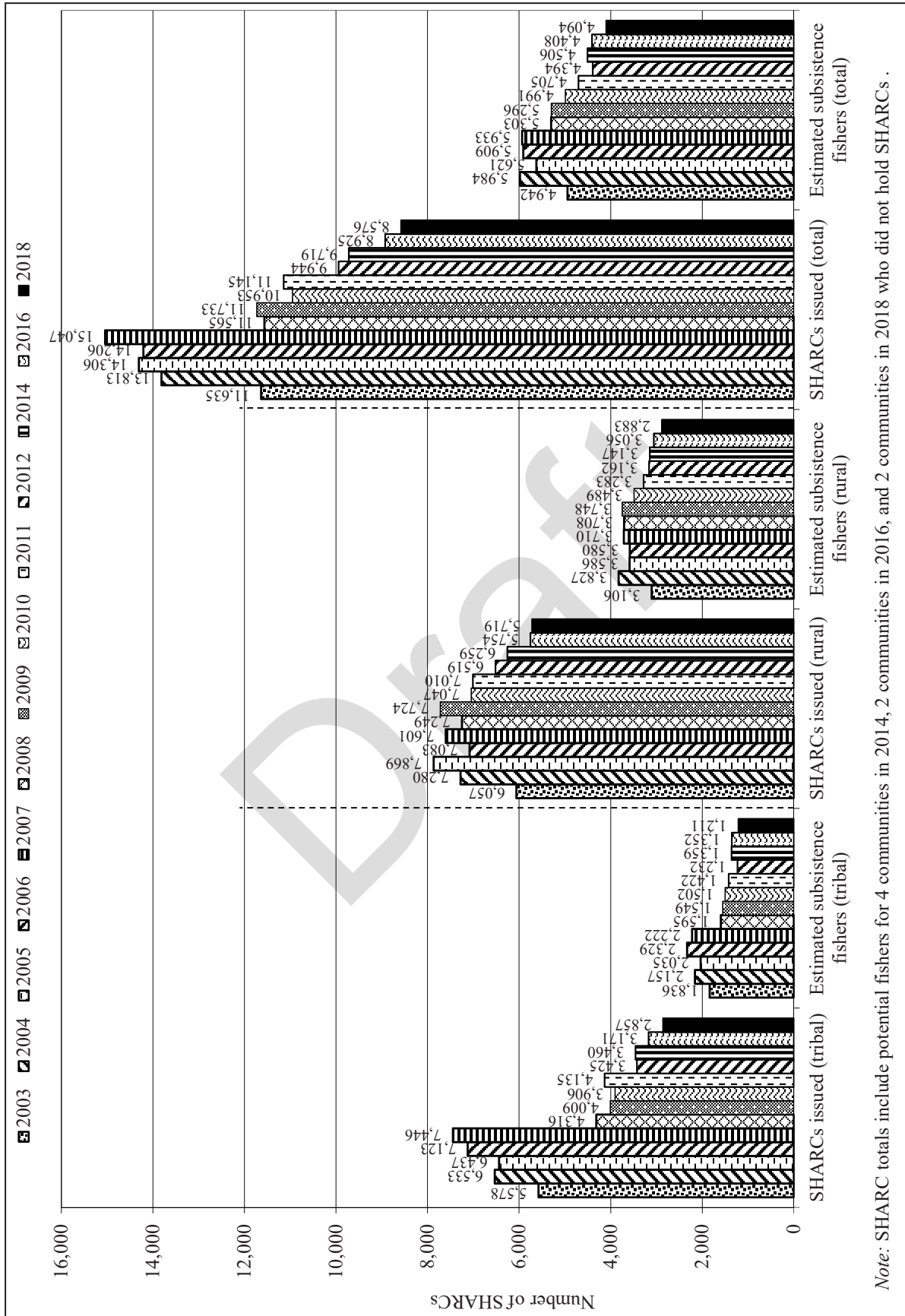


Figure 5.-Number of survey responses by response category, 2018.



Note: SHARC totals include potential fishers for 4 communities in 2014, 2 communities in 2016, and 2 communities in 2018 who did not hold SHARCs .

Figure 6.—Number of SHARCs issued and estimated number of halibut fishers by SHARC type, 2003–2012, 2014, 2016, and 2018.

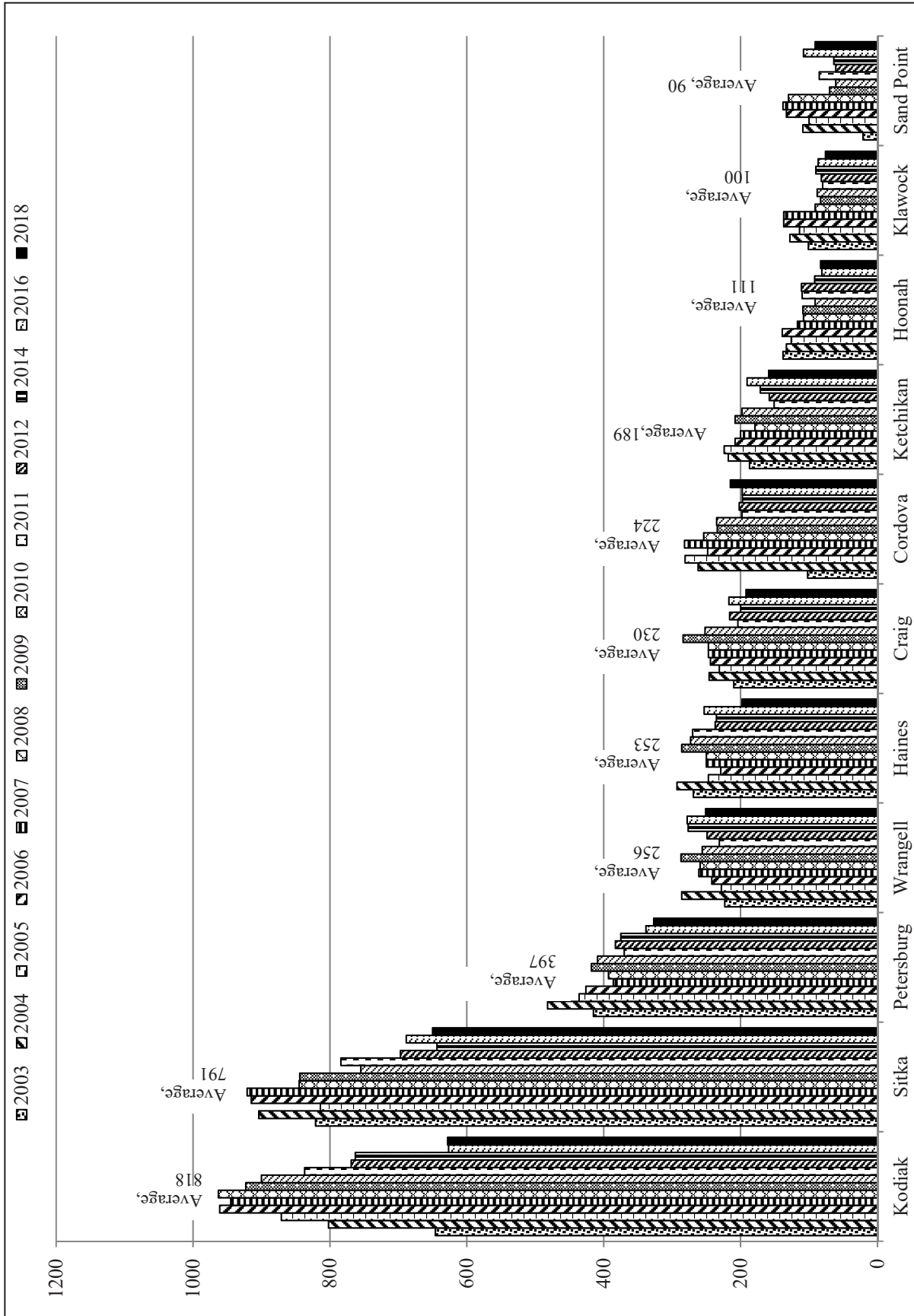


Figure 7.-Number of subsistence halibut fishers by residence, 2003–2012, 2014, 2016, and 2018.

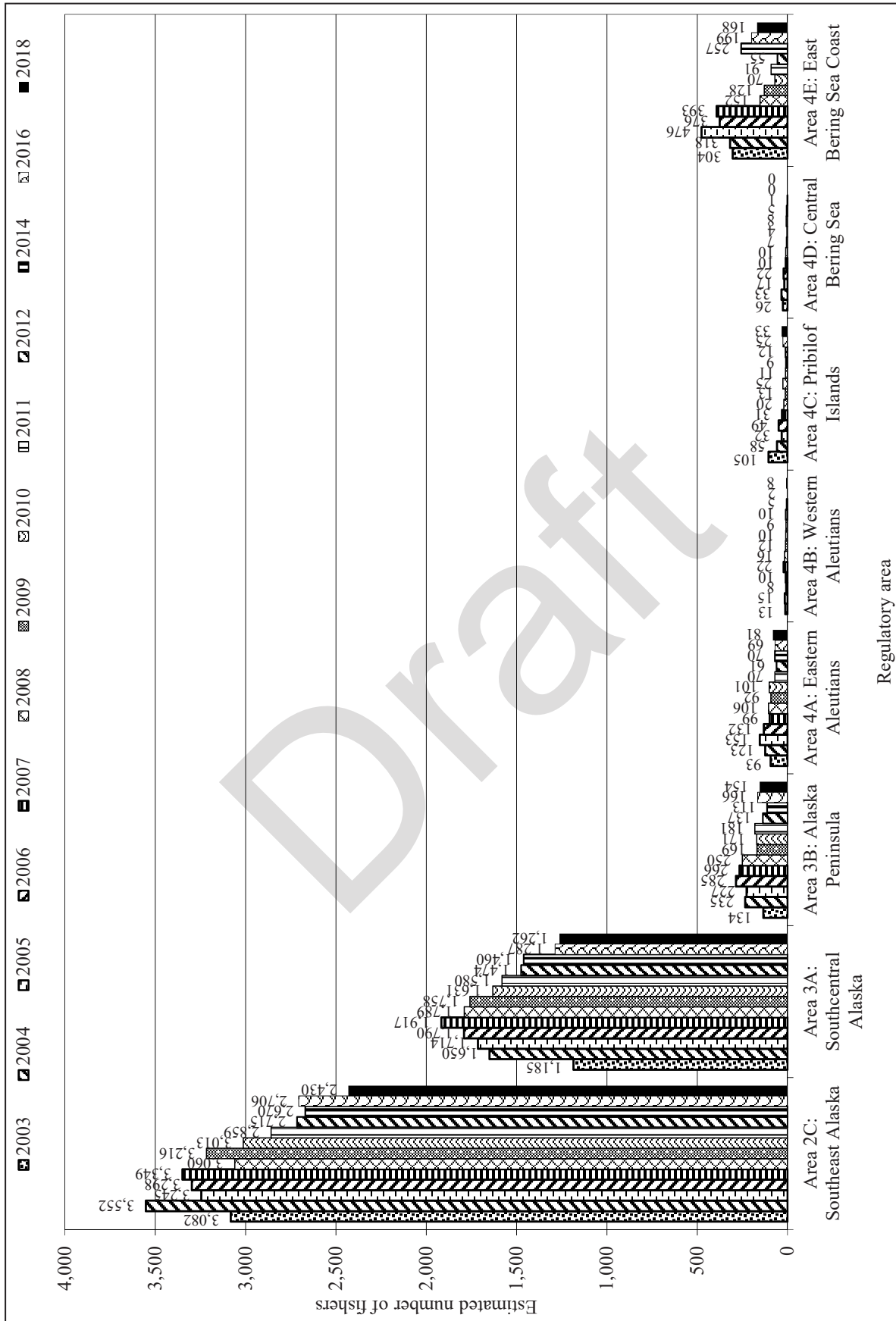


Figure 8.—Estimated number of Alaska subsistence halibut fishers, by regulatory area fished, 2003–2012, 2014, 2016, and 2018.

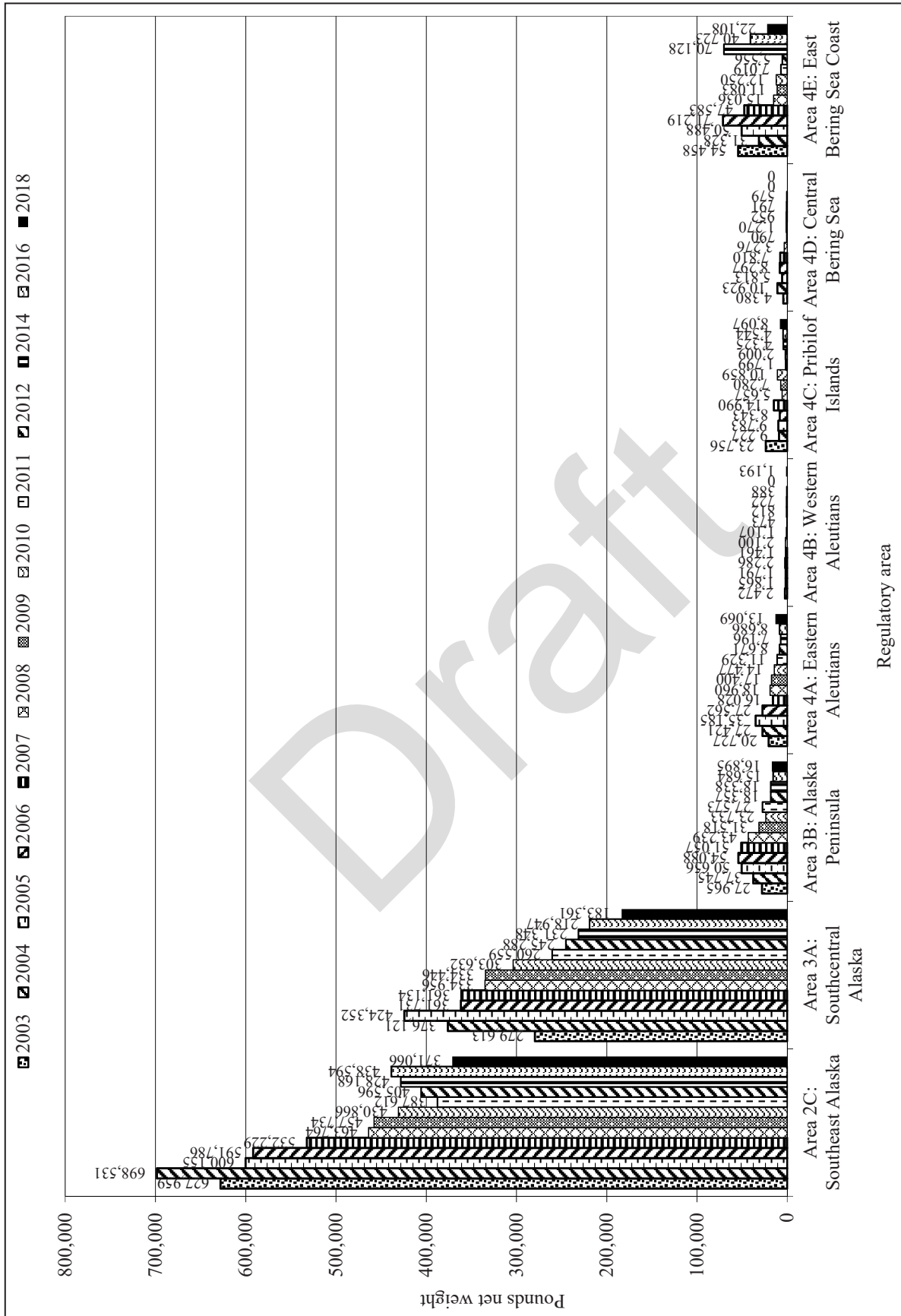


Figure 9.—Estimated subsistence halibut harvests in Alaska, pounds net weight, by regulatory area of tribe and rural community, 2003–2012, 2014, 2016, and 2018.

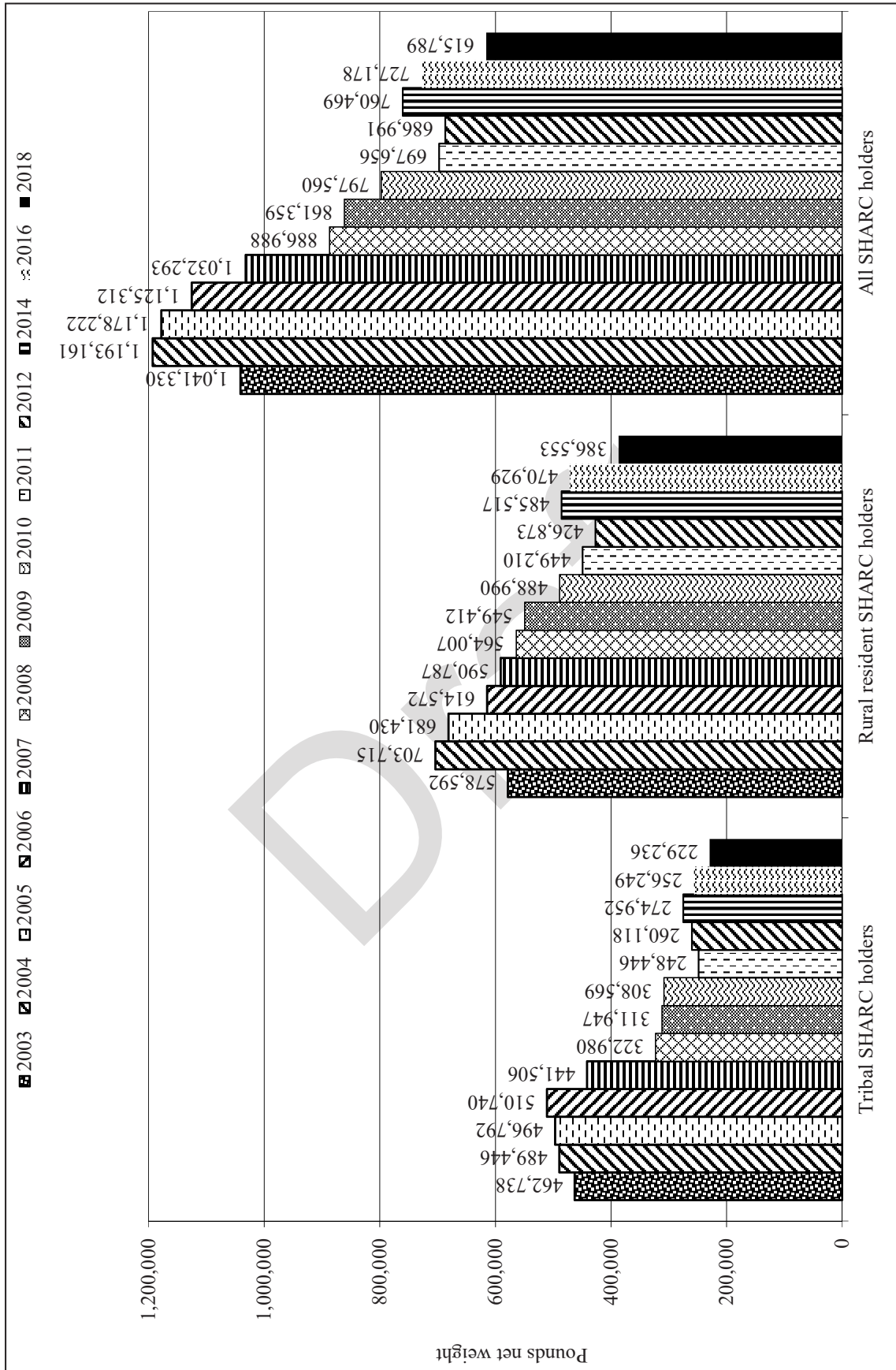


Figure 10.—Estimated Alaska subsistence halibut harvests, by SHARC type, 2003–2012, 2014, 2019, and 2018.

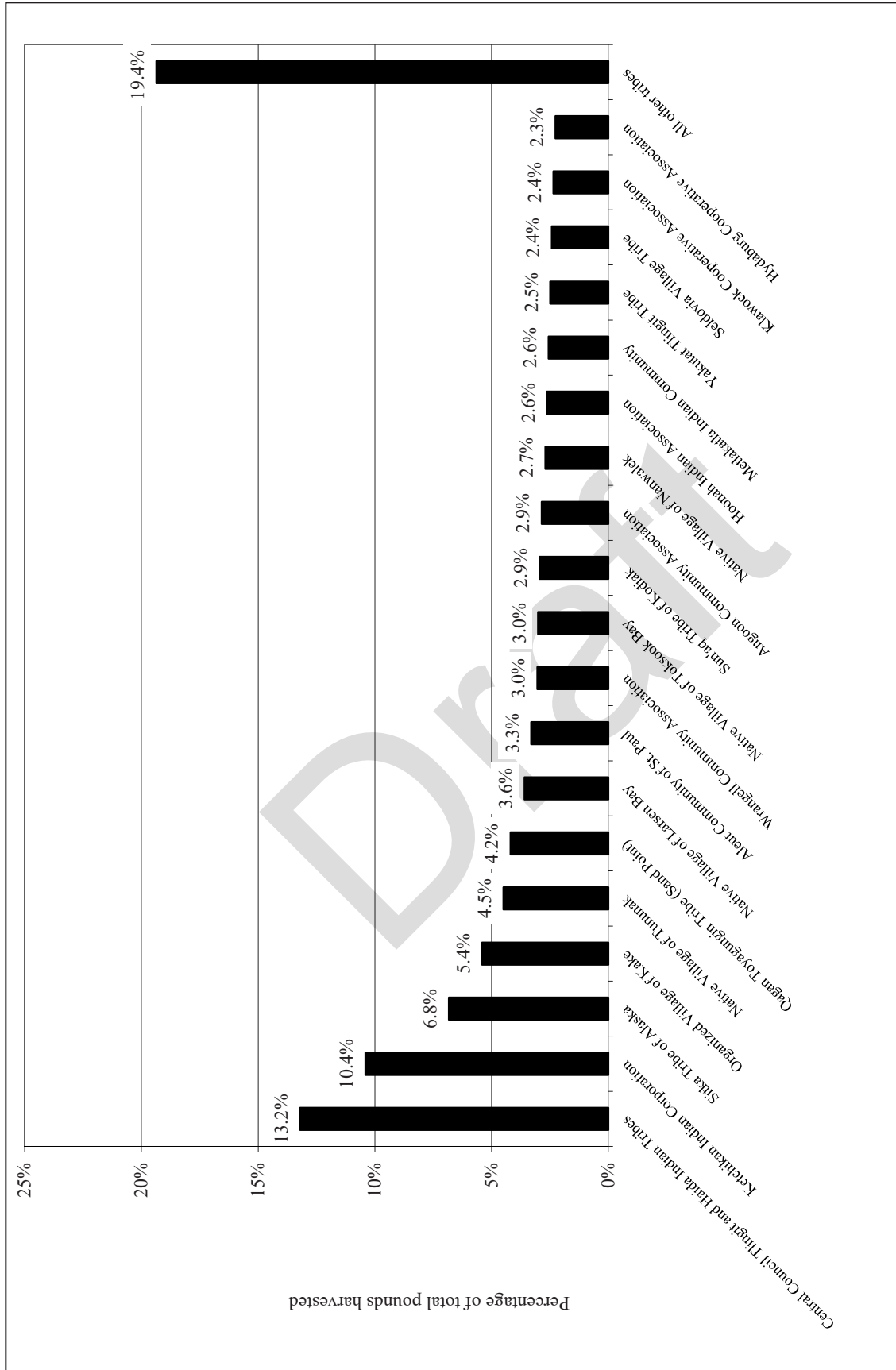


Figure 11.—Percentage of tribal subsistence halibut harvest by tribe, 2018.

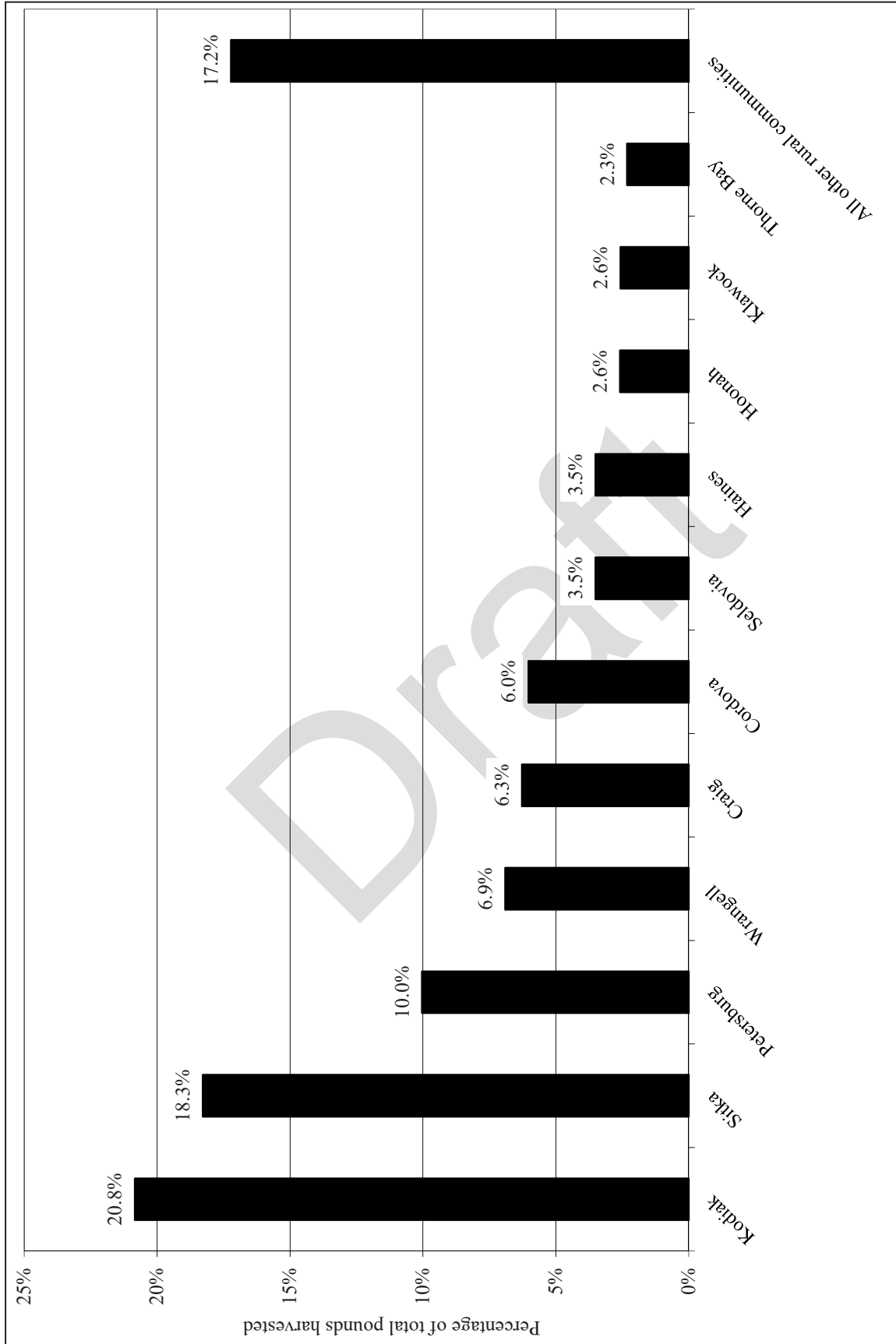


Figure 12.—Percentage of rural community subsistence halibut harvest by community, 2018.

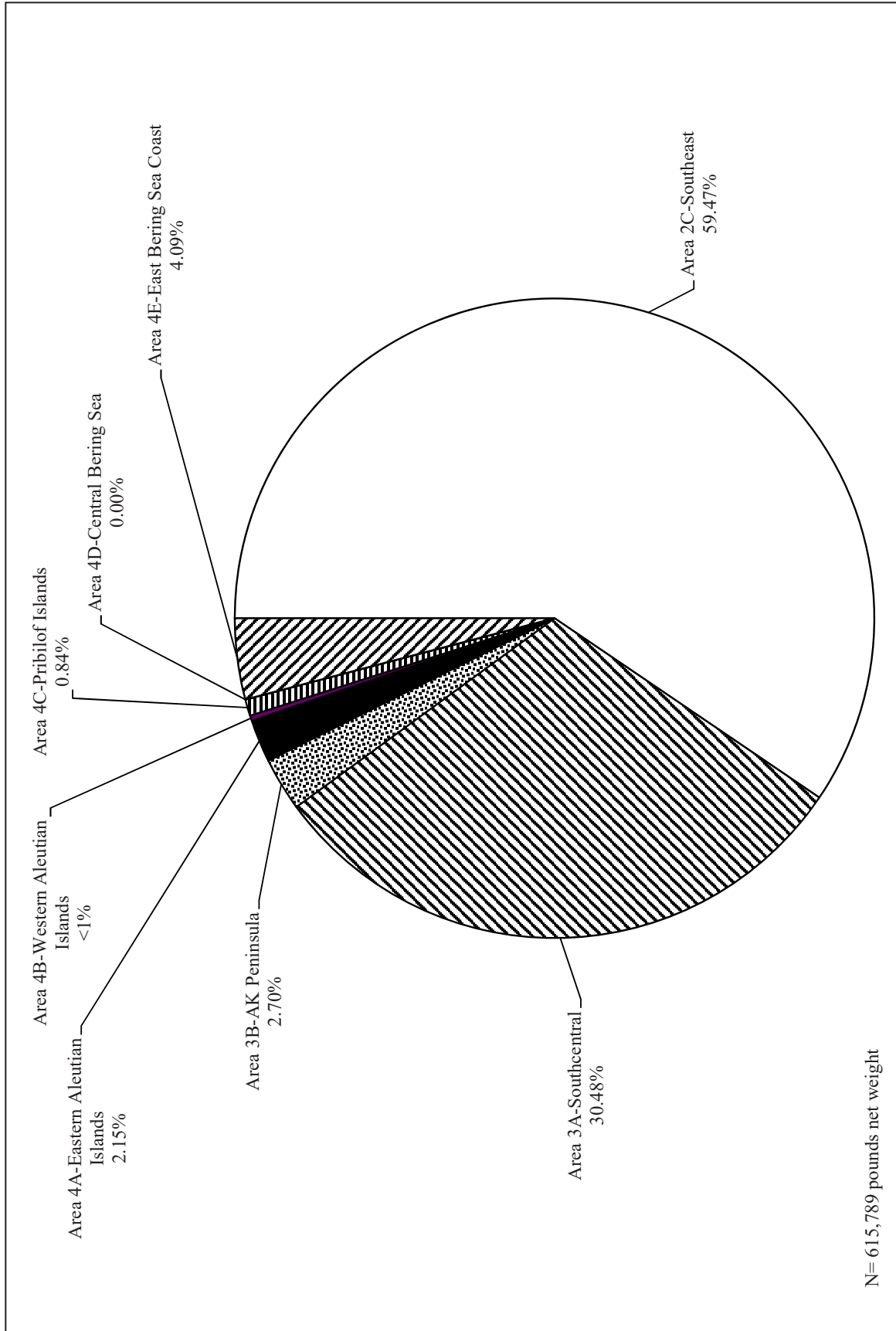


Figure 13.—Percentage of Alaska subsistence halibut harvest, by regulatory area fished, 2018.

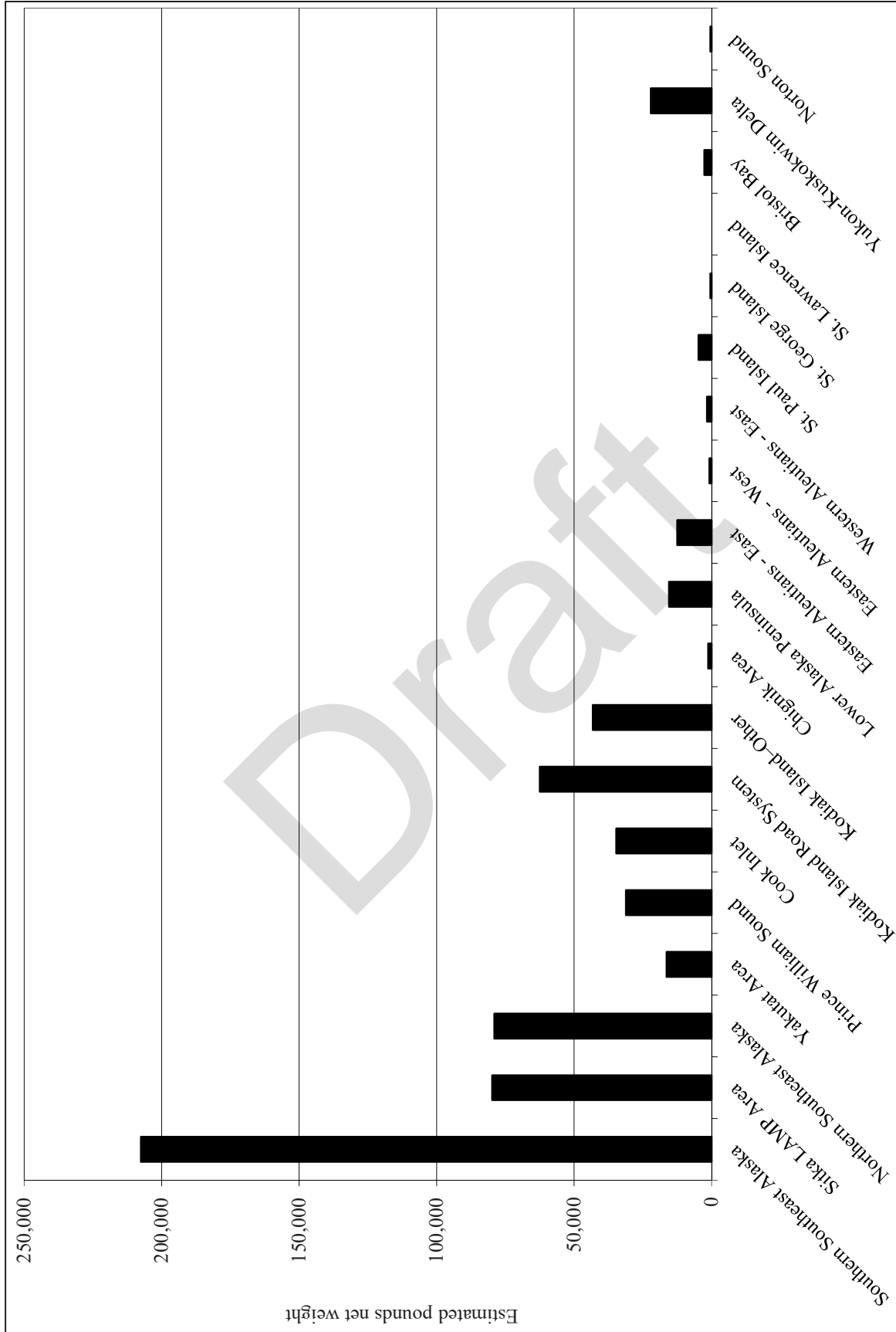


Figure 14.-Alaska subsistence harvests by geographic area, 2018.

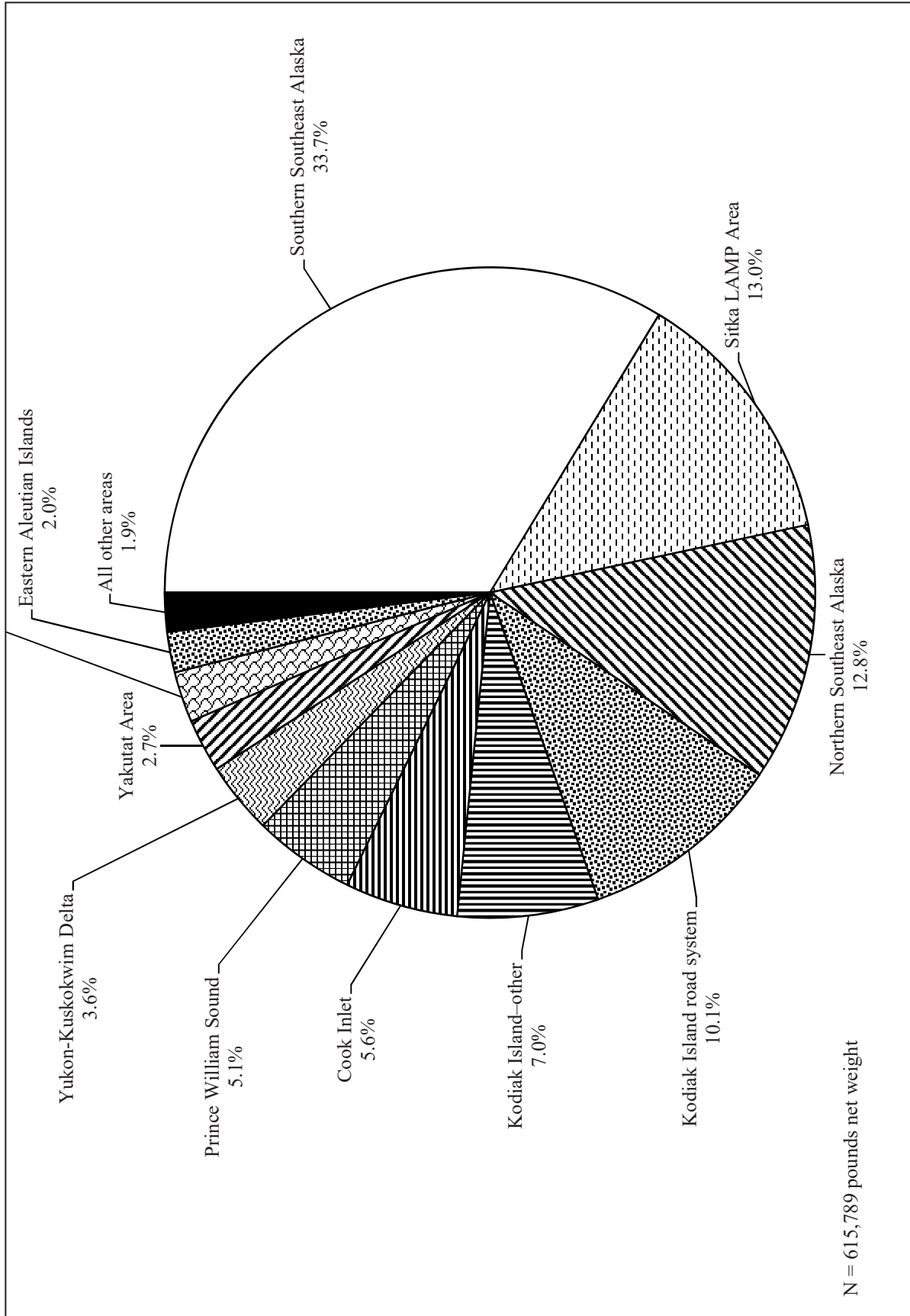


Figure 15.—Percentage of Alaska subsistence halibut harvest by geographic area, 2018.

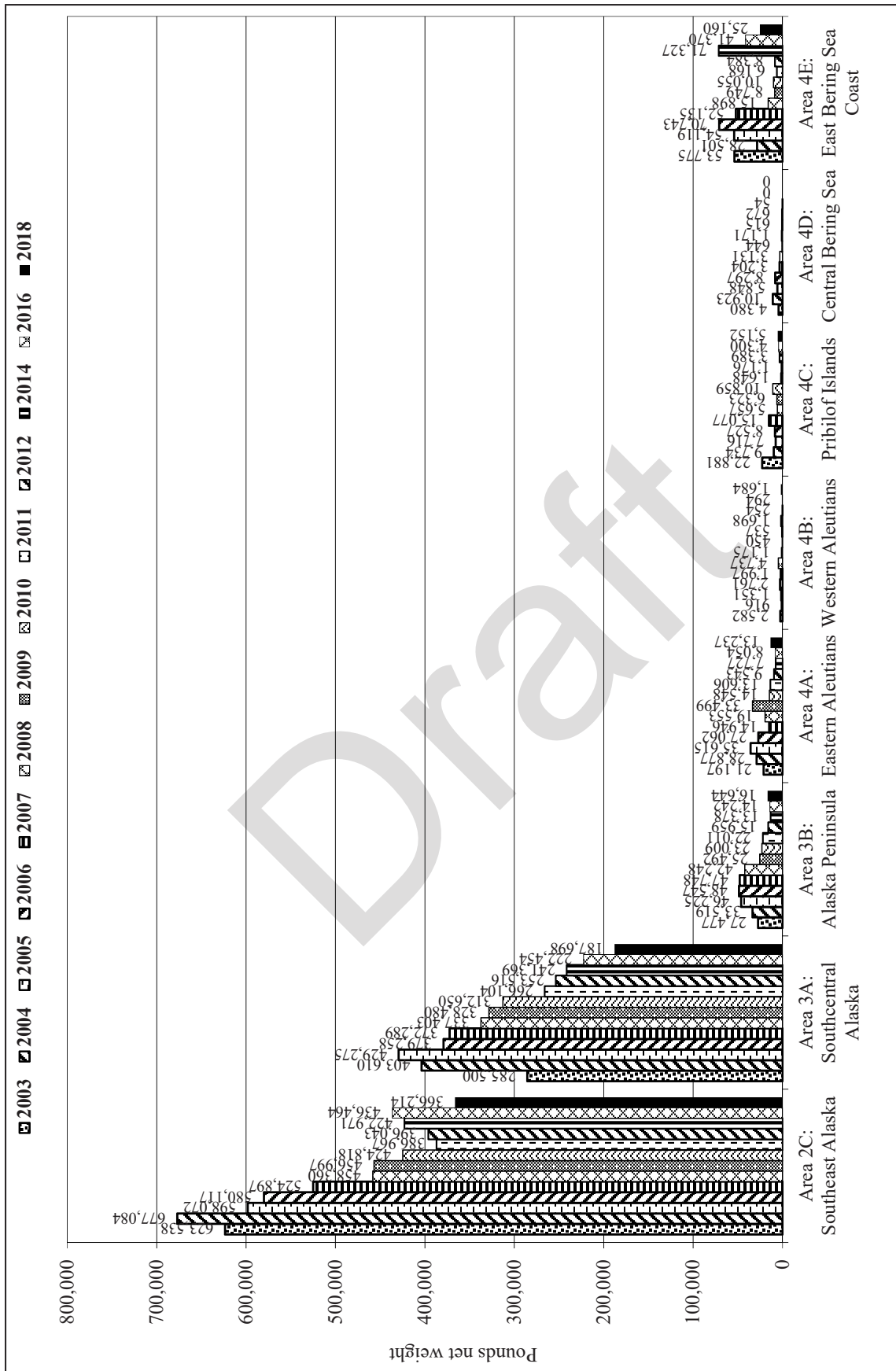


Figure 16.—Estimated subsistence halibut harvests in Alaska, pounds net weight, by regulatory area fished, 2003–2012, 2014, 2016, and 2018.

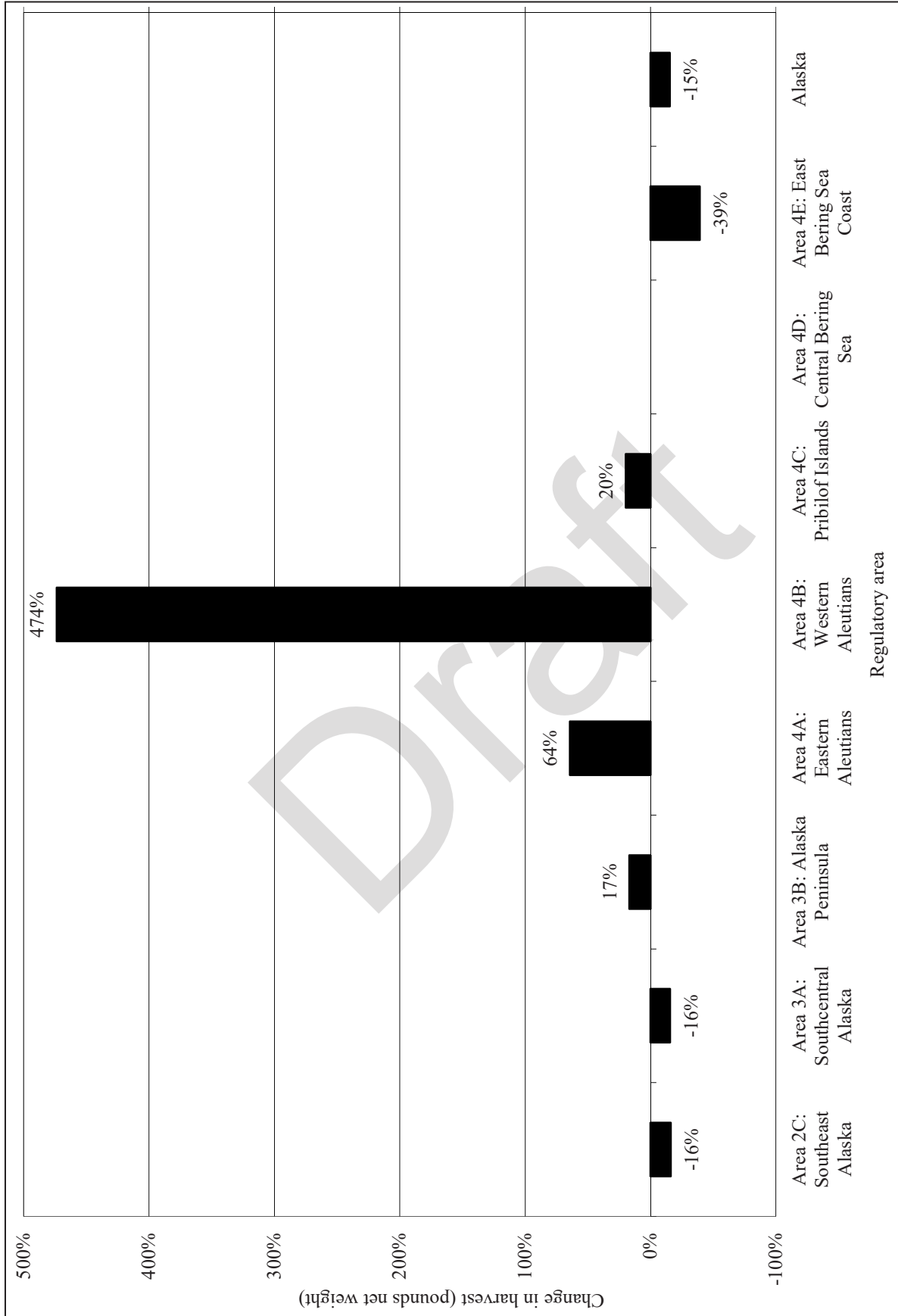


Figure 17.—Change in Alaska subsistence halibut harvests, by regulatory area fished, from 2014 to 2018.

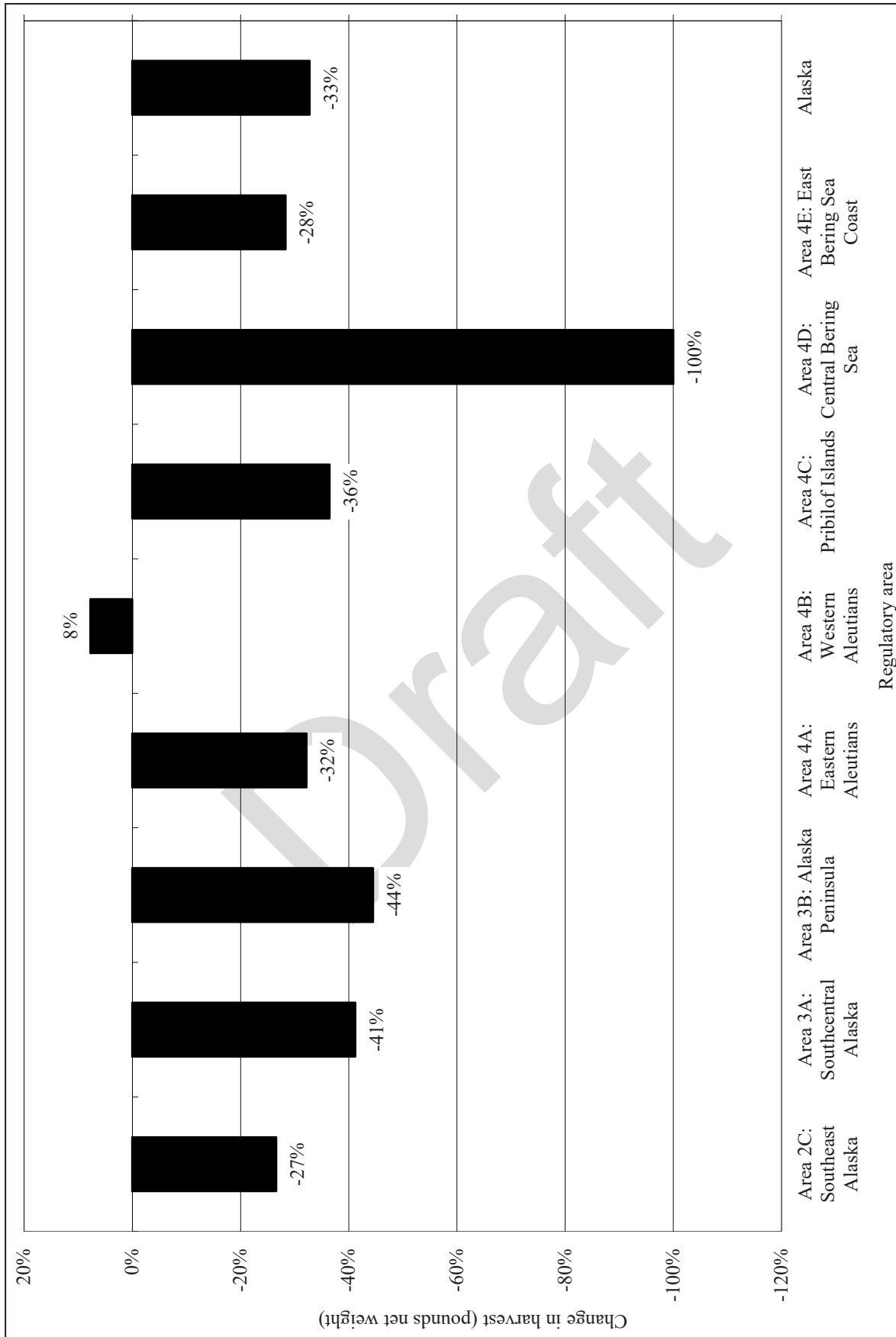


Figure 18.—Change in Alaska subsistence halibut harvests, by regulatory area fished, in 2018 compared to recent 12-year average (2006–2012, 2014, 2016, and 2018).

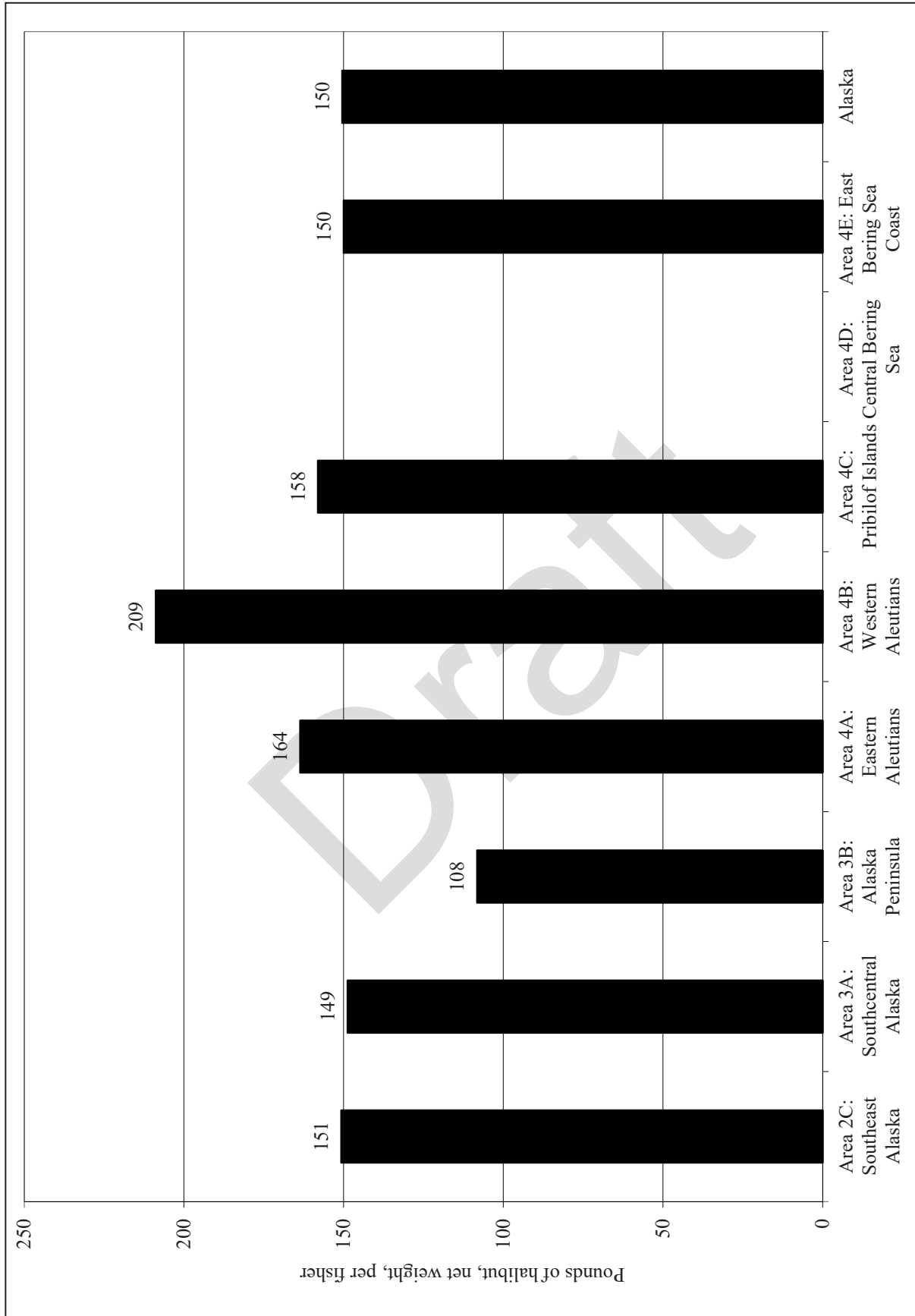


Figure 19.—Average subsistence harvest of halibut per fisher in Alaska, in pounds net weight, by regulatory area, 2018.

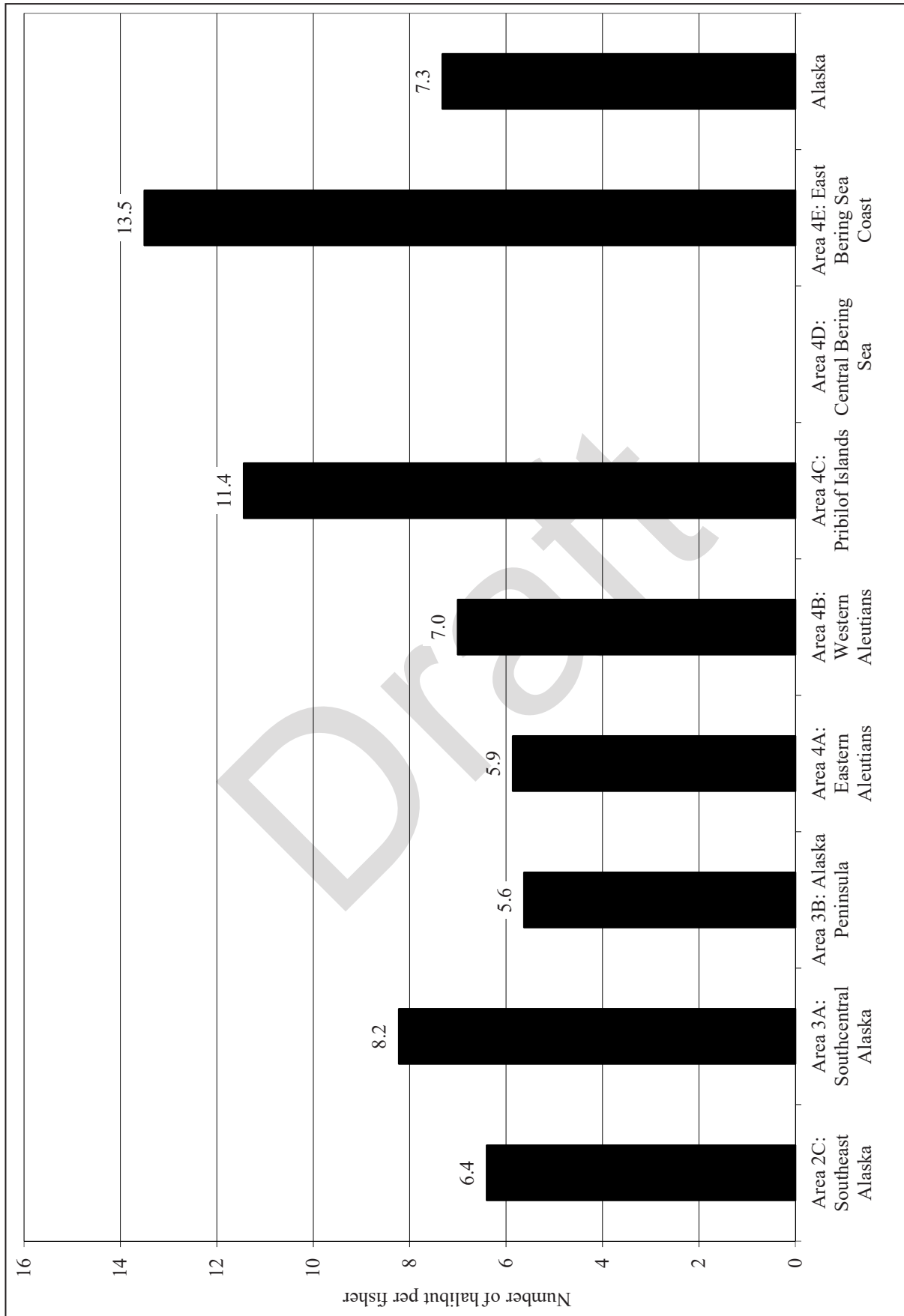


Figure 20.—Average subsistence harvest of halibut per fisher in Alaska, by regulatory area, 2018.

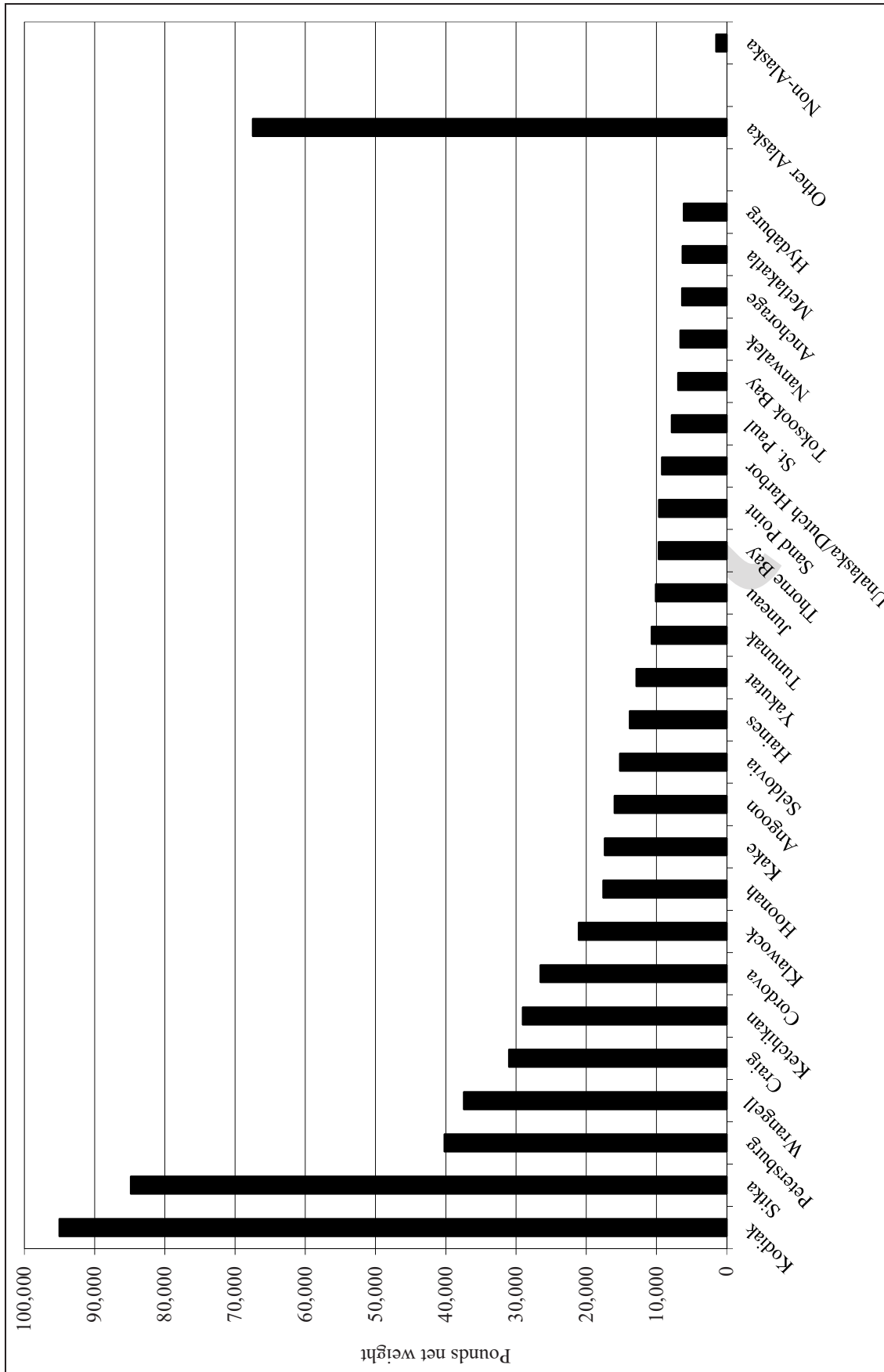


Figure 21.—Alaska subsistence halibut harvests by place of residence, 2018.

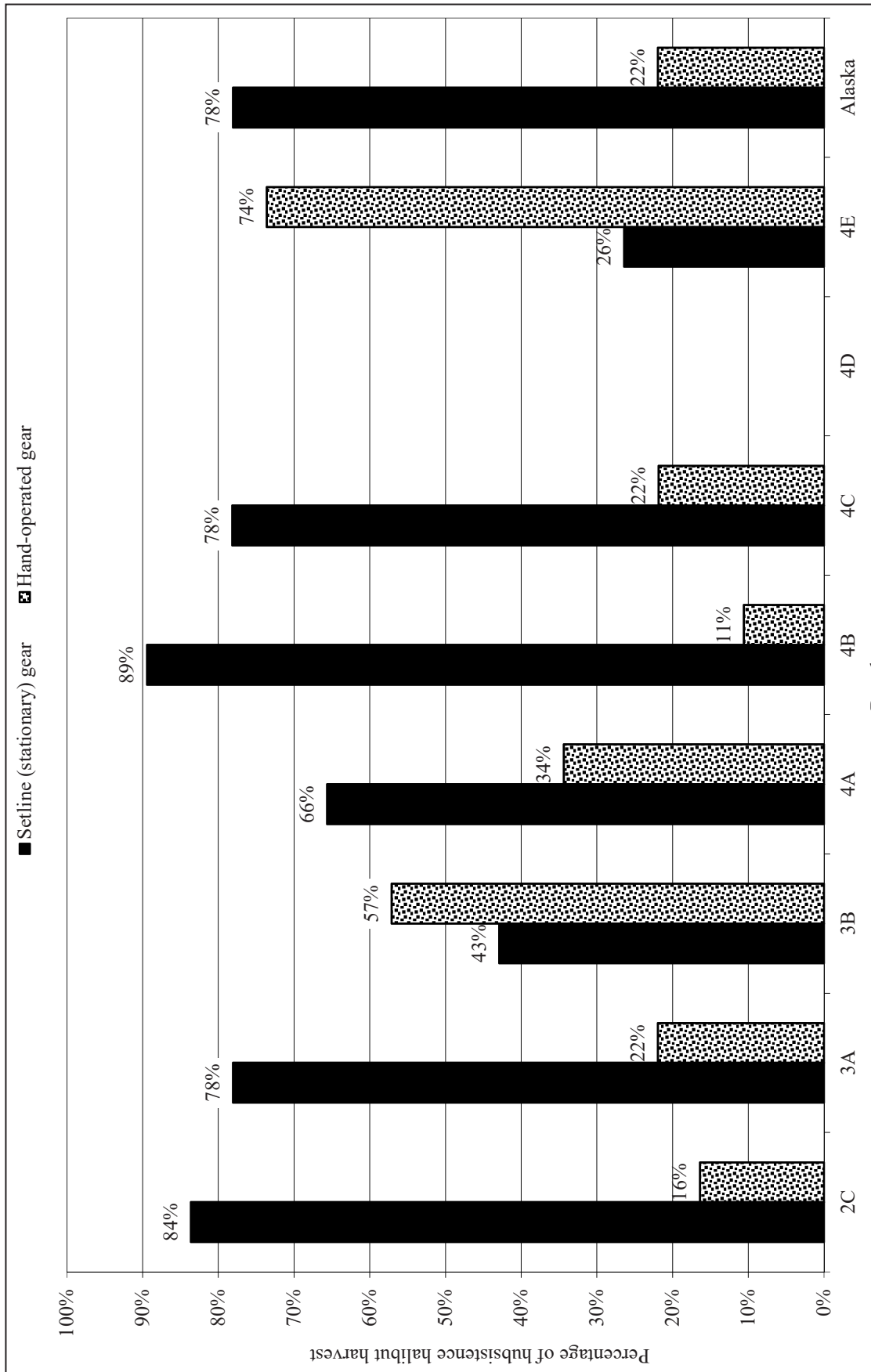


Figure 22.—Percentage of Alaska subsistence halibut harvest by gear type, by regulatory area, 2018.

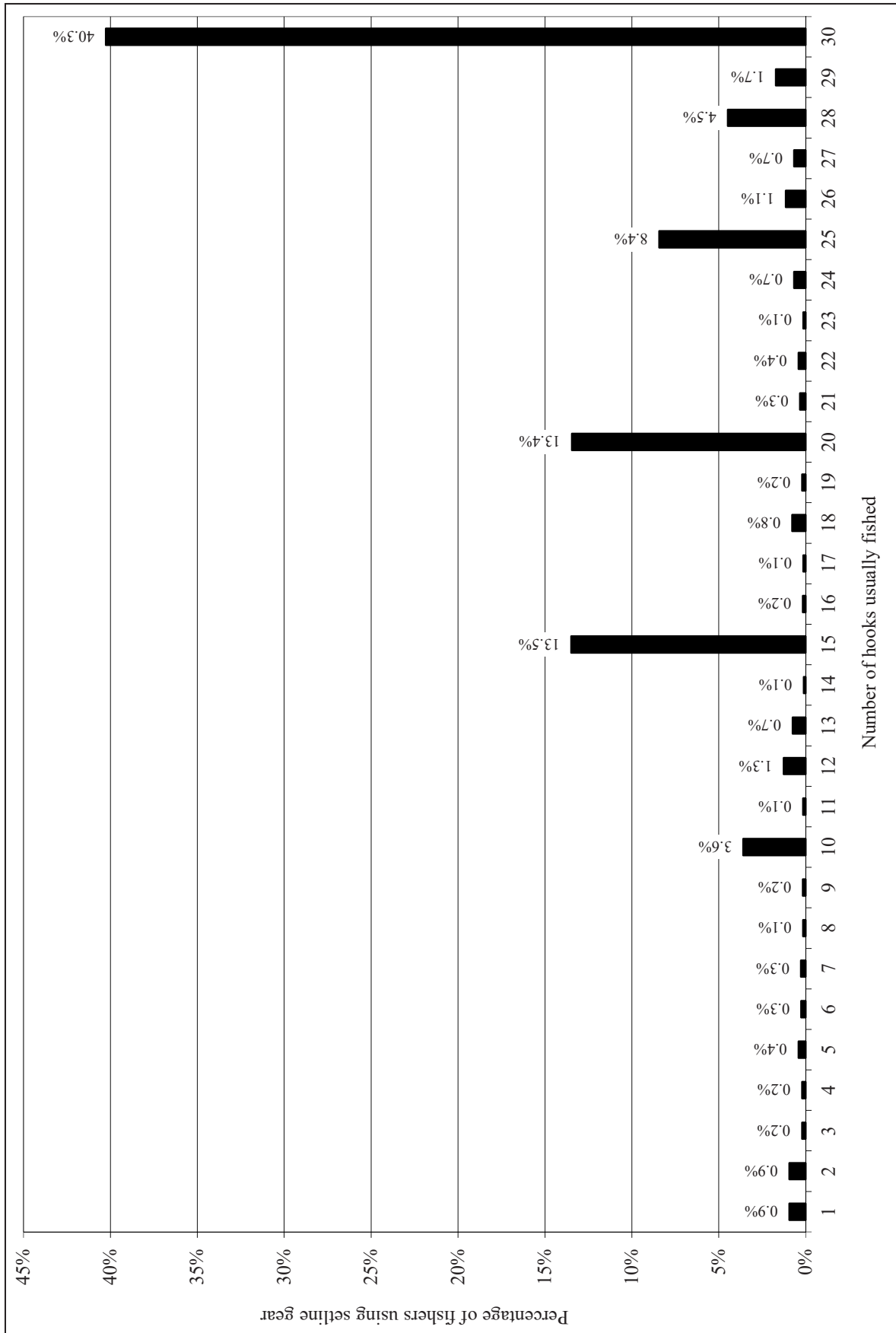


Figure 23.—Number of hooks usually fished, setline (stationary) gear, Alaska subsistence halibut fishery, 2018.

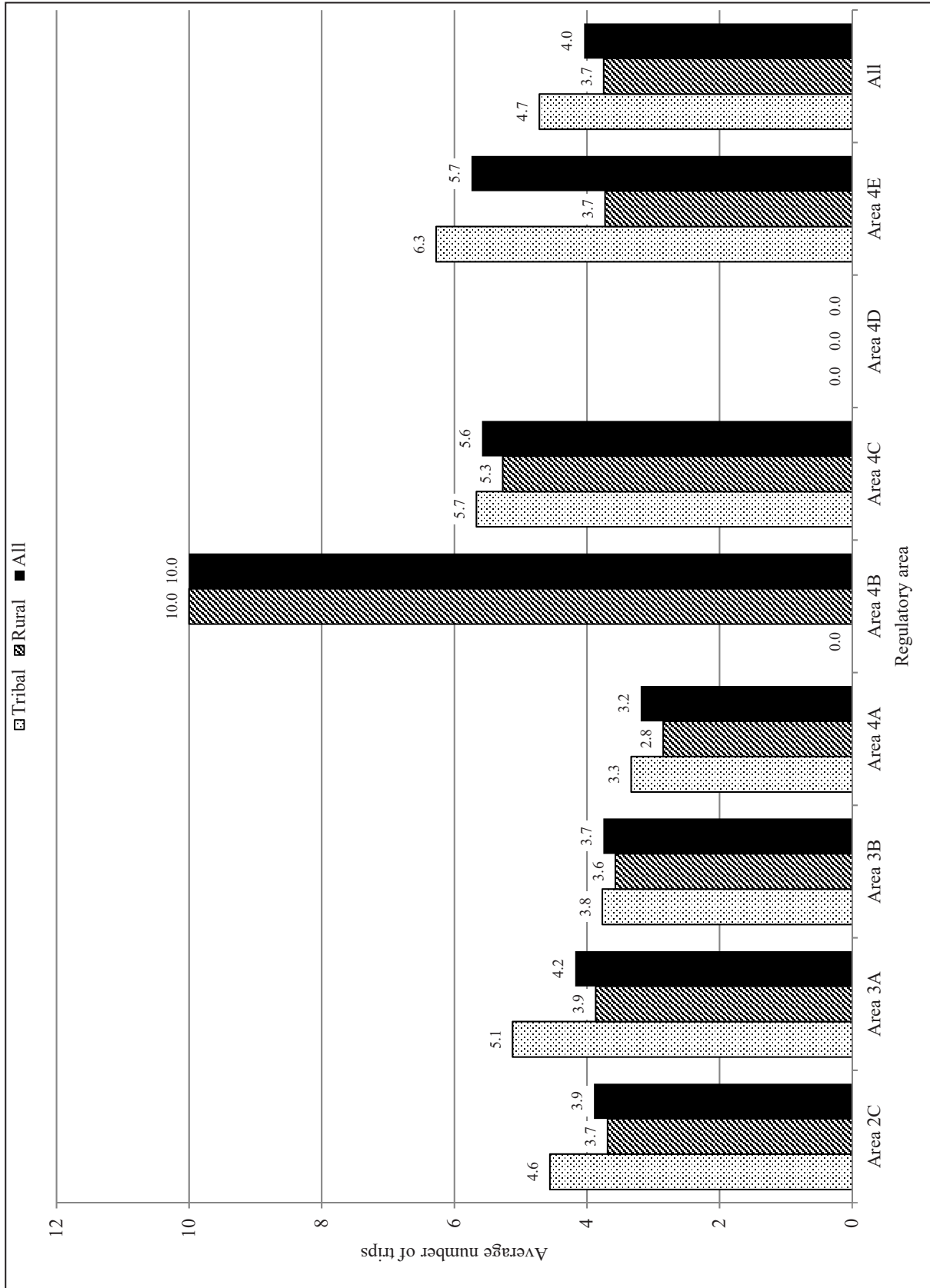


Figure 24.—Average number of subsistence fishing trips for halibut, by Alaska regulatory area and SHARC type, 2018.

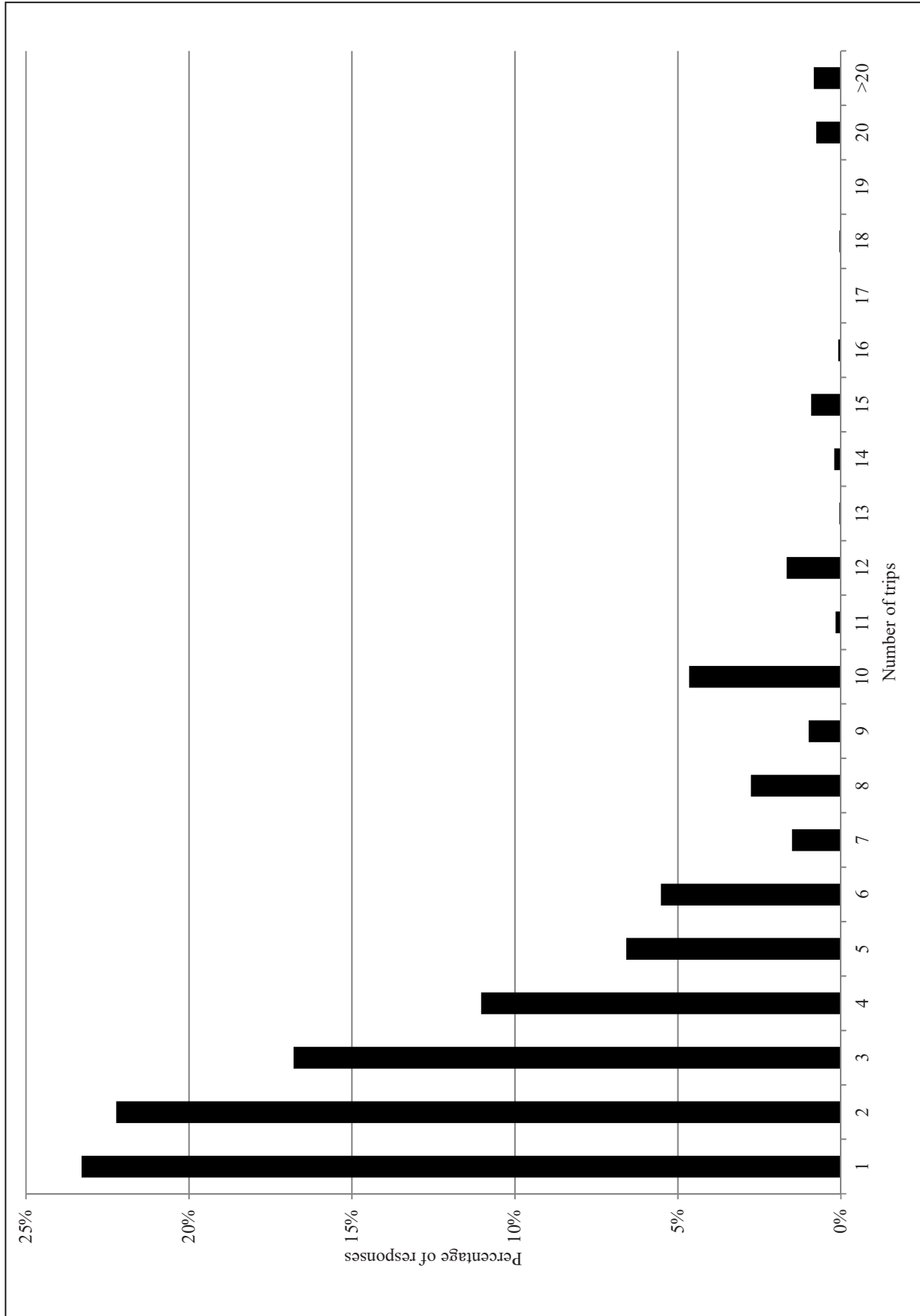


Figure 25.—Number of subsistence fishing trips for halibut, by percentage of total reported trips in Alaska, 2018.

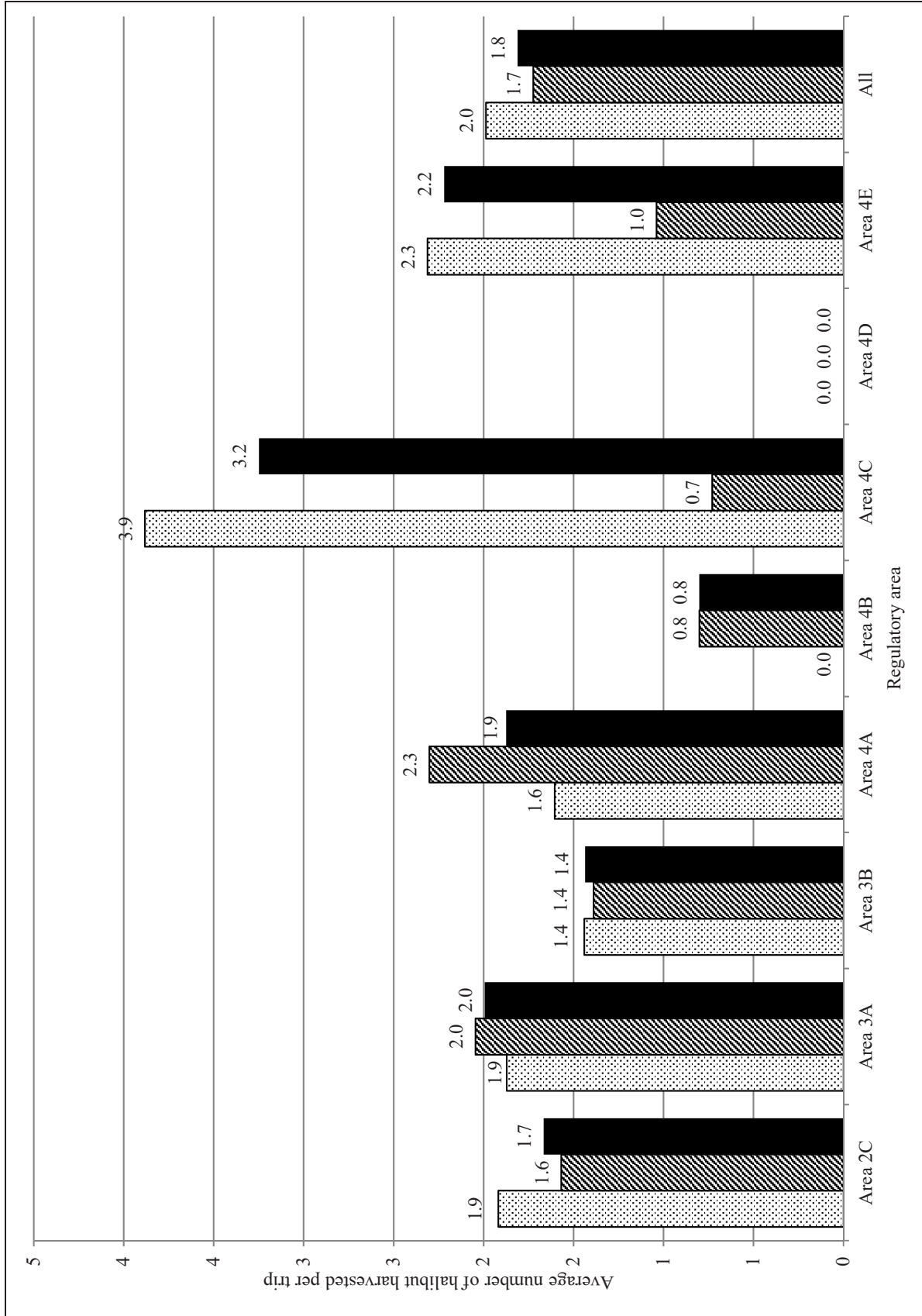


Figure 26.—Average number of halibut harvested per subsistence fishing trip, by regulatory area and SHARC type in Alaska, 2018.

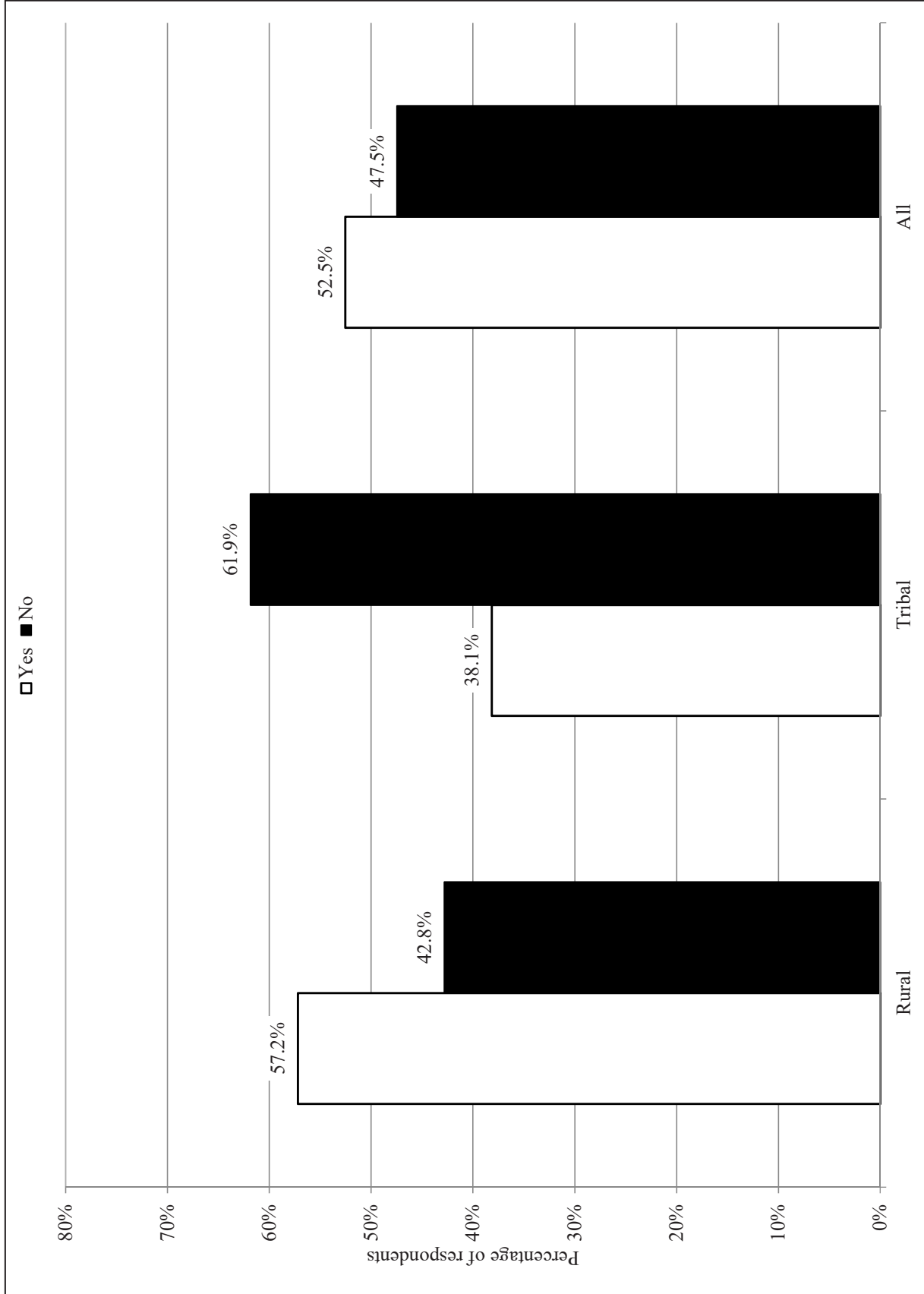


Figure 27.-Responses to question “did your household get all of the halibut it needed in 2018?”

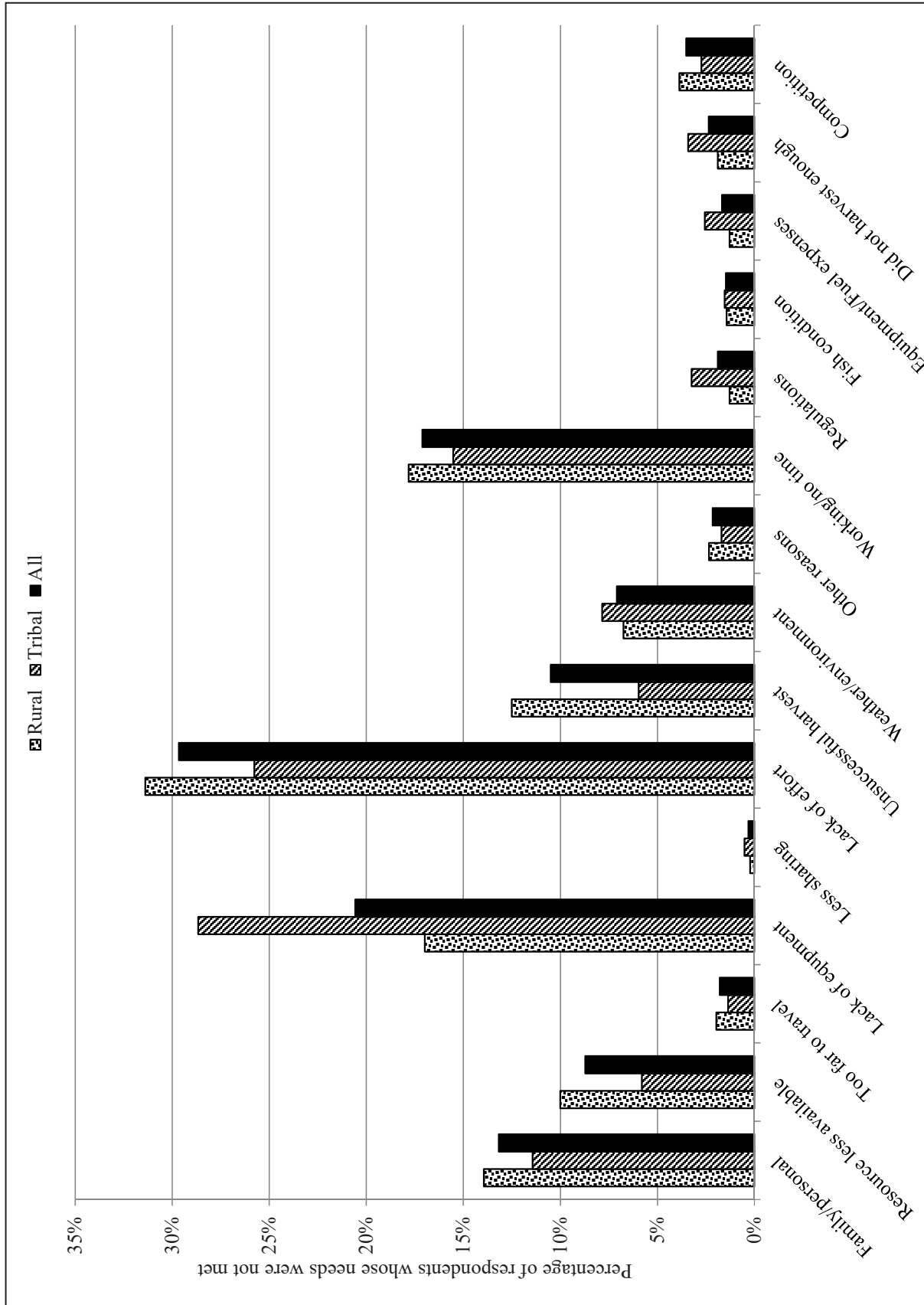


Figure 28.—Reasons needs not met, rural, tribal, and all SHARC holders.

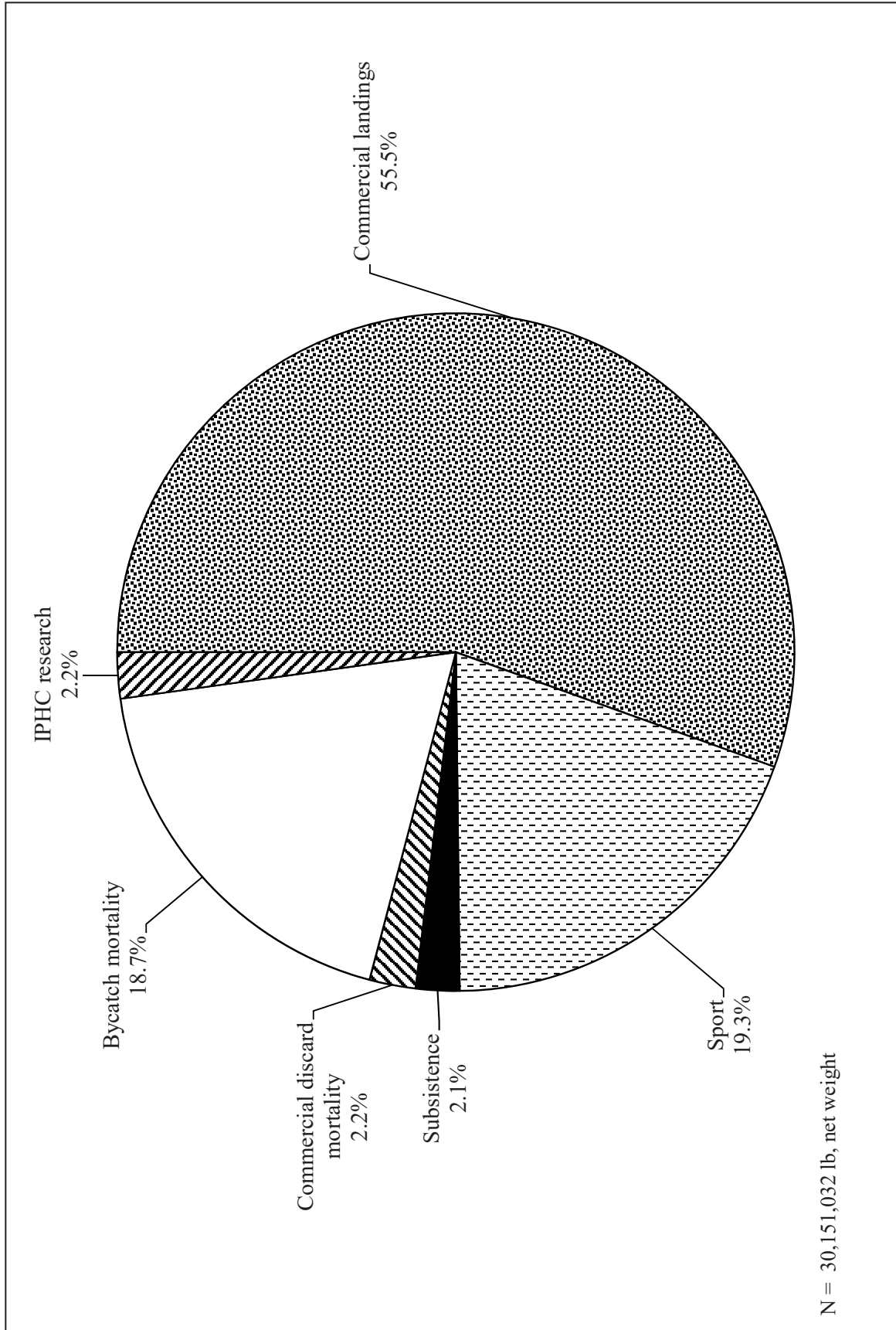


Figure 29.—Halibut removals, Alaska, 2018.

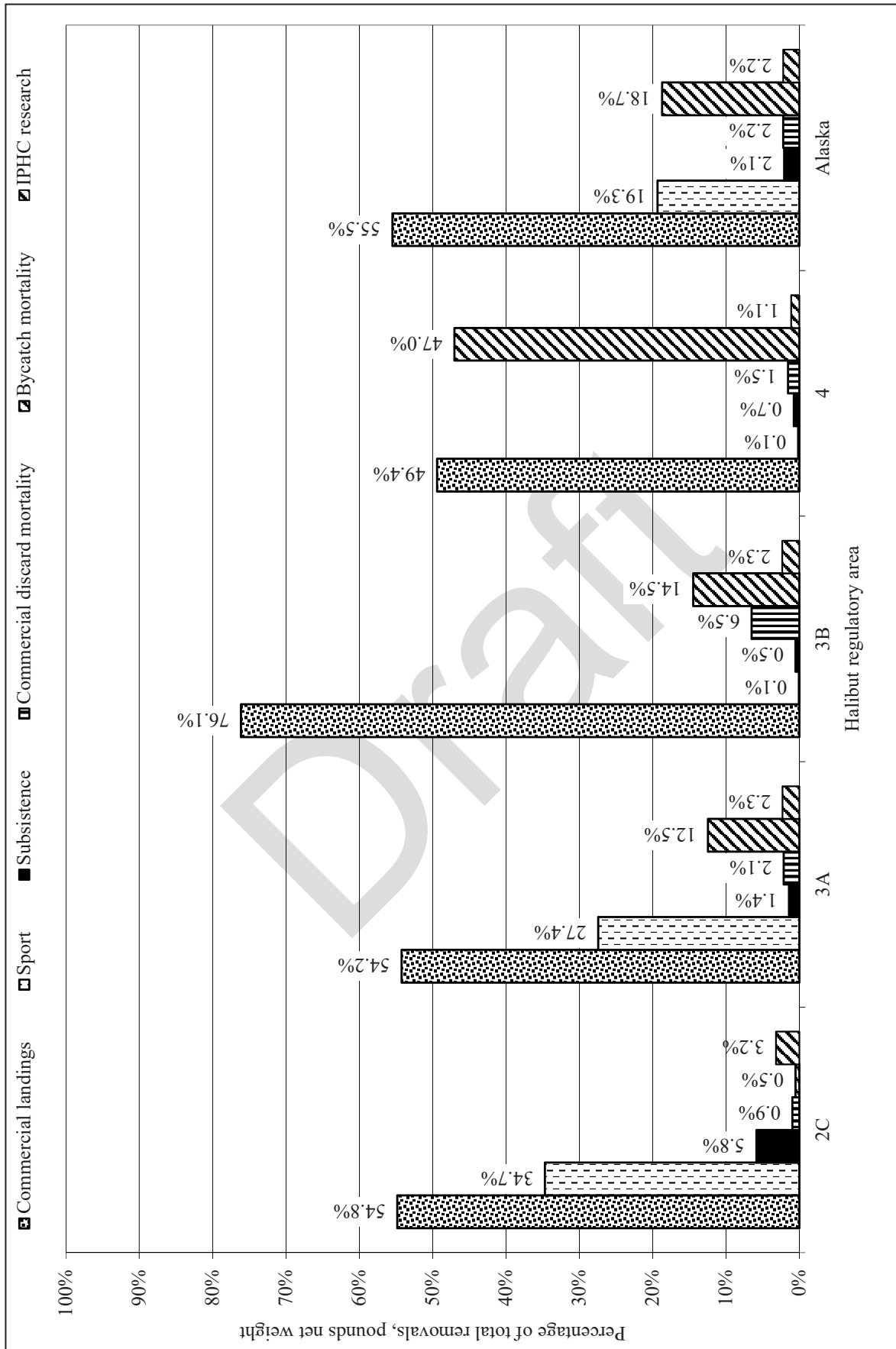


Figure 30.—Halibut removals in Alaska, by regulatory area and removal category, 2018.

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**APPENDIX A–LIST OF ELIGIBLE TRIBES
AND RURAL COMMUNITIES, 2003 (FROM
FEDERAL REGISTER)**

Draft

Chichagof Island at 57°22'03" N. lat., 135°43'00" W. long., and

(B) A line from Chichagof Island at 57°22'35" N. lat., 135°41'18" W. long. to Baranof Island at 57°22'17" N. lat., 135°40'57" W. lat.; and

(C) That is enclosed on the south and west by a line from Sitka Point at 56°59'23" N. lat., 135°49'34" W. long., to Hanus Point at 56°51'55" N. lat., 135°30'30" W. long.,

(D) To the green day marker in Dorothy Narrows at 56°49'17" N. lat., 135°22'45" W. long. to Baranof Island at 56°49'17" N. lat., 135°22'36" W. long.

(2) A person using a vessel greater than 35 ft (10.7 m) in overall length, as defined at 50 CFR 300.61, is prohibited from fishing for IFQ halibut with setline gear, as defined at 50 CFR 300.61, within Sitka Sound as defined in paragraph (d)(1)(i) of this section.

(3) A person using a vessel less than or equal to 35 ft (10.7 m) in overall length, as defined at 50 CFR 300.61:

(i) Is prohibited from fishing for IFQ halibut with setline gear within Sitka Sound, as defined in paragraph (d)(1)(i) of this section, from June 1 through August 31; and

(ii) Is prohibited, during the remainder of the designated IFQ season, from retaining more than 2,000 lb (0.91 mt) of IFQ halibut within Sitka Sound, as defined in paragraph (d)(1)(ii) of this section, per IFQ fishing trip, as defined in 50 CFR 300.61.

(4) No charter vessel, as defined at 50 CFR 300.61, shall engage in sport fishing, as defined at 50 CFR 300.61(b), for halibut within Sitka Sound, as defined in paragraph (d)(1)(ii) of this section, from June 1 through August 31.

(i) No charter vessel shall retain halibut caught while engaged in sport fishing, as defined at 50 CFR 300.61(b), for other species, within Sitka Sound, as defined in paragraph (d)(1)(ii) of this section, from June 1 through August 31.

(ii) Notwithstanding paragraphs (d)(4) and (d)(4)(i) of this section, halibut harvested outside Sitka Sound, as defined in (d)(1)(ii) of this section, may be retained onboard a charter vessel engaged in sport fishing, as defined in 50 CFR 300.61(b), for other species within Sitka Sound, as defined in paragraph (d)(1)(ii) of this section, from June 1 through August 31.

(e) Sitka Pinnacles Marine Reserve. (1) For purposes of this paragraph (e), the Sitka Pinnacles Marine Reserve means an area totaling 2.5 square nm off Cape Edgecumbe, defined by straight lines connecting the following points in a counterclockwise manner:

56°55.5'N lat., 135°54.0'W long;
56°57.0'N lat., 135°54.0'W long;
56°57.0'N lat., 135°57.0'W long;

56°55.5'N lat., 135°57.0'W long.

(2) No person shall engage in commercial, sport or subsistence fishing, as defined at § 300.61, for halibut within the Sitka Pinnacles Marine Reserve.

(3) No person shall anchor a vessel within the Sitka Pinnacles Marine Reserve if halibut is on board.

(f) *Subsistence fishing in and off Alaska.* No person shall engage in subsistence fishing for halibut unless that person meets the requirements in paragraphs (f)(1) or (f)(2) of this section.

(1) A person is eligible to harvest subsistence halibut if he or she is a rural resident of a community with customary and traditional uses of halibut listed in the following table:

HALIBUT REGULATORY AREA 2C

Rural Community	Organized Entity
Angoon	Municipality
Coffman Cove	Municipality
Craig	Municipality
Edna Bay	Census Designated Place
Elfin Cove	Census Designated Place
Gustavus	Census Designated Place
Haines	Municipality
Hollis	Census Designated Place
Hoonah	Municipality
Hydaburg	Municipality
Hyder	Census Designated Place
Kake	Municipality
Kasaan	Municipality
Klawock	Municipality
Klukwan	Census Designated Place
Metlakatla	Census Designated Place
Meyers Chuck	Census Designated Place
Pelican	Municipality
Petersburg	Municipality
Point Baker	Census Designated Place
Port Alexander	Municipality
Port Protection	Census Designated Place
Saxman	Municipality
Sitka	Municipality
Skagway	Municipality
Tenakee Springs	Municipality
Thorne Bay	Municipality
Whale Pass	Census Designated Place
Wrangell	Municipality

HALIBUT REGULATORY AREA 3A

Rural Community	Organized Entity
Akhiok	Municipality
Chenega Bay	Census Designated Place
Cordova	Municipality

HALIBUT REGULATORY AREA 3A—
Continued

Rural Community	Organized Entity
Karluk	Census Designated Place
Kodiak City	Municipality
Larsen Bay	Municipality
Nanwalek	Census Designated Place
Old Harbor	Municipality
Ouzinkie	Municipality
Port Graham	Census Designated Place
Port Lions	Municipality
Seldovia	Municipality
Tatitlek	Census Designated Place
Yakutat	Municipality

HALIBUT REGULATORY AREA 3B

Rural Community	Organized Entity
Chignik Bay	Municipality
Chignik Lagoon	Census Designated Place
Chignik Lake	Census Designated Place
Cold Bay	Municipality
False Pass	Municipality
Ivanof Bay	Census Designated Place
King Cove	Municipality
Nelson Lagoon	Census Designated Place
Perryville	Census Designated Place
Sand Point	Municipality

HALIBUT REGULATORY AREA 4A

Rural Community	Organized Entity
Akutan	Municipality
Nikolski	Census Designated Place
Unalaska	Municipality

HALIBUT REGULATORY AREA 4B

Rural Community	Organized Entity
Adak	Census Designated Place
Atka	Municipality

HALIBUT REGULATORY AREA 4C

Rural Community	Organized Entity
St. George	Municipality
St. Paul	Municipality

HALIBUT REGULATORY AREA 4D

Rural Community	Organized Entity
Gambell	Municipality
Savoonga	Municipality

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HALIBUT REGULATORY AREA 4D— Continued		HALIBUT REGULATORY AREA 4E— Continued		HALIBUT REGULATORY AREA 3A— Continued	
Rural Community	Organized Entity	Rural Community	Organized Entity	Place with Tribal Headquarters	Organized Tribal Entity
Diomedes (Inalik)	Municipality	Twin Hills	Census Designated Place	Cordova	Native Village of Eyak
HALIBUT REGULATORY AREA 4E		Ugashik	Census Designated Place	Karluk	Native Village of Karluk
Rural Community	Organized Entity	Unalakleet	Municipality	Kenai-Soldotna	Kenaitze Indian Tribe
Alakanuk	Municipality	Wales	Municipality		Village of Salamatoff
Aleknegik	Municipality	White Mountain	Municipality	Kodiak City	Lesnoi Village (Woody Island)
Bethel	Municipality	(2) A person is eligible to harvest subsistence halibut if he or she is a member of an Alaska Native tribe with customary and traditional uses of halibut listed in the following table:			Native Village of Afognak
Brevig Mission	Municipality				Shoonaq' Tribe of Kodiak
Chefornek	Municipality	HALIBUT REGULATORY AREA 2C		Larsen Bay	Native Village of Larsen Bay
Chevak	Municipality	Place with Tribal Headquarters	Organized Tribal Entity	Nanwalek	Native Village of Nanwalek
Clark's Point	Municipality	Angoon	Angoon Community Association	Ninilchik	Ninilchik Village
Council	Census Designated Place	Craig	Craig Community Association	Old Harbor	Village of Old Har- bor
Dillingham	Municipality	Haines	Chilkoot Indian As- sociation	Ouzinkie	Native Village of Ouzinkie
Eek	Municipality	Hoonah	Hoonah Indian As- sociation	Port Graham	Native Village of Port Graham
Egegik	Municipality	Hydaburg	Hydaburg Coopera- tive Association	Port Lions	Native Village of Port Lions
Elim	Municipality	Juneau	Aukquan Traditional Council	Seldovia	Seldovia Village Tribe
Emmonak	Municipality		Central Council	Tatitlek	Native Village of Tatitlek
Golovin	Municipality		Tlingit and Haida Indian Tribes	Yakutat	Yakutat Tlingit Tribe
Goodnews Bay	Municipality		Douglas Indian As- sociation	HALIBUT REGULATORY AREA 3B	
Hooper Bay	Municipality	Kake	Organized Village of Kake	Place with Tribal Headquarters	Organized Tribal Entity
King Salmon	Census Designated Place	Kasaan	Organized Village of Kasaan	Chignik Bay	Native Village of Chignik
Kipnuk	Census Designated Place	Ketchikan	Ketchikan Indian Corporation	Chignik Lagoon	Native Village of Chignik Lagoon
Kongiganak	Census Designated Place	Klawock	Klawock Coopera- tive Association	Chignik Lake	Chignik Lake Village
Kotlik	Municipality	Klukwan	Chilkat Indian Vil- lage	False Pass	Native Village of False Pass
Koyuk	Municipality	Metlakatla	Metlakatla Indian Community, An- nette Island Re- serve	Ivanof Bay	Ivanoff Bay Village
Kwigillingok	Census Designated Place	Petersburg	Petersburg Indian Association	King Cove	Agdaagux Tribe of King Cove
Levelock	Census Designated Place	Saxman	Organized Village of Saxman		Native Village of Belkofski
Manokotak	Municipality	Sitka	Sitka Tribe of Alas- ka	Nelson Lagoon	Native Village of Nelson Lagoon
Mekoryak	Municipality	Skagway	Skagway Village	Perryville	Native Village of Perryville
Naknek	Census Designated Place	Wrangell	Wrangell Coopera- tive Association	Sand Point	Pauloff Harbor Village
Napakiak	Municipality	HALIBUT REGULATORY AREA 3A			Native Village of Unga
Napaskiak	Municipality	Place with Tribal Headquarters	Organized Tribal Entity		Qagan Toyagungin Tribe of Sand Point Village
Newtok	Census Designated Place	Akhiok	Native Village of Akhiook		
Napakiaik	Municipality	Chenega Bay	Native Village of Chanega		
Napaskiak	Municipality				
Newtok	Census Designated Place				
Nightmute	Municipality				
Nome	Municipality				
Oscarville	Census Designated Place				
Pilot Point	Municipality				
Platinum	Municipality				
Port Heiden	Municipality				
Quinhagak	Municipality				
Scammon Bay	Municipality				
Shaktoolik	Municipality				
Sheldon Point (Nunam Iqua)	Municipality				
Shishmaref	Municipality				
Solomon	Census Designated Place				
South Naknek	Census Designated Place				
St. Michael	Municipality				
Stebbins	Municipality				
Teller	Municipality				
Togiak	Municipality				
Toksook Bay	Municipality				
Tuntutuliak	Census Designated Place				
Tununak	Census Designated Place				

HALIBUT REGULATORY AREA 4A		HALIBUT REGULATORY AREA 4E— Continued		HALIBUT REGULATORY AREA 4E— Continued	
Place with Tribal Headquarters	Organized Tribal Entity	Place with Tribal Headquarters	Organized Tribal Entity	Place with Tribal Headquarters	Organized Tribal Entity
Akutan	Native Village of Akutan	Elim	Native Village of Elim	Stebbins	Stebbins Community Association
Nikolski	Native Village of Nikolski	Emmonak	Chuloonawick Native Village Emmonak Village	Teller	Native Village of Mary's Igloo Native Village of Teller
Unalaska	Qawalingin Tribe of Unalaska	Golovin	Chinik Eskimo Community	Togiak	Traditional Village of Togiak
HALIBUT REGULATORY AREA 4B		Goodnews Bay	Native Village of Goodnews Bay	Toksook Bay	Native Village of Toksook Bay
Place with Tribal Headquarters	Organized Tribal Entity	Hooper Bay	Native Village of Hooper Bay	Tuntutuliak	Native Village of Tuntutuliak
Atka	Native Village of Atka	King Salmon	Native Village of Paimiut	Tununak	Native Village of Tununak
HALIBUT REGULATORY AREA 4C		King Salmon	King Salmon Tribal Council	Twin Hills	Twin Hills Village
Place with Tribal Headquarters	Organized Tribal Entity	Kipnuk	Native Village of Kipnuk	Ugashik	Ugashik Village
St. George	Pribilof Islands Aleut Communities of St. Paul Island and St. George Island	Kongiganak	Native Village of Kongiganak	Unalakleet	Native Village of Unalakleet
St. Paul		Kotliik	Native Village of Hamilton	Wales	Native Village of Wales
			Village of Bill Moore's Slough	White Mountain	Native Village of White Mountain
		Koyuk	Village of Kotliik		
		Kwigillingok	Native Village of Koyuk		
HALIBUT REGULATORY AREA 4D		Levelock	Native Village of Kwigillingok		
Place with Tribal Headquarters	Organized Tribal Entity	Manokotak	Levelock Village		
Gambell	Native Village of Gambell	Mekoryak	Manokotak Village		
Savoonga	Native Village of Savoonga	Naknek	Native Village of Mekoryak		
Diomede (Inalik)	Native Village of Diomede (Inalik)	Napakiak	Naknek Native Village		
		Napaskiak	Native Village of Napakiak		
		Napaskiak	Native Village of Napaskiak		
		Newtok	Native Village of Napaskiak		
		Nightmute	Newtok Village		
			Native Village of Nightmute		
HALIBUT REGULATORY AREA 4E		Nome	Umkumiute Native Village		
Place with Tribal Headquarters	Organized Tribal Entity		King Island Native Community		
Alakanuk	Village of Alakanuk	Oscarville	Nome Eskimo Community		
Aleknagik	Native Village of Aleknagik	Pilot Point			
Bethel	Orutsararmuit Native Village	Platinum	Oscarville Traditional Village		
Brevig Mission	Native Village of Brevig Mission	Port Heiden	Native Village of Pilot Point		
Chefornak	Village of Chefornak	Quinhagak	Platinum Traditional Village		
Chevak	Chevak Native Village	Scammon Bay	Native Village of Port Heiden		
Clark's Point	Village of Clark's Point	Shaktoolik	Native Village of Quinhagak		
Council	Native Village of Council	Sheldon Point (Nuna Iqua)	Native Village of Scammon Bay		
Dillingham	Native Village of Dillingham	Shishmaref	Native Village of Shaktoolik		
	Native Village of Ekuk	Solomon	Native Village of Sheldon's Point		
	Native Village of Kanakanak	South Naknek	Native Village of Shishmaref		
Eek	Native Village of Eek	St. Michael	Village of Solomon		
Egegik	Egegik Village		South Naknek Village		
	Village of Kanatak		Native Village of Saint Michael		

(g) *Limitations on subsistence fishing.* Subsistence fishing for halibut may be conducted only by persons who qualify for such fishing pursuant to paragraph (f) of this section and who hold a valid subsistence halibut registration certificate in that person's name issued by NMFS pursuant to paragraph (h) of this section, provided that such fishing is consistent with the following limitations.

(1) Subsistence fishing is limited to setline gear and hand-held gear, including longline, handline, rod and reel, spear, jig and hand-troll gear.

(i) Subsistence fishing gear must not have more than 30 hooks per person registered in accordance with paragraph (h) of this section and on board the vessel from which gear is being set or retrieved.

(ii) All setline gear marker buoys carried on board or used by any vessel regulated under this section shall be marked with the following: first initial, last name, and address (street, city, and state), followed by the letter "S" to indicate that it is used to harvest subsistence halibut.

(iii) Markings on setline marker buoys shall be in characters at least 4 inches (10.16 cm) in height and 0.5 inch (1.27 cm) in width in a contrasting color visible above the water line and shall be maintained so the markings are clearly visible.

(2) The daily retention of subsistence halibut in rural areas is limited to no more than 20 fish per person eligible to conduct subsistence fishing for halibut under paragraph (g) of this section,

APPENDIX B—SURVEY INSTRUMENT

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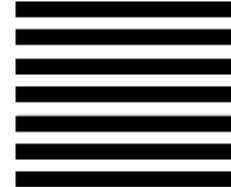
Fold on the dotted lines to mail in your survey



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SUBSISTENCE DIVISION
333 RASPBERRY RD
ANCHORAGE AK 99518-9961

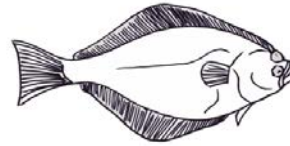


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Tape Closed

**SUBSISTENCE HALIBUT
HARVEST SURVEY 2018**

National Marine Fisheries Service &
AK Dept. Fish & Game/Division of Subsistence
(please make address changes as needed)



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HARC Holder's Name				
First Name		M.I.	Last Name	
Mailing Address				
Number and street or PO Box		City	State	Zip code
Community of Residence		Daytime Telephone	SHARC Number	
Tribal (if you are on a tribal role)			Exp. Date:	

Please answer each question to the best of your knowledge

Did your household get all of the halibut it needed in 2018? Yes No
(Please check one, include only halibut you harvested or received)

1a. If not, why was your household unable to get all of the halibut it needed? *(Please write the reasons in the space below.)*

Did you **subsistence** fish for halibut during 2018? Yes No
(Please check one. If No, skip to question #5)

How many halibut did you harvest with set hook gear (long-line, skate) while **subsistence fishing** during 2018?
(“Set hook gear” is hook-and-line set with anchors and buoys. Please write in both the number and **pounds** of halibut. Pounds should be round (live) weight.)

3a. Number of halibut	3b. Pounds of halibut	3c. How many hooks did you usually set?	3d. Water body, bay or sound usually fished
_ _ _ _ _ _ _	_ _ _ _ _ _ _	_ _ _ _ _	

How many halibut did you harvest with hook-and-rod or hand-held lines while subsistence fishing during 2018?
(Please write in both the number and pounds of halibut. Do not count fish reported in Question 7. Pounds should be round (live) weight.)

4a. Number of halibut	4b. Pounds of halibut	4c. Water body, bay or sound usually fished
_ _ _ _ _ _ _	_ _ _ _ _ _ _	

How many trips did you take to fish for subsistence halibut in 2018?
(Please include trips where halibut was targeted but none were caught)

Did you **sport fish** for halibut during 2018? (Please check one) Yes No

How many halibut did you harvest while **sport fishing** during 2018?
(Please write in both the number and pounds of halibut. Do not count fish reported in Question 3. Pounds should be round (live) weight.)

5a. Number of Halibut	5b. Pounds of Halibut	5c. Water body, bay or sound usually fished
_ _ _ _ _ _ _	_ _ _ _ _ _ _	

<p>THANK YOU!</p> <p><i>Please mail the completed survey to:</i> Subsistence Halibut Harvest Survey Alaska Dept. Fish & Game/Div. of Subsistence 333 Raspberry Road Anchorage AK 99518-1599</p>	<p>QUESTIONS?</p> <p>Regarding the survey: ADF&G 1-907-267-2353 Regarding your SHARC card: NMFS at 1-800-304-4846 (option 2) dfg.sub.halibut@alaska.gov</p>
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Under AS 16.05.815, Alaska state law prevents the transfer of certain information based on confidentiality. Such information includes, but is not limited to, personal information contained in fish and wildlife harvest and usage data; fish tickets; fish ticket computer runs; intents to operate; processor annual reports; log books or other catch records; and individual or vessel harvest records that are correlated to their vessel or effort. Individual data collected in this survey is confidential under this statute.

INSTRUCTIONS FOR SUBSISTENCE HALIBUT HARVEST SURVEY, 2018

TO AVOID FUTURE NOTIFICATIONS, PLEASE RESPOND NOW. PLEASE COMPLETE AND RETURN THE SURVEY EVEN IF YOUR SHARC HAS EXPIRED.

Question 1.

- Answer this question even if you didn't fish for halibut yourself.
- If you do not use halibut and have no need for halibut (including sharing obligations), mark "yes".
- If you received or caught enough halibut for your household's needs, including sharing obligations, mark "yes", otherwise mark "no".

Question 2.

- Mark "yes" even if you fished but were unsuccessful

Questions 3 and 4.

- Include only those fish harvested by you, the individual fisher (SHARC holder). If you fished with someone else and split the catch, count only your share of the catch. Other household members who harvested halibut should fill out their own forms.
- Include fish that you harvested and kept for your household's use AND fish you harvested and gave away or traded. DO NOT include fish that you received from someone else.
- Identify both the number and pounds of halibut harvested; if you cannot provide both, please provide what you are able. Pounds should be **ROUND (LIVE) WEIGHT**. If you only know the dressed weight of your halibut harvest, record that number and make a note of "dressed, head on" (equals about 88% of round weight) or "dressed, head off" (equals about 75% of round weight).
- Number of hooks: write in the number that you use most often each time you set a line. That is, the number of hooks you usually have on your longline/skate.
- Water body, bay, or sound: record the general location where you did most of your subsistence halibut fishing (for example, "Chiniak Bay," "Sitka Sound"). If you used more than one general area for a significant portion of your catch, please provide the portion of your harvest from each.

Question 5.

- Enter the number of trips taken for subsistence halibut. Please include all trips where you subsistence fished for halibut, even if you were not successful.

Questions 6 and 7.

- Sport fishing for halibut requires an Alaska sport fishing license. Sport fishers for halibut must fish with a line attached to a rod or pole. There is a limit of two hooks. The daily bag limit is two halibut and the possession limit is four halibut.

Do you still have questions?

Call the National Marine Fisheries Service at: 1-800-304-4846 (option 2);

Or visit <http://www.fakr.noaa.gov/ram/subsistence/halibut.htm>;

Or call ADF&G Division of Subsistence at: 907-267-2353;

Or contact the Division of Subsistence via e-mail at: dfg.sub.halibut@alaska.gov.

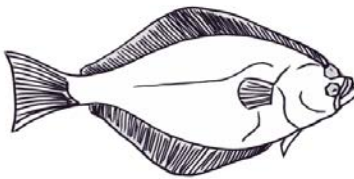
THANK YOU FOR PARTICIPATING IN THIS SURVEY!

ALASKA DEPARTMENT OF FISH & GAME
Subsistence Halibut Survey
Division of Subsistence
333 Raspberry Rd.
Anchorage, Alaska 99518-1599

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**SUBSISTENCE HALIBUT HARVEST SURVEY 2018
NATIONAL MARINE FISHERIES SERVICE &
ALASKA DEPARTMENT OF FISH & GAME/DIVISION OF SUBSISTENCE**



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**APPENDIX C–SET OF FREQUENTLY ASKED
QUESTIONS AND RESPONSES**

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RAM FAQ's for Subsistence Halibut Harvest Survey

The following is a list of standard responses that may be given to common questions regarding the Subsistence Halibut Harvest Survey. Any question that cannot be answered by the responses below or by other personnel in RAM division may be directed to ADF&G Division of Subsistence at the phone number(s) indicated at the bottom of the page.

1. *I got my SHARC from NMFS. Why is this survey being done by ADF&G?*

- NMFS contracted with ADF&G Division of Subsistence to conduct this survey because the Division of Subsistence has a lot of experience in collecting and analyzing subsistence harvest data. They have staff who are familiar with local communities and subsistence harvest patterns.

2. *What happens to this information after I send it in?*

- The survey responses are entered into a database by ADF&G. They will use the responses to estimate and report subsistence harvests at a community level. NMFS will receive a report from ADF&G with the survey results. The report will not include individual responses.

3. *Why do you need my birth date?*

- ADF&G needs birth date only to distinguish between individuals who may have the same name. For instance, there may be many John Smith's in area 2C. Providing birth date prevents ADF&G from counting the same person more than once or even counting multiple people as the same person. However, ADF&G is required to maintain birth date confidential under the Privacy Act.

4. *I live in an isolated area near [insert]. What do I put down as my Community of Residence?*

- Your Community of Residence is defined as the geographical location of your home. If you live in a remote location, you may list the community nearest your home. "Community of residence" is not necessarily the same as where you receive your mail.

5. *The survey asks me to put down Pounds of Halibut. Does this mean I should weigh all my halibut on a scale?*

- No. While an actual weight using a scale would be helpful to ADF&G, you only need to estimate the total pounds of halibut you harvested. If you know how many halibut you harvested, but have no idea how much they weighed, leave the "pounds" area blank. If you know about how many pounds you harvested but have no idea how many fish you caught, leave the "number" area blank. We will calculate the pounds or number based on standard conversion factors. However, we prefer that you do your best to provide an estimate of both numbers and pounds, because this information is lacking for the subsistence fishery.

6. *Should I record the weight of my halibut before or after I process them?*

- The survey asks for **ROUND WEIGHT**, which is the weight of the fish BEFORE it is gutted and beheaded. If you only know the approximate weight of the fish after you gutted them, write “dressed, head on” next to the weight (this equals about 88% of round/live weight). If you only know the approximate weight of the fish after you gutted and beheaded them, write “dressed, head off” next to the weight (this equals about 72% of round/live weight).

7. *I fish near [insert]. What is the water body, bay, or sound?*

- The water body, bay, or sound is the area in which you subsistence fished for halibut. For instance, a subsistence fisher from Sitka might put down that he subsistence fished for halibut in Sitka *Sound* or a subsistence fisher from Kodiak might put down that he subsistence fished for halibut in Chiniak *Bay*. However, a subsistence fisher from Akutan might put down that he subsistence fished for halibut in Unimak Pass, which is neither a bay nor sound but would be classified as a *water body*. Likewise, a subsistence fisher from St. Paul might put down that he subsistence fished for halibut in the Bering Sea, which is also a *water body*. However, the more specific the description, the more helpful it will be to ADF&G.

8. *What is a lingcod?*

- A lingcod is a relatively long fish that ranges from black, to grey, to greenish, to bluish-purple, usually with dark brown or copper blotches arranged in clusters, and has a large mouth with 18 large teeth. For a more accurate description and local or tribal names, you can refer to the sheet distributed by ADF&G in the original mailing that also contained your Subsistence Halibut Harvest Survey or visit the NMFS website http://www.afsc.noaa.gov/race/media/photo_gallery/fish_by_family.htm.

9. *What is a rockfish?*

- These fish are characterized by having bony plates or spines on the head and body and a large mouth. Some species are brightly colored, and many are difficult to distinguish from one another. They are also known as sea bass, black bass, and red snapper. For a more accurate description and local or tribal names, you can refer to the instruction sheet distributed by ADF&G in the original mailing that also contained your Subsistence Halibut Harvest Survey or visit the NMFS website http://www.afsc.noaa.gov/race/media/photo_gallery/fish_by_family.htm.

10. *What is “sport fishing”?*

- Sport fishing is defined as all fishing other than commercial fishing, personal use fishing, and subsistence fishing. Typically, sport fishing is conducted with a rod and reel using no more than 2 hooks under ADF&G regulations.

11. Why do I need to report my sport-caught halibut on this subsistence harvest survey form (Question 6)?

- The survey is designed to prevent double-counting of harvested halibut. If you fish for halibut with a rod and reel and have a sport fishing license, you may include your harvests in Question 2 if you consider your activity to be subsistence fishing, or under Question 6 if you consider it sport fishing. **DO NOT INCLUDE THE SAME FISH IN YOUR RESPONSES TO QUESTIONS 2 AND 6.** We will exclude responses to Question 6 from our estimate of subsistence halibut harvests. Holders of sport fishing licenses may receive a survey from ADF&G about their sport harvests. If you do, you should report the halibut you record in Question 6 in that survey too, but do not include the halibut you record in Question 2.

All other inquiries regarding the survey should be directed to ADF&G Division of Subsistence at (907) 267-2353 (Anchorage) or 907-465-3617, or e-mail at subsistence_halibut@fishgame.state.ak.us

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APPENDIX D-ADDITIONAL TABLES

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Appendix Table D-1. – Estimated subsistence harvests of halibut in Alaska by gear type, 2018.

Tribal Name	Set hook gear				Hook & line or handline				All gear					
	Regulatory area	Number of SHARCs issued	Estimated number respondents fished	Estimated number halibut harvested	Estimated pounds halibut harvested	Estimated number respondents fished	Estimated number halibut harvested	Estimated pounds halibut harvested	Estimated number respondents fished	Estimated number halibut harvested	Estimated pounds halibut harvested	Estimated number respondents fished	Estimated number halibut harvested	Estimated pounds halibut harvested
Angoon Community Association	2C	43	13	251	5,076	7	60	1,472	13	310	6,548	13	310	73.1%
Central Council Tlingit and Haida Indian Tribes	2C	391	123	1,122	24,929	51	210	5,325	144	1,331	30,254	144	1,331	25.4%
Chilkat Indian Village	2C	9	2	5	135	0	0	0	2	5	135	2	5	185.1%
Chilkoot Indian Association	2C	42	21	81	1,901	7	14	399	23	95	2,300	23	95	29.4%
Craig Community Association	2C	40	21	122	4,145	2	3	237	21	133	4,382	21	133	37.1%
Douglas Indian Association	2C	8	5	8	240	3	3	50	5	11	225.0%	5	11	257.2%
Hoonah Indian Association	2C	87	33	187	4,698	9	54	1,014	33	241	6,013	33	241	36.9%
Hydaburg Cooperative Association	2C	53	22	123	3,829	8	25	1,360	22	148	5,188	22	148	70.1%
Ketchikan Indian Corporation	2C	392	102	804	17,285	48	277	6,571	121	1,081	23,856	121	1,081	24.1%
Klawock Cooperative Association	2C	43	15	103	5,146	6	6	245	15	108	5,391	15	108	77.1%
Metlakatla Indian Community, Amnette Island Reserv	2C	109	35	160	5,133	13	43	722	46	203	46.8%	46	203	52.2%
Organized Village of Kake	2C	66	24	398	10,118	10	98	2,265	24	496	12,383	24	496	72.8%
Organized Village of Kasan	2C	3	0	0	0	0	0	0	0	0	0	0	0	0.0%
Organized Village of Saxman	2C	12	0	0	0	0	0	0	0	0	0	0	0	0.0%
Petersburg Indian Association	2C	49	9	29	621	8	23	377	12	52	998	12	52	41.0%
Sitka Tribe of Alaska	2C	172	64	495	14,176	19	51	1,471	71	547	15,646	71	547	52.4%
Skegway Village	2C	2	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wrangell Cooperative Association	2C	59	18	226	6,259	10	29	717	22	254	6,976	22	254	31.9%
Subtotal, Area 2C	2C	1,580	509	4,113	103,989	202	903	22,226	574	5,016	126,215	574	5,016	14.6%
Kenaitze Indian Tribe	3A	91	13	72	1,316	0	0	1,038	20	173	2,354	20	173	51.1%
Lesnoi Village (Woody Island)	3A	11	0	0	0	0	0	0	0	0	0	0	0	0.0%
Native Village of Afognak	3A	15	4	8	169	4	3	61	6	10	54.2%	6	10	53.3%
Native Village of Akhok	3A	11	3	17	191	6	25	572	6	41	61.2%	6	41	51.1%
Native Village of Chenega	3A	9	3	13	222	0	0	0	0	0	0	0	0	0.0%
Native Village of Eyak	3A	53	21	122	2,642	13	48	849	29	170	33.8%	29	170	98.9%
Native Village of Karluk	3A	13	2	7	98	9	30	699	9	37	77.7%	9	37	29.5%
Native Village of Larsen Bay	3A	32	10	418	6,374	14	88	1,860	22	506	121.7%	22	506	65.7%
Native Village of Namadek	3A	34	18	260	4,781	22	105	1,388	30	365	37.0%	30	365	111.7%
Native Village of Ouziakie	3A	11	8	95	1,954	3	4	113	8	99	48.6%	8	99	33.5%
Native Village of Poor Graham	3A	40	16	114	2,927	10	64	690	20	178	55.9%	20	178	48.9%
Native Village of Port Lions	3A	21	13	99	1,472	3	23	164	15	121	31.8%	15	121	70.7%
Native Village of Tatletk	3A	12	7	29	1,314	0	0	0	7	29	99.2%	7	29	28.3%
Nunichik Village	3A	49	3	7	89	3	32	285	7	39	97.1%	7	39	127.4%
Seldovia Village Tribe	3A	49	19	153	3,955	19	109	1,600	28	262	30.0%	28	262	80.4%
Sun'aq Tribe of Kodiak (formerly Shoonaq)	3A	94	45	307	6,117	13	40	627	48	347	28.4%	48	347	35.9%
Village of Kanatak	3A	2	0	0	0	0	0	0	0	0	0	0	0	0.0%
Village of Old Harbor	3A	19	7	15	263	3	7	93	9	22	60.3%	9	22	71.9%
Village of Salamatof	3A	23	1	13	192	5	146	1,907	6	158	47.8%	6	158	47.6%
Yakutat Tlingit Tribe	3A	36	23	242	4,860	7	46	847	26	288	47.3%	26	288	49.2%
Subtotal, Area 3A	3A	625	216	1,989	38,933	145	870	12,794	298	2,859	51,726	298	2,859	16.6%
Agdaangux Tribe of King Cove	3B	32	17	117	2,258	13	47	1,020	22	164	30.4%	22	164	31.9%
Chignik Lake Village	3B	3	0	0	0	0	0	0	0	0	0	0	0	0.0%
Ivanoff Bay Village	3B	4	0	0	0	0	0	0	0	0	0	0	0	0.0%
Native Village of Belkofski	3B	2	0	0	0	0	0	0	0	0	0	0	0	0.0%
Native Village of Chignik	3B	2	0	0	0	0	0	0	0	0	0	0	0	0.0%
Native Village of Chignik Lagoon	3B	5	0	0	0	0	0	0	0	0	0	0	0	0.0%
Native Village of False Pass	3B	11	0	0	0	0	0	0	0	0	0	0	0	0.0%
Native Village of Nelson Lagoon	3B	1	0	0	0	0	0	0	0	0	0	0	0	0.0%
Native Village of Perryville	3B	12	8	23	551	1	1	0	8	23	41.3%	8	23	52.5%
Native Village of Unga	3B	7	0	0	0	0	0	0	2	9	362	2	9	325.2%
Pauloff Harbor Village	3B	3	0	0	0	0	0	0	0	0	0	0	0	0.0%
Oqon Tovaqunain Tribe of Sand Point Village	3B	243	51	200	3,242	71	321	6,364	94	521	9,606	94	521	53.0%
Subtotal, Area 3B	3B	325	80	356	6,291	99	416	9,076	142	754	15,118	142	754	36.8%

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Appendix Table D-1, Page 2 of 4.

Tribal Name	Regulatory Area	Set hook gear			Hook & line or handline			All gear		
		Number of SHARCs issued	Estimated number respondents fished	Estimated number halibut harvested	Estimated number respondents fished	Estimated number halibut harvested	Estimated number halibut harvested	Estimated number respondents fished	Estimated number halibut harvested	Estimated number halibut harvested
Native Village of Ahtan	4A	48	16	58	19	80	19	138	19	3,898
Qwalangin Tribe of Unalaska	4A	25	11	43	18	18	18	61	18	4,200
Subtotal, Area 4A	4A	73	27	100	37	98	37	198	37	8,098
Native Village of Aika	4B	2								
Subtotal, Area 4B	4B	2								
Pribilof Islands Aleut Community of St Paul	4C	30	12	492	12	36	24	528	24	7,565
Subtotal, Area 4C	4C	30	12	492	12	36	24	528	24	7,565
Native Village of Diomedede (Inalik)	4D	1								
Native Village of Savoonga	4D	1								
Subtotal, Area 4D	4D	2								
Chevak Native Village (Kashunamut)	4E	1								
Chirik Eskimo Community	4E	1								
King Island Native Community	4E	2								
Manokotak Village	4E	2								
Manokotak Native Village	4E	4								
Native Village of Aleknagik	4E	4								
Native Village of Council	4E	5	0	0	0	0	0	0	0	0
Native Village of Dillingham (Curlyung)	4E	8	3	19	3	13	3	32	3	840
Native Village of Ekak	4E	5	2	0	5	7	5	7	5	313
Native Village of Ekluk	4E	3								
Native Village of Hooper Bay	4E	36	0	0	9	73	9	73	9	778
Native Village of Kipruk	4E	1								
Native Village of Koyuk	4E	3								
Native Village of Mekoryuk	4E	1								
Native Village of Nighmutre	4E	2								
Native Village of Scammon Bay	4E	6	0	0	0	0	0	0	0	0
Native Village of Toksook Bay (Nunakauyak)	4E	48	4	87	65	781	39	868	39	6,892
Native Village of Tunukak	4E	66	0	0	65	925	65	925	65	10,290
Native Village of Unalakleet	4E	1								
Newtok Village	4E	1								
Noome Eskimo Community	4E	5	0	0	0	0	0	0	0	0
Onutsarumut Native Village	4E	3								
Stebbins Community Association	4E	5	3	2	1	0	3	2	3	65
Village of Alakanuk	4E	2								
Village of Chefomak	4E	1								
Village of Clark's Point	4E	4								
Subtotal, Area 4E	4E	220	21	143	129	1,828	136	1,907	136	19,178
Tribal Subtotal		2,857	865	7,194	626	4,151	1,211	11,262	1,211	227,899
Arigsen Community	2C	18	7	140	7	243	9	383	9	6,318
Coffman Cove	2C	36	14	56	10	51	21	107	21	2,382
Craig	2C	256	128	819	39	165	138	984	138	24,239
Edna Bay	2C	17	1	38	4	1	11	40	11	1,687
Elfin Cove	2C	9	8	171	5	3	34	13	399	
Gustavus	2C	62	27	349	14	27	182	198	182	3,555
Haines	2C	364	176	541	44	49	36	590	36	13,537
Hollis	2C	46	21	71	9	11	21	71	21	1,803
Hoonah	2C	78	33	407	9	352	36	418	36	9,979
Hydaburg	2C	7	1	31	2	3	8	29	8	744
Hyder	2C	16	8	26	2	3	72	8	29	751

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Appendix Table D-1--Page 3 of 4.

Community	Regulatory Area	Set Hook Gear				Hook & Line or Handline				All Gear			
		Number of SHARCs issued	Estimated Number Respondents Fished	Estimated Number Halibut Harvested	Estimated Pounds Halibut Harvested	Estimated Number Respondents Fished	Estimated Number Halibut Harvested	Estimated Pounds Halibut Harvested	Estimated Number Respondents Fished	Estimated Number Halibut Harvested	Estimated Pounds Halibut Harvested	Confidence Interval for Number of Halibut	Confidence Interval for Pounds of Halibut
Juneau	2C	9	5	61	802	2	23	253	5	83	220.4%	1,055	20.1%
Kake	2C	35	15	111	2,869	6	46	1,027	20	157	30.4%	3,896	37.1%
Kasaan	2C	6	3	8	323	1	0	0	3	8	0.0%	323	0.0%
Ketchikan	2C	6	4	2	135	0	0	0	4	2	304.2%	135	304.2%
Klawock	2C	113	40	274	7,316	21	135	2,574	47	409	20.0%	9,890	19.3%
Metlakatla	2C	27	5	17	506	3	24	320	7	41	84.8%	826	73.7%
Meiners Chuck	2C	9	7	35	971	0	0	0	7	35	0.0%	971	0.0%
Naukat Bay	2C	44	23	107	2,802	8	19	384	23	126	24.1%	3,186	23.6%
Pelican	2C	27	17	60	1,917	4	14	304	18	74	20.0%	2,221	22.8%
Petersburg	2C	740	253	1,311	28,767	144	580	9,983	314	1,891	7.3%	38,750	7.3%
Port Alexander	2C	18	12	1,774	5,860	5	12	281	15	75	37.1%	2,055	41.4%
Port Protection	2C	14	7	25	860	3	8	210	8	34	45.2%	1,070	62.7%
Pt. Baker	2C	11	5	42	448	0	0	0	5	42	145.7%	448	123.6%
Saxman	2C	15	8	70	1,388	3	27	350	8	97	62.4%	1,738	51.0%
Sitka	2C	1,131	544	2,610	63,903	155	368	6,741	582	2,977	5.9%	70,644	5.8%
Skagway	2C	60	22	53	1,371	12	8	172	25	61	33.7%	1,543	31.1%
Tenakee Springs	2C	42	19	126	2,686	9	37	768	24	163	17.8%	3,454	16.3%
Thorne Bay	2C	124	60	250	7,348	29	77	1,596	67	327	13.9%	8,944	13.8%
Ward Cove	2C	2											
Whale Pass	2C	28	11	51	1,124	9	16	356	14	67	16.7%	1,480	16.9%
Wrangell	2C	416	174	993	22,513	66	242	4,142	199	1,234	8.2%	26,655	8.0%
Subtotal, Area 2C	2C	3,786	1,668	8,582	206,210	614	2,188	38,640	1,861	10,770	3.4%	244,851	3.2%
Anchorage	3A	1	3	28	349	6	26	304	8	54	72.1%	653	74.2%
Cheneque Bay	3A	4	5	43	1,256	5	10	122	5	53	328.1%	1,378	582.5%
Chimik	3A	4											
Cordova	3A	398	166	943	18,076	61	274	5,203	189	1,217	7.9%	23,278	8.0%
Kodiak	3A	1,054	523	3,567	67,638	201	701	12,896	575	4,268	5.7%	80,533	5.5%
Larsen Bay	3A	4											
Nanwalek	3A	8	4	38	405	4	28	188	4	66	143.6%	593	138.8%
Old Harbor	3A	8	3	0	0	3	0	0	3	0	0.0%	0	0.0%
Ouzinkie	3A	9	8	104	1,514	4	14	328	8	118	33.2%	1,842	27.6%
Port Graham	3A	9	3	15	225	5	9	141	5	24	137.6%	366	135.2%
Port Lions	3A	13	7	54	699	5	19	224	8	73	26.0%	923	26.7%
Seldovia	3A	117	50	440	6,638	50	581	6,912	75	1,021	14.0%	13,550	13.1%
Tatitlek	3A	10	6	53	1,289	0	0	0	6	53	62.9%	1,289	60.2%
Yakutat	3A	52	30	300	5,472	7	55	1,070	36	355	20.1%	6,542	21.2%
Subtotal, Area 3A	3A	1,707	815	5,612	104,014	356	1,731	27,620	928	7,301	4.4%	130,946	4.2%
Chignik	3B	2											
Chignik Lagoon	3B	1											
Cold Bay	3B	11	2	7	147	1	0	0	2	7	73.2%	147	71.1%
False Pass	3B	2											
King Cove	3B	8	3	23	283	3	10	137	6	33	37.1%	420	38.3%
Saad Point	3B	5	3	15	433	5	7	206	5	22	146.5%	639	190.5%
Subtotal, Area 3B	3B	29	12	62	1,162	12	18	366	16	62	23.2%	1,205	24.8%
Aktanuk	4A	2											
Umanak	4A	105	31	199	3,573	14	64	1,399	39	263	25.4%	4,972	27.5%
Subtotal, Area 4A	4A	107	32	199	3,573	15	64	1,399	40	263	25.0%	4,972	27.1%
Adak	4B	4											
Subtotal, Area 4B	4B	4	4	18	263	0	0	0	4	18	1073.9%	263	1073.9%
St George Island	4C	3											
St Paul Island	4C	7	4	18	263	0	0	0	4	18	1073.9%	263	1073.9%
Subtotal, Area 4C	4C	10	4	18	263	3	8	270	7	18	102.6%	263	108.4%

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Appendix Table D-2. – Estimated subsistence harvests of halibut in Alaska by place of residence, 2018.

City	State	Number of SHARCs issued	Subsistence fished			Subsistence harvest			Sport fished			Sport harvest		
			Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut
Adak	AK	6	5	58	1,699	2	4	180						
Akiok	AK	20	13	95	1,416	1	0	0						
Akutan	AK	49	21	142	3,973	7	10	204						
Alakanuk	AK	1												
Aleknagik	AK	6	7	41	534	0	0	0						
Anchor Point	AK	13	6	93	2,904	2	7	101						
Anchorage	AK	116	42	318	6,335	22	71	1,199						
Angoon	AK	67	24	848	15,953	11	25	453						
Auke Bay	AK	2												
Barrow	AK	2												
Bethel	AK	4												
Chenega Bay	AK	7	6	55	1,407	0	0	0						
Chignik	AK	4												
Chignik Lagoon	AK	4												
Chiniak	AK	16	14	38	938	8	23	520						
Chugiak	AK	3												
Clark's Point	AK	3												
Coffman Cove	AK	36	20	105	2,217	17	50	1,019						
Cold Bay	AK	12	7	37	576	6	6	60						
Cordova	AK	441	215	1,378	26,501	97	263	5,827						
Craig	AK	378	192	1,269	30,959	112	505	8,738						
Dillingham	AK	32	6	43	1,178	5	17	260						
Douglas	AK	20	8	35	935	8	24	767						
Dutch Harbor	AK	52	28	143	3,119	24	107	1,875						
Eagle River	AK	9	3	51	776	1	0	0						

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Appendix Table D-2.-Page 2 of 5

City	State	Number of SHARCs issued	Subsistence fished			Subsistence harvest			Sport fished			Sport harvest		
			Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut
Edna Bay	AK	15	10	33	1,528	1	0	0						
Ek	AK	4												
Elfin Cove	AK	10	8	15	399	2	2	17						
Emmonak	AK	2												
Fairbanks	AK	2												
False Pass	AK	11	11	37	1,320	0	0	0						
Gustavus	AK	60	35	199	3,525	25	118	2,532						
Haines	AK	411	198	620	13,781	60	60	1,235						
Hollis	AK	2												
Homer	AK	22	6	71	982	4	19	158						
Hoonah	AK	167	83	723	17,546	30	109	2,856						
Hooper Bay	AK	36	9	73	778	0	0	0						
Hydaburg	AK	60	24	179	6,112	3	14	523						
Hyder	AK	16	8	29	744	2	0	0						
Juneau	AK	247	59	522	10,091	53	247	3,991						
Kake	AK	105	48	743	17,358	4	2	11						
Karluk	AK	12	9	37	796	0	0	0						
Kasaan	AK	5	2	5	240	1	0	0						
Kasilof	AK	9	0	0	0	0	0	0						
Kenai	AK	74	14	218	2,358	14	55	815						
Ketchikan	AK	467	159	1,305	29,019	100	365	6,815						
King Cove	AK	32	25	162	3,148	7	19	415						
King Salmon	AK	5	2	0	0	2	1	5						
Kipnuk	AK	1												

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Appendix Table D-2.-Page 3 of 5

City	State	Number of SHARCs issued	Subsistence fished			Subsistence harvest			Sport fished			Sport harvest		
			Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut
Klawock	AK	152	76	657	21,064	37	203	3,073						
Kodiak	AK	1,144	628	5,163	94,965	375	1,236	23,310						
Larsen Bay	AK	31	21	115	2,336	8	50	998						
Manokotak	AK	2												
Metlakatla	AK	125	47	231	6,264	19	71	1,165						
Meyers Chuck	AK	9	7	35	971	0	0	0						
Naknek	AK	9	4	23	767	2	0	0						
Nanwalek	AK	41	32	422	6,584	6	8	158						
Naukatik Bay	AK	13	7	40	784	2	8	232						
Nikiski	AK	6	3	26	479	0	0	0						
Nimilchik	AK	16	3	20	280	5	13	232						
Nome	AK	20	6	19	450	0	0	0						
North Pole	AK	4												
Nunapitchuk	AK	1												
Old Harbor	AK	23	12	20	356	6	26	855						
Ouzinkie	AK	9	7	60	957	4	10	203						
Palmer	AK	4												
Pelican	AK	30	27	121	4,971	3	4	154						
Perryville	AK	13	8	23	551	0	0	0						
Petersburg	AK	803	327	1,959	40,168	214	753	12,552						
Point Baker	AK	16	9	71	1,674	1	6	137						
Port Alexander	AK	15	13	79	2,184	3	8	224						
Port Graham	AK	37	19	118	1,746	6	8	300						
Port Heiden	AK	2												

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Appendix Table D-2.-Page 4 of 5

City	State	Number of SHARCs issued	Subsistence fished			Subsistence harvest			Sport fished			Sport harvest		
			Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut
Port Lions	AK	26	16	125	1,892	7	19	397						
Port Protection	AK	1												
Saint George Island	AK	3												
Saint Paul Island	AK	36	28	546	7,827	0	0	0						
Sand Point	AK	243	91	508	9,634	4	8	132						
Savoonga	AK	1												
Saxman	AK	6	0	0	0	0	0	0						
Seldovia	AK	136	86	1,091	15,171	50	291	3,860						
Seward	AK	3												
Sitka	AK	1,272	650	3,483	84,830	246	735	13,590						
Skagway	AK	60	23	48	1,429	14	33	691						
Soldotna	AK	36	5	53	613	10	47	654						
South Naknek	AK	1												
Stebbins	AK	1												
Sterling	AK	9	0	0	0	0	0	0						
Sutton	AK	1												
Tatitlek	AK	10	7	58	1,667	0	0	0						
Tenakee Springs	AK	42	25	165	3,465	15	39	544						
Thorne Bay	AK	129	72	346	9,654	56	158	3,347						
Toksook Bay	AK	55	39	868	6,892	4	196	324						
Tununak	AK	74	74	971	10,692	0	0	0						
Unalakleet	AK	2												
Unalaska	AK	69	30	183	6,081	13	45	1,005						
Valdez	AK	18	8	42	1,126	0	0	0						

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Appendix Table D-2.-Page 5 of 5

City	State	Number of SHARCs issued	Subsistence fished			Subsistence harvest			Sport fished			Sport harvest		
			Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut	Estimated number respondents	Estimated number halibut	Estimated pounds halibut
Ward Cove	AK	29	2	9	279	4	7	195						
Wasilla	AK	26	4	36	953	12	76	1,045						
Whale Pass	AK	4												
Wrangell	AK	503	251	1,691	37,409	125	346	9,421						
Yakutat	AK	84	59	647	12,836	33	97	2,036						
Alaska subtotal		8,483	4,083	29,931	614,293	1,920	6,636	121,797						
Non-Alaska subtotal		93	12	32	1,496	22	134	3,708						
Grand total		8,576	4,094	29,963	615,789	1,942	6,770	125,505						

Note To protect confidentiality, data for tribes and communities with 5 or fewer SHARCs issued are not reported in this table. Subtotals include all tribes and communities.



Appendix Table D-3.— Estimated subsistence harvests of halibut in Alaska by gear type and place of residence, 2018.

Community	State	Number of SHARCs issued	Set hook gear				Estimated harvest by gear type					
			Estimated		Hook and line or handline		Estimated		Estimated		All gear	
			respondents fished	Estimated number fish harvested	Estimated pounds fish harvested	Estimated number respondents fished	Estimated number fish harvested	Estimated pounds fish harvested	Estimated number respondents fished	Estimated number fish harvested	Estimated pounds fish harvested	Estimated number respondents fished
Adak	AK	6	3	56	1,631	2	2	68	5	58	1,699	
Akiok	AK	20	7	44	540	12	50	876	13	95	1,416	
Akutan	AK	49	18	62	1,395	21	80	2,578	21	142	3,973	
Atakanuk	AK	1										
Aleknagik	AK	6	7	40	510	4	1	24	7	41	534	
Anchor Point	AK	13	6	77	2,454	5	16	450	6	93	2,904	
Anchorage	AK	116	28	226	4,915	22	91	1,419	42	318	6,335	
Angoon	AK	67	22	545	11,308	15	303	4,645	24	848	15,953	
Auke Bay	AK	2										
Barrow	AK	2										
Bethel	AK	4										
Chenega Bay	AK	7	6	45	1,285	5	10	122	6	55	1,407	
Chignik	AK	4										
Chignik Lagoon	AK	4										
Chiniak	AK	16	12	27	745	7	11	193	14	38	938	
Chugiak	AK	3										
Clark's Point	AK	3										
Coffman Cove	AK	36	13	53	1,455	10	51	762	20	105	2,217	
Cold Bay	AK	12	7	37	576	1	0	0	7	37	576	
Cordova	AK	441	184	1,056	20,449	74	322	6,052	215	1,378	26,501	
Craig	AK	378	178	1,087	27,459	47	182	3,500	192	1,269	30,959	
Dillingham	AK	32	5	19	492	6	23	686	6	43	1,178	
Douglas	AK	20	8	35	935	0	0	0	8	35	935	
Dutch Harbor	AK	52	22	111	2,378	9	33	740	28	143	3,119	
Eagle River	AK	9	1	22	567	2	29	209	3	51	776	
Edna Bay	AK	15	10	31	1,464	4	1	64	10	33	1,528	
Eek	AK	4										
Elfin Cove	AK	10	8	12	349	5	3	51	8	15	399	
Emmonak	AK	2										
Fairbanks	AK	2										

-continued-

Appendix Table D-3.-Page 2 of 4

Community	State	Number of SHARCs issued	Set hook gear			Hook and line or handline			All gear					
			Estimated			Estimated			Estimated					
			number fished	number fish harvested	Estimated pounds fish harvested	number respondents fished	Estimated number fish harvested	Estimated pounds fish harvested	number respondents fished	Estimated number fish harvested	Estimated pounds fish harvested			
False Pass	AK	11	0	0	0	11	37	1,320	11	37	1,320	11	37	1,320
Gustavus	AK	60	26	160	2,853	16	39	672	35	199	3,525	35	199	3,525
Haines	AK	411	193	587	13,222	47	33	559	198	620	13,781	198	620	13,781
Hollis	AK	2												
Homer	AK	22	6	64	869	2	8	113	6	71	982	6	71	982
Hoonah	AK	167	76	644	15,835	26	79	1,711	83	723	17,546	83	723	17,546
Hooper Bay	AK	36	0	0	0	9	73	778	9	73	778	9	73	778
Hydaburg	AK	60	24	154	4,753	8	25	1,360	24	179	6,112	24	179	6,112
Hyder	AK	16	8	26	672	2	3	72	8	29	744	8	29	744
Juneau	AK	247	52	434	8,615	21	88	1,476	59	522	10,091	59	522	10,091
Kake	AK	105	44	599	14,065	16	144	3,292	48	743	17,358	48	743	17,358
Karluk	AK	12	2	7	98	9	30	699	9	37	796	9	37	796
Kasaan	AK	5	2	5	240	1	0	0	2	5	240	2	5	240
Kasilof	AK	9	0	0	0	0	0	0	0	0	0	0	0	0
Kenai	AK	74	7	48	780	8	169	1,578	14	218	2,358	14	218	2,358
Ketchikan	AK	467	136	936	20,745	68	370	8,274	159	1,305	29,019	159	1,305	29,019
King Cove	AK	32	18	105	1,991	17	57	1,157	25	162	3,148	25	162	3,148
King Salmon	AK	5	2	0	0	2	0	0	2	0	0	2	0	0
Kipnuk	AK	1												
Klawock	AK	152	70	518	18,081	27	139	2,983	76	657	21,064	76	657	21,064
Kodiak	AK	1,144	572	4,400	81,180	216	763	13,785	628	5,163	94,965	628	5,163	94,965
Larsen Bay	AK	31	7	19	341	16	96	1,995	21	115	2,336	21	115	2,336
Manokotak	AK	2												
Metlakatla	AK	125	35	164	5,221	16	67	1,043	47	231	6,264	47	231	6,264
Meyers Chuck	AK	9	7	35	971	1	0	0	7	35	971	7	35	971
Naknek	AK	9	4	21	717	4	2	50	4	23	767	4	23	767
Nanwalek	AK	41	20	289	5,008	26	133	1,576	32	422	6,584	32	422	6,584
Naukatik Bay	AK	13	7	36	677	2	5	107	7	40	784	7	40	784
Nikiski	AK	6	2	0	0	3	26	479	3	26	479	3	26	479
Nimilchik	AK	16	3	20	280	0	0	0	3	20	280	3	20	280
Nome	AK	20	6	19	450	0	0	0	6	19	450	6	19	450

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Community	State	Number of SHARCs issued	Set hook gear			Hook and line or handline			All gear		
			Estimated			Estimated			Estimated		
			respondents fished	number harvested	Estimated pounds fish harvested	respondents fished	number harvested	Estimated pounds fish harvested	respondents fished	number harvested	Estimated pounds fish harvested
Toksook Bay	AK	55	4	87	982	39	781	5,911	39	868	6,892
Thorne Bay	AK	129	64	269	8,058	29	77	1,596	72	346	9,654
Tenakee Springs	AK	42	21	128	2,697	11	37	768	25	165	3,465
Taitlek	AK	10	7	58	1,667	0	0	0	7	58	1,667
Sutton	AK	1									
Sterling	AK	9	0	0	0	0	0	0	0	0	0
Stebbins	AK	1									
South Naknek	AK	1									
Soldotna	AK	36	0	0	0	5	53	613	5	53	613
Skagway	AK	60	20	40	1,257	11	8	172	23	48	1,429
Sitka	AK	1,272	602	3,062	76,592	178	420	8,238	650	3,483	84,830
Seward	AK	3									
Seldovia	AK	136	57	458	7,535	58	633	7,635	86	1,091	15,171
Saxman	AK	6	0	0	0	0	0	0	0	0	0
Savoonga	AK	1									
Sand Point	AK	243	52	194	3,289	70	314	6,345	91	508	9,634
Saint Paul Island	AK	36	16	510	6,972	12	36	855	28	546	7,827
Saint George Island	AK	3									
Port Protection	AK	1									
Port Lions	AK	26	15	106	1,668	5	19	224	16	125	1,892
Port Heiden	AK	2									
Port Graham	AK	37	14	52	1,028	13	66	718	19	118	1,746
Port Alexander	AK	15	10	67	1,903	3	12	281	13	79	2,184
Point Baker	AK	16	9	62	1,226	2	9	449	9	71	1,674
Petersburg	AK	803	263	1,357	29,808	153	603	10,360	327	1,959	40,168
Perryville	AK	13	8	23	551	1	0	0	8	23	551
Pelican	AK	30	25	93	3,742	6	28	1,230	27	121	4,971
Palmer	AK	4									
Ouzinkie	AK	9	7	52	785	4	8	171	7	60	957
Old Harbor	AK	23	12	19	329	4	1	27	12	20	356
Nunapitchuk	AK	1									
North Pole	AK	4									

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Appendix Table D-3.-Page 4 of 4

Community	State	Number of SHARCs issued	Set hook gear			Hook and line or handline			All gear		
			Estimated number respondents fished	Estimated number fish harvested	Estimated pounds fish harvested	Estimated number respondents fished	Estimated number fish harvested	Estimated pounds fish harvested	Estimated number respondents fished	Estimated number fish harvested	Estimated pounds fish harvested
Tununak	AK	74	1	0	0	74	971	10,692	74	971	10,692
Unalakleet	AK	2									
Unalaska	AK	69	22	134	4,913	23	49	1,167	30	183	6,081
Valdez	AK	18	8	42	1,126	0	0	0	8	42	1,126
Ward Cove	AK	29	0	0	0	2	9	279	2	9	279
Wasilla	AK	26	4	36	953	0	0	0	4	36	953
Whale Pass	AK	4									
Wrangell	AK	503	219	1,375	31,362	89	315	6,047	251	1,691	37,409
Yakutat	AK	84	50	526	10,302	16	121	2,534	59	647	12,836
Alaska subtotal		8,483	3,409	21,728	479,646	1,641	8,202	134,646	4,083	29,931	614,293
Non-Alaska subtotal		93	8	24	1,085	4	8	412	12	32	1,496
Grand total		8,576	3,417	21,752	480,731	1,645	8,210	135,058	4,094	29,963	615,789

Note To protect confidentiality, data for tribes and communities with 5 or fewer SHARCs issued are not reported in this table. Subtotals include all tribes and communities.

Appendix Table D-4.— Estimated number of respondents that subsistence or sport fished in Alaska, by place of residence, 2018.

Community	State	Number of SHARCs Issued	Estimated Number Subsistence or Sport Fished
Adak	AK	6	5
Akhiok	AK	20	14
Akutan	AK	49	24
Alakanuk	AK	1	
Aleknagik	AK	6	7
Anchor Point	AK	13	8
Anchorage	AK	116	55
Angoon	AK	67	31
Auke Bay	AK	2	
Barrow	AK	2	
Bethel	AK	4	
Chenega Bay	AK	7	6
Chignik	AK	4	
Chignik Lagoon	AK	4	
Chiniak	AK	16	17
Chugiak	AK	3	
Clark's Point	AK	3	
Coffman Cove	AK	36	27
Cold Bay	AK	12	11
Cordova	AK	441	262
Craig	AK	378	249
Dillingham	AK	32	8
Douglas	AK	20	14
Dutch Harbor	AK	52	39
Eagle River	AK	9	4
Edna Bay	AK	15	10
Eek	AK	4	
Elfin Cove	AK	10	8
Emmonak	AK	2	
Fairbanks	AK	2	
False Pass	AK	11	11
Gustavus	AK	60	49
Haines	AK	411	224
Hollis	AK	2	
Homer	AK	22	10
Hoonah	AK	167	103
Hooper Bay	AK	36	9
Hydaburg	AK	60	24
Hyder	AK	16	8
Juneau	AK	247	94
Kake	AK	105	50
Karluk	AK	12	9
Kasaan	AK	5	2
Kasilof	AK	9	0
Kenai	AK	74	23

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Appendix Table D-4.–Page 2 of 3.

Community	State	Number of SHARCs Issued	Estimated Number Subsistence or Sport Fished
Ketchikan	AK	467	217
King Cove	AK	32	26
King Salmon	AK	5	4
Kipnuk	AK	1	
Klawock	AK	152	88
Kodiak	AK	1,144	760
Larsen Bay	AK	31	22
Manokotak	AK	2	
Metlakatla	AK	125	57
Meyers Chuck	AK	9	7
Naknek	AK	9	4
Nanwalek	AK	41	32
Naukati Bay	AK	13	8
Nikiski	AK	6	3
Ninilchik	AK	16	8
Nome	AK	20	6
North Pole	AK	4	
Nunapitchuk	AK	1	
Old Harbor	AK	23	16
Ouzinkie	AK	9	8
Palmer	AK	4	
Pelican	AK	30	27
Perryville	AK	13	8
Petersburg	AK	803	433
Point Baker	AK	16	9
Port Alexander	AK	15	15
Port Graham	AK	37	19
Port Heiden	AK	2	
Port Lions	AK	26	19
Port Protection	AK	1	
Saint George Island	AK	3	
Saint Paul Island	AK	36	28
Sand Point	AK	243	91
Savoonga	AK	1	
Saxman	AK	6	0
Seldovia	AK	136	103
Seward	AK	3	
Sitka	AK	1,272	750
Skagway	AK	60	30
Soldotna	AK	36	11
South Naknek	AK	1	
Stebbins	AK	1	
Sterling	AK	9	0
Sutton	AK	1	
Tatitlek	AK	10	7
Tenakee Springs	AK	42	29

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Appendix Table D-4.–Page 3 of 3.

Community	State	Number of SHARCs Issued	Estimated Number Subsistence or Sport Fished
Thorne Bay	AK	129	93
Toksook Bay	AK	55	39
Tununak	AK	74	74
Unalakleet	AK	2	
Unalaska	AK	69	37
Valdez	AK	18	8
Ward Cove	AK	29	6
Wasilla	AK	26	17
Whale Pass	AK	4	
Wrangell	AK	503	301
Yakutat	AK	84	73
Alaska subtotal		8,483	4,943
Non-Alaska subtotal		93	
Grand total		8,576	4,977

Note To protect confidentiality, data for tribes and communities with 5 or fewer SHARCs issued are not reported in this table. Subtotals include all tribes and communities.

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Appendix Table D-5.— Estimated subsistence harvests of halibut in Alaska by gear type, SHARC type, and regulatory area, 2018.

Tribal Name	Regulatory area	Return rate		Subsistence fished halibut		Subsistence halibut harvest		Sport fished halibut		Sport halibut harvest		
		SHARCs issued	Surveys returned	Percent	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds
Angoon Community Association	2C	43	23	1	13	0	310	6,548	6	0	2	14
Central Council Tlingit and Haida Indian Tribes	2C	391	190	0	144	0	1,331	30,254	80	0	255	5,877
Chilkat Indian Village	2C	9	5	1	2	0	5	135	0	0	0	0
Chilkoot Indian Association	2C	42	30	1	21	1	95	2,300	7	0	4	156
Craig Community Association	2C	40	19	0	23	0	133	4,382	4	0	17	572
Douglas Indian Association	2C	8	3	0	5	1	11	290	0	0	0	0
Hoonah Indian Association	2C	87	48	1	33	0	241	6,013	9	0	34	449
Hydaburg Cooperative Association	2C	53	19	0	22	0	148	5,188	3	0	14	523
Ketchikan Indian Corporation	2C	392	211	1	121	0	1,081	23,856	84	0	281	5,530
Klawock Cooperative Association	2C	43	23	1	15	0	108	5,391	4	0	6	42
Metlakatla Indian Community, Annette Island Reserve	2C	109	43	0	46	0	203	5,856	10	0	25	532
Organized Village of Kake	2C	66	33	1	24	0	496	12,383	2	0	0	0
Organized Village of Kasauk	2C	3	3	0	0	0	0	0	4	0	4	30
Organized Village of Saxman	2C	12	3	0	0	0	0	0	4	0	11	159
Petersburg Indian Association	2C	49	37	1	12	0	52	998	4	0	61	1,507
Sitka Tribe of Alaska	2C	172	107	1	71	0	547	15,646	21	0	0	0
Skagway Village	2C	2	2	0	0	0	0	0	0	0	0	0
Wrangell Cooperative Association	2C	59	45	1	22	0	254	6,976	13	0	80	2,662
Subtotal, Area 2C	2C	1,580	842	1	574	0	5,016	126,215	250	0	794	18,054
Kenaitze Indian Tribe	3A	91	49	1	20	0	173	2,354	9	0	37	521
Lesnoi Village (Woody Island)	3A	11	5	0	0	0	0	0	7	1	53	1,139
Native Village of Afognak	3A	15	12	1	6	0	10	230	6	0	20	280
Native Village of Akhik	3A	11	8	1	6	1	41	763	1	0	0	0
Native Village of Chenega	3A	9	7	1	3	0	13	222	0	0	0	0
Native Village of Eyak	3A	53	33	1	29	1	170	3,491	6	0	8	120
Native Village of Karluk	3A	13	6	0	9	1	37	796	0	0	0	0
Native Village of Larsen Bay	3A	32	16	1	22	1	506	8,234	8	0	46	735
Native Village of Nanwalak	3A	34	23	1	30	1	365	6,169	4	0	6	128
Native Village of Ouzinkie	3A	11	8	1	8	1	99	2,068	1	0	3	83
Native Village of Port Graham	3A	40	20	1	20	1	178	3,617	4	0	8	300
Native Village of Port Lions	3A	21	13	1	15	1	121	1,636	5	0	19	327
Native Village of Tatitlek	3A	12	5	0	7	0	29	1,314	0	0	0	0
Ninilchik Village	3A	49	29	1	7	0	39	374	12	0	51	805
Seldovia Village Tribe	3A	49	31	1	28	1	262	5,555	14	0	74	800
Sun/Aq Tribe of Kodiak (formerly Shoonaq)	3A	94	59	1	48	1	347	6,744	16	0	41	789
Village of Kanatak	3A	2	2	0	0	0	0	0	0	0	0	0
Village of Old Harbor	3A	19	13	1	9	0	22	356	6	0	19	663
Village of Salamatoif	3A	23	18	1	6	0	158	2,099	5	0	23	355
Yakutat Tlingit Tribe	3A	36	11	0	26	1	288	5,707	10	0	33	712
Subtotal, Area 3A	3A	625	366	1	298	0	2,859	51,726	115	0	441	7,755
Agdaagux Tribe of King Cove	3B	32	22	1	22	1	164	3,278	4	0	19	415
Chignik Lake Village	3B	3	3	0	0	0	0	0	0	0	0	0
Ivanoff Bay Village	3B	4	4	0	0	0	0	0	0	0	0	0
Native Village of Belkofski	3B	2	2	0	0	0	0	0	0	0	0	0
Native Village of Chignik	3B	5	2	0	0	0	0	0	0	0	0	0
Native Village of Chignik Lagoon	3B	11	3	0	11	1	37	1,320	0	0	0	0
Native Village of False Pass	3B	1	1	0	0	0	0	0	0	0	0	0
Native Village of Nelson Lagoon	3B	1	1	0	0	0	0	0	0	0	0	0
Native Village of Perryville	3B	12	9	1	8	1	23	551	0	0	0	0

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Tribal Name	Regulatory area	Return rate		Subsistence fished halibut		Subsistence halibut harvest		Sport fished halibut		Sport halibut harvest	
		SHARCs issued	Surveys returned	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds
Native Village of Unga	3B	7	3	0	0	9	362	0	0	0	0
Pauloff Harbor Village	3B	3									
Qagan Toyagungin Tribe of Sand Point Village	3B	243	62	0	0	521	9,606	8	0	16	235
Subtotal, Area 3B	3B	325	105	0	0	772	15,368	12	0	35	650
Native Village of Ahtan	4A	48	15	0	0	138	3,898	6	0	10	204
Qawalingm Tribe of Unalaska	4A	25	7	0	1	61	4,200	7	0	4	40
Subtotal, Area 4A	4A	73	22	0	1	198	8,098	14	0	13	244
Native Village of Atka	4B										
Subtotal, Area 4B	4B	30	5	0	1	528	7,565	0	0	0	0
Pribilof Islands Aleut Community of St. Paul	4C	30	5	0	1	528	7,565	0	0	0	0
Subtotal, Area 4C	4C	30	5	0	1	528	7,565	0	0	0	0
Native Village of Diomed (Inalik)	4D	1									
Native Village of Savoonga	4D	1									
Subtotal, Area 4D	4D	2	2	0	2	2	2	2	2	2	2
Chevak Native Village (Kashunamit)	4E	1									
Chinik Eskimo Community	4E	1									
King Island Native Community	4E	2									
Manokotak Village	4E	2									
Naknek Native Village	4E	4									
Native Village of Aleknagik	4E	4									
Native Village of Council	4E	5	4	1	0	0	0	1	0	3	11
Native Village of Dillingham (Curyung)	4E	8	5	1	0	32	840	5	1	54	658
Native Village of Eek	4E	5	3	1	1	7	313	0	0	0	0
Native Village of Ekuk	4E	3									
Native Village of Hooper Bay	4E	36	31	1	0	73	778	0	0	0	0
Native Village of Kipnuk	4E	1									
Native Village of Koyuk	4E	3									
Native Village of Mekoryuk	4E	1									
Native Village of Nighthute	4E	2									
Native Village of Scammon Bay	4E	6	4	1	0	0	0	3	1	2	17
Native Village of Toksook Bay (Nunakauyak)	4E	48	11	0	1	868	6,892	4	0	196	324
Native Village of Tununak	4E	66	52	1	1	925	10,290	0	0	0	0
Native Village of Unalakleet	4E	1									
Newtok Village	4E	1									
Nome Eskimo Community	4E	5	1	0	0	0	0	0	0	0	0
Orutsararmiut Native Village	4E	3									
Stebbins Community Association	4E	5	5	1	1	2	65	3	1	0	0
Village of Alakanuk	4E	2									
Village of Chefornak	4E	1									
Village of Clark's Point	4E	4									
Subtotal, Area 4E	4E	220	130	1	1	1,972	20,265	18	0	261	1,145
Tribal Sub-Total		2,857	1,471	1	0	11,345	229,236	409	0	1,543	27,848

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Community	Regulatory area	Return rate		Subsistence fished halibut		Subsistence halibut harvest		Sport fished halibut		Sport halibut harvest		
		SHARCs issued	Surveys returned	Percent	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds
Angoon	2C	18	10	10	9	1	383	6,318	5	0	23	439
Coffman Cove	2C	36	31	31	21	1	107	2,382	15	0	50	1,019
Craig	2C	256	186	186	138	1	984	24,239	83	0	401	6,654
Edna Bay	2C	17	12	12	11	1	40	1,687	1	0	0	0
Elfin Cove	2C	9	6	6	8	1	15	399	2	0	2	17
Gustavus	2C	62	55	55	34	1	198	3,555	25	0	118	2,532
Haines	2C	364	312	312	182	0	590	13,537	58	0	68	1,340
Hollis	2C	46	33	33	21	0	71	1,803	8	0	35	552
Hoonah	2C	78	59	59	36	0	418	9,979	22	0	94	2,482
Hydaburg	2C	7	5	5	31	0	924	0	0	0	0	0
Hyder	2C	16	10	10	29	1	744	0	2	0	0	0
Juneau	2C	9	4	4	5	0	83	1,055	2	0	27	304
Juneau	2C	35	23	23	157	1	3,896	0	3	0	6	86
Kake	2C	6	6	6	8	1	323	0	2	0	5	150
Kasaan	2C	6	3	3	2	0	135	0	0	0	0	0
Ketchikan	2C	113	82	82	409	0	9,890	0	39	0	244	3,886
Klawock	2C	27	16	16	41	0	826	0	8	0	46	633
Metlakatla	2C	9	9	9	7	1	35	971	0	0	0	0
Meyers Chuck	2C	44	37	37	126	1	3,186	0	7	0	19	450
Naukat Bay	2C	27	22	22	18	1	2,221	0	1	0	0	0
Pelican	2C	740	592	592	314	0	1,891	38,750	213	0	771	13,182
Petersburg	2C	18	12	12	15	1	75	2,055	2	0	6	203
Port Alexander	2C	14	10	10	34	1	1,070	0	1	0	6	137
Port Protection	2C	11	7	7	5	0	448	0	0	0	0	0
Pt. Baker	2C	15	9	9	97	1	1,738	0	7	0	55	581
Saxman	2C	1,131	846	846	582	1	2,977	70,644	239	0	754	14,095
Sitka	2C	60	44	44	25	0	61	1,543	14	0	33	691
Skagway	2C	42	37	37	163	1	3,454	0	15	0	39	544
Tenakee Springs	2C	124	100	100	327	1	8,944	0	53	0	150	3,146
Thorne Bay	2C	2	2	2	67	1	0	0	0	0	0	0
Ward Cove	2C	28	26	26	14	1	67	1,480	12	0	29	666
Whale Pass	2C	416	334	334	199	0	1,234	26,655	98	0	252	6,173
Wrangell	2C	3,786	2,939	2,939	1,861	0	10,770	244,851	938	0	3,231	59,960
Subtotal, Area 2C		15	10	10	8	1	54	653	0	0	0	0
Akhiok	3A	1	1	1	53	1	1,378	0	0	0	0	0
Anchorage	3A	5	2	2	5	1	0	0	0	0	0	0
Chenega Bay	3A	4	4	4	189	0	1,217	23,278	92	0	263	5,956
Chiniak	3A	398	328	328	575	1	4,268	80,533	355	0	1,107	21,214
Cordova	3A	1,054	776	776	0	0	0	0	0	0	0	0
Kodiak	3A	4	4	4	4	1	66	593	2	0	2	30
Larsen Bay	3A	8	3	3	3	0	0	0	3	0	13	400
Nanwalek	3A	8	7	7	118	0	1,842	0	6	1	22	306
Old Harbor	3A	9	6	6	24	1	366	0	5	1	11	107
Ouzinkie	3A	13	11	11	73	1	923	0	6	0	17	266
Port Graham	3A	117	91	91	75	1	1,021	13,550	44	0	260	3,462
Port Lions	3A	10	8	8	53	1	1,289	0	0	0	0	0
Seldovia	3A	52	35	35	355	1	6,542	0	21	0	62	1,262
Tatitlek	3A	2	2	2	928	1	7,343	131,635	597	0	1,782	33,426
Yakutat	3A	1,707	1,289	1,289	0	0	0	0	0	0	0	0
Subtotal, Area 3A		11	9	9	7	0	147	0	6	1	6	60
Chignik	3B	1	1	1	2	0	0	0	0	0	0	0
Chignik Lagoon	3B	1	1	1	0	0	0	0	0	0	0	0
Cold Bay	3B	11	9	9	2	0	0	0	0	0	0	0

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Community	Regulatory area	Return rate		Subsistence fished halibut		Subsistence halibut harvest		Sport fished halibut		Sport halibut harvest	
		SHARCs issued	Surveys returned	Percent	Estimated number respondents	Percent of SHARCs	Estimated number fish	Estimated number pounds	Estimated number respondents	Percent of SHARCs	Estimated number fish
False Pass	3B	2									
King Cove	3B	8	7	1	6	1	33	420	3	0	34
Sand Point	3B	5									866
Subtotal, Area 3B	3B	29	24	1	16	1	80	1,528	10	0	40
Akutana	4A	2									
Unalaska	4A	105	67	1	39	0	263	4,972	39	0	161
Subtotal, Area 4A	4A	107	69	1	40	0	263	4,972	40	0	161
Adak	4B	4									
Subtotal Area, 4B	4B	4									
St George Island	4C	3									
St Paul Island	4C	7	2	0	4	1	18	263	0	0	0
Subtotal, Area 4C	4C	10	4	0	7	1	25	533	0	0	0
Gambell	4D	1	0	0	0	0	0	0	0	0	0
Subtotal, Area 4D	4D	1	0	0	0	0	0	0	0	0	0
Alakanuk	4E	1									
Aleknagik	4E	6	5	1	5	1	13	159	0	0	0
Bethel	4E	1									
Dillingham	4E	21	19	1	0	0	0	0	2	0	8
King Salmon	4E	4									
Koyuk	4E	1									
Naknek	4E	7	4	1	5	1	26	832	2	0	0
Nome	4E	18	9	1	6	0	19	450	0	0	0
Port Heiden	4E	2									
Stebbins	4E	1									
Togiak	4E	1									
Toksook Bay	4E	2									
Tununak	4E	9	9	1	9	1	46	401	0	0	0
Unalakleet	4E	1									
Subtotal, Area 4E	4E	75	54	1	27	0	105	1,843	6	0	9
Rural Community Subtotal		5,719	4,381	1	2,883	1	18,618	386,553	1,533	0	5,227
Grand Total		8,576	5,852	1	4,094	0	29,963	615,789	1,942	0	6,770

Note: To protect confidentiality, data for tribes and communities with 5 or fewer SHARCs issued are not reported in this table. Subtotals include all tribes and communities.

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APPENDIX E-SUMMARY

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To be added to final document.

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