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Involving Fishing Communities in Data Collection: A Summary and Description of the Alaska Community Survey, 2011

by
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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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Abstract

A review of existing fisheries data collected by the State of Alaska and the National Marine Fisheries Service (NMFS) shows that many Alaskan communities are highly engaged in commercial, recreational, and subsistence fisheries. These resources are frequently affected by fisheries management decisions and anthropogenic effects on resource distribution and abundance that can either threaten or enhance community well-being. However, much of the existing economic data about Alaskan fisheries is collected and organized around specific units of analysis such as counties (boroughs), fishing firms, vessels, sectors, and gear groups that are often difficult to aggregate or disaggregate for analysis at the individual community or regional level. In addition, some relevant community-level economic data have not been collected historically. As a result, the North Pacific Fishery Management Council (NPFMC), the Alaska Fisheries Science Center (AFSC), and community stakeholder organizations identified the ongoing collection of community level socio-economic information, specifically related to commercial fisheries, as a priority.

To address this need, the AFSC Economic and Social Sciences Research Program (ESSRP) began implementing the Alaska Community Survey – a voluntary data collection program to improve the socio-economic data available for consideration in North Pacific fisheries management using the community as the unit of reporting and analysis. ESSRP social scientists partnered with community-based organizations and individuals from fishing communities around Alaska to determine the detailed community level information to be collected and made available for the socio-economic impact assessment of communities involved in North Pacific fisheries (initially focused on Alaska communities for feasibility reasons).

An additional goal was to ensure that community level socio-economic and demographic data are collected at comparable levels of spatial and thematic resolution to commercial fisheries data. Such data will facilitate analysis of the impacts of proposed changes in commercial fisheries management, both within and across North Pacific communities involved and engaged in various types of fishing. These data will also help ESSRP scientists and NPFMC staff to better understand Alaskan communities' social and economic ties to the fishing industry and facilitate the analysis of potential impacts of catch share programs and coastal and marine spatial planning efforts.

This survey was designed to gather information about Alaskan fishing communities and to help determine each community's capacity to support fishing activities. The types of data collected through the survey address recommendations from community representatives that participated in our community meetings. This report gives an overview of the survey, results from the second year of implementation in 2012 (collecting data for the 2011 calendar year), and addresses the potential for this and other methods of engaging communities to better inform fisheries management in isolated areas of Alaska.

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INTRODUCTION

The National Marine Fisheries Service (NMFS) is the agency responsible for the stewardship of the Nation's living marine resources. In addition to managing, protecting, and conserving our marine resources, the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) mandates that management consider the importance of fishery resources to fishing communities through the use of socio-economic data (§301, National Standard 8). Much of the existing economic data about Alaska fisheries are collected and organized around units of analysis such as counties (boroughs), fishing firms, vessels, sectors, and gear groups. It is often difficult to aggregate or disaggregate these data for analysis at the individual community or regional level and some relevant community-level economic data are entirely absent. As a result, the North Pacific Fishery Management Council (NPFMC), the Alaska Fisheries Science Center (AFSC), and community stakeholder organizations identified the ongoing collection of community-level socio-economic information, specifically related to commercial fisheries, as a priority.

In partnership with community organizations and individuals from fishing communities around Alaska, the AFSC's Economic and Social Sciences Research Program (ESSRP) has been collecting detailed community-level socio-economic and demographic data at the levels of spatial and thematic resolution comparable to that of commercial fisheries data collection. To address this need specifically, ESSRP social scientists developed and implemented the Alaska Community Survey. The voluntary survey is designed to improve the availability of socio-economic data for consideration in the North Pacific fisheries management process as required under the MSFCMA. These data can aid researchers and policy makers to better understand Alaskan communities' social and economic ties to the fishing industry. Such data also facilitates analyses including evaluating past impacts or considering possible future repercussions of changes in commercial fisheries management (e.g., rationalization), both within and across North Pacific communities involved in and engaged in various types of fishing.

The Alaska Community Survey was also originally implemented as a data collection tool to aid the ESSRP in the revision process of the document "*Community Profiles for North Pacific Fisheries – Alaska*" (Sepez et al. 2005), which was recently completed (Himes-Cornell et al. 2013). In community meetings held by AFSC social scientists in August and September 2010, community input was sought on how the community profiles could better represent communities and their ties to North Pacific fisheries (Himes-Cornell et al. 2011). Much of the input received at the meetings included suggestions for new types of socio-economic data to better represent the interests of communities in the fisheries management process and in socio-economic impact analyses. A large amount of the data requested by communities for inclusion was not obtainable from other sources and was therefore requested directly from communities through the implementation of the Alaska Community Survey.

The survey was implemented as a source of data for practical use for NOAA social scientists and for the NPFMC for descriptive and analytical purposes including socio-economic impact analyses of potential regulations. In addition to direct fisheries management utility, this research and the resultant data can be utilized in future ecosystem management efforts. These efforts include the development of ecosystem models that incorporate various socio-economic indicators and other social information. The survey results are also available for public use to support community development, other research concepts, and future research design. In

addition, the data presented here may have utility for Alaskan fishing communities in understanding and communicating their own engagement in fishing and socio-economic structure compared to other communities around the state. Aggregate data from the survey can be used to describe demographics of Alaskan fishing-dependent communities, fishing-related businesses, and the importance of fishing to various regions of Alaska. The information may be used to give communities a voice in the decision-making process.

The results of the second year of implementation (2012) of the survey are presented here, with data reported for the 2011 calendar year. The survey was implemented for the first time in 2011 with data reported for the 2010 calendar year and will be implemented in 2014 with data reported for the 2013 calendar year for the third round of data collection. Results of the first year of data collection are presented in Himes-Cornell and Kent (2014) and future years of data collection will be presented in separate reports. The remainder of the report is structured as follows: a description of the development and pretesting of the survey instrument, a description of the sampling protocol used to determine which communities were surveyed, and a brief overview of the implementation of the survey. The section also includes a description of post-hoc data management, an overview of the non-response bias analysis methodology, and a brief summary of the results of the non-response bias analysis. We also include a description of post-hoc data management, an overview of the non-response bias analysis methodology, and a brief summary of the results of the non-bias response analysis. Next, the report provides a summary of results from the survey and a summary of the findings. Finally, the report discusses the conclusions and next steps for this research.

METHODS

SURVEY DEVELOPMENT

This section details the original survey design. The survey was originally implemented in 2011; this report covers the second year of implementation in 2012. The survey instrument was developed through significant pretesting and assistance from experts in survey design and representatives of communities that were part of the overall respondent population. Pretesting activities were spaced out to allow sufficient time to revise the survey materials between each activity. The survey instrument also benefited from early input from several cognitive interviews with representatives from Alaska fishing communities. Three methods were used to pretest and refine the survey instrument used for this project.

First, experts in survey design who worked with Alaskan fishing communities on a regular basis were asked to review the draft survey instrument and provide comments on the wording of questions, additional questions to include, question order effects, question structure, and response categories. Second, cognitive (one-on-one) interviews were conducted in Dutch Harbor, Nome, Petersburg, and Kodiak with participants in a series of community meetings (Himes-Cornell et al. 2011). All interviews were conducted with people that could be potential respondents to the survey. Each interview consisted of asking individuals to review the questionnaire in the presence of an interviewer. Respondents were instructed to read through each question aloud and give a verbal account of everything they are thinking and to explain their thoughts about whether the question struck them in a favorable or unfavorable way, how

easy it would be to answer the question, whether the question was clear and whether the instructions about what to do to complete the survey were adequate. The interviews were then followed by a short debriefing interview to discuss the overall design of the questionnaire and the respondent's suggested general changes. During these interviews, it was determined that the survey would take approximately 45 minutes to an hour to complete.

Third, a small formal pretest was completed with potential respondents from four communities: Valdez, Dillingham, Aleknagik, and Ugashik. Implementation of the formal pretest followed the same survey protocol as was used for full implementation of the survey (see below). The formal pretest implementation occurred between October and November 2010, and was principally intended to ensure the initial survey protocols were functioning as expected. The telephone interview and final mailing stages were not undertaken for the formal pretest.

DATA COLLECTED

The following is a discussion of the data collected with the survey instrument and how individual questions in the survey instrument are expected to be used. The full survey instrument is included as an appendix to this report (Appendix D).

- Q1 collects information about how many people live in the community as year-round residents, as seasonal workers or transients, and as year-round residents that work in a shore-side processing plant. The U.S. Census does not differentiate between residents that live in a place year-round or that are seasonal residents. The data collected in this question can facilitate an understanding of the difference between types of residents in terms of reliance on local social services such as food banks and publicly subsidized housing and participation in civic activities.

- Q2 provides information on which months per year seasonal workers live in the community. The ebb and flow of seasonal workers can have a strong impact on the population of a given community. The information collected from this question can assist in understanding the link between the peaks and troughs in fisheries participation and temporal impacts of fisheries management decisions on the social structure of a given community.

- Q3 requests information on the length of the fishing season(s) in which residents of the community participate. The information gathered from this question may be useful in facilitating an understanding of the temporal economic, cultural, and social effects fishing has on a given community.

- Q4 asks for the month(s) that the community's population reaches its annual peak. Responses to this question will be used to map out the population over time and determine what months of the year will have the largest burden on civic services.

- Q5 is used to determine the degree to which the community's annual peak in population is driven by employment in the fishing sector. Reponses to this question may be used to add focus to the responses from Q2 and Q4 to determine how much the population fluctuations of an individual community are specifically related to fishing.

- Q6 collects information about the infrastructure available in the community and whether it was completed in the last 10 years, is currently being constructed, or is planned for completion in the next 10 years. The question also asks for the year of completion. Representatives from Alaskan fishing communities have indicated that the availability of local infrastructure is imperative for the sustained existence of a given community. The information collected in this question may be used to respond to this request and can be an indicator of vibrancy and resiliency of a given community and the quality of economic performance of a local fishery.

- Q7 and Q8 provide information on the availability of public dock space for moorage of permanent and transient vessels (Q7) and the maximum length of vessels that can moor in the community (Q8). Responses may be used to assess the capacity of each community to host fishing vessels and generate revenue from public moorage facilities. If the availability of moorage space changes over time, this could have an effect on local participation in fisheries.

- Q9 requests information about the annual revenue that public moorage facilities earned in the previous calendar year. Responses will be used as a quantitative indicator of vessel transit activity and revenue generation from public moorage facilities for each community. This source of public revenue can directly feed into the community's municipal finances and be earmarked as a direct economic benefit of fishing to the community. As a result, changes in fisheries management could have an effect on municipal finances if moorage revenue goes down from reduced vessel activity utilizing public moorage facilities. This type of information could be used to assist in the analysis of impacts of proposed fishing regulations or allocations that are based on vessel size.

- Q10 is used to determine the types of regulated vessels that the community's port is capable of handling. Responses will be used to describe the non-fisheries fleet activity in a community. This type of information can be used to measure the resiliency of communities in the face of changes in fisheries management and with regards to the diversity of the economic base that supports the port services. This is important in looking at the amount of moorage space available as regulated vessels could account for a high level of dock space available when fishing is not heavily present in a community.

- Q11 collects information on the size classes of commercial fishing boats that use the community's port during the fishing season as their base of operations. Responses to this question can be used to assist in describing the fishing fleet's contribution to the local economy. The home port listed on the vessel registration often does not reflect where the vessel is based during the fishing season, and thus, to which local economy the vessel is contributing to during the fishing season. Since there are no known records of which fishing vessels use which communities as their base of operations and because it would be too onerous to ask harbormasters or community officials to list out which vessels use their community in a given year, the data from the questions in this survey with regards to a community's capacity to host commercial fishing vessels could be used to form assumptions about the effect commercial fishing has on a community's economy. In addition, the capacity of a community to host certain sizes of vessels can be used as an indirect multiplier of potential effects of fisheries management actions based on vessel size class.

- Q12 and Q12a provide information about the trends in the number of different types of vessels that are based in the community compared to 5 years ago. The responses to this question may be used as one method of tracking the trends of the local vessel types over time.

- Q13 and Q14 ask for the type of recreational or sport fishing that occurs in the community (Q13) and the saltwater species that are targeted (Q14). The information collected from this question may be used to describe the presence of recreational fishing in each community so that a community's engagement in recreational fishing can be determined.

- Q15 is used to determine the types of fishing gear used by commercial fishing vessels based out of the community. This question will aid in describing the effects of fishing regulations that are based on fishing gear type per community and describing the commercial fishing fleet that uses each community during the fishing season.

- Q16 collects information about the types of fishing support businesses located in the community. The information collected from this question will be used to provide insight into how each community contributes to fishing both locally and regionally. The hypothesis is that changes to services in a regionally important community hub would have a multiplier effect in that they will affect not only their own community but also all of the satellite communities that rely on the services in the hub to keep fishing operations active.

- Q17 provides the location(s) of the communities that local residents go to for fishing support businesses that are not located in the community. The answers to this question are useful in providing insight into which communities are considered hubs for fishing-related services in a given region and what fisheries service networks exist among Alaskan communities.

- Q18 asks for information about the public social services that are available in the community. This question can provide insight into which public social services are available both to residents and individuals temporarily based in the community.

- Q19 requests information about the natural resource-based industries upon which the community's economy relies. The results of this question can aid in understanding the diversity of natural resources that a given community might have to support itself in addition to fishing. These data can also be used to evaluate the resiliency of a community's economy and alternate sources of jobs for residents.

- Q20 is used to determine the three most important subsistence marine or aquatic resources upon which the residents of the community rely. The Alaska Department of Fish and Game (ADF&G) does not undertake subsistence harvest surveys on an annual basis. The results of this question are complementary to the ADF&G surveys and may be used to gain an understanding of what aquatic resources a community might rely on for subsistence purposes. In general, communities have expressed concern that not enough data are collected on the subsistence activities of Alaskan communities. The purpose of this question is to document that subsistence harvesting is important to communities and will be used to show differences between the subsistence resources that communities rely on in different regions.

- Q21 and Q22 collect information about funding or grants that the community received from Community Development Quota entities and from fisheries-related taxes or fee programs in the previous calendar year. The results from this question could be added to other known community revenue streams to determine the total amount of revenue that a community receives related to fishing-related activity. These data can be used to understand the total benefit that a community receives from fishing and can assist in understanding how positive or negative changes to this revenue stream from fisheries management decisions might affect a community's ability to provide community services.

- Q23 asks for information about the community's public services that are at least partially funded by a local raw fish tax, the State Shared Fisheries Business Tax, the State Fisheries Resource Landing Tax, or marine fuel sales taxes. The responses will assist in understanding which community services are dependent on fisheries-related revenue, and thus which community services might be affected by changes in revenue caused by fisheries management decisions.

- Q24 and Q24a request information about additional local fishing-related fee programs charged to the fishing industry that specifically support public services and infrastructure. The responses could be used to determine local fishing related revenue streams that might be affected by fisheries management decisions. Community representatives have requested that fisheries managers take into account such municipal fee programs that are susceptible to changes in fishing activities and incorporate potential impacts to those revenue streams into socio-economic impact analyses for potential fisheries management changes. The results of this question could be used by fisheries managers to direct analyses of this type of impact.

- Q25 and Q25a are used to characterize how the community participates in the fisheries management process in Alaska. Since this data collection will happen on an annual basis, the results could be used to understand the trends in annual community participation. It is hypothesized that communities with more varied and professionalized participation are more likely to play a significant role in the fisheries management process. An individual conducting a socio-economic impact analysis should seek to understand the degree to which communities participate in the process so that their impact analysis can consider those communities that might be least likely to represent themselves. Participation in fisheries management was emphasized during community profile update meetings as an important dimension to understand.

- Q26-29 collect information about the current challenges for the portion of the local economy that is based on fishing (Q26), the effects of fisheries policies or management actions on the community (Q27), the past or current fisheries policy or management action that has affected the community the most (Q28), and the potential future fisheries policy or management actions that concern the community the most. The responses can be used to understand what fisheries management issues may affect communities in what ways, which in turn can assist the assessments of cumulative effects of fisheries management actions in compliance with the National Environmental Policy Act (NEPA).

- Q30 provides information on the individuals in the community that contributed to filling out the survey. The responses to this question can be used to add context to the subjective questions included in the survey.

- Q31 asks for any additional information that the respondent would like to provide NOAA about how the community is engaged in or affected by fisheries. The responses to this question can be used to identify any additional issues that communities have with regards to their involvement in fishing that were not addressed in the survey but about which the public should be informed.

SAMPLING PROTOCOL

The sampling methodology followed that used in Himes-Cornell et al. (2013), which can be consulted for a full methodological explanation. The sampling frame for the population of interest included 193 communities, composed of the 136 communities that were profiled in the 2005 *Community Profiles for North Pacific Fisheries – Alaska* (Sepez et al. 2005) and an additional 57 communities that were profiled for the 2013 update (Himes-Cornell et al. 2013). The additional 57 communities were selected due to their involvement in commercial, recreational and subsistence fishing in Alaska, as determined using a data envelopment analysis (DEA) that focused on scoring communities based on their overall dependence and reliance on fishing to support their well-being (Sepez et al. 2007). For community selection, 2009 fishing data for each community was used in the DEA which then assigned a score to each community based on multiple indicators of participation in various fisheries. As a non-parametric approach, DEA may more effectively capture fisheries participation across multiple indicators without giving a pre-determined weight or importance to each indicator. The communities selected through the DEA model demonstrated strong participation in any unique combination of commercial, recreational, and subsistence fisheries. A caveat to the community sampling methodology was discovered after the implementation of the survey began. It was found that the subsistence data that was utilized was not as reliable as the data used for commercial and recreational fishing because data collection efforts had been sharply reduced after 2008. It is therefore possible the sampling tool did not effectively capture communities whose fisheries participation is solely subsistence-based. In order to address this shortcoming, we intend to revisit the list of communities that receive the survey in the next implementation of the survey in 2014 in order to effectively capture these types of communities.

SURVEY IMPLEMENTATION

Due to low population numbers, a census of the population was feasible and preferable given that standard sampling approaches would have required a sample size of 186 out of 196 communities in order to be representative. A census of identified fishing communities was also necessary in order to obtain the same set of unique information about each community's involvement in fishing for use in revising the Community Profiles.

Most of the communities in the study (n = 139) were sent a copy of the survey to the municipal office and another to the tribal office. Some communities were sent only one copy of the survey if there was not a known tribal or municipal office (n = 46). A few communities (n = 8) were sent three copies if they had two different contacts associated with the municipal office or had two different tribal offices in the same community (e.g., Juneau). Appendix C breaks down how many copies of the survey each community received and how many copies each community returned. Figure 1 shows the communities that completed the survey as well as the regional groupings communities were organized into for the analysis. Table 1 lists which communities were organized into each regional grouping. As defined in Himes-Cornell et al. (2013), the regional groupings were determined using census area designations and geographic approximations to break the state into even assemblages of communities. The regional groupings are intended to approximate representative sets of communities that rely on specific stocks of natural resources.

The implementation techniques that were employed are consistent with methods that maximize response rates. Mail survey implementation followed a modified Dillman Tailored Design Method (Dillman et al. 2009), which included the following steps (excluding any steps after a respondent returned their completed survey):

1. An **advance letter** notifying respondents about the survey a few days prior to the questionnaire arriving.
2. An **initial mailing** sent 5 days after the advance letter. Each mailing contained a personalized cover letter, questionnaire, and a pre-addressed stamped return envelope.
3. A **postcard follow-up reminder** mailed 7 days following the initial mailing.
4. A **follow-up telephone reminder** 28 days after the advance letter to encourage response.
5. A **second full mailing** mailed 36 days after the advance letter was sent.

This flow deviated from the classic Dillman Tailored Design Method with the placement of the telephone contact prior to the second mailing of the survey instrument. This method was used because it was conjectured that the personal connection is important in community surveys, especially given the extremely small size of Alaskan communities (the median population size in 2010 was 358 (U.S. Census 2010)) and it could elicit better participation than repeated mailings with no verbal contact. The survey was implemented between October and December 2012 by Pacific States Marine Fisheries Commission and AFSC social scientists. Table 2 outlines the timing of the implementation of the survey.

Figure 1. -- Respondent communities organized by regional grouping.

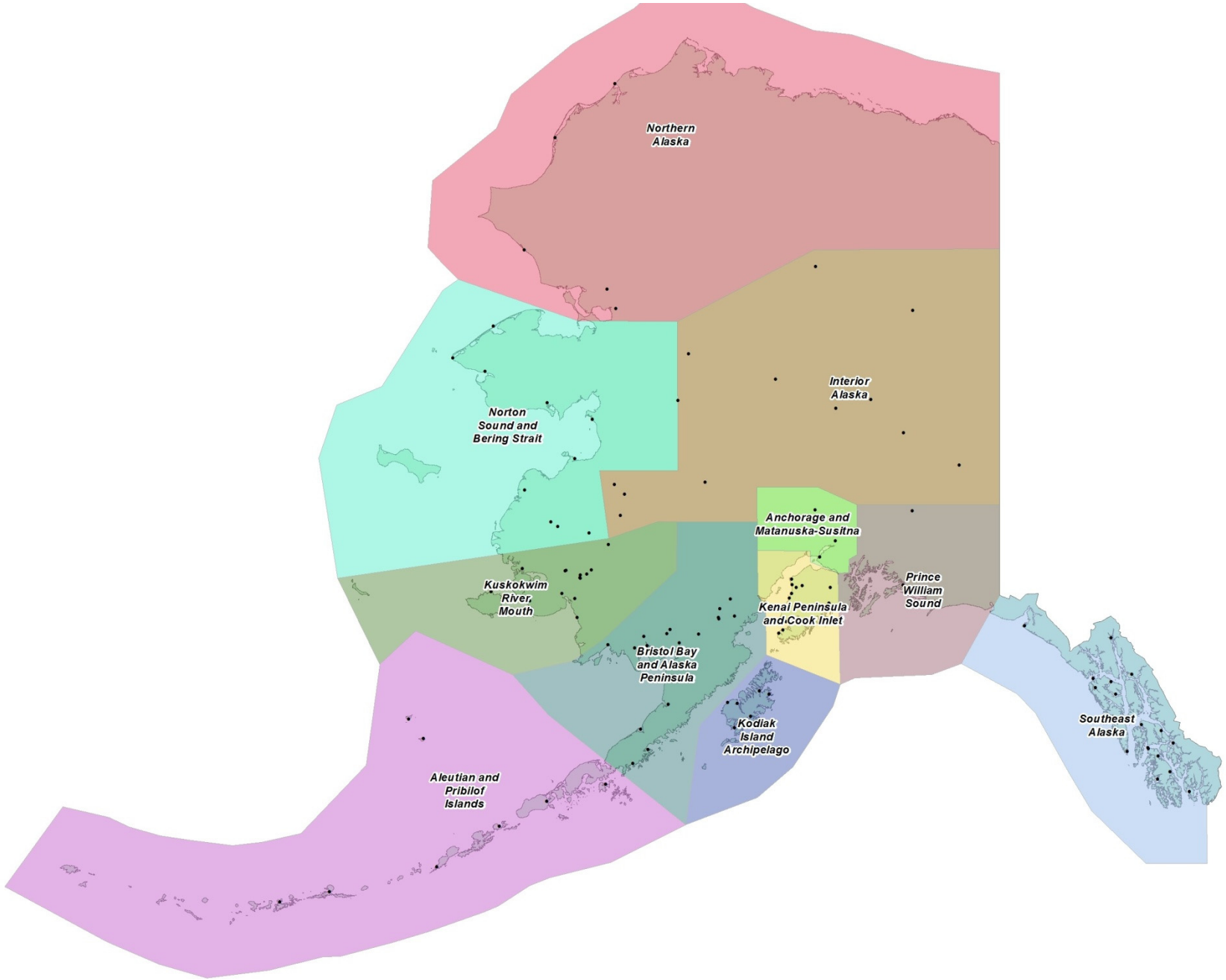


Table 1. -- Respondent communities organized by regional grouping.

Aleutian and Pribilof Islands	Anchorage and Mat-Su	Bristol Bay and Alaska Peninsula	Interior	Kenai Peninsula and Cook Inlet	Kodiak Island	Kuskokwim River Mouth	Northern Alaska	Norton Sound and Bering Strait	Prince William Sound	Southeast
Adak	Eagle River	Aleknagik	Delta Junction	Clam Gulch	Alitak Bay	Akiak	Kiana	Brevig Mission	Cordova	Craig
Akutan	Palmer	Chignik	Fort Yukon	Homer	Karluk	Bethel	Kivalina	Emmonak	Gakona	Elfin Cove
Atka	Talkeetna	Clarks Point	Galena	Kasilof	Kodiak	Chefornak	Point Lay	Nome		Haines
False Pass		Dillingham	Grayling	Kenai	Larsen Bay	Eek	Selawik	Pilot Station		Hoonah
Nikolski		Ekuk	Holy Cross	Moose Pass	Old Harbor	Kasigluk	Wainwright	Russian Mission		Juneau
Saint George		Ekwok	Huslia	Nanwalek	Port Lions	Kwethluk		Saint Mary's		Kake
Saint Paul		Igiugig	Nenana	Nikiski		Lower Kalskag		Saint Michaels		Metlakatla
Sand Point		Iliamna	North Pole	Ninilchik		Mcgrath		Shaktoolik		Pelican
		Levelock	Shageluk	Seldovia		Mekoryuk		Shishmaref		Petersburg
		Manokotak	Tanana	Seward		Napaskiak		Wales		Point Baker
		New Stuyahok	Tok	Soldotna		Newtok		White Mountain		Port Alexander
		Newhalen	Wiseman	Sterling		Nunapitchuk				Port Protection
		Nondalton				Oscarville				Sitka
		Pedro Bay				Quinhagak				Tenakee Springs
		Perryville				Toksook Bay				Thorne Bay
		Port Alsworth				Tuntutuliak				Whale Pass
		Port Heiden				Tununak				Wrangell
		Portage Creek								Yakutat
		Togiak								
		Ugashik								

Table 2. -- Survey implementation timing.

Stage	Date
Advance Letter	October 19, 2012
Initial Mailing	October 24, 2012
Postcard Follow-up Reminder	November 1, 2012
Follow-up Telephone Reminder	November 4-30, 2012
Second Full Mailing	November 13, 2012
Second Follow-up Telephone Reminder	December 10-21, 2012

RESPONSE RATE

Of the 348 surveys that were mailed, 148 surveys were returned. Duplicate surveys were returned for 36 communities (24.3% of the total survey returns), resulting in a total of 114 unique surveys, representing 59.1% of communities contacted. To avoid duplication in the data, only one response per question was analyzed for each community. Therefore, for communities that returned more than one survey, a protocol was developed to address duplication (see below in the section on post-hoc data management for details). Surveys returned due to bad addresses represented 0.86% (3 surveys) of all surveys mailed. Additionally, 16 recipients representing 15 communities refused to participate in the survey (4.5% of entities sent a survey). However, two copies of the survey were sent to most communities so three of those refusals came from communities that returned the copy of the survey sent to the other community entity. Figure 2 and Table 3 present the response rates by geographic region of the state.

Figure 2. -- Survey response rates by region.

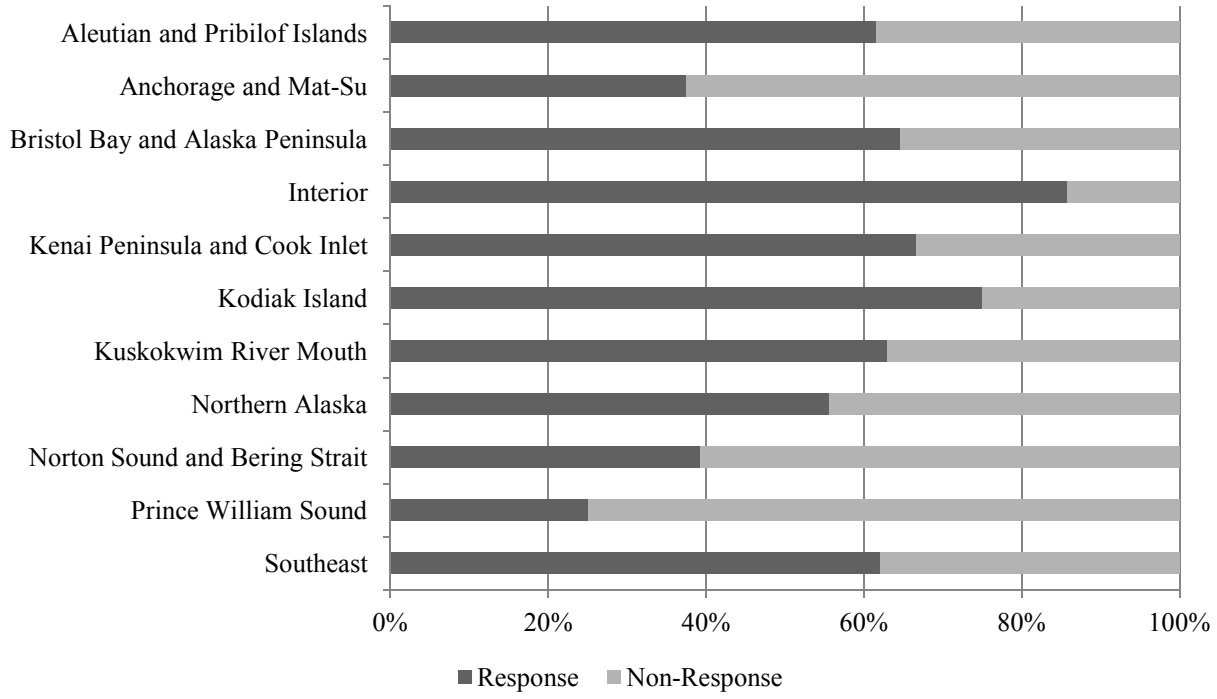


Table 3. -- Survey responses and non-responses by region.

Region	Response	Non-response
Aleutian and Pribilof Islands	8	5
Anchorage and Mat-Su	3	5
Bristol Bay and Alaska Peninsula	20	11
Interior	12	2
Kenai Peninsula and Cook Inlet	12	6
Kodiak Island	6	2
Kuskokwim River Mouth	17	10
Northern Alaska	5	4
Norton Sound and Bering Strait	11	17
Prince William Sound	2	6
Southeast	18	11
Total	**114**	**79**

POST-HOC DATA MANAGEMENT

As referred to earlier, for communities that returned duplicate surveys, a protocol was developed to limit the number of responses per question per community to one entry. This was determined to be necessary given that communities were the base unit of analysis, and leaving more than one survey response per community in the data could bias the results towards the communities that returned more than one survey. To inform the development of the duplicate survey procedure, a brief analysis was done on the 36 instances of duplicate surveys to determine how survey responses differed between the duplicates. With this information, a set of rules was developed based on the most common issues in duplicate surveys that precluded basic merging of similar responses.

The most common duplicate response issues encountered were on multiple response questions and on Likert scale questions. For multiple response questions (i.e., check all that apply), responses were combined between the two surveys to report the widest spread possible. Responses to Likert scale questions were averaged between the surveys. All open-ended question responses were combined. Numerical short-answer response questions such as population estimates were averaged if answers were similar. If responses were significantly different, the response from the more complete survey was taken under the reasoning that that response may be more accurate due to a more comprehensive overall survey. For multiple survey responses for one community where this was not a clear choice, responses were evaluated in relation to the Himes-Cornell et al. (2013) community profiles to determine which response was more plausible. After the 36 sets of multiple surveys were combined so each community had a single response for each question, the response data was added back in the larger dataset for analysis.

DATA ANALYSIS

Survey responses to each question were analyzed by community and sorted into regional groupings. Response frequency distributions are presented for categorical response questions and descriptive statistics are presented for non-categorical response questions. For the non-

categorical response questions, such as fill-in-the-blank survey items, responses were coded into categories and themes for ease of analysis.

Survey question Q17 asked respondents to name the top three communities that provide fishery support businesses that are not available within their own community. For respondents who included more than three communities, all responses were analyzed. The responses were analyzed as social network data in UCINET 6 (Borgatti et al. 2002) and sociograms were created in Netdraw to visually represent how communities are connected to each other through the exchange of fishery-related goods and services. Both the comprehensive network of item respondent communities and nominated communities and the sub-networks of respondent communities sorted into regional groupings are presented (Figs. 12-22).

We also measured degree centrality, which evalutes activity in a network through the number of direct links each node or actor has with all other nodes in the network (Hanneman and Riddle 2005, Ernoul and Warden-Johnson 2013). The degree centrality of the network as a whole informs the question of whether hub communities exist in Alaska and provide goods and services specific to fishing activity for remote communities. The degree centrality of the regional sub-networks can be examined as a comparison of how strongly connected communities may be within a smaller geographic area versus how connected they are to hub communities outside the region. Both in-degree and out-degree centrality measures are presented. In-degree centrality measures how many times a particular community (node) was nominated by other communities (nodes). Out-degree centrality measures how many times a particular community (node) nominated other communities (nodes). Out-degree centrality is constrained by the structure of the survey question in which respondents were asked to name three other communities. Additionally, frequency distributions are presented for each sub-network with connections between nodes partitioned as either same region ties (in-region) or different region ties (out-region). These frequency distributions offer a rough proxy of homophily in the sub-networks, or the occurrence of connections within a regional grouping as compared to connections to ouside communities (Bazeley 2007).

There were five open-ended questions on the survey that were analyzed using standard qualitative data analysis methods. The software package NVivo was used for the analysis of responses from Q12a and Q26-29. Coding was used to draw out themes reported by respondents. Response distributions of themes were calculated and distributions were broken out by regional groupings to provide further illumination of results (Tables 22-29). Additionally, representative quotes are included as samples of the coding and responses.

NON-RESPONSE BIAS ANALYSIS

A unit non-response bias analysis was completed for general survey response. Item non-response was assessed separately for each individual question through the reporting of response distributions based on the total number of surveys received and the number of item respondents. Data presented in this report do not include any adjustment for item non-response given the categorical nature of the majority of the survey questions. To assess unit non-response, several variables were analyzed with the overall community response results to determine if there was any bias in the survey results from communities that did not return a survey. Potential bias variables included a collection of variables that were sourced from the U.S. Census; the Alaska Fisheries Information Network; the Alaska Commercial Fisheries Entry Commission (CFEC); and the Alaska Department of Commerce, Community, and Economic Development's Division

of Community and Regional Affairs. Basic analyses were run in Microsoft Access and Excel, and statistical analyses were completed in Stata. Statistical analyses included two-sample t-tests with equal variances and Pearson's Chi-squared test.

Twenty-one variables were analyzed in the unit non-response bias analysis. Variables were chosen to test both physical limitations of communities that could impact survey receipt and therefore response, such as presence of a post office and connection to the main road system, as well as variables such as percent of Alaska Native and educational attainment that could create a source of bias in the results. Fisheries variables were included to determine if communities were self-selecting for non-response based on their fisheries participation and therefore the perceived relevance of the survey. Additionally, some basic demographic variables were included to assess differences between communities that responded to the survey and those that did not. The full list of variables analyzed included:

- Survey response in the first year of survey implementation;
- Percent of the population that considers themselves Alaskan Native;
- 2010 U.S. Census population size;
- Educational attainment of those 25 years and older;
- Language other than English spoken at home of those 5 years and older that consider themselves as speaking English less than "very well";
- Percentage of families with income in the last year below the poverty level;
- Median household income;
- Census area designation;
- Community governance classification (see Table 4);
- Geographic region of the state (following Himes-Cornell et al. 2013);
- Connection to the intercontinental highway system;
- Presence of a post office;
- Number of ADF&G permits issued for subsistence harvest of salmon;
- Count of distinct vessels delivering salmon;
- Eligibility for the Community Quota Entity program;
- Eligibility for the Community Development Quota program;
- Per capita count of distinct vessels participating in all fisheries based on homeport;
- Count of all distinct vessel owners based on vessel owner residency;
- Sum of ex-vessel value for all landings based on vessel owner residency;
- Count of all distinct CFEC permits fished; and
- Count of distinct sport fishing licenses sold to residents of community.

Only 2 of the 21 variables analyzed in the non-response bias analysis returned significant results at the significance level of 0.05: survey response in the first year of survey implementation (P-value = 0.047) and count of distinct vessels homeported in the community (P-value = 0.0419) (Tables 5 and 6). Results of two of the variables tested that did not return significant results are also included below (Tables 7 and 8). A simple non-response bias analysis was conducted but further scrutiny of the statistical results is merited. The significant relationship between the survey response in 2011 variable and survey response in 2012 variable suggests that communities that returned the survey in the first year of implementation were more likely to return it in the second year as well. If this pattern continues, this suggests that further

effort in reaching non-respondent communities is needed for future survey efforts. The other significant test result from the non-response bias analysis was the count of distinct vessels homeported in a community. Communities that responded to the survey had a significantly higher number of homeported vessels than those communities that didn't respond. This may suggest that communities that have more vessel activity were more likely to see a benefit in participating in the survey.

Table 4. -- Description of Alaska community governance classification.

Type of governance structure	Type	Description[1]
1st Class City	Municipal	A 1st Class City must have at least 400 permanent residents; has a voter-elected mayor and city council.
Home Rule City	Municipal	A Home Rule City must be a first class city that has adopted a home rule charter.
2nd Class City	Municipal	A 2nd Class City must have at least 25 resident voters; has a city council and an internally elected mayor.

[1] Definitions were obtained from the Alaska Department of Commerce, Community and Economic Development Glossary of terms (http://commerce.alaska.gov/dnn/dcra/ResearchAnalysis/Glossary.aspx).

Table 5. -- Pearson's Chi-squared test results for survey response in 2011 and survey response in 2012.

		2011 survey response or non-response		Chi^2	Prob.
		non-response	response		
2010 survey response or non-response	**non-response**	20.21%	20.21%	3.9423	0.047
	response	21.24%	38.34%		

Table 6. -- Two-sample t-test results for survey response and count of distinct vessels homeported in a community.

	Mean	St. Dev.	N	P-value
Non-response	22.34615	51.2356	78	0.0419
Response	56.03636	138.6248	110	

Table 7. -- Two-sample t-test with equal variances results for survey response and percent of community that is Alaska Native.

	Mean	St. Dev.	N	P-value
Non-response	61.24412	36.19381	68	0.1776
Response	53.43889	37.88982	108	

Table 8. -- Two-sample t-test with equal variances results for survey response and sum of ex-vessel value for all landings based on vessel owner residency.

	Mean	St. Dev.	N	P-value
Non-response	$1,293,422	$4,924,337	78	0.1475
Response	$3,484,681	$12,636,173	110	

Summary of survey responses

This section summarizes data collected from the 2012 Alaska Community Survey. Overall response distributions and basic summary statistics are included for each survey question in Appendix B. Distributions are broken down by survey respondents and item respondents. Survey respondents are defined as the 114 unique communities that returned completed (or partially completed) surveys. Item respondents are defined as the subset of survey respondents that provided a valid numerical or categorical response, according to the type requested. For all questions that asked for a categorical response or otherwise non-numeric response, the distribution of item respondents is provided to show the proportion of respondents that selected each category. Additionally, response distributions grouped by geographic region of the state (following Himes-Cornell et al. 2013) are provided. The graphical geographic response distributions are included in text while full tables are included in Appendix A.

POPULATION DISTRIBUTION

The survey asked communities to provide information on their year-round population, the number of seasonal workers present, and the number of year-round residents that worked in shore-side processing plants (Q1). The smallest mean year-round population size was reported by the Aleutian and Pribilof Islands regional grouping (263 people) with a median value of 85 people (Appendix Table A1). The regional grouping with the highest mean year-round resident population was Anchorage and Mat-Su (14,962 people) with a median value of 6,087 people. Respondents were also asked to report how many of the year-round residents worked at a shore-side processing plant. The Prince William Sound regional grouping reported the highest mean with 4,300 residents reportedly employed at plants (Appendix Table A2). The Anchorage and Mat-Su and Northern Alaska regional groupings had no respondent communities that reported having residents that worked in a processing plant. Communities were also asked how many seasonal workers they had; the Prince William Sound grouping reported the highest mean of 1,257 people while Northern Alaska grouping respondent communities reported a mean of 20 people that were present as seasonal workers (Appendix Table A3).

To understand the fluctuation in a community's population, respondents were asked to note the months when the community's population peaked (Q4). Many respondent communities in all groupings reported that the peak occurred between June and August, though some communities in the Aleutian and Pribilof Islands grouping reported a peak between January and March (Fig. 3, Appendix Table A4). To understand more about the presence of seasonal workers in a community and how it relates to population fluctuations, respondents were asked to report which months during the year those seasonal workers were present in the community (Q2). All 11 regional groupings had the majority of communities reporting seasonal workers present between May and September (Fig. 4, Appendix Table A5). Communities were also asked to

report how closely tied their fluctuation in population was to employment in fishing sectors (Q5). In the Kodiak Island regional grouping, 50% of the respondent communities reported that their population peak was entirely driven by employment in various fishing sectors (Fig. 5, Appendix Table A6). For the Kenai Peninsula and Cook Inlet and Southeast regional groupings, 50% and 64% of communities, respectively, reported their population peak as mostly related to fishing sector employment. Conversely, 60% and 58% of Northern Alaska and Interior communities, respectively, reported that their population peak was not at all related to fishing industry employment.

Seasonal presence of workers in communities may be driven by employment in other natural resource-based industries in addition to fishing, including mining and tourism. Survey question Q19 asked which natural resource-based industries the community relies on. In the Interior grouping, 41% of respondent communities reported that they relied on mining and logging (Fig. 6, Appendix Table A7). In the Kenai Peninsula and Cook Inlet grouping, 66% of respondent communities reported relying on oil and natural gas exploration or drilling as an economically important natural resource-based industry. In the Southeast grouping, 61% of communities reported ecotourism as an industry on which they rely.

Figure 3. -- Regional breakdown of responses to the following question: In what month(s) does the population in your community reach its annual peak? (Q4).

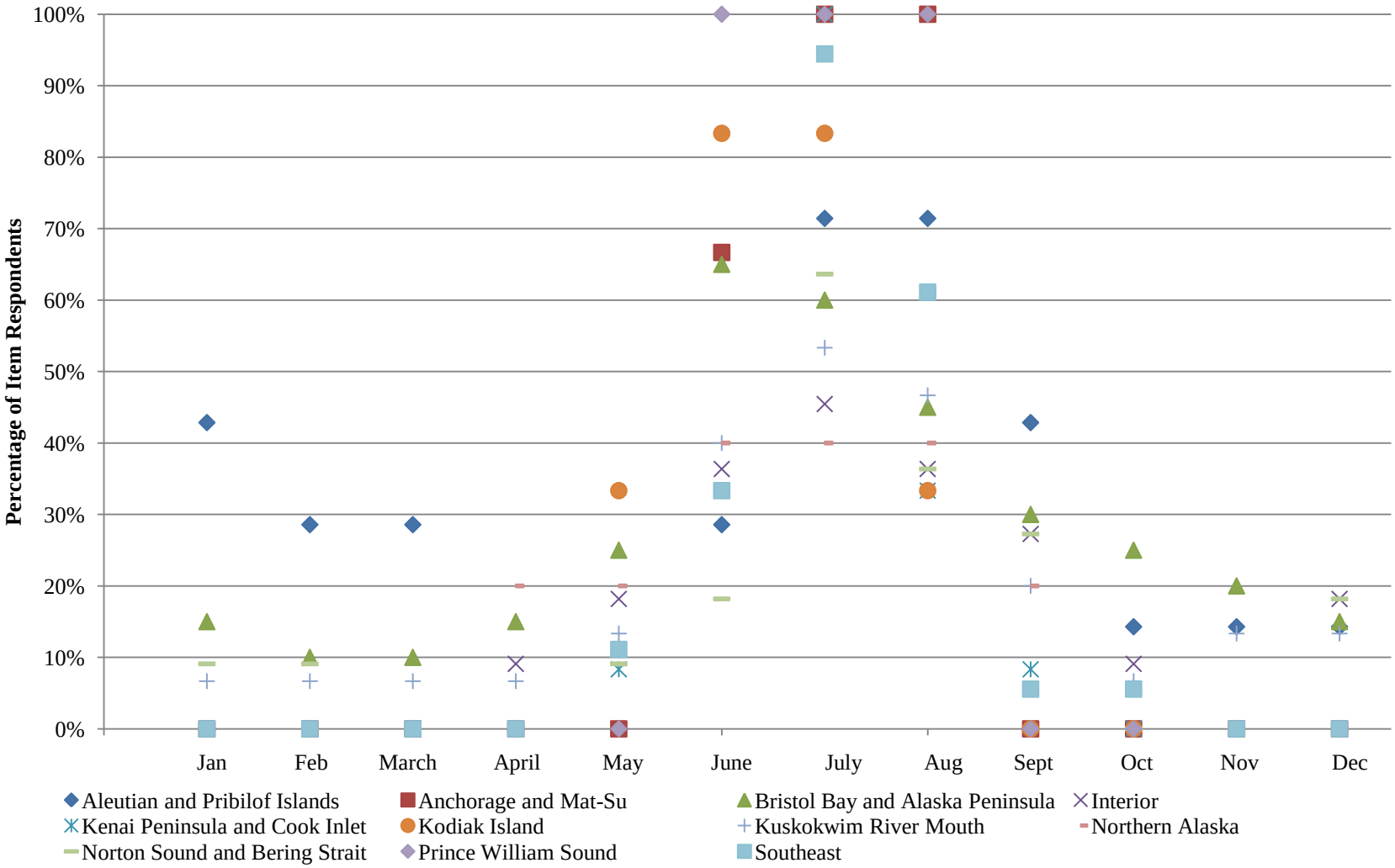


Figure 4. -- Regional breakdown of responses to the following question: On average, which months per year does your community have seasonal workers living there? (Q2).

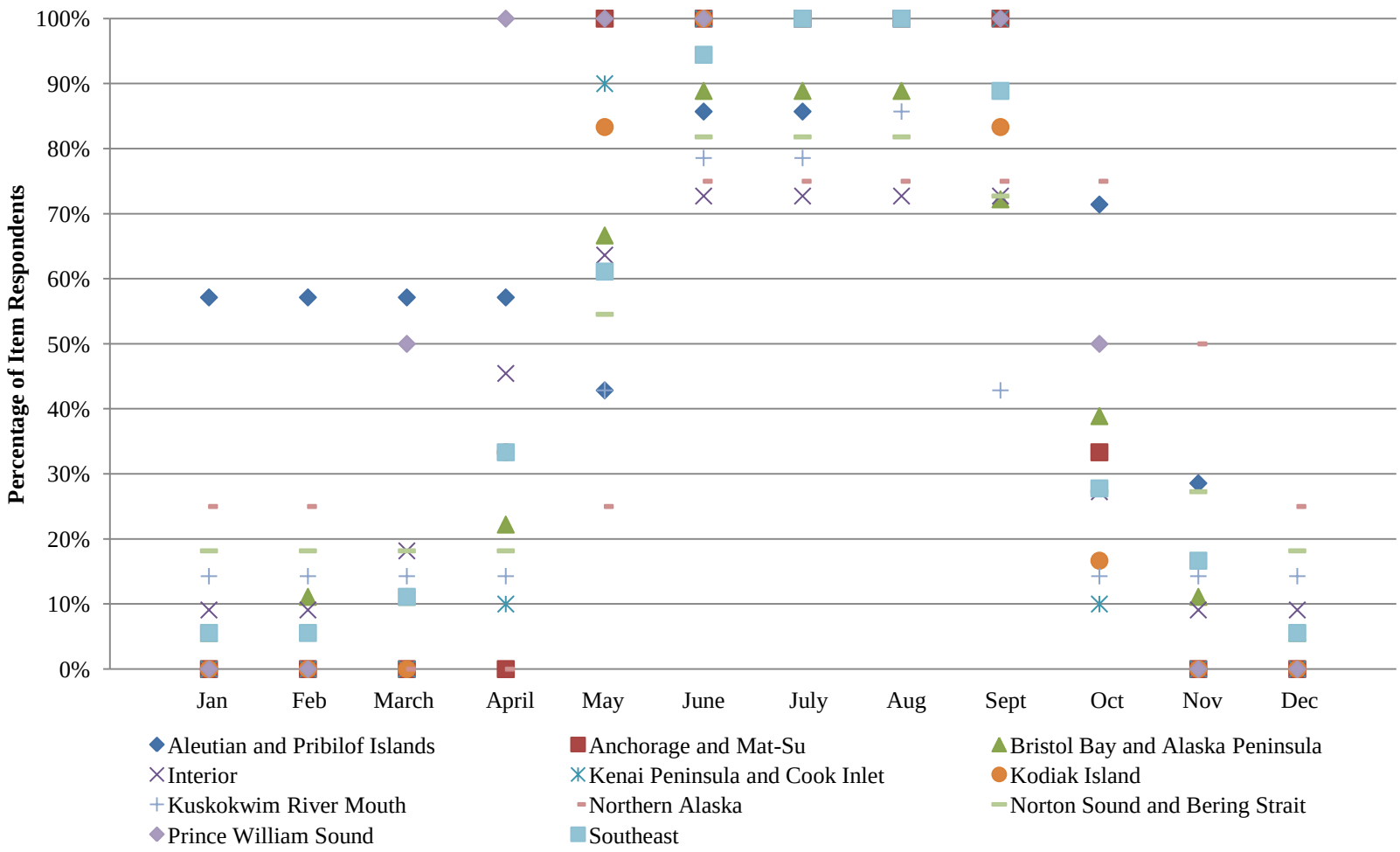


Figure 5. -- Regional breakdown of responses to the following question: To what degree is this peak in population driven by employment in the fishing sectors? (Q5).

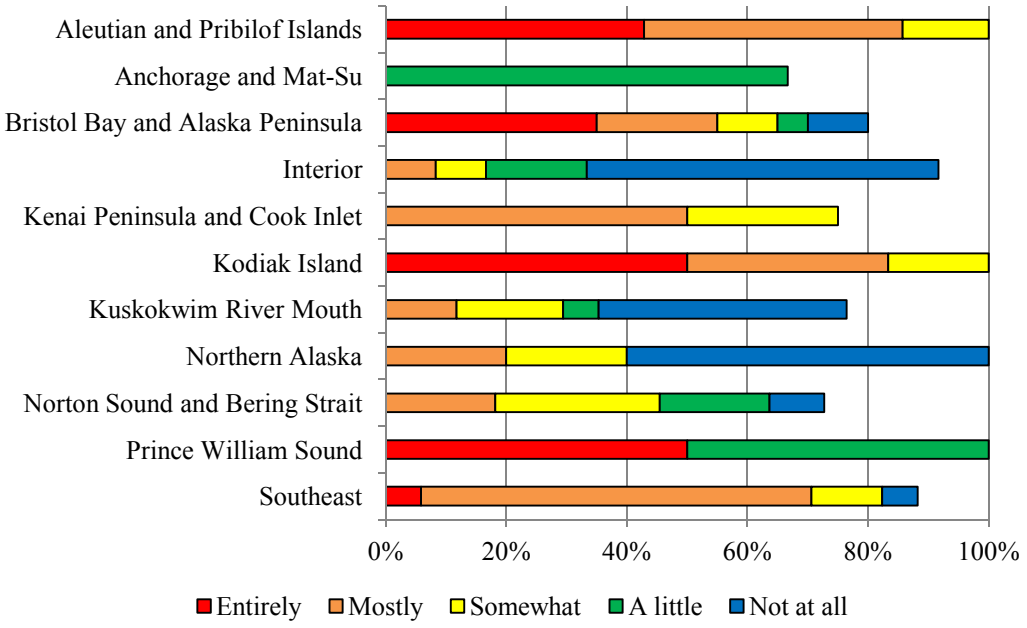
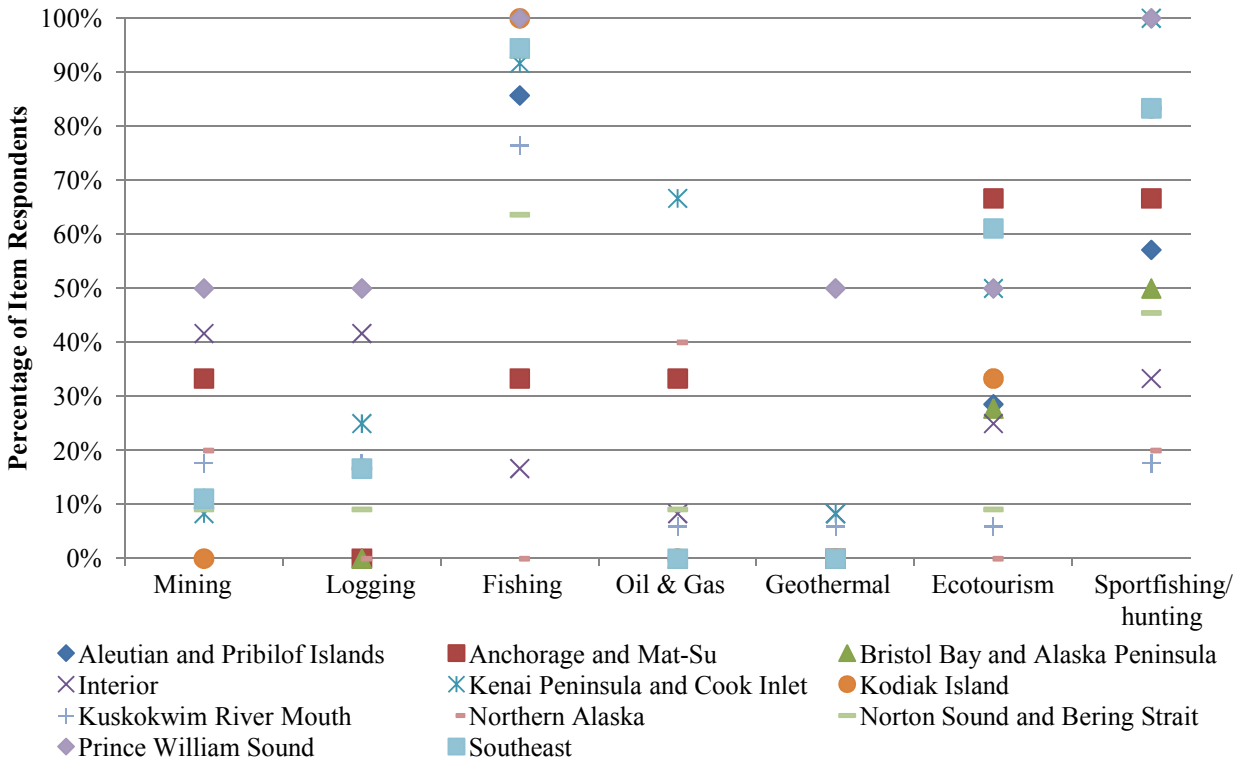


Figure 6. -- Regional breakdown of responses to the following question: Which, if any, natural resource-based industries does your community's economy rely upon? (Q19).



VESSEL AND FISHERIES SUPPORT INFRASTRUCTURE

The survey included questions on the dock infrastructure of communities to get a sense of what capacity they may have to host fishing or other vessel activities. Question Q7 prompted respondents to report how many feet of public moorage were available in the community. The majority of respondent communities in the Bristol Bay and Alaska Peninsula, Interior, Kenai Peninsula and Cook Inlet, Kuskokwim River Mouth, Northern Alaska, and Norton Sound and Bering Strait regional groupings reported that no public moorage was available (Fig. 7, Appendix Table A7). Juneau and Kodiak reported the most public moorage available (30,000 feet). When asked about temporary public moorage for transient vessels, several groupings again had a majority of respondent communities that reported no public moorage (Fig. 8, Appendix Table A8). However, the Southeast regional grouping had a diversity of reported moorage, with 18% of respondent communities reporting between 500 and 1,000 feet of moorage and 31% reporting between 1,000 and 3,000 feet of moorage for transient vessels. The Aleutian and Pribilof Islands grouping also had communities reporting some moorage for transient vessels, 42% of communities reported that they had between 500 and 1,000 feet of temporary moorage available.

The survey asked communities to report on the annual revenue they received from public moorage facilities (Q9). Only values from groupings that had more than three communities respond are included due to confidentiality. Respondent communities in the Kenai Peninsula and Cook Inlet reported the highest mean of revenue at $624,348 (Table 9). The mean from the Kuskokwim River Mouth grouping was the lowest at $625.

Vessel size capacities for communities was also reported (Q8). Only respondent communities in the Southeast (23%), Kenai Peninsula and Cook Inlet (10%), and Aleutian and Pribilof Islands (14%) groupings reported being able to host vessels greater than 500 feet in length (Fig. 9, Appendix Table A9). Communities in the Kodiak grouping (40%) reported being able to host vessels between 300 and 400 feet. Types of regulated vessels a community was able to host were also queried (Q10). Communities in all groupings except Anchorage and Mat-Su could host fuel barges (e.g., 77% of Southeast communities, 94% of Kuskokwim River Mouth communities). (Fig. 10, Appendix Table A10). A majority of communities in the Aleutian and Pribilof Islands (57%), Kodiak Island (60%), and Southeast (55%) groupings reported being able to host cruise ships.

Communities were also asked to report on infrastructure projects they had undertaken, were currently undertaking, or were planning on undertaking (Q6). Potential projects included new dock space, haul-out facilities, and harbor dredging. The item response rates are presented in Appendix Table A11 and the regional grouping response distributions are shown in Appendix Tables A12-22.

Figure 7. -- Regional breakdown of responses to the following question: How many feet of public dock space for moorage are located in and around the port of your community for permanent vessels? (Q7).

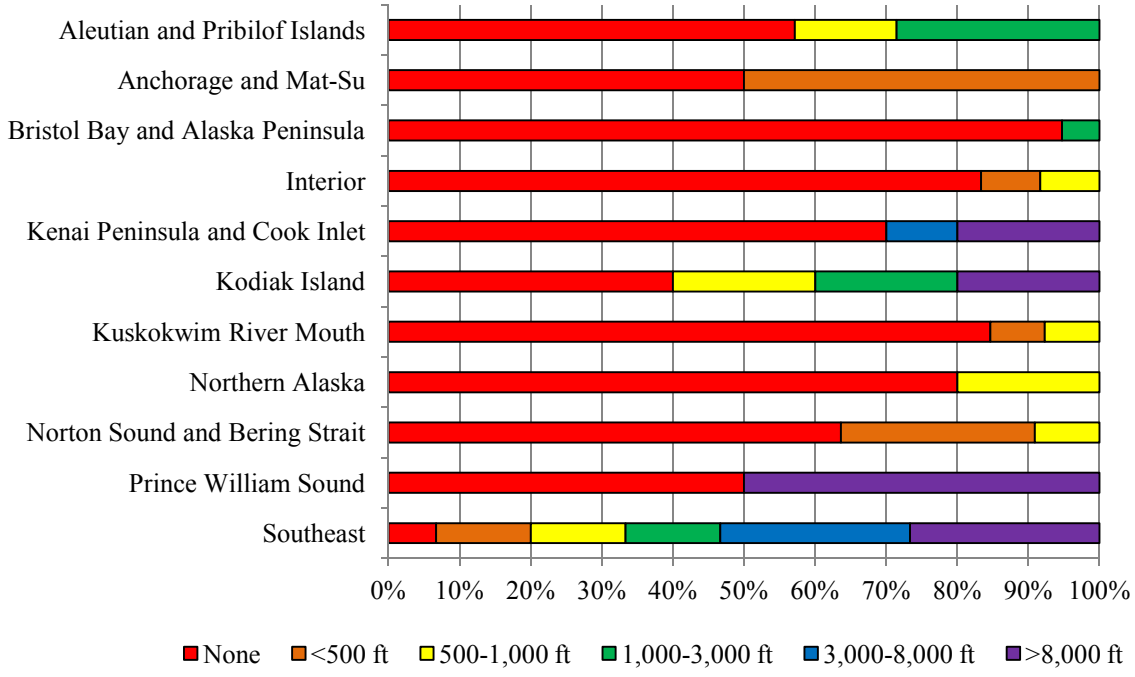


Figure 8. -- Regional breakdown of responses to the following question: How many feet of public dock space for moorage are located in and around the port of your community for transient vessels? (Q7).

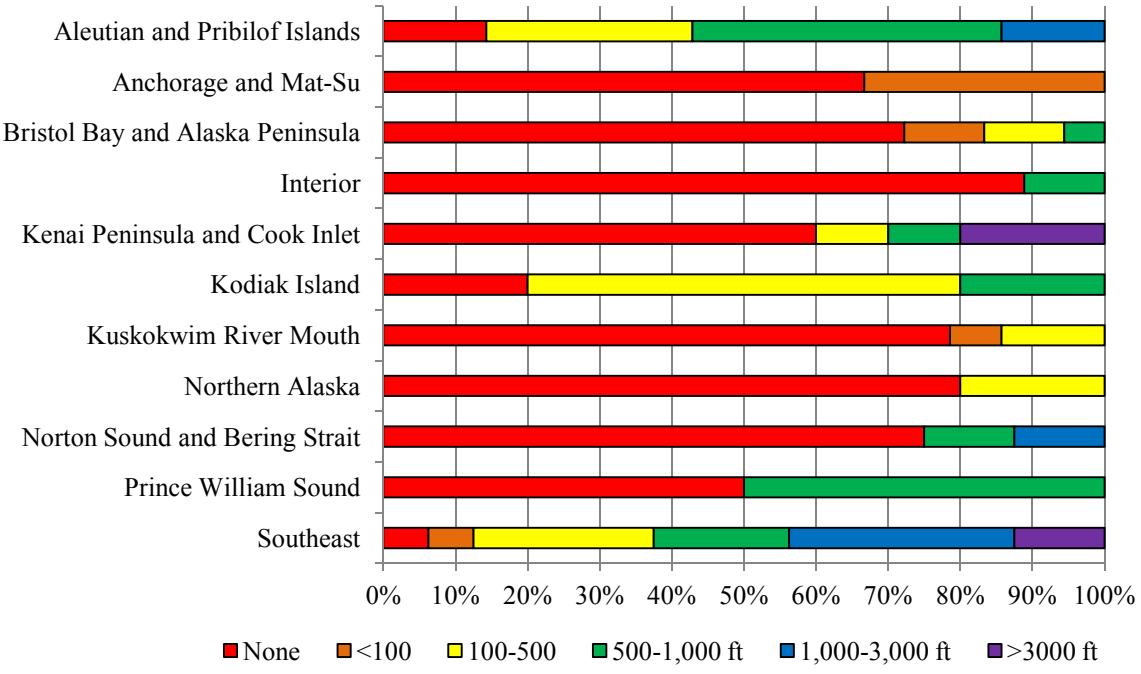


Figure 9. -- Regional breakdown of responses to the following question: What is the maximum vessel length that can use moorage in your community? (Q8).

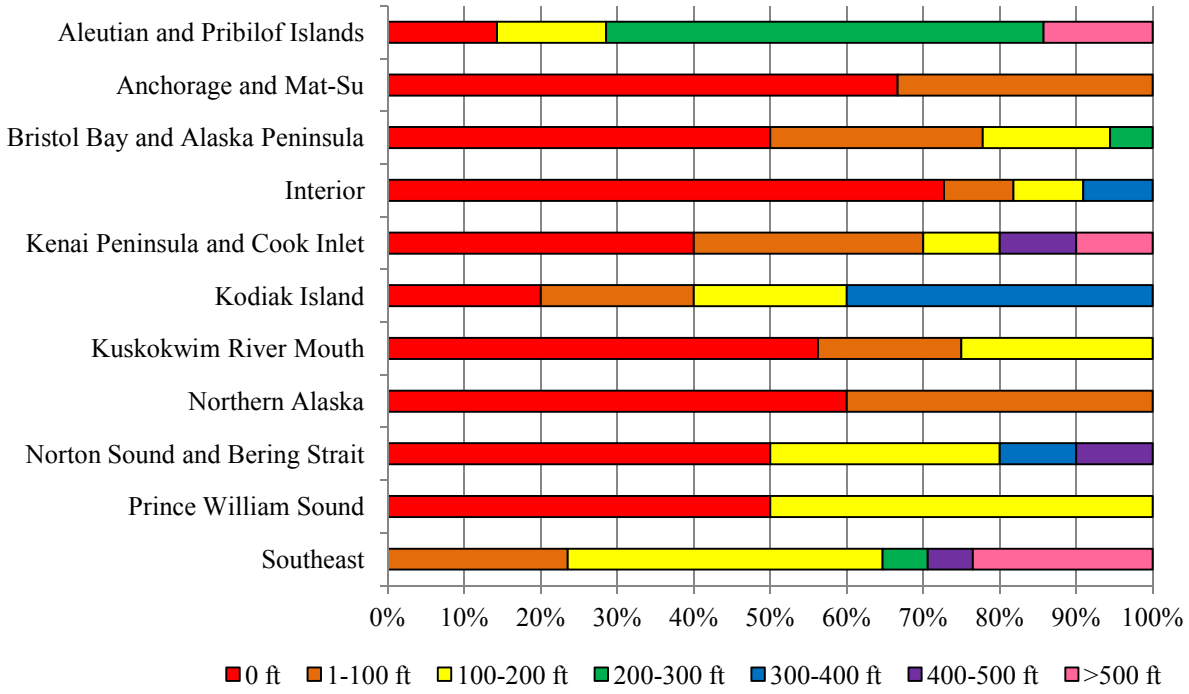
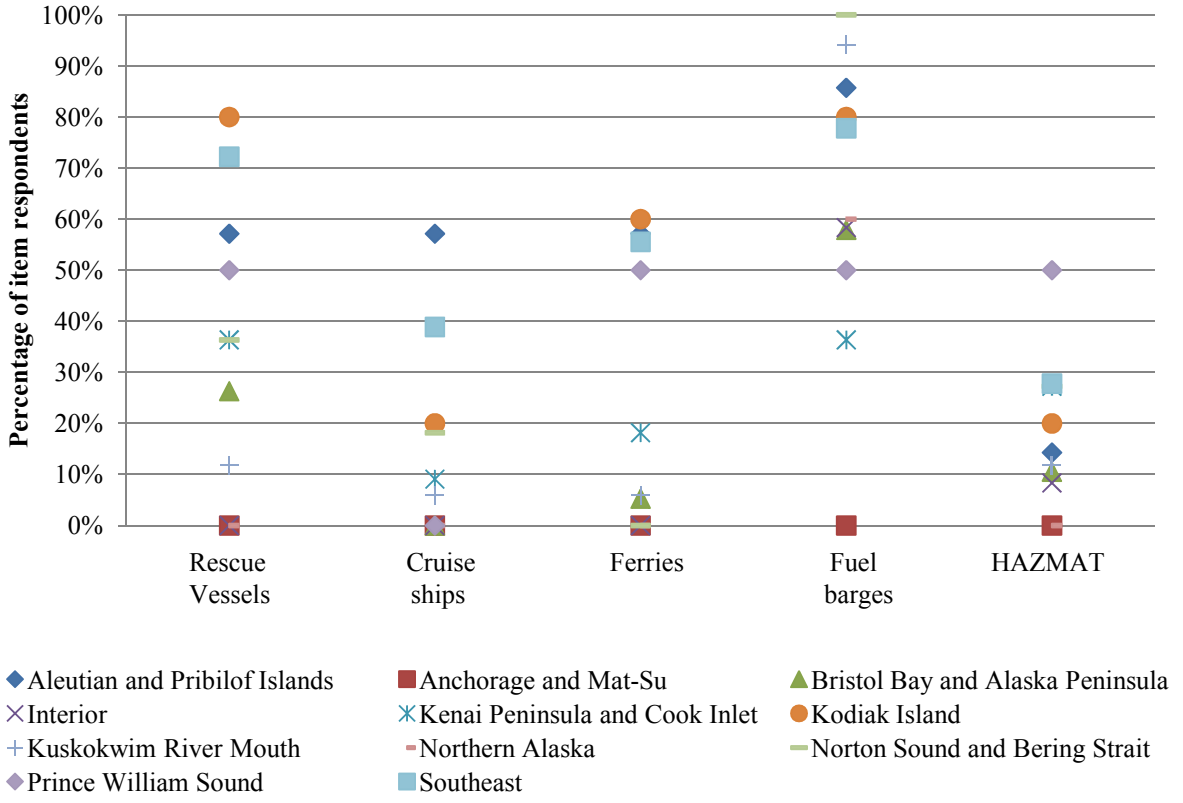


Table 9. -- Regional breakdown of responses to the following question: What is the annual revenue that public moorage facilities earned in 2011? (Q9).

Region	N	Mean	Median	Max	Min	St.Dev.
Aleutian and Pribilof Islands	5	$89,795.00	$13,500.00	$400,000.00	$0.00	$173,648.72
Anchorage and Mat-Su	1	*	*	*	*	*
Bristol Bay and Alaska Peninsula	17	$18,382.35	$0.00	$300,000.00	$0.00	$72,591.22
Interior	11	$500.00	$0.00	$5,500.00	$0.00	$1,658.31
Kenai Peninsula and Cook Inlet	9	$624,348.65	$0.00	$3,890,000.00	$0.00	$1,305,779.24
Kodiak Island	3	*	*	*	*	*
Kuskokwim River Mouth	12	$625.00	$0.00	$6,000.00	$0.00	$1,746.75
Northern Alaska	4	$2,500.00	$0.00	$10,000.00	$0.00	$5,000.00
Norton Sound and Bering Strait	8	$110,296.13	$0.00	$882,369.00	$0.00	$311,964.55
Prince William Sound	2	*	*	*	*	*
Southeast	16	$389,597.97	$47,855.25	$3,000,000.00	$0.00	$804,869.12

Note: Asterisk (*) represents confidential data due to three or fewer communities reporting.

Figure 10. -- Regional breakdown of responses to the following question: Which of the following types of regulated vessels is the port of your community capable of handling? (Q10).



The survey asked respondents to report on the presence or absence of specific fishery support businesses in their community (Q16). The list included 25 types of businesses, including, for example, processing plants, various boat repair businesses, and fishing business attorneys. Boat fuel sales was a business common across all regional groupings while only one to two respondent communities in the Bristol Bay and Alaska Peninsula, Kenai Peninsula and Cook Inlet, Kodiak Island, and Southeast groupings reported having a fishing gear manufacturer (Appendix Table A25).

Communities were asked to name the top three communities that people in their community go to for fishery support businesses that are not available within their own community (Q17). The responses were analyzed as social network data and sociograms were created to visually represent the relationships. The total number of communities (nodes) was 128. A total of 100 of those communities were survey respondents and the other 28 were communities nominated by respondents that did not complete the survey. A total of 257 connections (ties) link the communities, where a connection between two communities is created when a respondent community nominated another community for this question. Table 10 contains the regional break-down of item non-response. Communities that did not provide a response for the question were identified as isolates and were not included in the analysis. Figure 11 shows the network of all item respondents. Communities were sized by in-degree centrality (the number of times they were nominated) to aid visual identification of hub communities and

were assigned different shapes based on regional grouping. Table 11 contains the descriptive statistics for the degree centrality measures for the network as a whole.

The network of item respondents shown in Figure 11 has an in-degree network centralization of 25%. This result suggests that there were differences in the in-degree centrality of different communities, but there were several central communities to the network as a whole (e.g., there were a few nodes that received many nominations). From observing the sociogram of the network, a few statewide hubs of fishery support businesses are evident. Anchorage had the greatest number of nominations (in-degree centrality) with 35 different communities naming it as where residents go for businesses not available within their own community (Appendix Table A11). The second most nominated community was Homer with an in-degree centrality measure of 22. Seattle ranked third with 16 nominations and Bethel had 12 nominations. Kodiak, Dillingham, and Naknek tied with 11 nominations each.

Sub-networks were created for each regional grouping of communities to visually demonstrate how interconnected a region might be or how dependent its communities may be on communities outside the grouping for fishery support businesses. To build the sub-networks, communities that fell in each grouping were isolated as the respondents, and any communities they named were included as nominations. Additionally, communities outside the regional grouping that nominated one of the within-group respondent communities were incorporated.

Table 10. -- Item non-response statistics by regional grouping for the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17).

Region	Item response	Survey response	Item response rate
Aleutian and Pribilof Islands	7	8	87.50%
Anchorage and Mat-Su	3	3	100.00%
Bristol Bay and Alaska Peninsula	18	20	90.00%
Interior	9	12	75.00%
Kenai Peninsula and Cook Inlet	11	12	91.67%
Kodiak Island	4	6	66.67%
Kuskokwim River Mouth	14	17	82.35%
Northern Alaska	4	5	80.00%
Norton Sound and Bering Strait	10	11	90.91%
Prince William Sound	2	2	100.00%
Southeast	18	18	100.00%

Table 11. -- Descriptive statistics of degree centrality measures for social network analysis.

	Out-degree	In-degree
Mean	1.962	1.962
St. Dev	1.339	4.534
Minimum	0	0
Maximum	5	35
Network Centralization	2.355%	25.609%

Figure 12 shows the sociogram for the sub-network of communities assigned to the Aleutian and Pribilof Islands grouping. The network is comprised of 15 total communities, of which 67% are communities in the grouping and the other 33% are outside of it. These external communities include Kodiak, Seattle, Homer, Nome, and Anchorage (Table 12). The ties to these outside communities represent 48% of the total ties within the sub-network (n = 22).

The Anchorage and Mat-Su regional grouping sociogram had 37 total communities, and 89% were communities outside of the regional grouping due to the high number of nominations Anchorage received from communities across the state (Fig. 13, Table 13). Additionally, almost 93% of the 41 total ties in the sub-network were between communities from different regional groupings. Figure 14 shows the sociogram for the Bristol Bay and Aleutian Islands regional grouping sub-network. In contrast to the Anchorage and Mat-Su grouping, this grouping had 78% of communities (n = 22) in the sub-network that were within the Bristol Bay and Aleutian Islands regional grouping sub-network (Table 14). The in-grouping ties accounted for 59% of the total number of ties in the sub-network.

The sub-network for the Interior regional grouping had a relatively even split between communities within the grouping and those from other groupings (45% of nodes were out-of-region) (Fig. 15, Table 15). These out-of-region communities contributed 57% of the total ties to the sub-network. Communities external to the Interior regional grouping represented in the sub-network include Seward, Homer, Valdez, Kwethluk, and Anchorage. Figure 16 shows the regional grouping sub-network for the Kenai Peninsula and Cook Inlet. A total of 20 of the 32 communities in the network (62%) are considered out-of-region communities which accounted for 62% of the ties (Table 16).

The Kodiak Island regional grouping also showed a sub-network that had more out-of-region communities (70%) than in-region communities (Fig. 17, Table 17). These out-of-region communities contributed 81% of the total ties in the sub-network and included communities such as Homer, Juneau, and Nome. The Kuskokwim River Mouth regional grouping sub-network was comprised of 16 communities from within the regional grouping (67%) and 8 from other groupings including Fairbanks, Grayling, and Russian Mission (Fig. 18, Table 18). And 53% of the total ties in the sub-network were between communities within the Kuskokwim River Mouth grouping.

The Northern Alaska regional grouping sub-network was small in comparison to the other sub-networks with only six total nodes, five of which were in-region (Fig. 19, Table 19). There were only four ties, 75% of which were between communities within the regional grouping. Figure 20 shows the Norton Sound and Bering Strait regional grouping sub-network. Of the 22 total communities, 54% were in-region communities that accounted for 32% of the total ties in the sub-network (Table 20). Communities outside of the regional grouping represented in the sub-network include Dutch Harbor, Bethel, and Seattle.

The Prince William Sound regional grouping sub-network had 58% of the total nodes as out-of-region communities which accounted for 81% of the total number of ties (Fig. 21, Table 21). Out-of-region communities included Seattle, Seward, and Anchorage. The last regional grouping sub-network was for the Southeast (Fig. 21). Of the total number of communities represented, 80% were from within the region and accounted for 80% of the total number of ties (Table 22).

Figure 11. – Distribution of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). Regional groupings are circled and labeled.

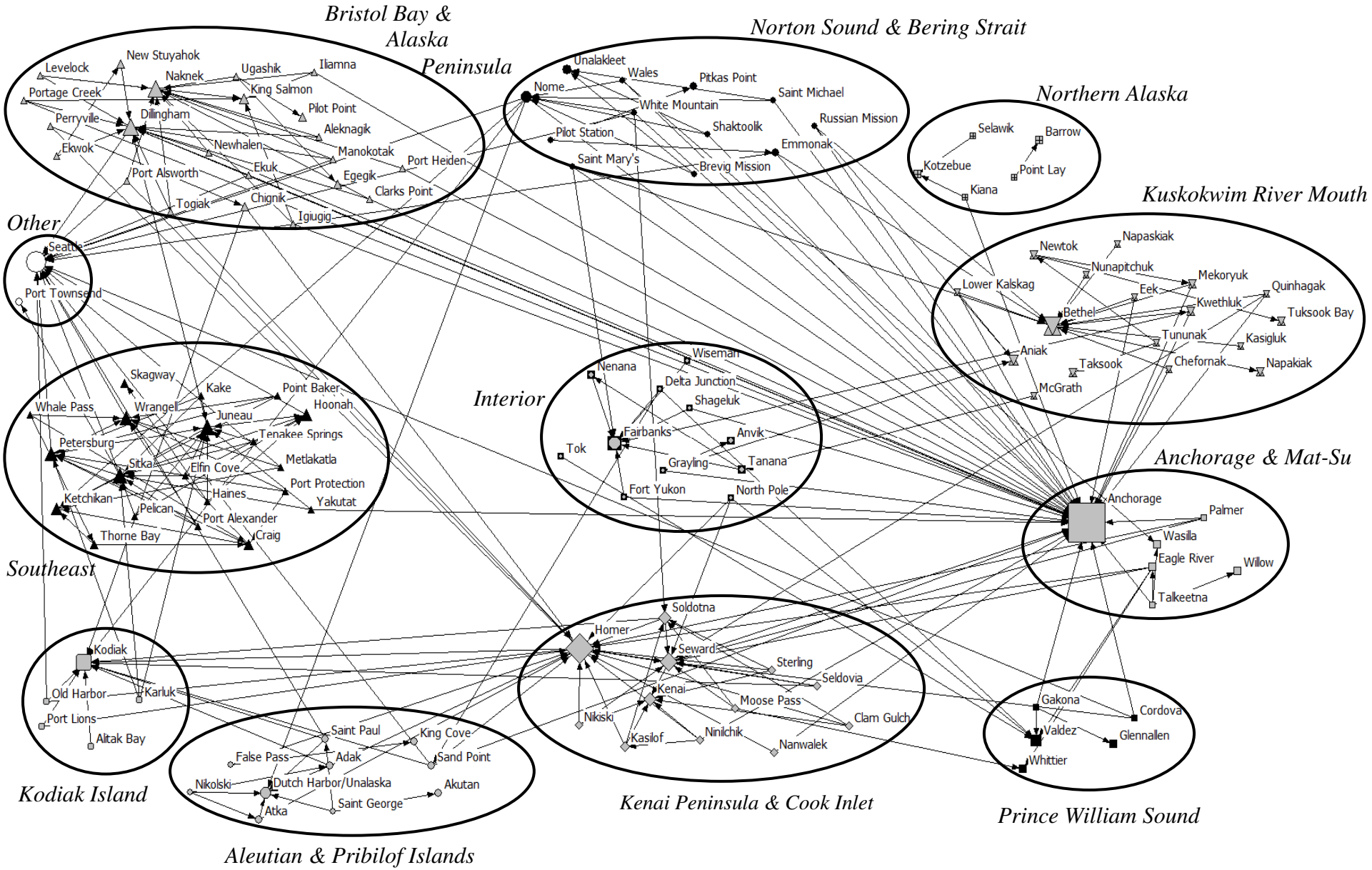


Figure 12. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Aleutian and Pribilof Islands regional grouping*.

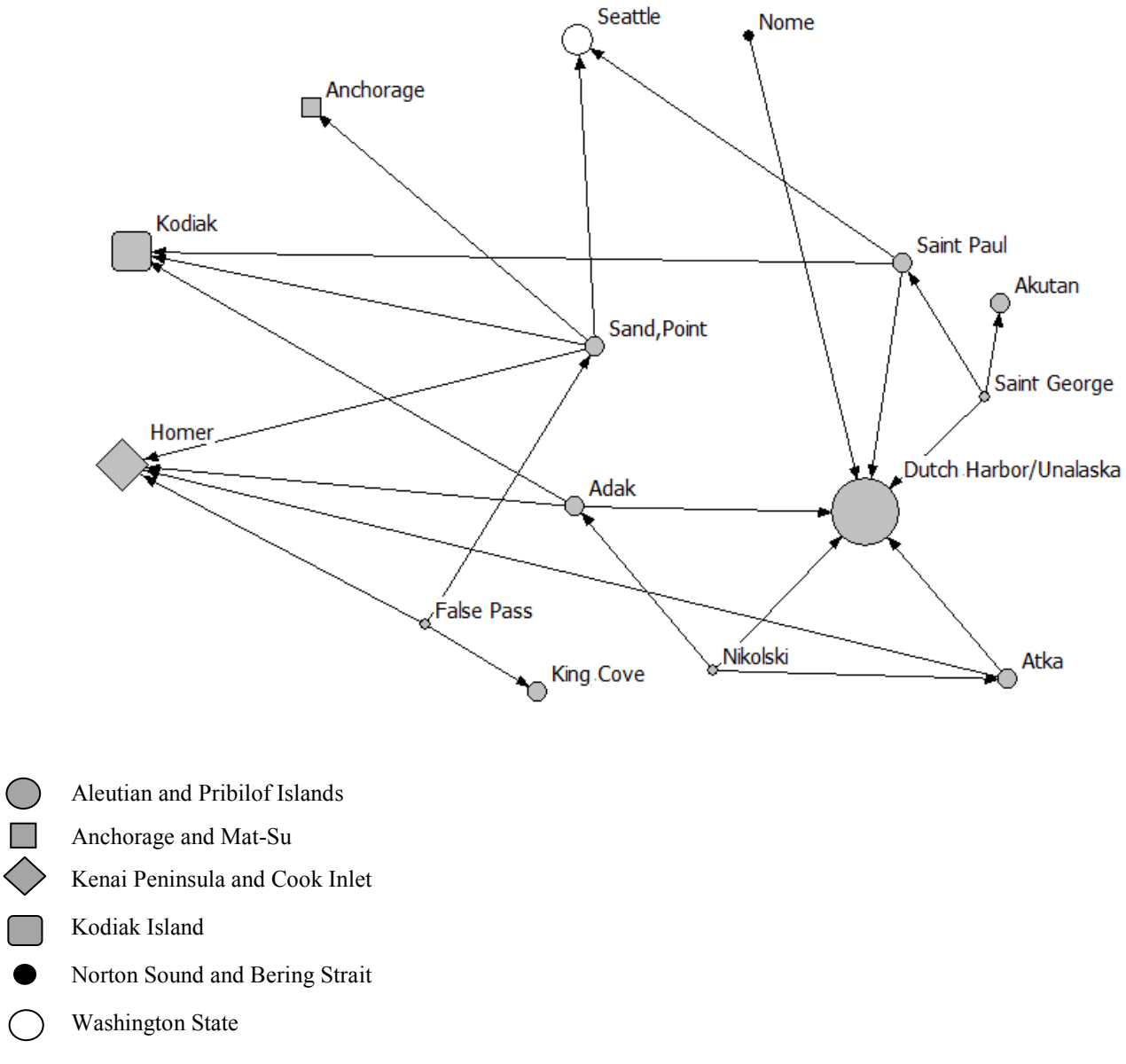


Table 12. -- Descriptive statistics and network centralization measures. *Aleutian and Pribilof Islands regional grouping.*

	Out-of-region		**In-region**		**Total**
	N	Percentage	N	Percentage	
Number of nodes	5	33.33%	10	66.67%	15
Number of ties	11	47.83%	11	52.17%	22

Figure 13. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Anchorage and Mat-Su regional grouping*.

Table 13. -- Descriptive statistics and network centralization measures. *Anchorage and Mat-Su regional grouping.*

	Out-of-region		**In-region**		**Total**
	N	Percentage	N	Percentage	
Number of nodes	33	89.47%	4	10.53%	37
Number of ties	38	92.68%	3	7.32%	41

Figure 14. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Bristol Bay and Aleutian Islands regional grouping*.

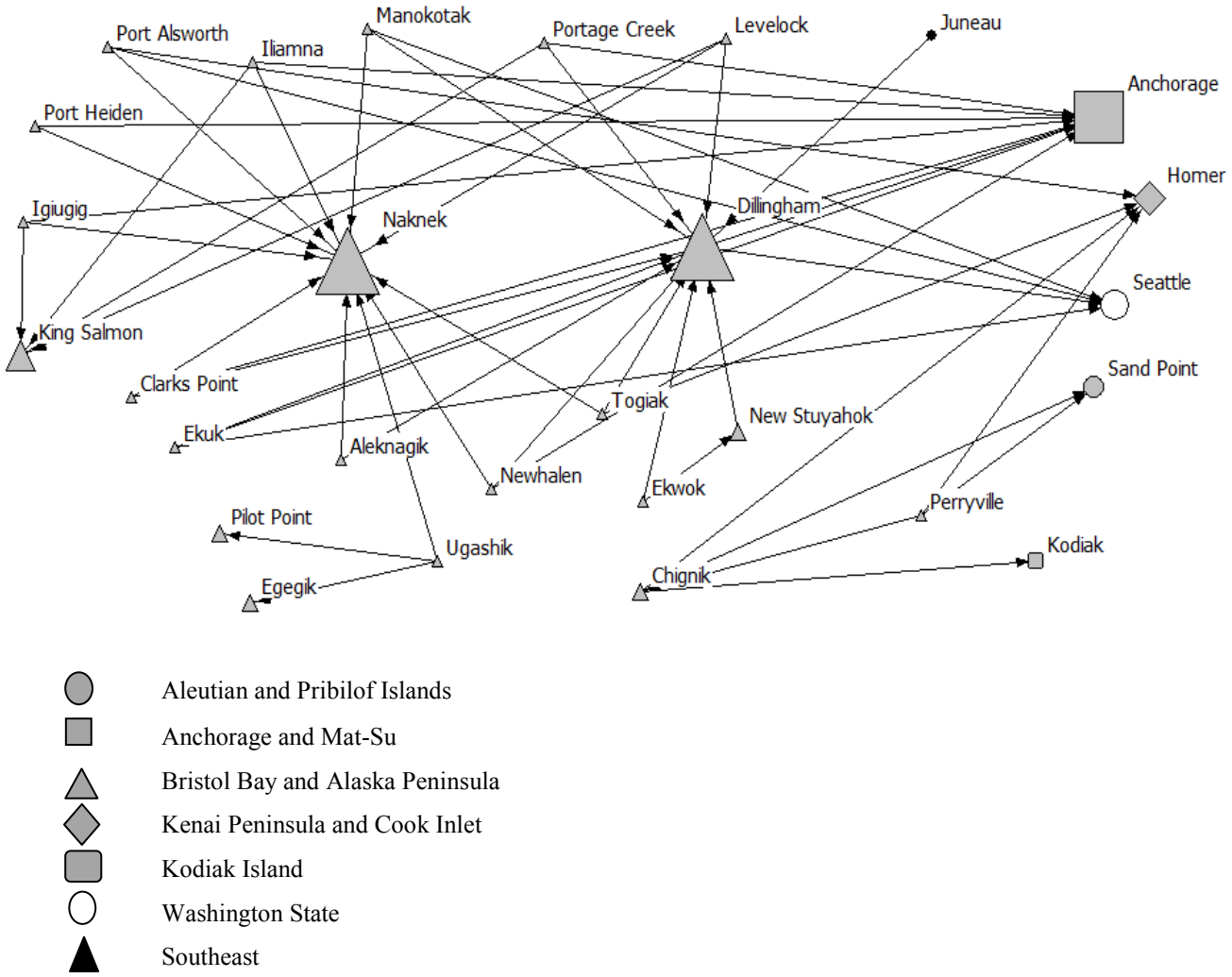


Table 14. -- Descriptive statistics and network centralization measures. *Bristol Bay and Aleutian Islands regional grouping.*

	Out-of-region		**In-region**		**Total**
	N	Percentage	N	Percentage	
Number of nodes	6	21.43%	22	78.57%	28
Number of ties	20	40.82%	29	59.18%	49

Figure 15. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Interior regional grouping*.

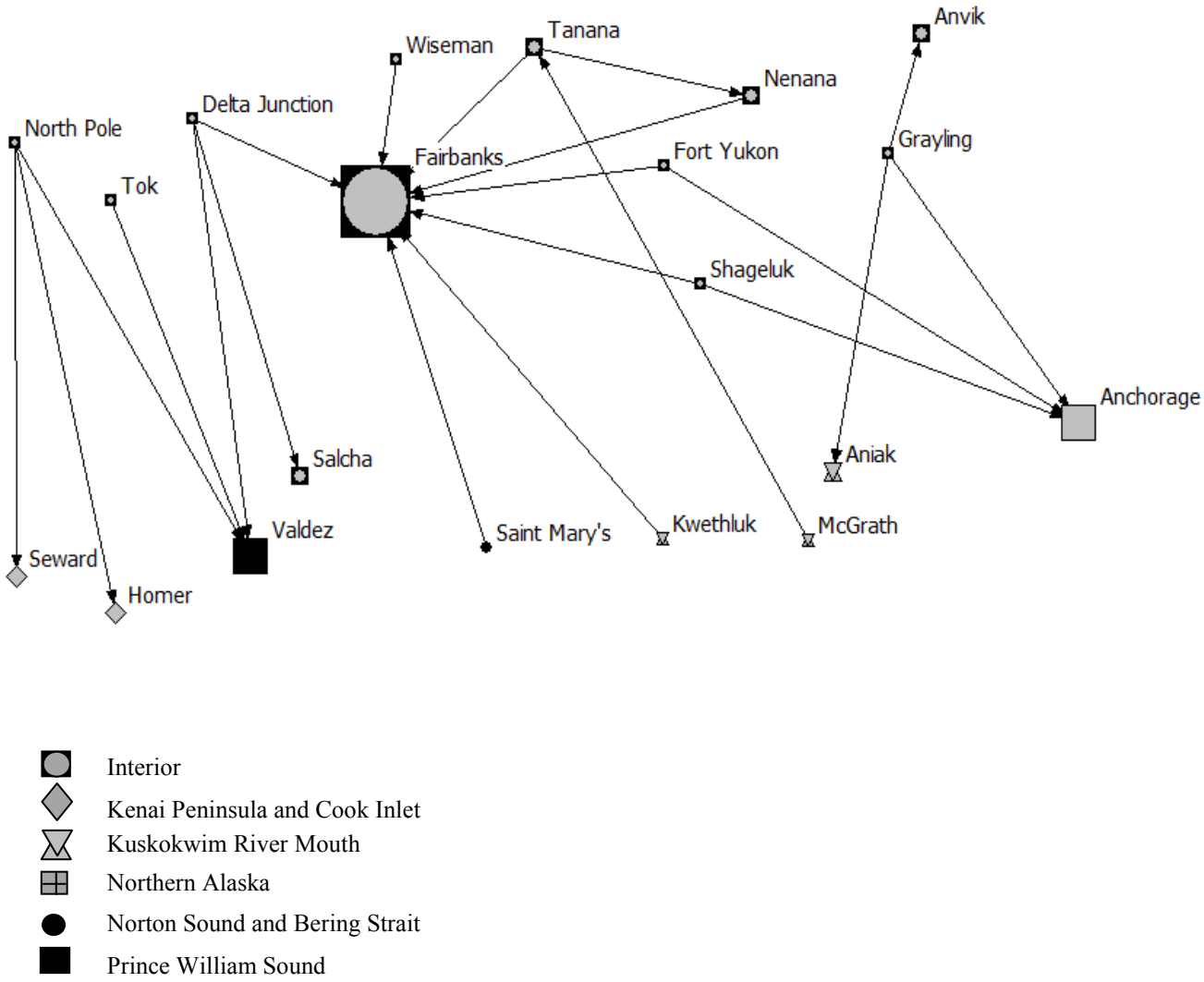


Table 15. -- Descriptive statistics and network centralization measures. *Interior regional grouping.*

	Out-of-region		In-region		Total
	N	Percentage	N	Percentage	
Number of nodes	9	45.00%	11	55.00%	20
Number of ties	12	57.14%	9	42.86%	21

Figure 16. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Kenai Peninsula and Cook Inlet regional grouping*.

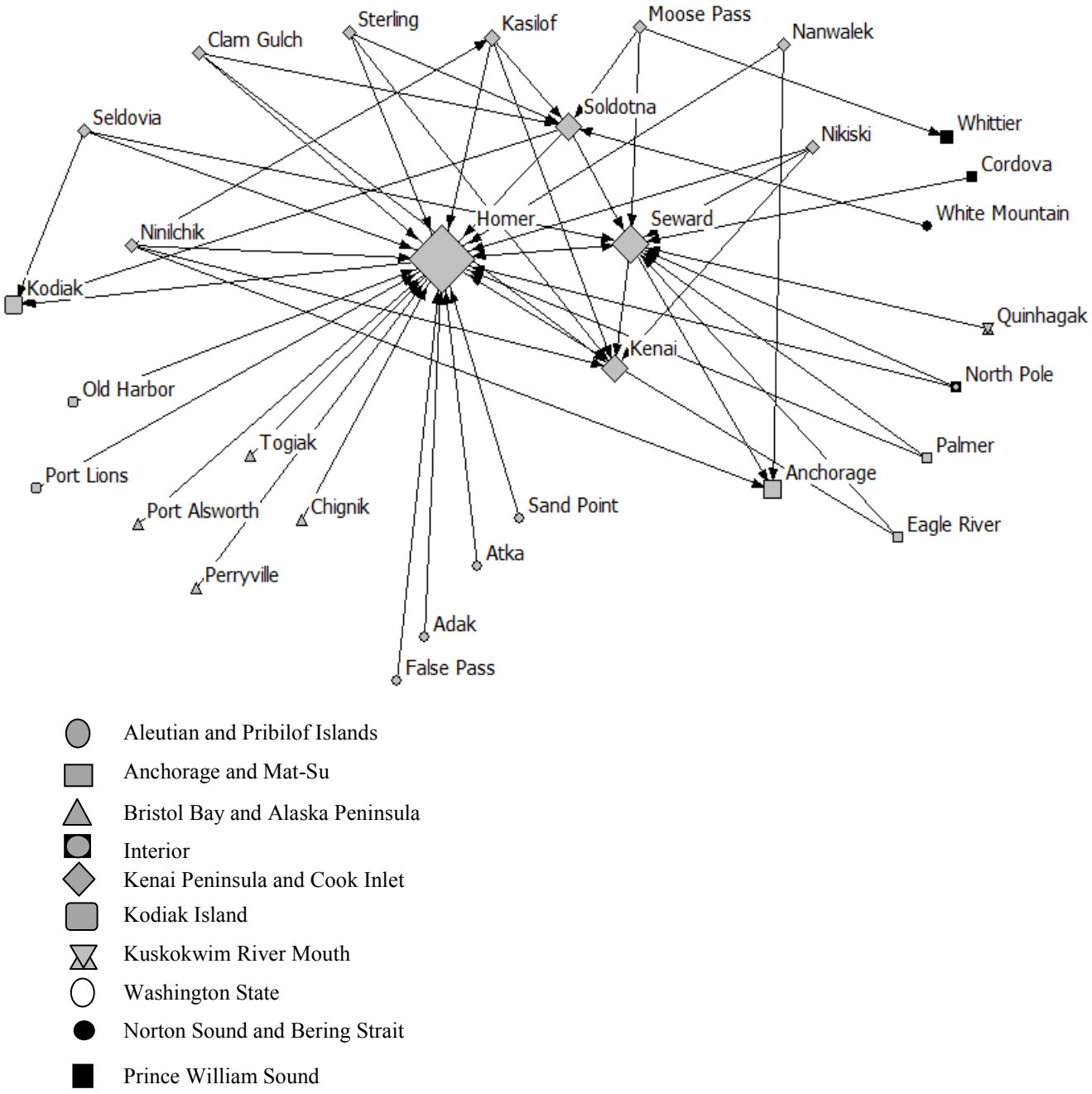


Table 16. -- Descriptive statistics and network centralization measures. *Kenai Peninsula and Cook Inlet regional grouping.*

	Out-of-region		**In-region**		**Total**
	N	Percentage	N	Percentage	
Number of nodes	20	62.50%	12	37.50%	32
Number of ties	38	62.30%	23	37.70%	61

Figure 17. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Kodiak Island regional grouping*.

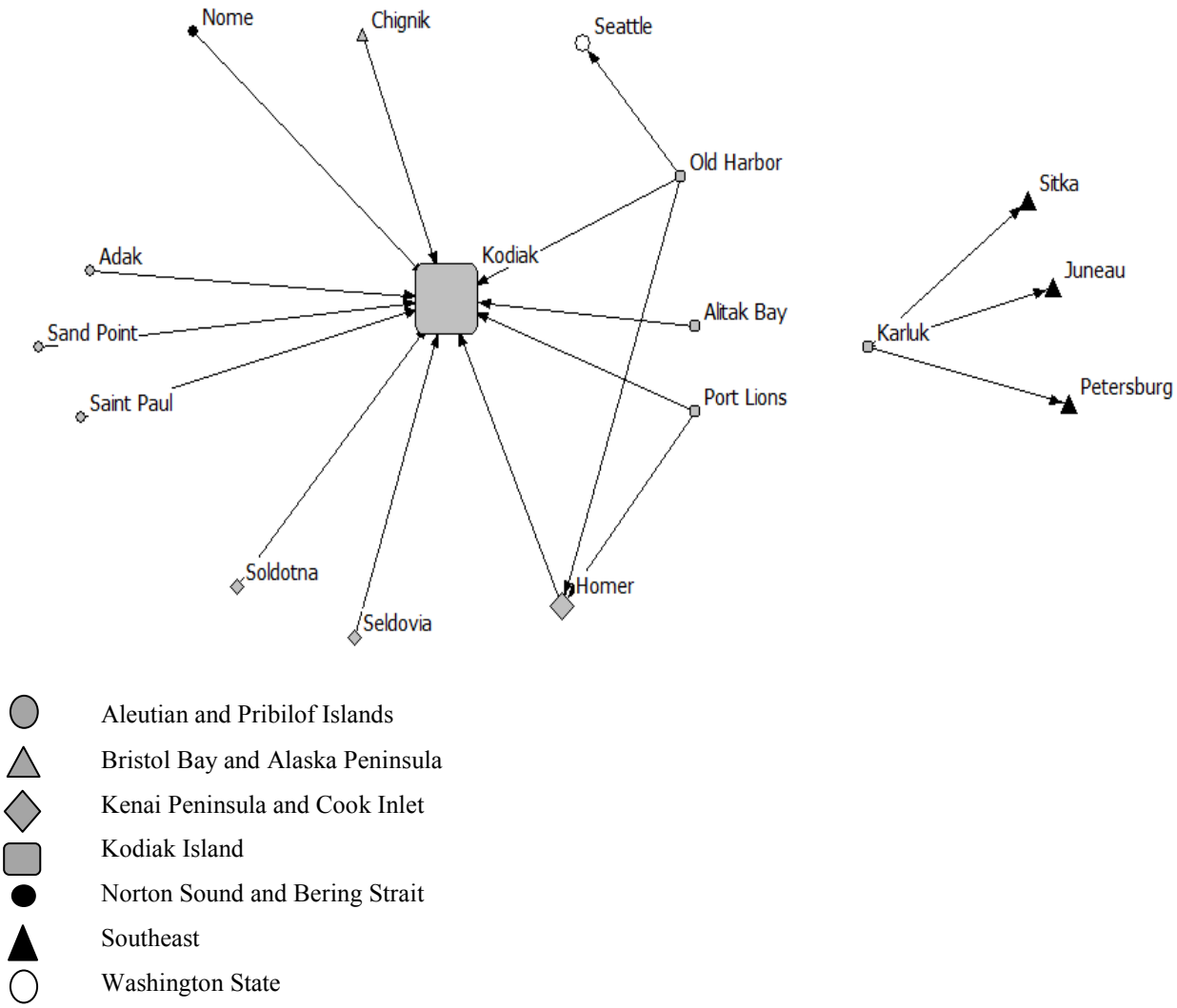


Table 17. -- Descriptive statistics and network centralization measures. *Kodiak Island regional grouping.*

	Out-of-region		**In-region**		**Total**
	N	Percentage	N	Percentage	
Number of nodes	12	70.59%	5	29.41%	17
Number of ties	14	81.25%	3	18.75%	17

Figure 18. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Kuskokwim River Mouth regional grouping*.

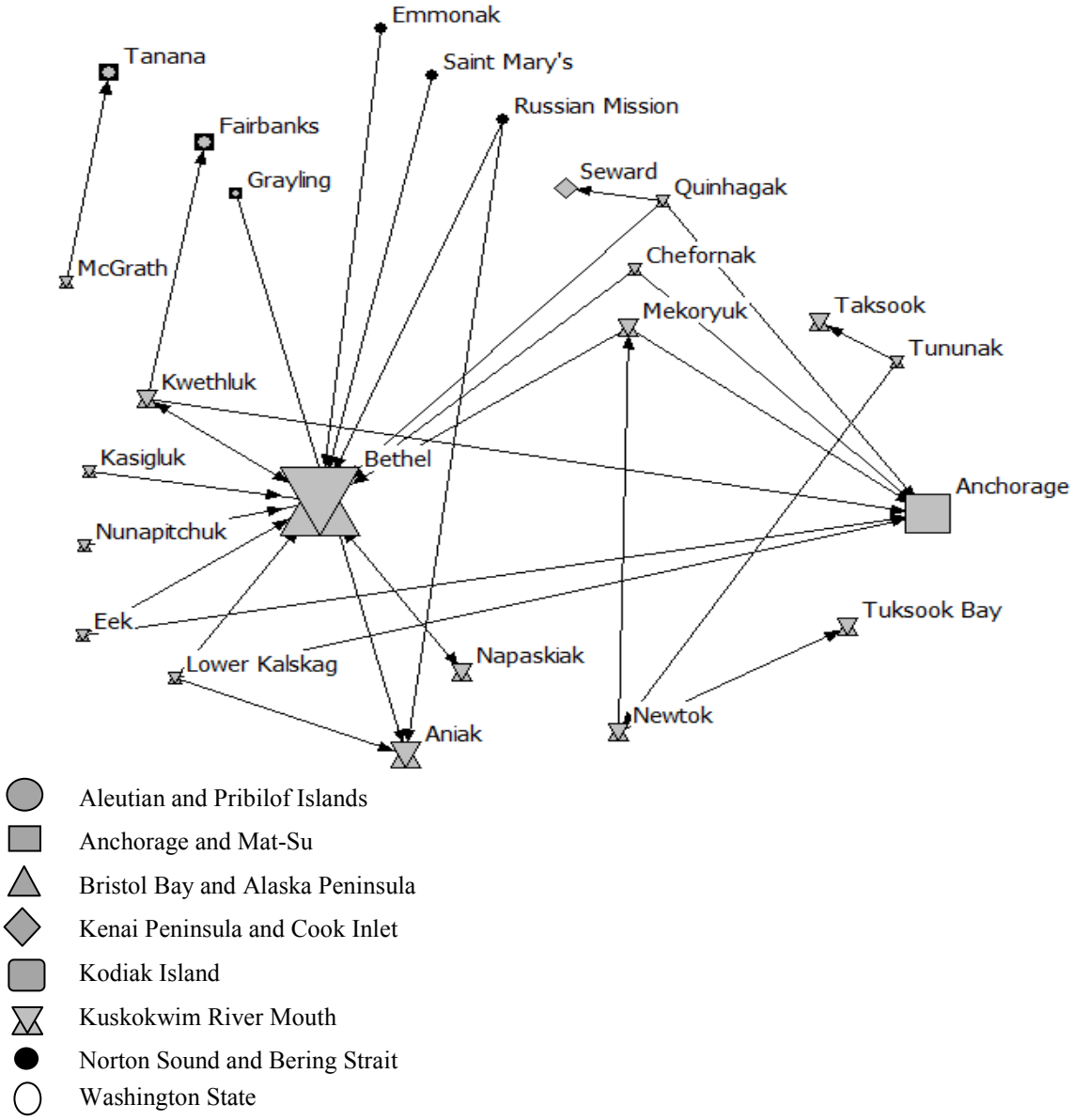


Table 18. -- Descriptive statistics and network centralization measures. *Kuskokwim River Mouth regional grouping.*

	Out-of-region		**In-region**		**Total**
	N	Percentage	N	Percentage	
Number of nodes	8	33.33%	16	66.67%	24
Number of ties	14	46.67%	16	53.33%	30

Figure 19. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Northern Alaska regional grouping*.

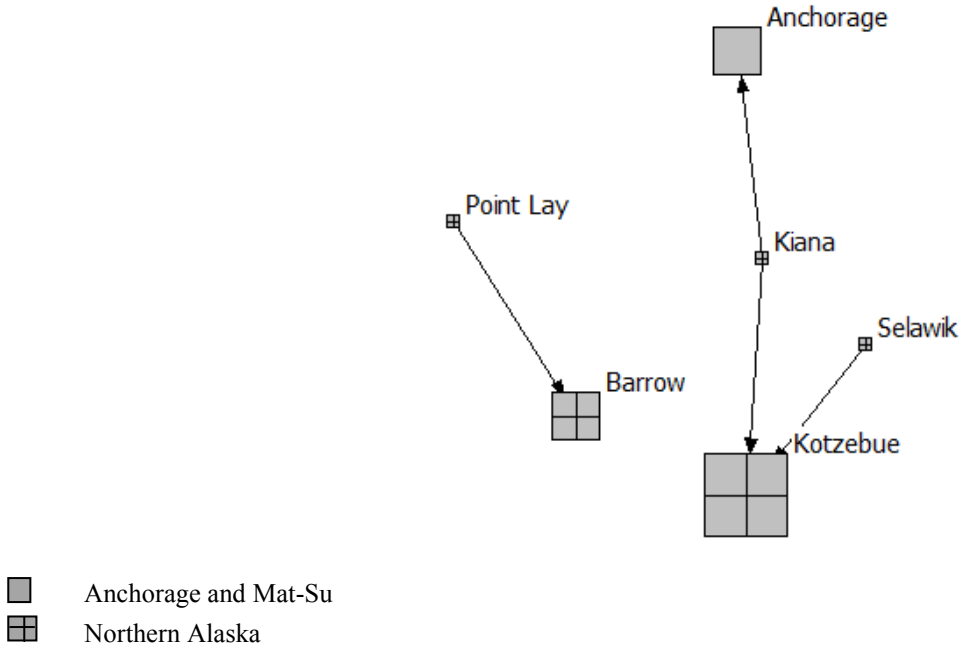


Table 19. -- Descriptive statistics and network centralization measures. *Northern Alaska regional grouping.*

	Out-of-region		**In-region**		**Total**
	N	Percentage	N	Percentage	
Number of nodes	1	16.67%	5	83.33%	6
Number of ties	1	25.00%	3	75.00%	4

Figure 20. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Norton Sound and Bering Strait regional grouping.*

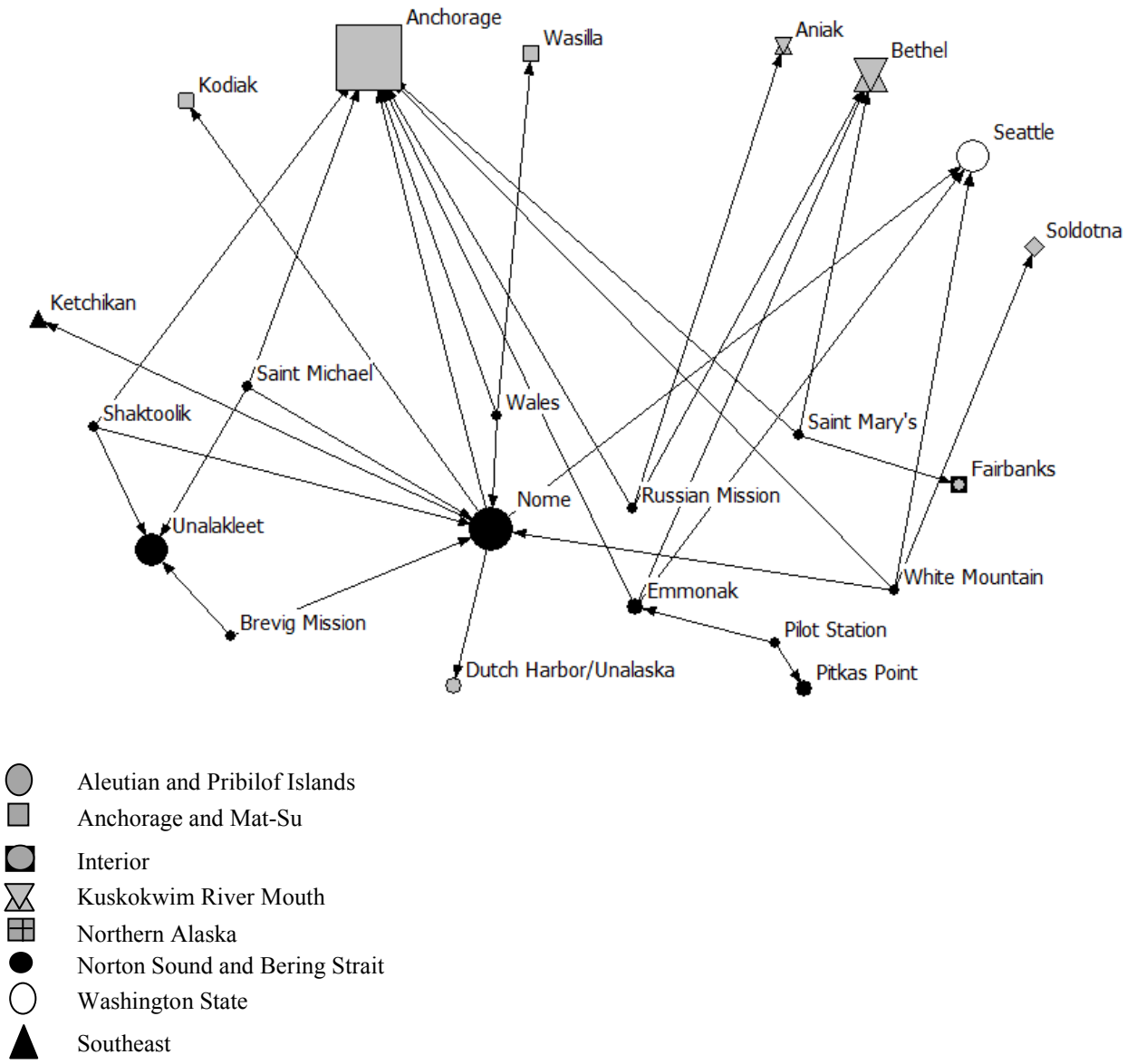


Table 20. -- Descriptive statistics and network centralization measures. *Norton Sound and Bering Strait regional grouping.*

	Out-of-region		In-region		Total
	N	Percentage	N	Percentage	
Number of nodes	10	45.45%	12	54.55%	22
Number of ties	21	67.74%	10	32.26%	31

Figure 21. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Prince William Sound regional grouping*.

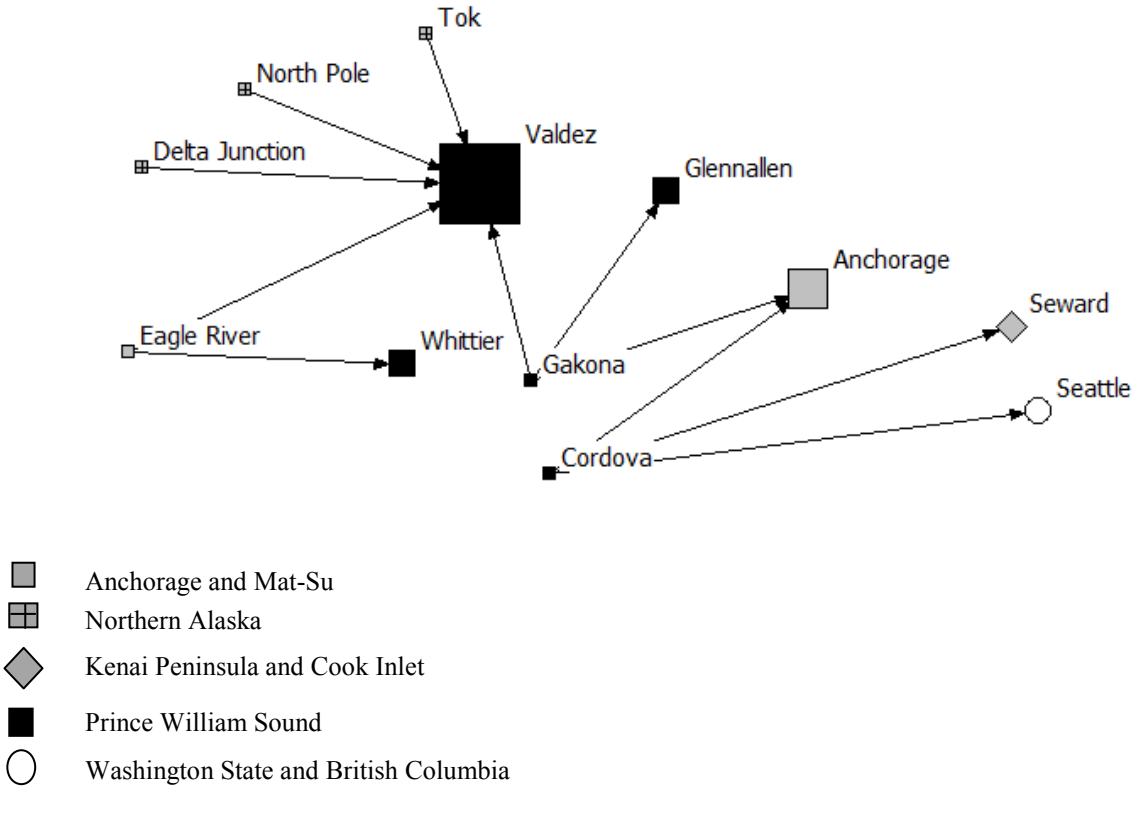


Table 21. -- Descriptive statistics and network centralization measures. *Prince William Sound regional grouping.*

	Out-of-region		In-region		Total
	N	Percentage	N	Percentage	
Number of nodes	7	58.33%	5	41.67%	12
Number of ties	9	81.82%	2	18.18%	11

Figure 22. -- Regional breakdown of responses to the following question: For those businesses in Q16 that are not available in your community, please list the top three communities that people go to for these services (Q17). *Southeast regional grouping*.

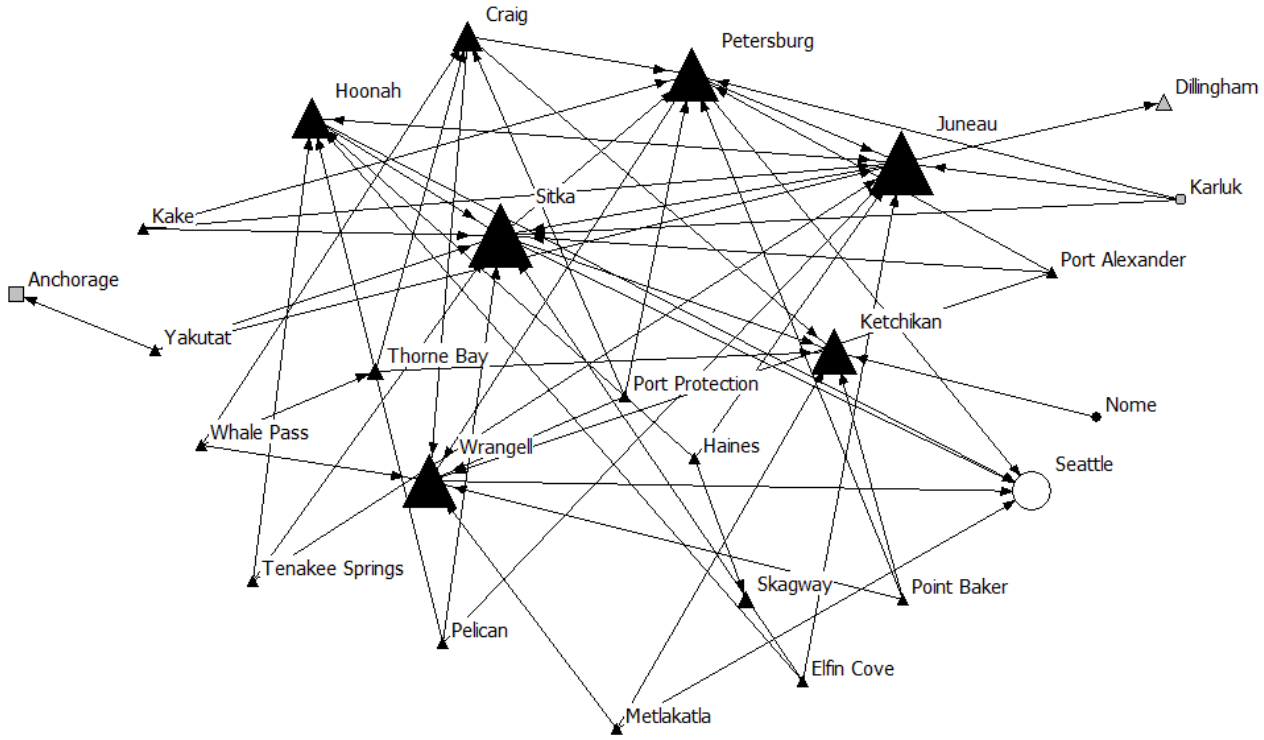


Table 22. -- Descriptive statistics and network centralization measures. *Southeast regional grouping*.

	Out-of-region		**In-region**		**Total**
	N	Percentage	N	Percentage	
Number of nodes	5	20.00%	20	80.00%	25
Number of ties	11	20.00%	44	80.00%	55

FISHING ACTIVITY

The survey asked respondents several questions about the fishing activity based out of their community. One question asked communities to list the yearly fishing seasons for the community (Q3). Salmon was the most consistently named fishery across all regional groupings (e.g., 100% of respondent communities in Norton Sound and Bering Strait grouping and 77% of communities in the Southeast grouping). (Fig. 23, Appendix Table A26). Other fishing seasons reported included halibut and sablefish (67% of communities in the Aleutian and Pribilof Islands grouping) and cod (83% of communities in the Kodiak Island grouping).

Figure 23. -- Regional breakdown of fishing season(s) in communities each year. (Q3).

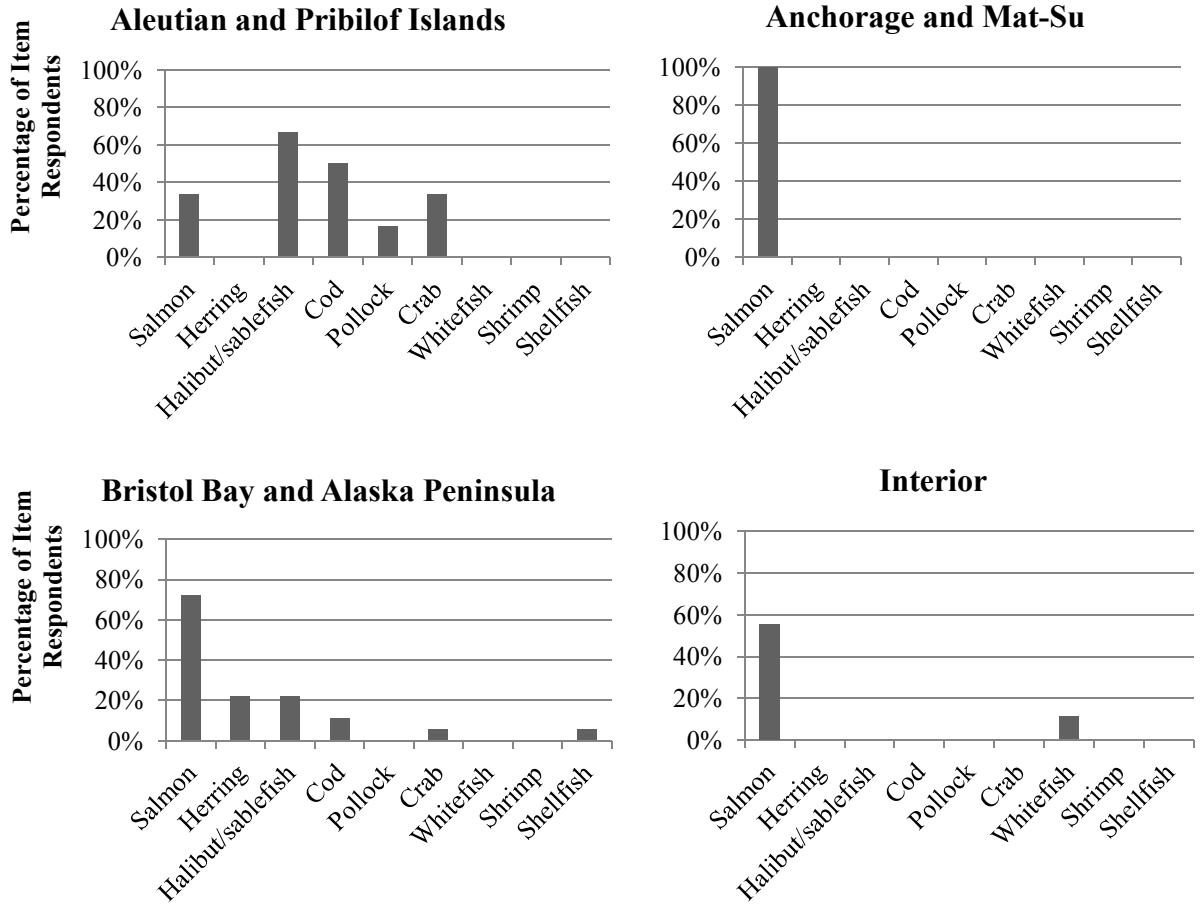


Figure 23. -- Cont'd.

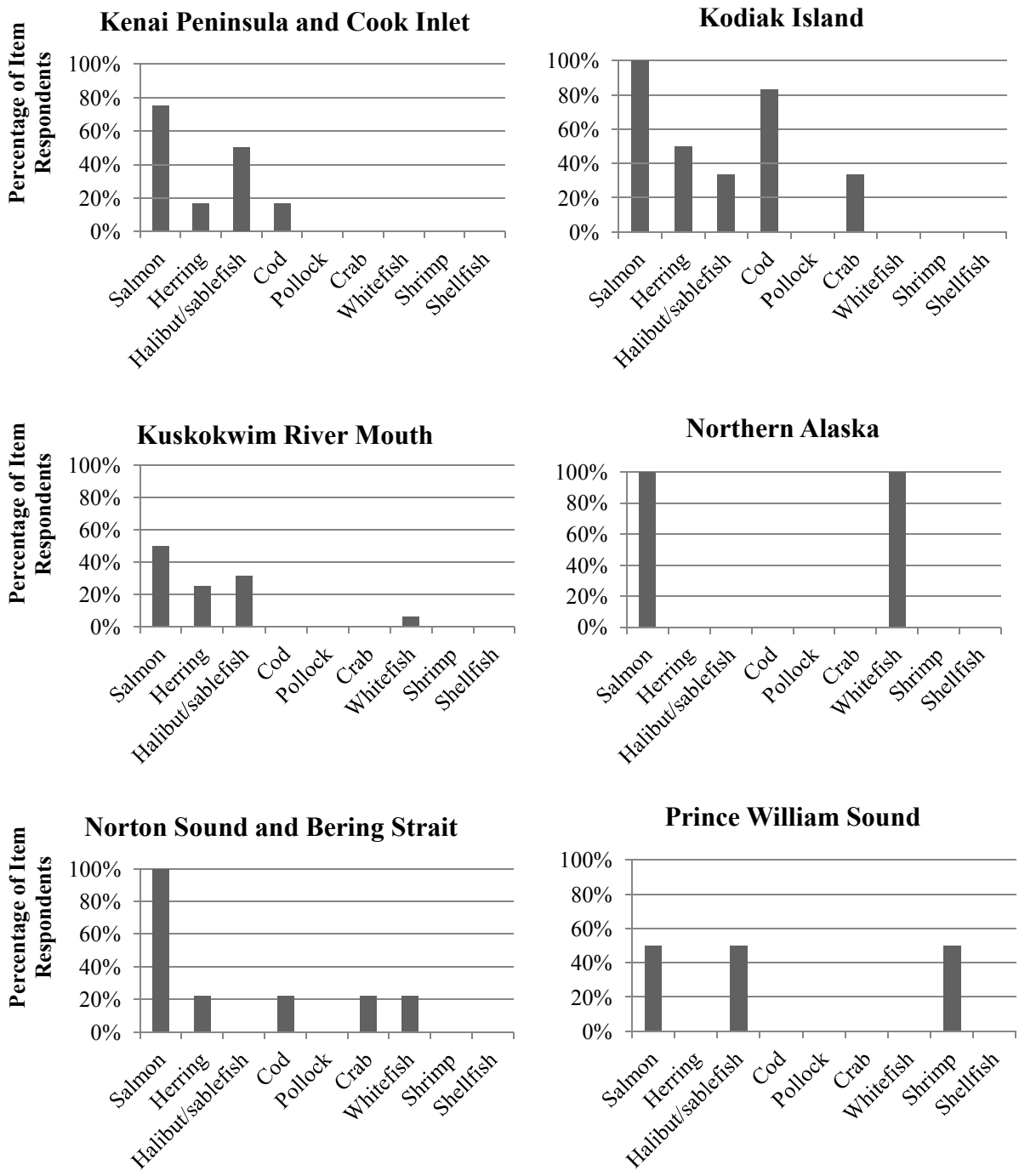
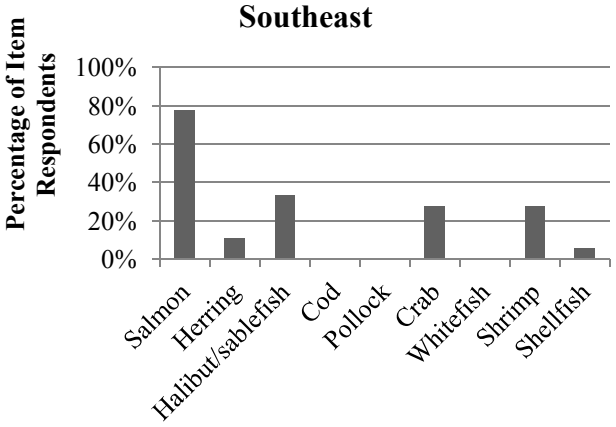


Figure 23. -- Cont'd.



Commercial fishing activity

To gather detailed information about each community's fishing activity, respondents were asked to report on the size of commercial fishing boats that utilized the community as their base during the season (Q11). Respondent communities in the Aleutian and Pribilof Islands grouping reported hosting commercial fishing vessels across all size class categories (e.g., 42% of communities reported hosting vessels smaller than 35 feet and 42% of communities reported hosting vessels between 61 and 125 feet). (Fig. 24, Appendix Table A27). Communities in the Kenai Peninsula and Cook Inlet and Southeast regional groupings reported having commercial fishing vessels across all size categories (e.g., 54% and 94% reported, respectively, for the 35 to 60 foot category). A third of communities in the Anchorage and Mat-Su and Interior groupings reported only having vessels smaller than 35 feet.

Communities were also asked to indicate which gears were used by commercial fishing boats based out of the community (Q15). Trawl gear was reported by 28% of Aleutian and Pribilof Islands respondent communities, 16% of Kodiak Island communities, and 11% of Southeast communities (Fig. 25, Appendix Table A14). Gillnets were reported by communities in all groupings except Anchorage and Mat-Su and Northern Alaska, which reported no gears used by commercial fishing boats based out of their community. Longline gear was also reported at a high frequency; 63% of communities in the Kenai Peninsula and Cook Inlet grouping and 88% of communities in the Southeast grouping reported fishermen using it. In general, the majority of communities in the Bristol Bay and Alaska Peninsula, Interior, Kuskokwim River Mouth, and Norton Sound and Bering Strait groupings reported having fishermen that utilized one gear type operating out of their community (Fig. 26, Appendix Table A15). In the Kodiak Island grouping, 40% of communities reported hosting fishermen representing five different gear types. In the Southeast group, no communities reported only using one gear type, two communities reported seven different gear types present in the community. Respondents could also write in gear types. Responses included fishwheels, dive gear, and rod and reel.

Figure 24. -- Regional breakdown of responses to the following question: Which size classes of commercial fishing boats use your community as their base of operation during the fishing season? (Q11).

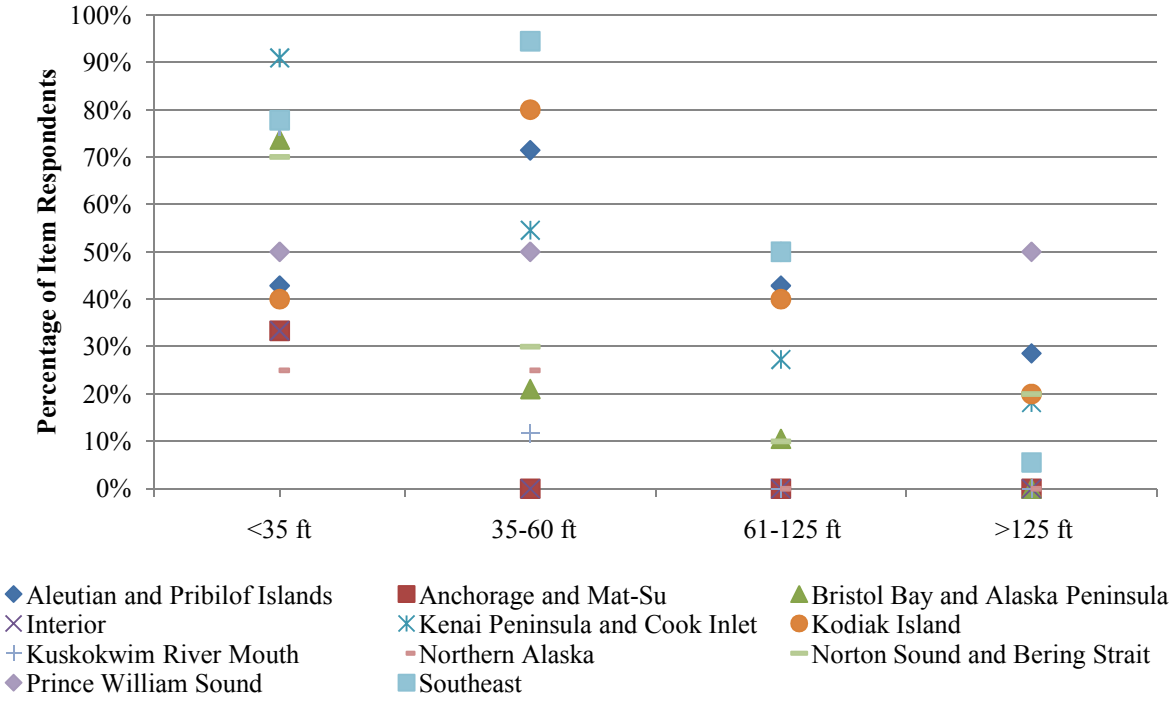


Figure 25. -- Regional breakdown of responses to the following question: Which fishing gear types are used by commercial fishing boats that use your community as their base of operation during the fishing season? (Q15).

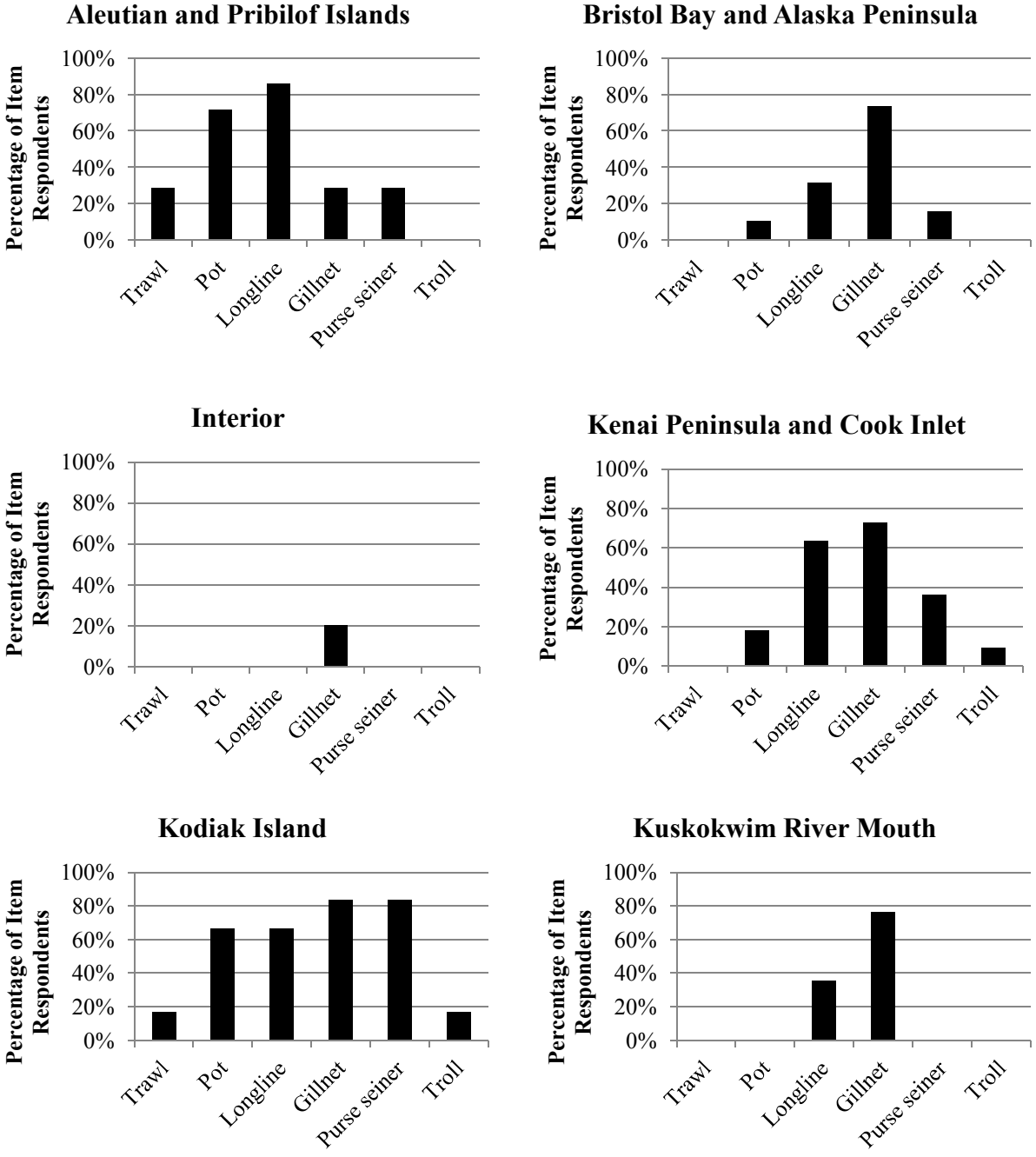


Figure 25. -- Cont'd.

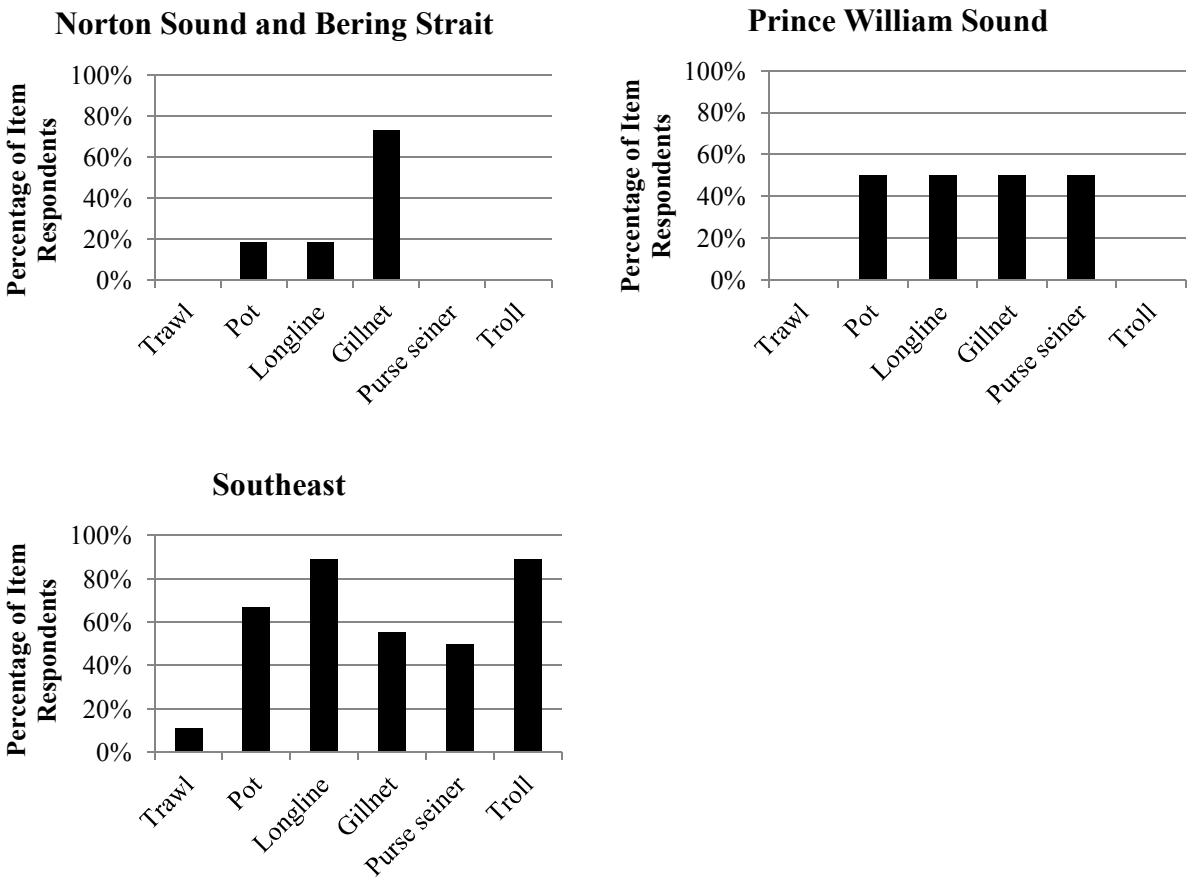


Figure 26. -- Regional breakdown of the number of different gears used by commercial fishing boats that use the community as their base of operation during the fishing season. (Q15).

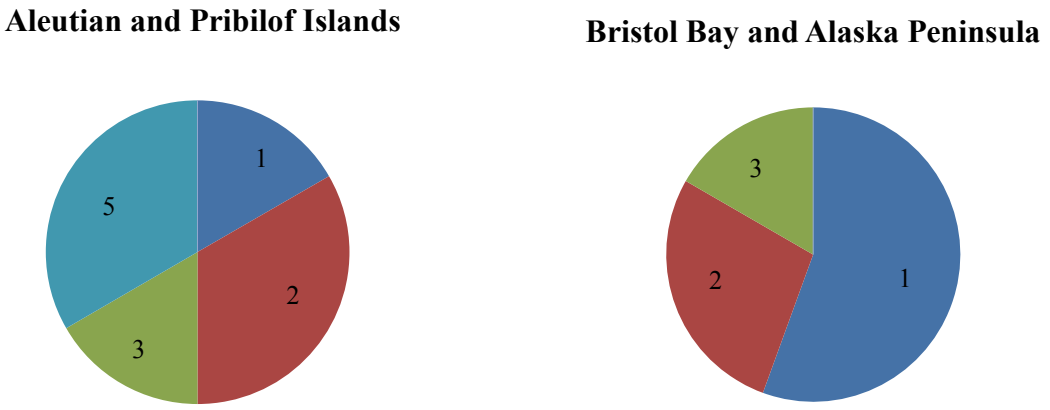
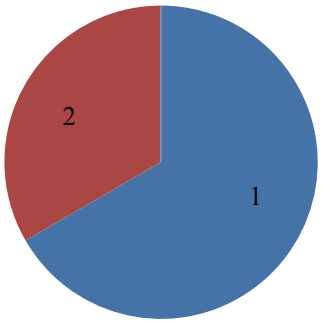
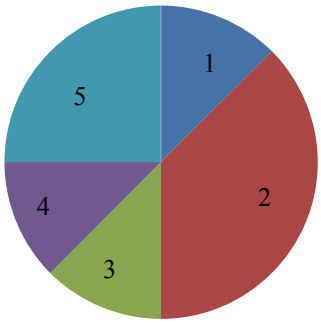


Figure 26. – Cont'd.

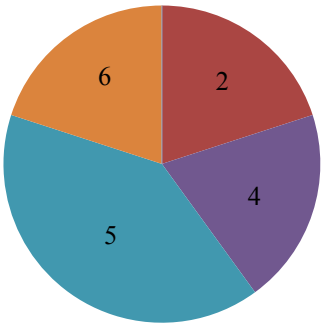
Interior



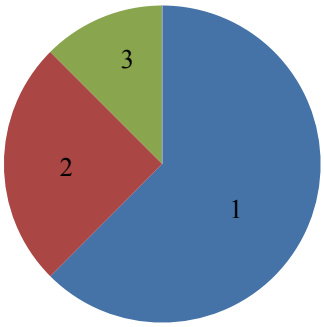
Kenai Peninsula and Cook Inlet



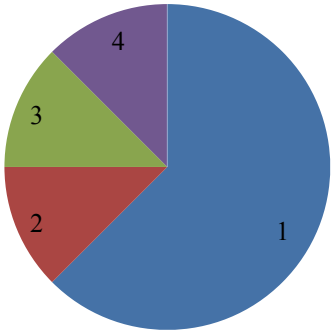
Kodiak Island



Kuskokwim River Mouth



Norton Sound and Bering Strait



Prince William Sound

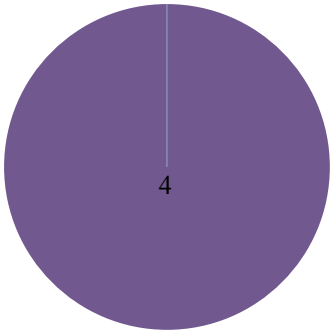
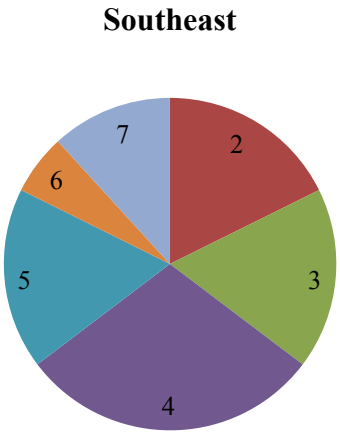


Figure 26. -- Cont'd.



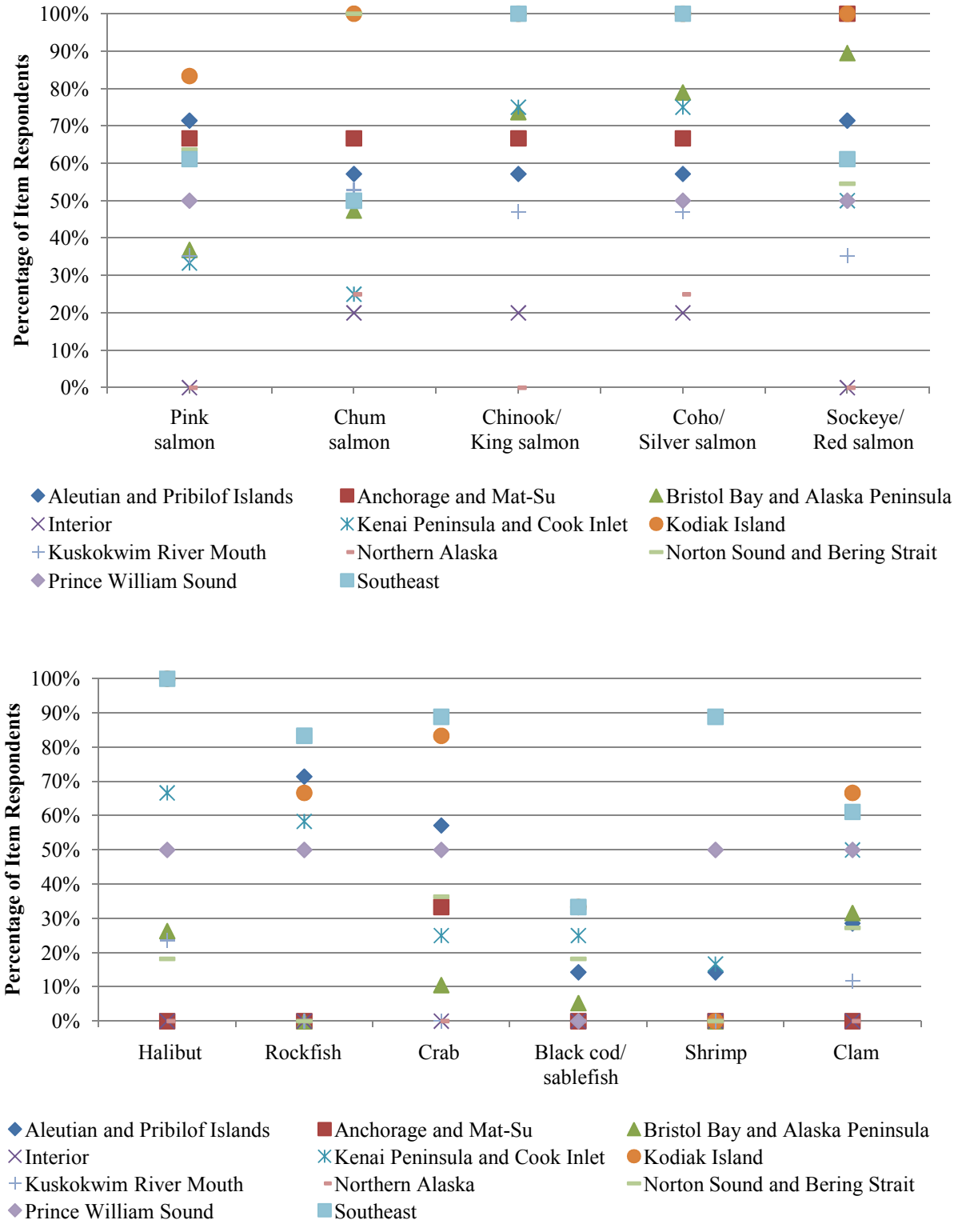
Recreational Fishing Activity

The survey asked communities to report on various recreational fishing activities that occur in their community (Q13). Respondent communities in all regional groupings reported that residents recreationally fished from shore or docks (e.g., 31% of Bristol Bay and Alaska Peninsula and 60% of Northern Alaska grouping communities). (Fig. 27, Appendix Table A16). In the Southeast grouping, 88% of communities reported having charter boats operate out of the community and 81% of Kenai Peninsula and Cook Inlet communities reported charter boats. In the Kuskokwim River Mouth grouping, 35% of communities reported no recreational fishing took place in their community.

The survey also asked communities which species are targeted recreationally (Q14). Salmon species were reported across all regional groupings (Fig. 28, Appendix Table A17). Other species were important for specific groups; for example, halibut was named by 100% of Aleutian and Pribilof Islands grouping respondent communities, shrimp named by 88% of Southeast communities, and clams named by 66% of Kodiak Island communities.

Figure 27. -- Regional breakdown of responses to the following question: To the best of your knowledge, what type of recreational or sport fishing, if any, goes on in your community? (Q13).

Figure 28. -- Regional breakdown of responses to the following question: What saltwater species, if any, are targeted by recreational fishermen that use boats based in your community? (Q14).



Subsistence Activity

Communities were asked to provide information on the subsistence resources important to their residents (Q20). Respondents were given three blanks to fill in. Responses were grouped into categories for analysis. More than 40% of respondent communities in all regional groupings wrote in salmon or a particular salmon species (Fig. 29, Appendix Table A18). Other important subsistence resources included pinnipeds (e.g., seals, sea lions, and walruses) which were named by 87% of communities in the Aleutian and Pribilof Islands and 81% of Norton Sound and Bering Strait communities. Whales (specifically bowhead whales and beluga whales) were identified as important subsistence resources by 80% of Northern Alaska communities.

Figure 29. -- Regional breakdown of responses to the following question: What are the three (3) most important subsistence marine or aquatic resources to the residents of your community? (Q20).

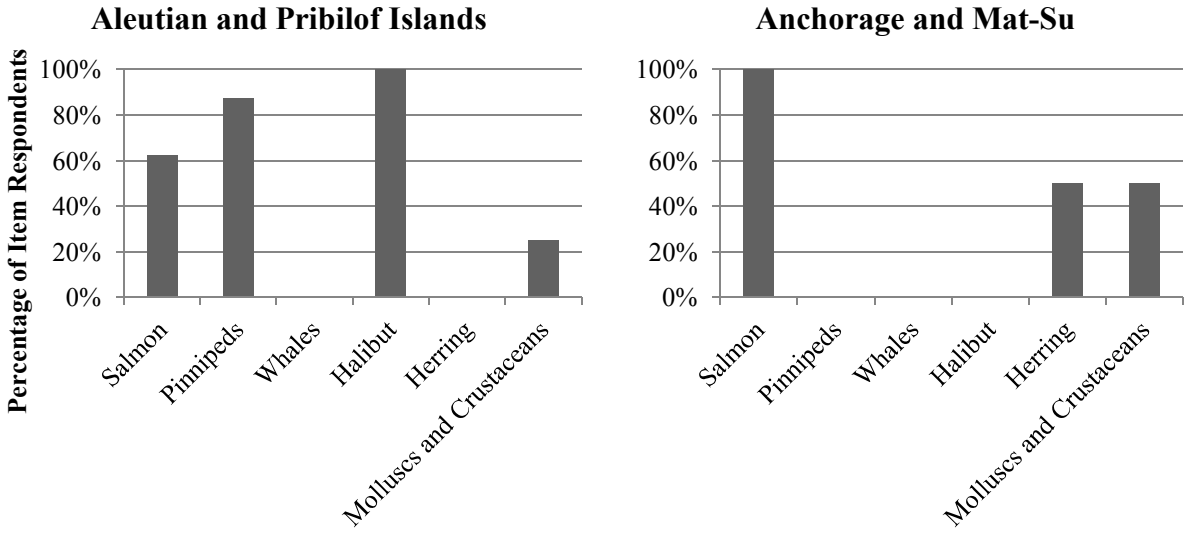


Figure 29. -- Cont'd.

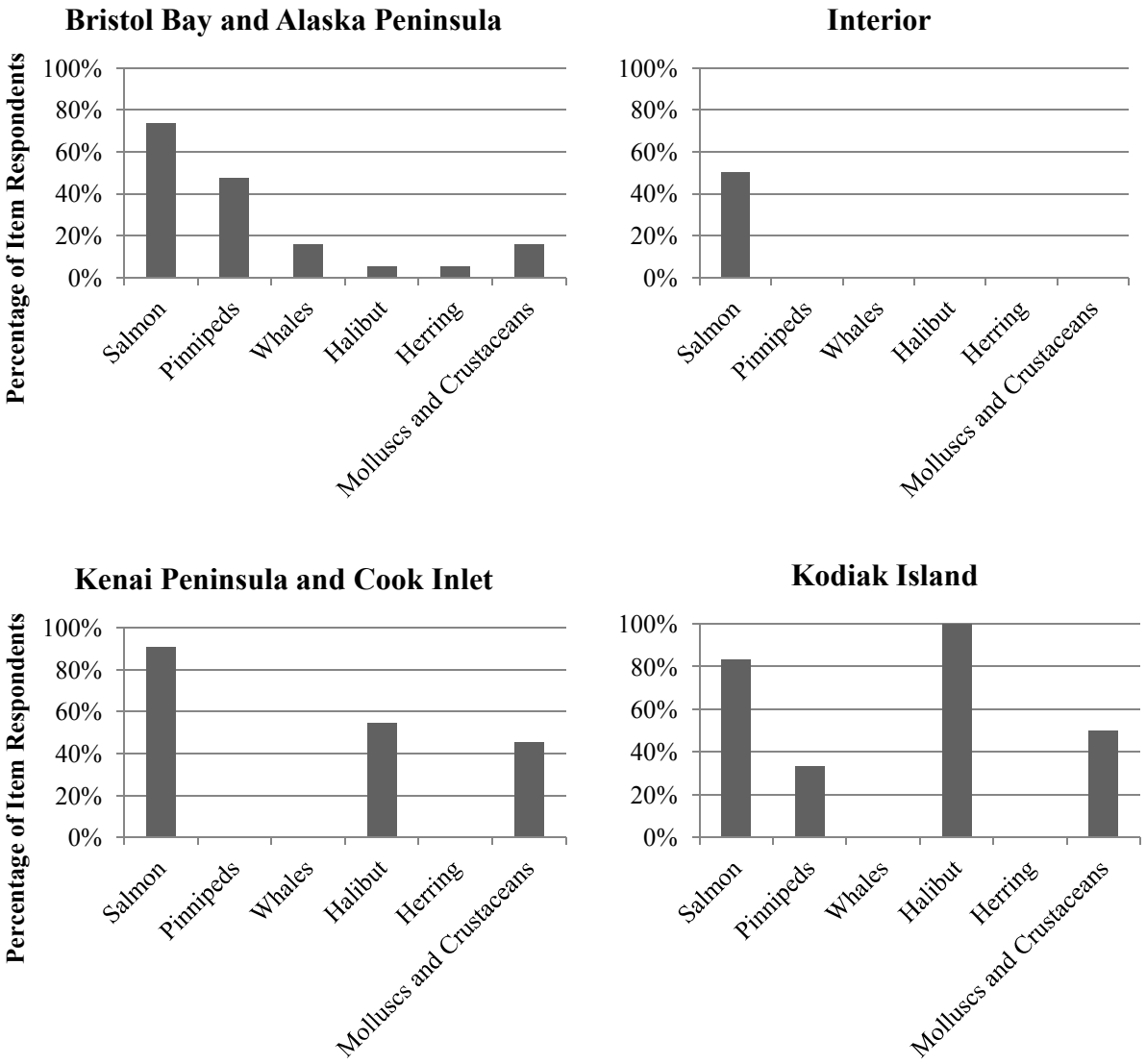
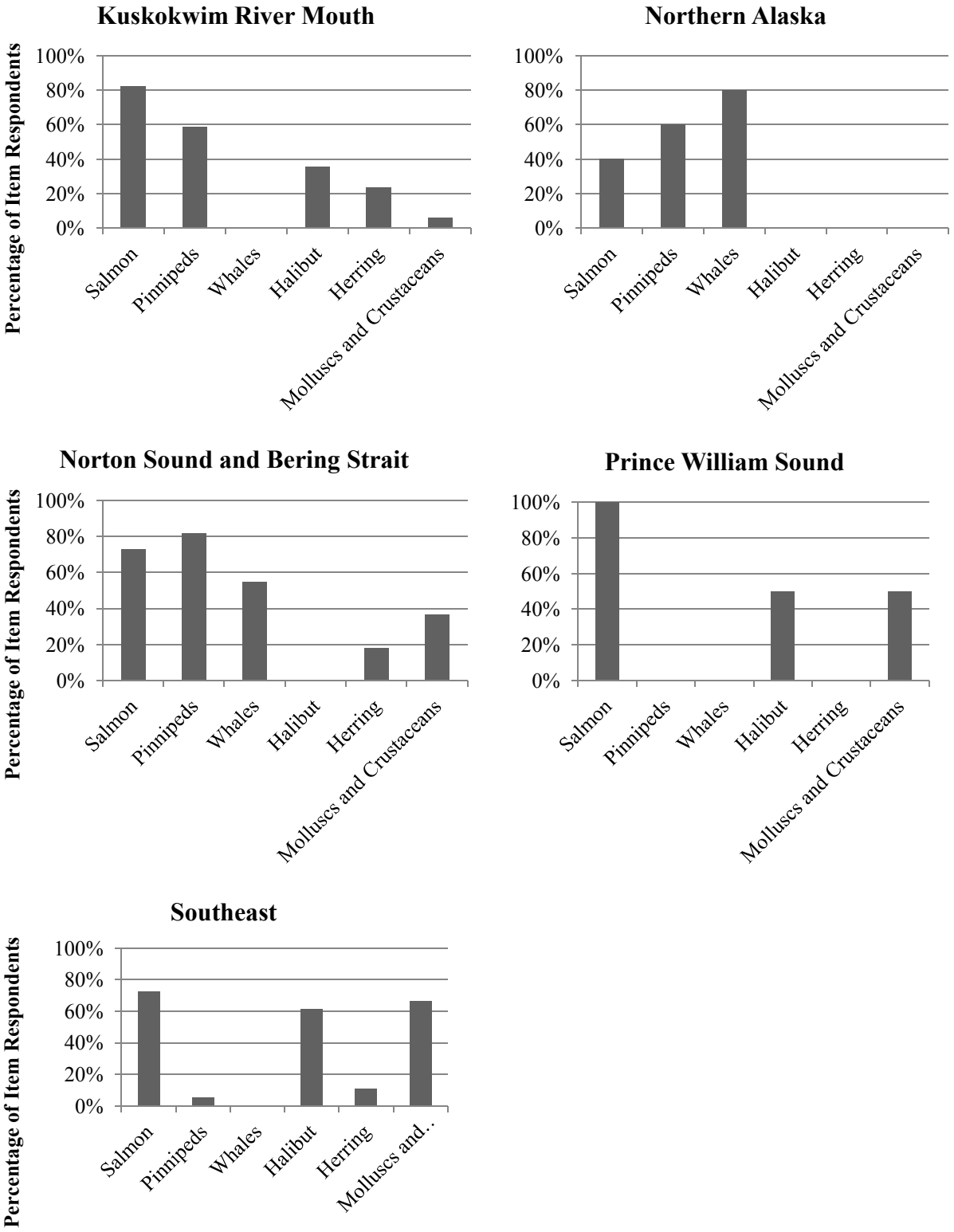


Figure 29. -- Cont'd.



REVENUE AND FUNDING

A set of questions on the survey asked communities about different sources of revenue and funding they received in relation to fisheries. Additionally, the survey asked about community public or social services that were funded by revenue brought in from the fishing industry. Survey question Q21 asked communities to report any funding or grants they received through the Community Development Quota (CDQ) program. Respondent communities in the Norton Sound and Bering Strait grouping reported the highest mean at $723,167 (Table 23). The Aleutian and Pribilof Island grouping reported the lowest mean at $219,196.

Communities were also asked to report on revenue received from fisheries-related taxes or fee programs (Q22). Revenue received from harbor rental was the most commonly reported source; a total of 14 communities across five regional groupings reported they received revenue from harbor rentals (Fig. 30, Appendix Table A19). Communities across eight regional groupings reported they received revenue from municipal dock use fees. None of the communities in the Anchorage and Mat-Su and Northern Alaska regional groupings reported revenue from fisheries-related taxes or fee programs.

Survey question Q24 asked communities about any local fishing-related fee programs designed to generate funding for public services and infrastructure. Communities in the Aleutian and Pribilof Islands (n = 1), Bristol Bay and Alaska Peninsula (n = 3), Kenai Peninsula and Cook Inlet (n = 2), Kodiak Island (n = 1), Norton Sound and Bering Strait (n = 2), Prince William Sound (n = 1), and Southeast regional grouping (n = 3) had communities that reported having such a program. Specific programs included launch fees, crane fees, hatchery enhancement taxes, and a salmon habitat tax.

Respondents were also asked to report on what social services are available in a community (Q18). Many communities in all groupings reported having medical services or doctors (e.g., 100% of Aleutian and Pribilof Island communities and 87% of Kuskokwim River Mouth communities) (Fig. 31, Appendix Table A20). Only a few communities reported having a soup kitchen (n = 11). A total of 28 communities reported offering job placement services, including 45% of Kenai Peninsula and Cook Inlet communities and 37% of Kuskokwim River Mouth communities.

Based on a list given to respondents, communities were asked to note which public services were funded (at least partially) by fish taxes, fisheries business tax, landing taxes, or marine fuel sales taxes (Q23). The Interior and Anchorage and Mat-Su groupings reported that no community services were funded by fish taxes (Appendix Table A21). Respondent communities in the Aleutian and Pribilof Islands grouping (66%) reported that roads were funded by fish taxes; overall, roads were the most commonly reported funded item (n = 31) (Fig. 32). Of the Kodiak Island grouping communities, 75% reported that water and wastewater systems were funded by fish taxes.

Table 23. -- Regional breakdown of the following question: Does the community local government, organizations, or other local entities receive any funding or grants from a Community Development Quota entity? If funding or grants were received in 2011, please indicate how much the local government received. (Q21).

Region	N	Mean	Median	Max	Min	St. Dev.
Aleutian and Pribilof Islands	4	$219,196	$111,500	$633,785	$20,000	$279,824
Bristol Bay and Alaska Peninsula	10	$245,000	$325,000	$350,000	$0	$144,241
Kuskokwim River Mouth	6	$479,818	$84,000	$2,500,000	$31,909	$990,124
Norton Sound and Bering Strait	6	$723,167	$1,00,000	$3,900,000	$30,000	$1,556,859

Figure 30. -- Regional breakdown of responses to the following question: Did the community receive revenue from fisheries-related taxes or fee programs this year? (Q22).

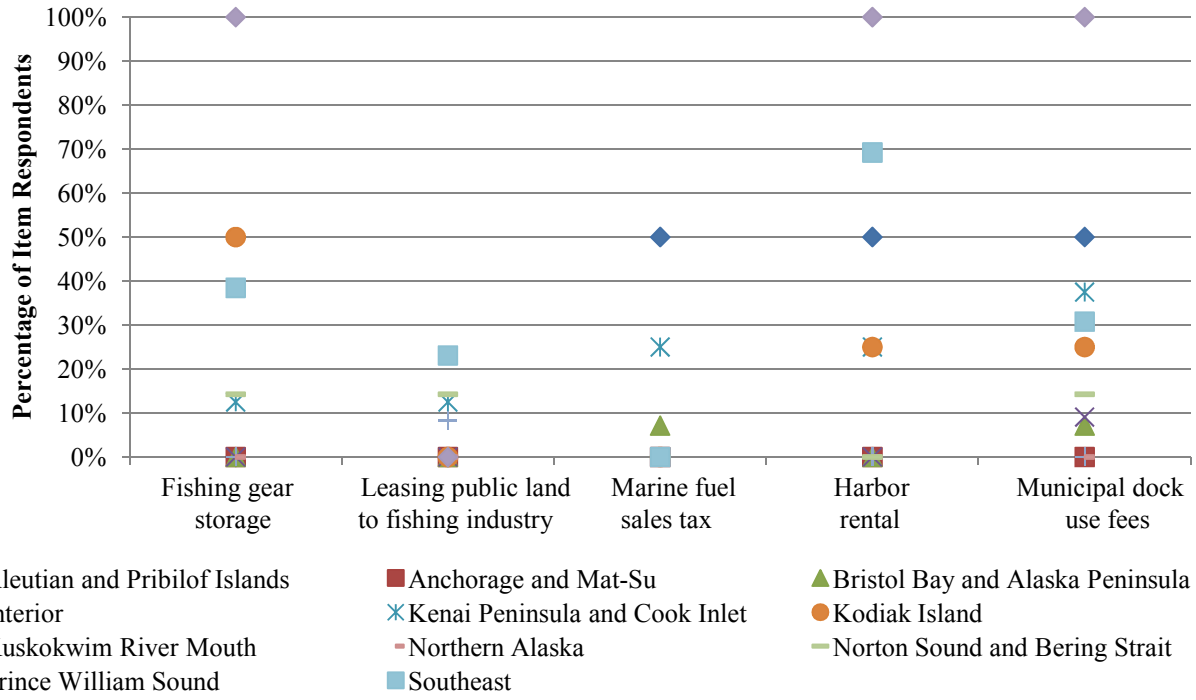


Figure 31. -- Regional breakdown of responses to the following question: Which public social services are available in your community? (Q18).

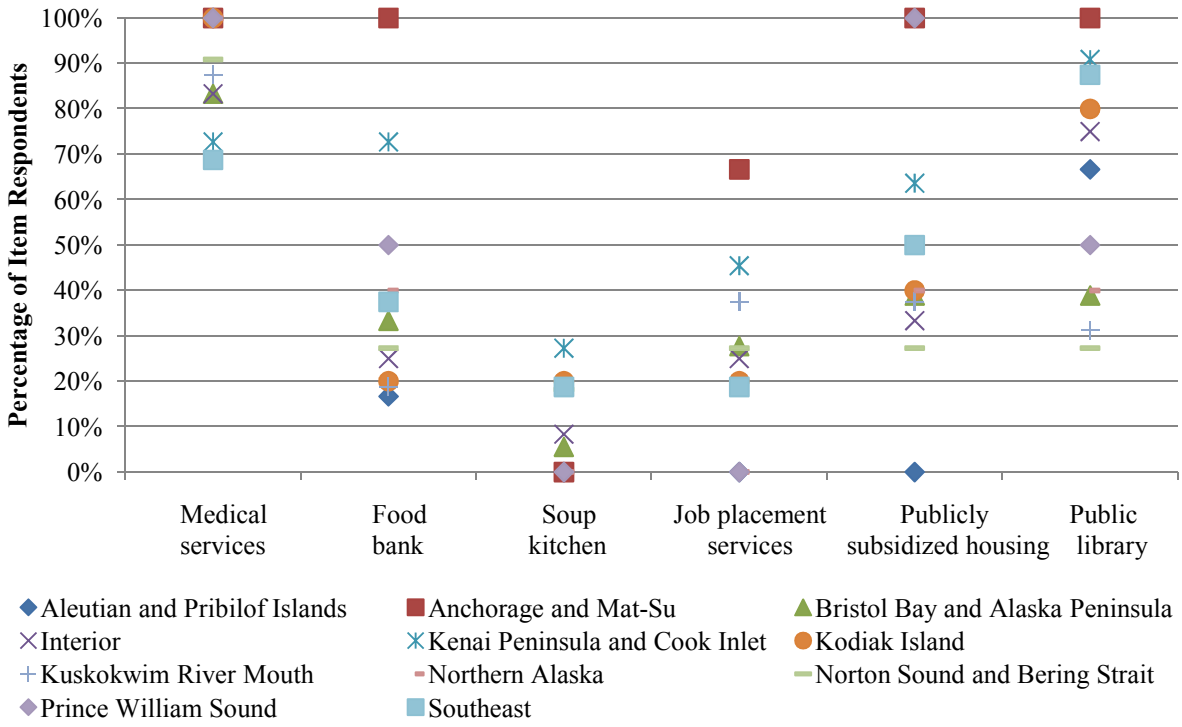


Figure 32. -- Regional breakdown of responses to the following question: Which of your community's public services are at least partially supported or funded by any of the following: Local or Borough Raw Fish Tax, Shared Fisheries Business Tax, the Fisheries Resource Landing Tax, or marine fuel sales tax? (Q23).

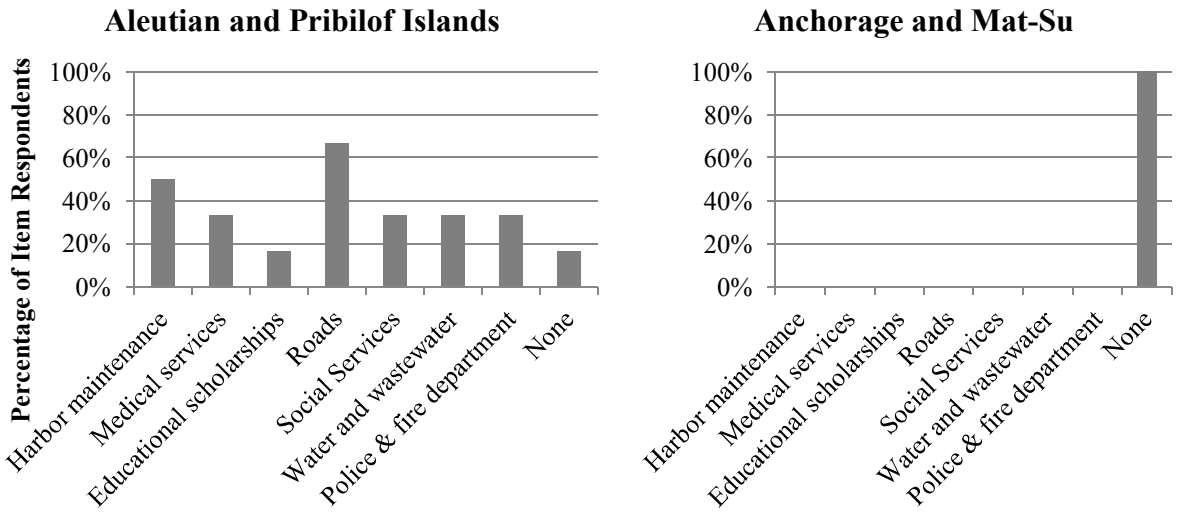


Figure 32. -- Cont'd.

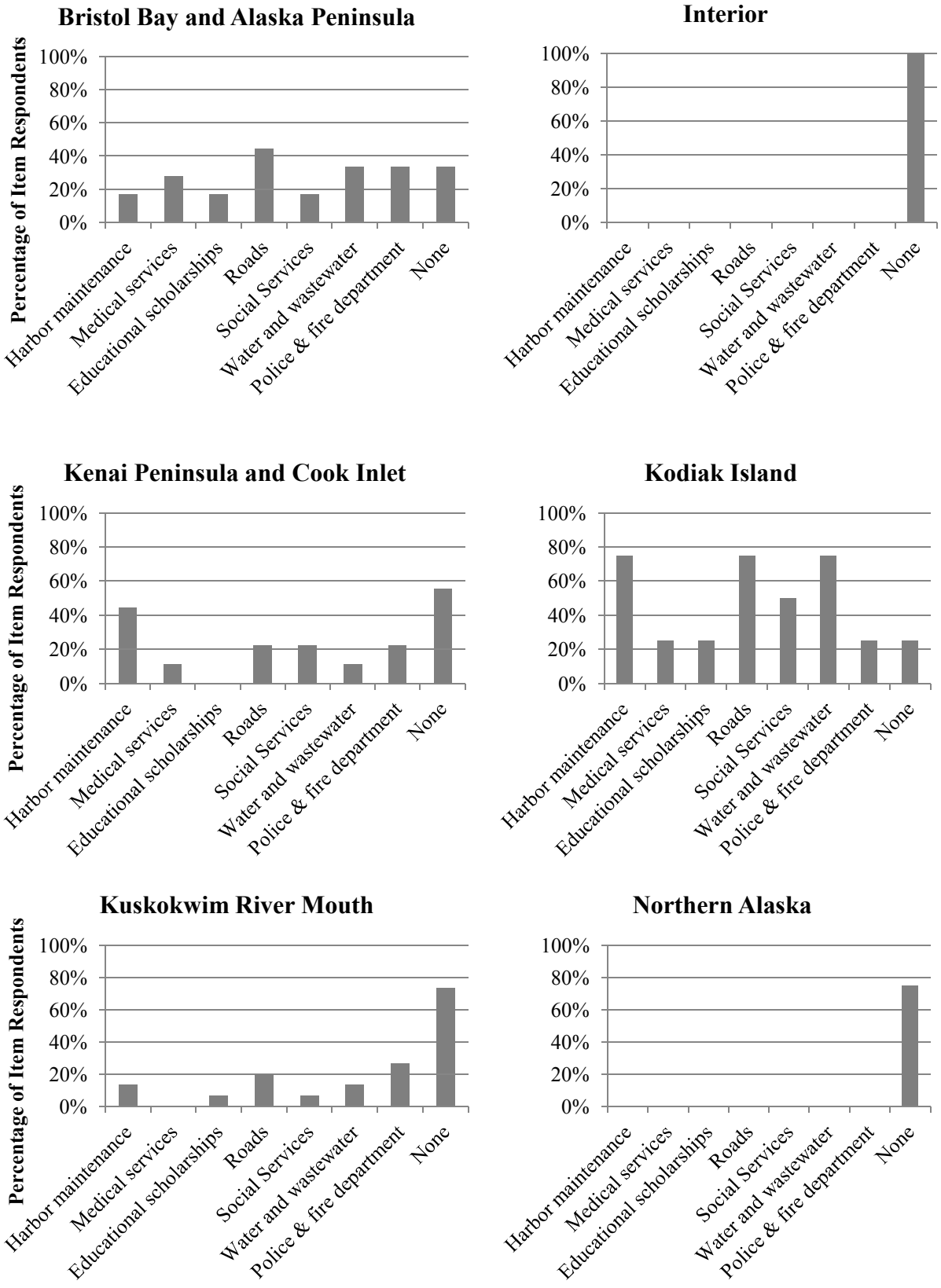
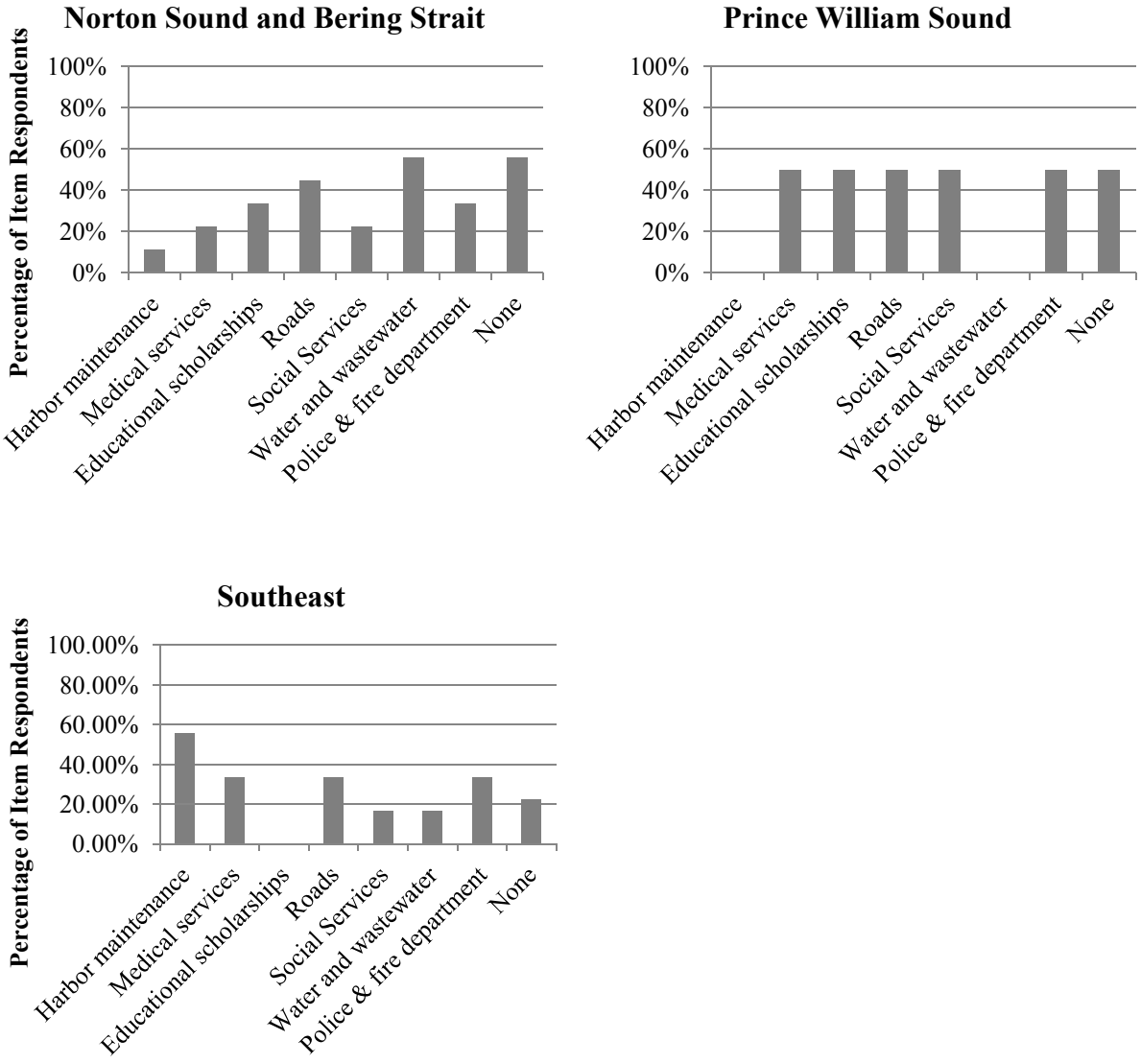


Figure 32. -- Cont'd.



CHANGES IN VESSEL ACTIVITY

Survey question Q12 asked communities to provide information on perceived changes over the last 5 years in the number of boats present in the community from specific categories. The categories were charter boats/party boats, private pleasure boats, commercial fishing boats, boats less than 35 feet, boats between 35 and 60 feet, boats between 60 and 125 feet, and boats greater than 125 feet. For charter boats, 66% of respondent communities in the Bristol Bay and Alaska Peninsula grouping and 50% of communities in the Kenai Peninsula and Cook Inlet grouping noted there were a lot less than 5 years ago (Fig. 33, Appendix Table A22). The majority of communities across all groupings (n = 37) reported that there were no more or no less charter boats than 5 years previously. For private pleasure boats, a total of 25 communities reported that they felt there were more than 5 years ago, including 62% of Kuskokwim River

Mouth communities and 60% of Kodiak Island communities. For commercial fishing boats, 22% of Norton Sound and Bering Strait communities noted there were a lot less. For vessels smaller than 35 feet, 35 communities reported either more or a lot more boats than 5 years ago. In the Norton Sound and Bering Strait grouping, 50% of communities reported a lot more vessels smaller than 35 feet. For boats between 35 and 60 feet, 37 communities (41%) across all regional groupings reported that they felt there were no more and no less than 5 years ago. Results for the boats 60 to 125 feet were similar with 56% of communities reporting no more or less. The last category was for vessels longer than 125 feet. Of Kuskokwim River Mouth grouping communities, 58% reported a lot fewer of this size class of vessels. Additionally, 36% and 33% of Bristol Bay and Alaska Peninsula and Aleutian and Pribilof Islands grouping communities, respectively, reported a lot fewer vessels longer than 125 feet.

Respondents were also asked to describe any changes they noted in the presence of various types of vessels in their community. Responses included:

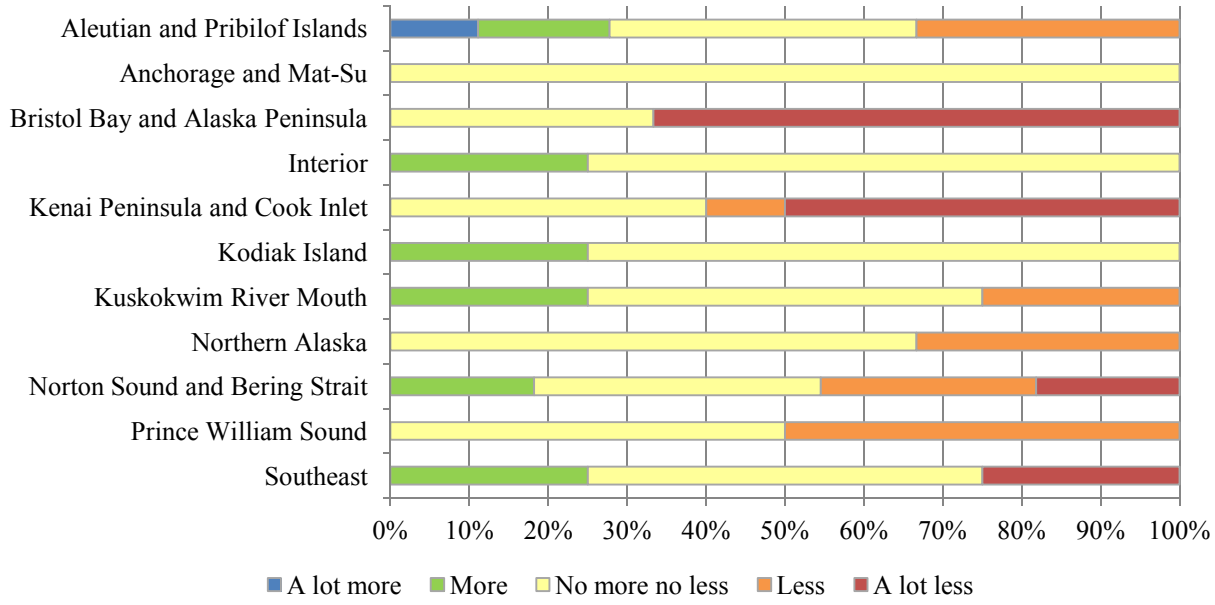
> "People are downsizing due to the high cost of gasoline $8 a gallon."

> "Since harbor completed there are more smaller pleasure boats."

> "More people are investing in open skiffs under 20 feet for subsisting; due to the economy or lack of income the smaller boat/skiff have grown more popular."

Figure 33. -- Regional breakdown of responses to the following question: For the types of boats listed, would you say there were a lot more, more, no more or less, less, or a lot less boats in your community compared to five years ago? (Q12).

A. Charter boats/party boats



B. Private pleasure boats

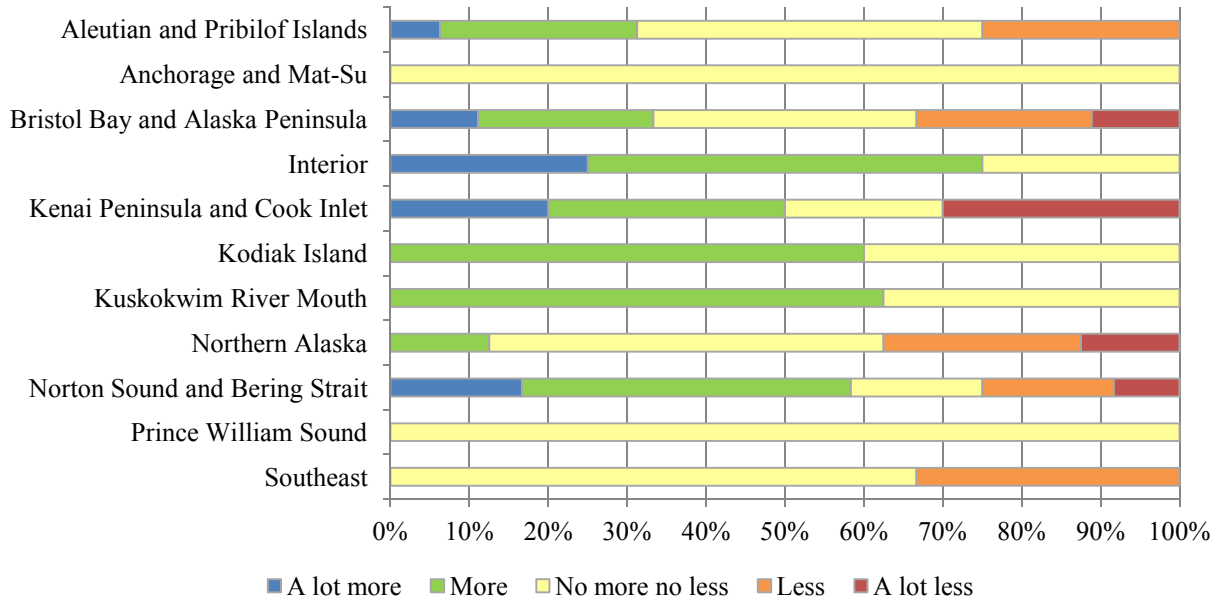
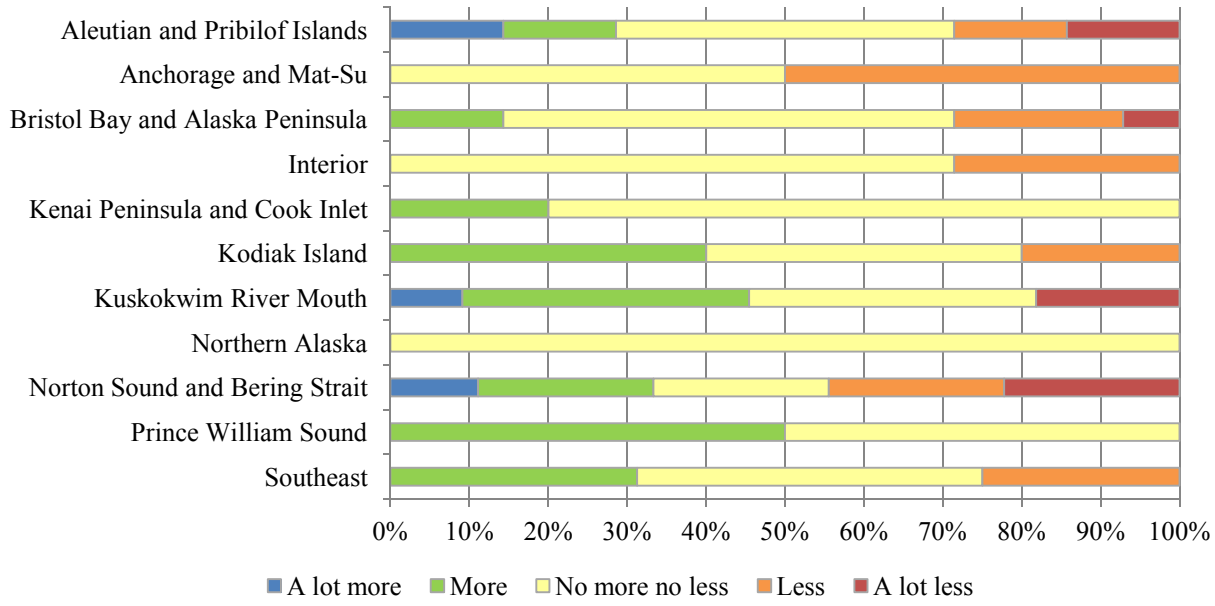


Figure 33. -- Cont'd.

C. Commercial fishing boats



D. Boats shorter than 35 feet

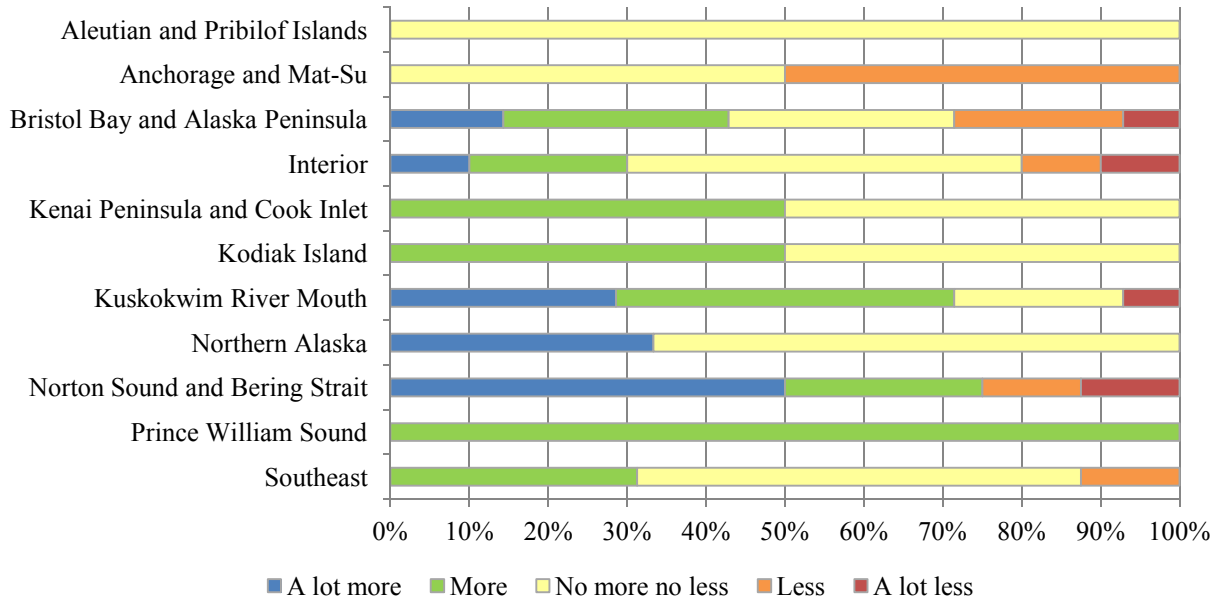
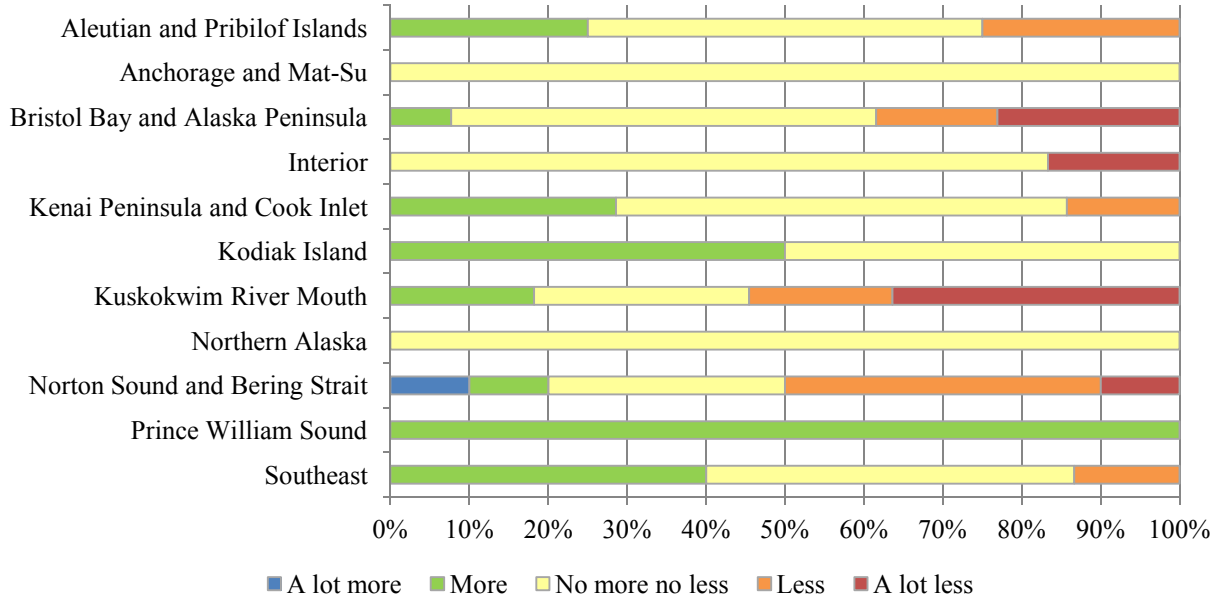


Figure 33. -- Cont'd.

E. Boats between 35 and 60 feet



F. Boats between 61 and 125 feet

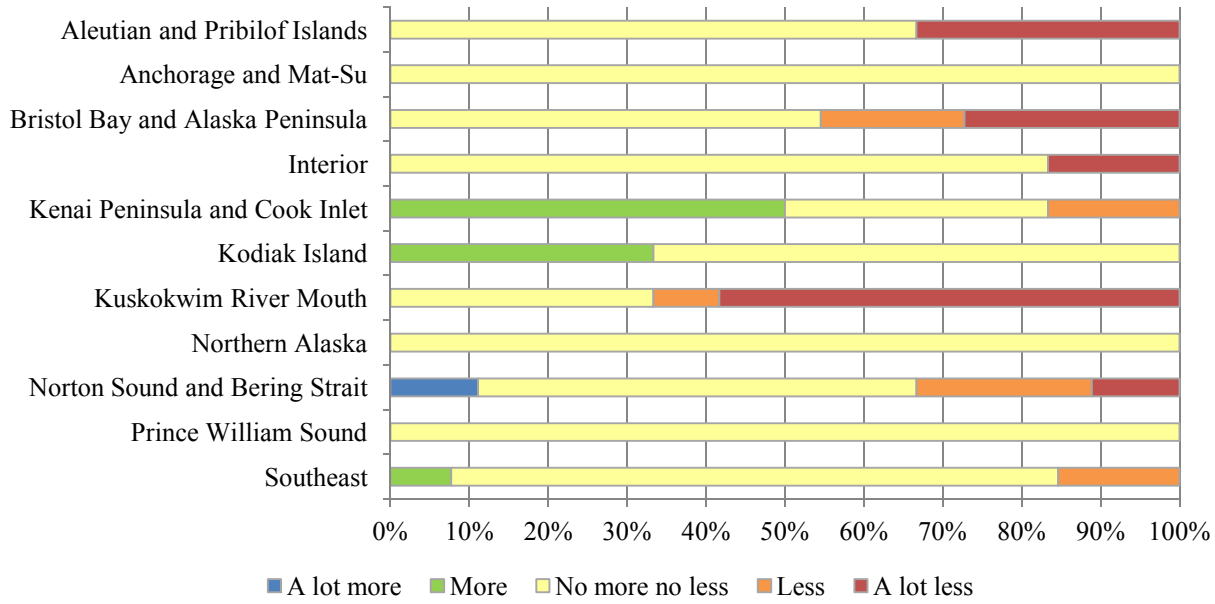
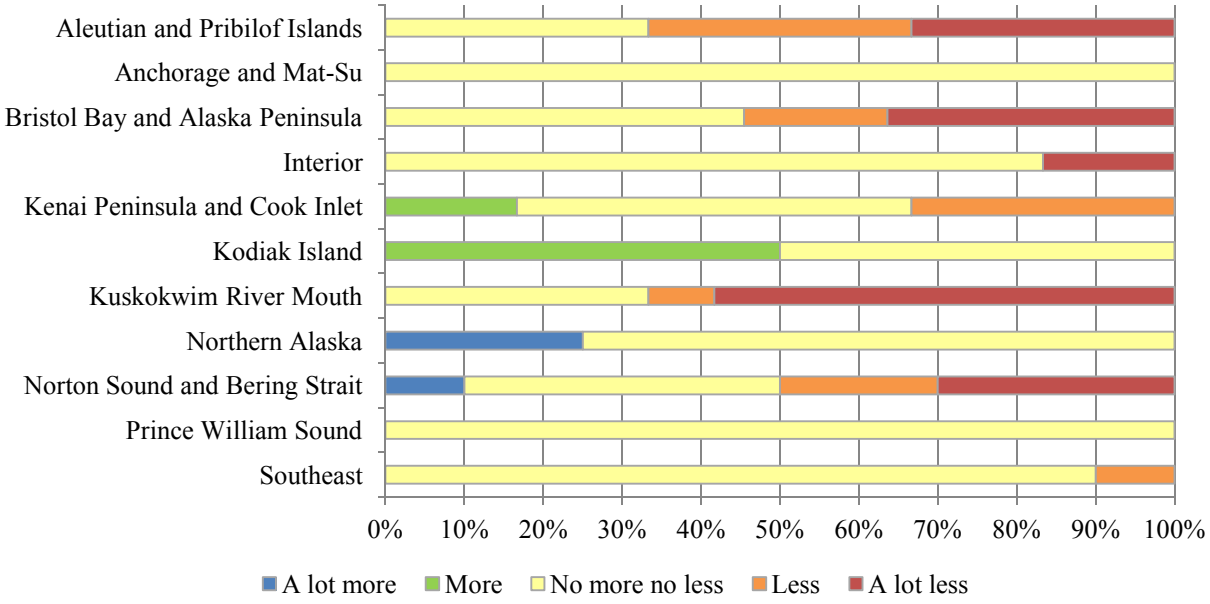


Figure 33. -- Cont'd.

G. Boats longer than 125 feet



MANAGEMENT PARTICIPATION

Respondents were given a list of potential avenues through which the community may participate in state and federal fisheries management and were asked to check the options that applied (Q25). For the Kuskokwim River Mouth grouping, 75% of respondent communities reported that they do not participate in the fisheries management process in Alaska (Fig. 34, Appendix Table A23). Additionally, 45% of Norton Sound and Bering Strait communities and 60% of Northern Alaska grouping communities indicated they do not participate. In contrast, 40% of Kodiak Island communities reported that they have a paid staff member that attends NPFMC and Board of Fish meetings. Of the Aleutian and Pribilof Islands grouping, 57% noted they had a representative that participates in NPFMC committees or advisory groups. Communities in the Interior grouping (58%) reported having a representative that sits on regional fisheries advisory and/or working groups run by the Alaska Department of Fish and Game. All groupings had at least one community that reported they participate in fisheries management in this way. Communities also had the opportunity to write in responses for how they participate in the fishery management process and the most common response was participation in the CDQ program.

Figure 34. -- Regional breakdown of responses to the following question: Does your community participate in the fisheries management process in Alaska? (Q25).

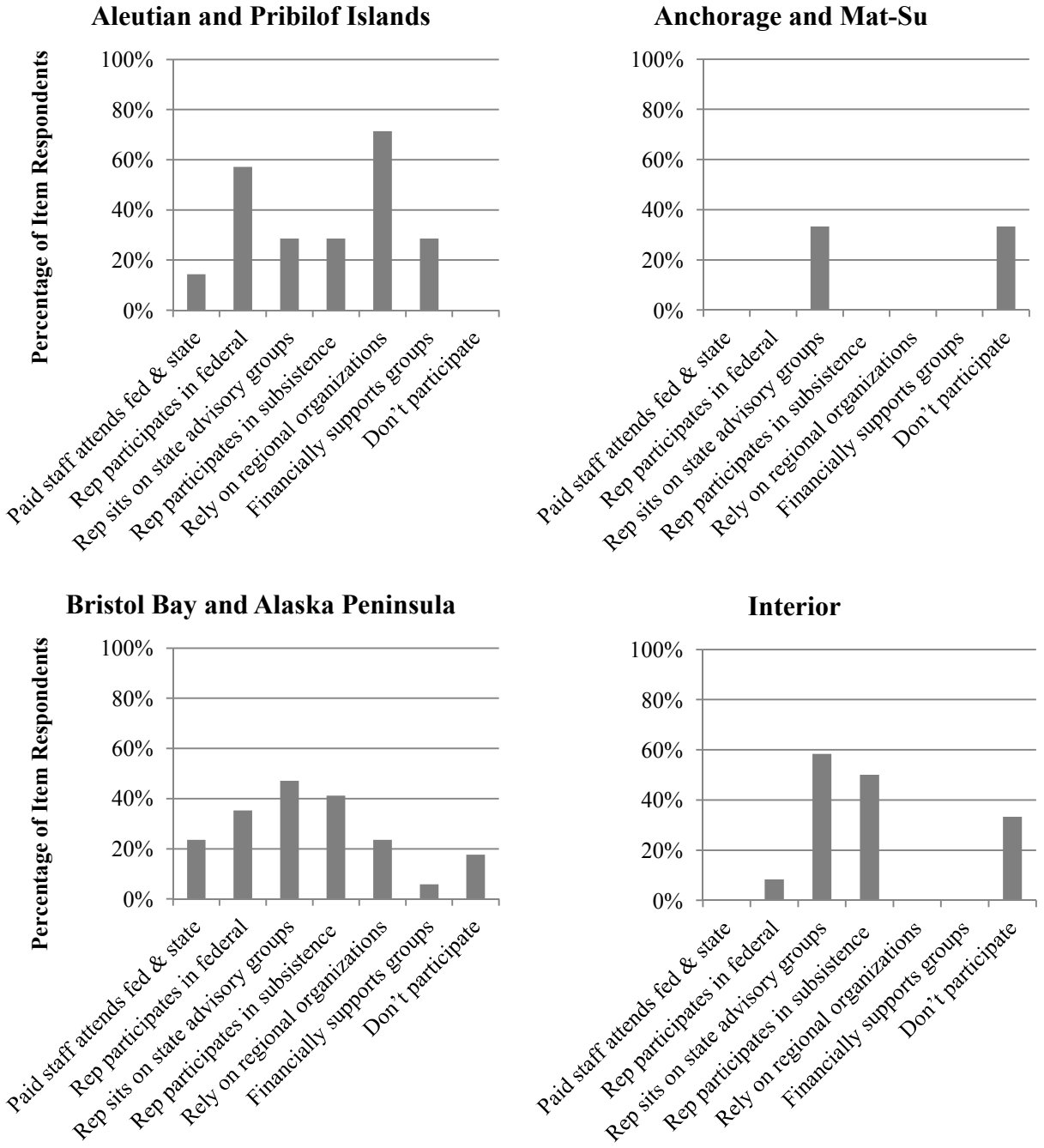


Figure 34. -- Cont'd.

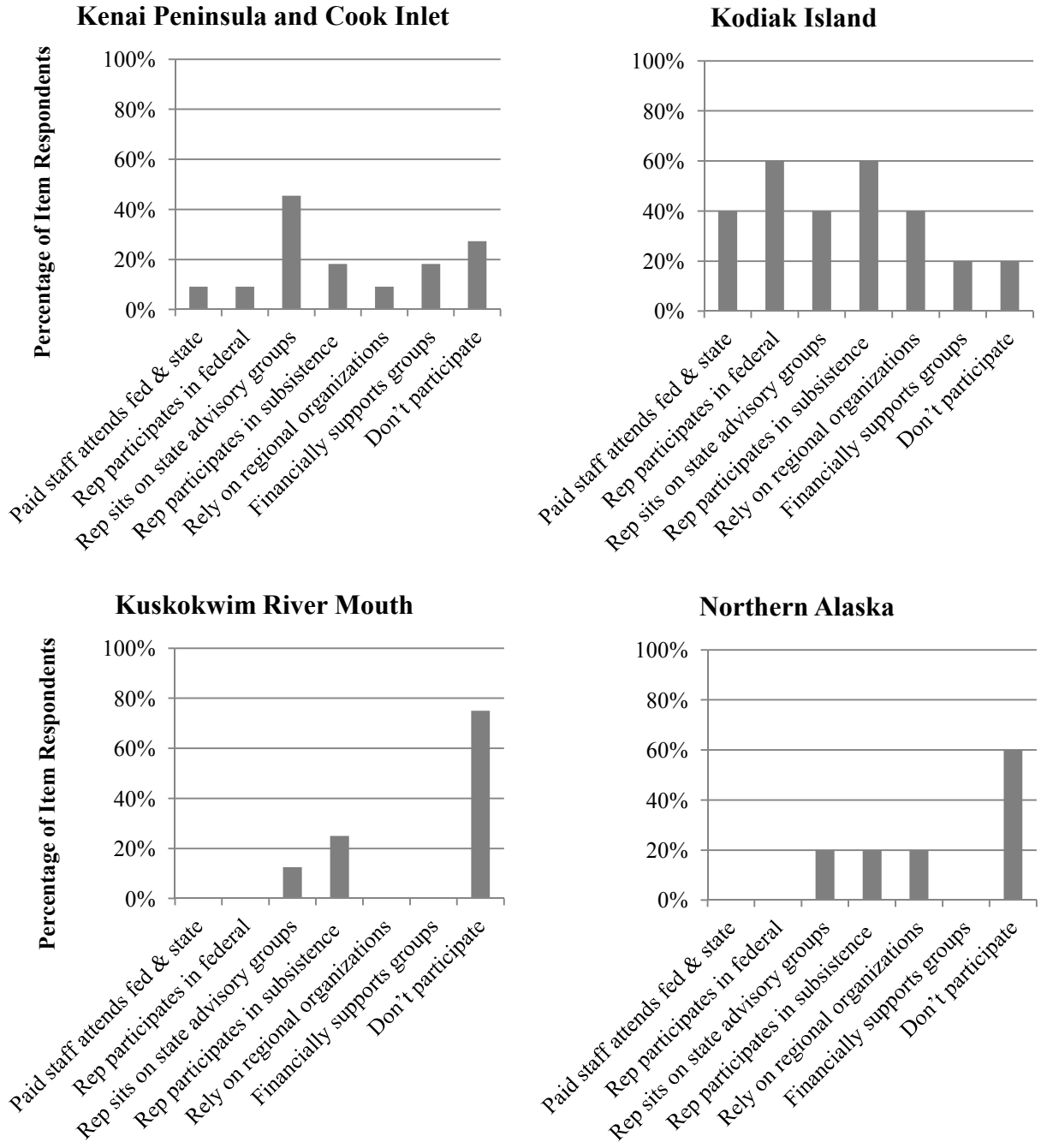
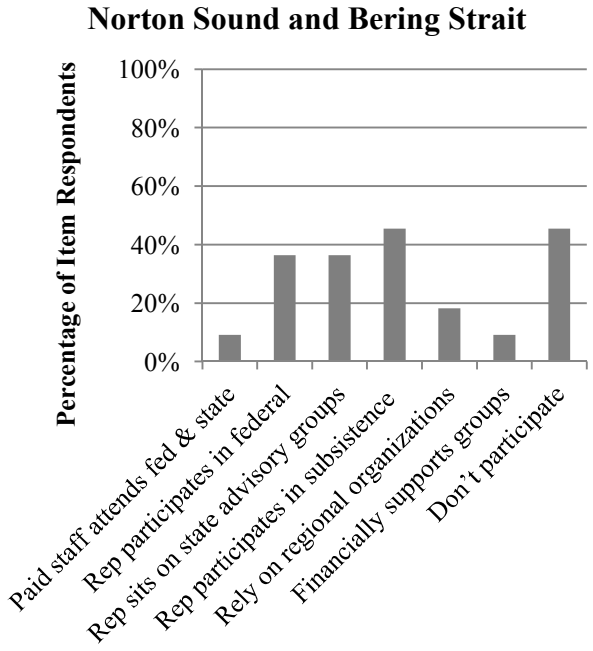
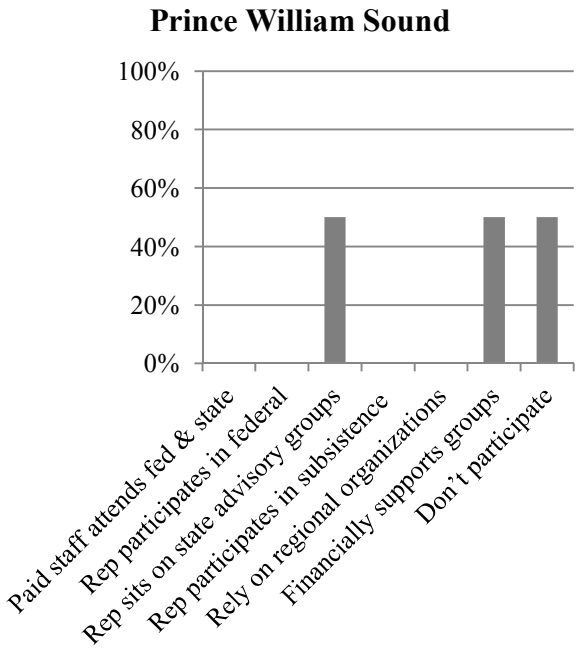
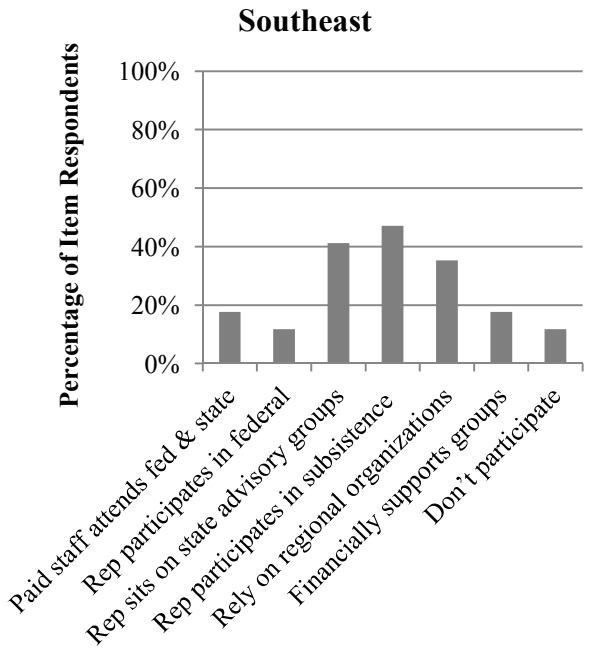


Figure 34. -- Cont'd.







FISHERIES MANAGEMENT ISSUES

Current challenges

Respondents were asked several open-ended questions on the survey, the first of which asked about current challenges facing the community's fishing economy (Q26). Responses were grouped into themes, and some themes were further parsed into sub-themes. Response distributions are shown in Table 24 with the regional break-down of responses shown in Table 25 and Figure 35. A total of 99 (86.8%) survey respondents provided a response to this question. Across all respondent communities, the greatest numbers of responses were about the availability of fish and status of stocks (29% of item respondents), fisheries support infrastructure and services (23%), and participation costs (25%).

For the regional groupings, 72% of the Kenai Peninsula and Cook Inlet grouping respondents had responses that fell under the availability of fish and status of stocks theme. For the Kodiak Island and Interior groupings, 40% of communities reported on this theme. Example responses include:

> "We have no commercial opportunities. We only subsistence fish. Most people have very little excess income to go through closures of that length or even multiple closures and still stay in camp. Running back and forth to camp cost more also. When there is better fishing local economies make more and so do local residents as they benefit financially + health wise as they get traditional food versus buying food in the store. Getting enough fish to last the winter months. Due to bad fish runs a lot of residents do not have enough fish to feed their families."

> "The biggest challenge is dropping fish populations. This past season King Salmon season was cancelled, this greatly effected [sic] the local economy. It is also a known fact that Silver Salmon fishing is not as good as it used to be and has not been getting any better. Drop in Salmon returns last several years."

Responses referencing challenges for communities associated with providing and maintaining fisheries support infrastructure and services were also common. For the Southeast regional grouping, 50% of respondent communities reported on this theme. Additionally, 33% of responses provided by Aleutian and Pribilof Islands communities and 35% of Bristol Bay and Alaska Peninsula grouping communities referenced this theme. Responses about the specific challenges included:

> "Capital to maintain equipment to remain competitive. Markets for fish. Retain fishing permits in the community and the region. Cost of living for resident fishers. Cost of energy."

> "Maintaining a buyer station for Salmon and Halibut. Long term security of fuel and ice infrastructure."

The challenge of the costs of participation in fisheries was also commonly cited by respondent communities. This theme was referenced in 64% of responses from

Southeast regional grouping communities and 40% of Kodiak Island communities. Specific participation costs ranged from fuel prices to quota prices in catch share fisheries. Respondents wrote:

> "Greatest challenges to the portion of Homer economy that is based on fishing: 1.) High cost for new entrants to get into halibut fisheries due to the Individual Fishing Quota (IFQ) system. 2.) like other sectors of the economy, the high cost of living/doing business in Alaska, and access to affordable healthcare. […]"

> "Challenges include uncertain markets affecting prices paid to fishermen, which in turn affects local businesses. Increased costs such as fuel continue to negatively influence fisherman's profits and community benefits."

> "I would say the aging of the fleet. Most of the current fishers have been in the fishery for over 30 years and it is very expensive for young people to get established as viable operations."

Table 24. -- Distribution of responses to the following question: In your opinion, what are the current challenges for the portion of your community's economy that is based on fishing? (Q26).

Response themes	N	% survey respondents	% item respondents
Access to fishing opportunities	12	10.53%	12.12%
Availability of fish and status of stocks	29	25.44%	29.29%
Bycatch	6	5.26%	6.06%
Community Development Quotas	5	4.39%	5.05%
Environmental concerns and regulations	5	4.39%	5.05%
Fisheries support infrastructure and services	23	20.18%	23.23%
Management and regulations	17	14.91%	17.17%
Nature of the industry	16	14.04%	16.16%
Limited jobs or economic opportunity	7	6.14%	7.07%
Seasonality, lack of economic stability	2	1.75%	2.02%
Seafood market uncertainty	10	8.77%	10.10%
Participation costs	25	21.93%	25.25%
Sport fishing	5	4.39%	5.05%
Subsistence fishing	8	7.02%	8.08%
Total item respondents	**99**	**86.84%**	**-**

Table 25. -- Regional breakdown of responses to the following question: In your opinion, what are the current challenges for the portion of your community's economy that is based on fishing? (Q26).

Response themes	Aleutian and Pribilof Islands	Anchorage and Mat-Su	Bristol Bay and Alaska Peninsula	Interior	Kenai Peninsula and Cook Inlet	Kodiak Island	Kusko-kwim River Mouth	Northern Alaska	Norton Sound and Bering Strait	Prince William Sound	Southeast
Access to fishing opportunities	0.00%	0.00%	5.88%	40.00%	18.18%	0.00%	25.00%	0.00%	0.00%	0.00%	7.14%
Availability of fish and status of stocks	16.67%	66.67%	17.65%	40.00%	72.73%	40.00%	37.50%	0.00%	20.00%	0.00%	7.14%
Bycatch	0.00%	0.00%	5.88%	0.00%	9.09%	0.00%	18.75%	0.00%	10.00%	0.00%	0.00%
Community Development Quotas	0.00%	0.00%	5.88%	0.00%	0.00%	0.00%	12.50%	0.00%	20.00%	0.00%	0.00%
Environmental concerns and regulations	0.00%	0.00%	5.88%	0.00%	0.00%	0.00%	0.00%	20.00%	0.00%	50.00%	14.29%
Fisheries support infrastructure and services	33.33%	0.00%	35.29%	10.00%	9.09%	20.00%	18.75%	20.00%	10.00%	0.00%	50.00%
Management and regulations	33.33%	0.00%	17.65%	30.00%	18.18%	40.00%	12.50%	0.00%	0.00%	0.00%	21.43%
Nature of the industry	33.33%	0.00%	47.06%	10.00%	18.18%	20.00%	6.25%	0.00%	0.00%	0.00%	7.14%
Limited jobs or economic opportunity	0.00%	0.00%	0.00%	20.00%	18.18%	20.00%	6.25%	0.00%	10.00%	0.00%	0.00%
Seasonality, lack of economic stability	0.00%	0.00%	11.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Seafood market	16.67%	0.00%	35.29%	0.00%	0.00%	20.00%	6.25%	0.00%	0.00%	0.00%	7.14%
Participation costs	33.33%	0.00%	29.41%	10.00%	9.09%	40.00%	12.50%	20.00%	10.00%	50.00%	64.29%
Sport fishing	0.00%	33.33%	5.88%	10.00%	18.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Subsistence fishing	0.00%	0.00%	0.00%	30.00%	0.00%	0.00%	12.50%	20.00%	20.00%	0.00%	0.00%

Figure 35. -- Regional breakdown of responses to the following question: In your opinion, what are the current challenges for the portion of your community's economy that is based on fishing? (Q26).

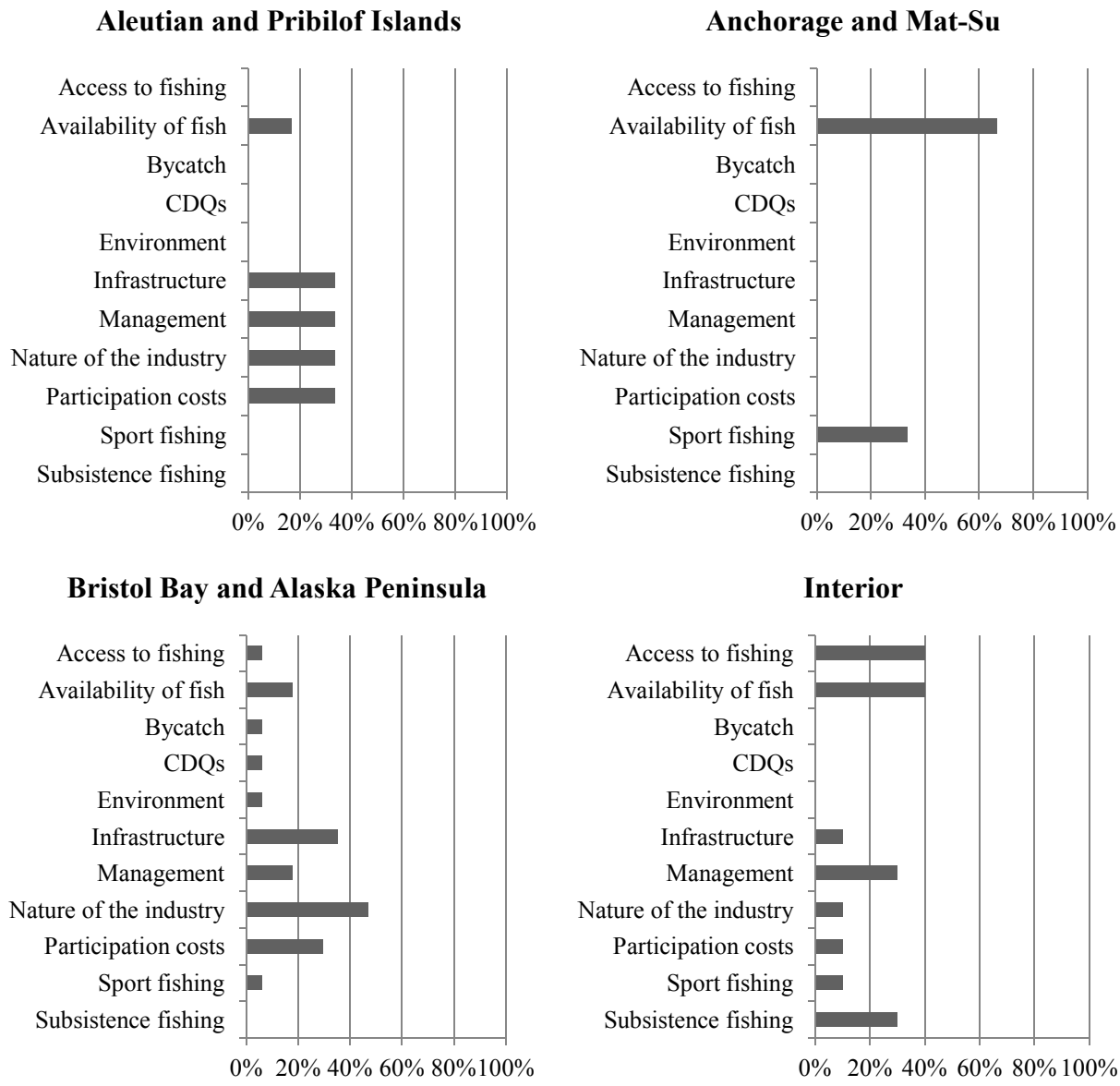
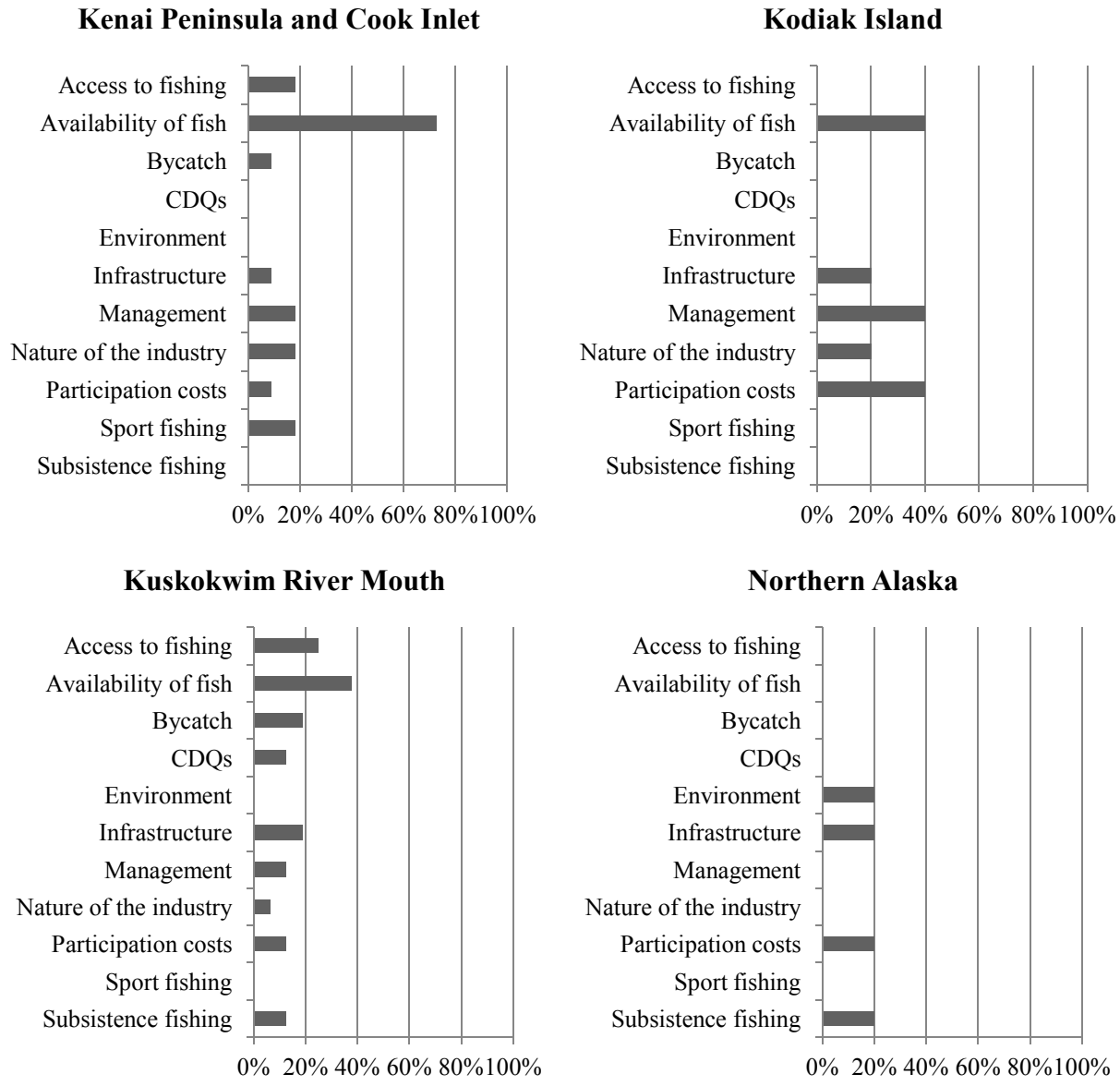


Figure 35. -- Cont'd.



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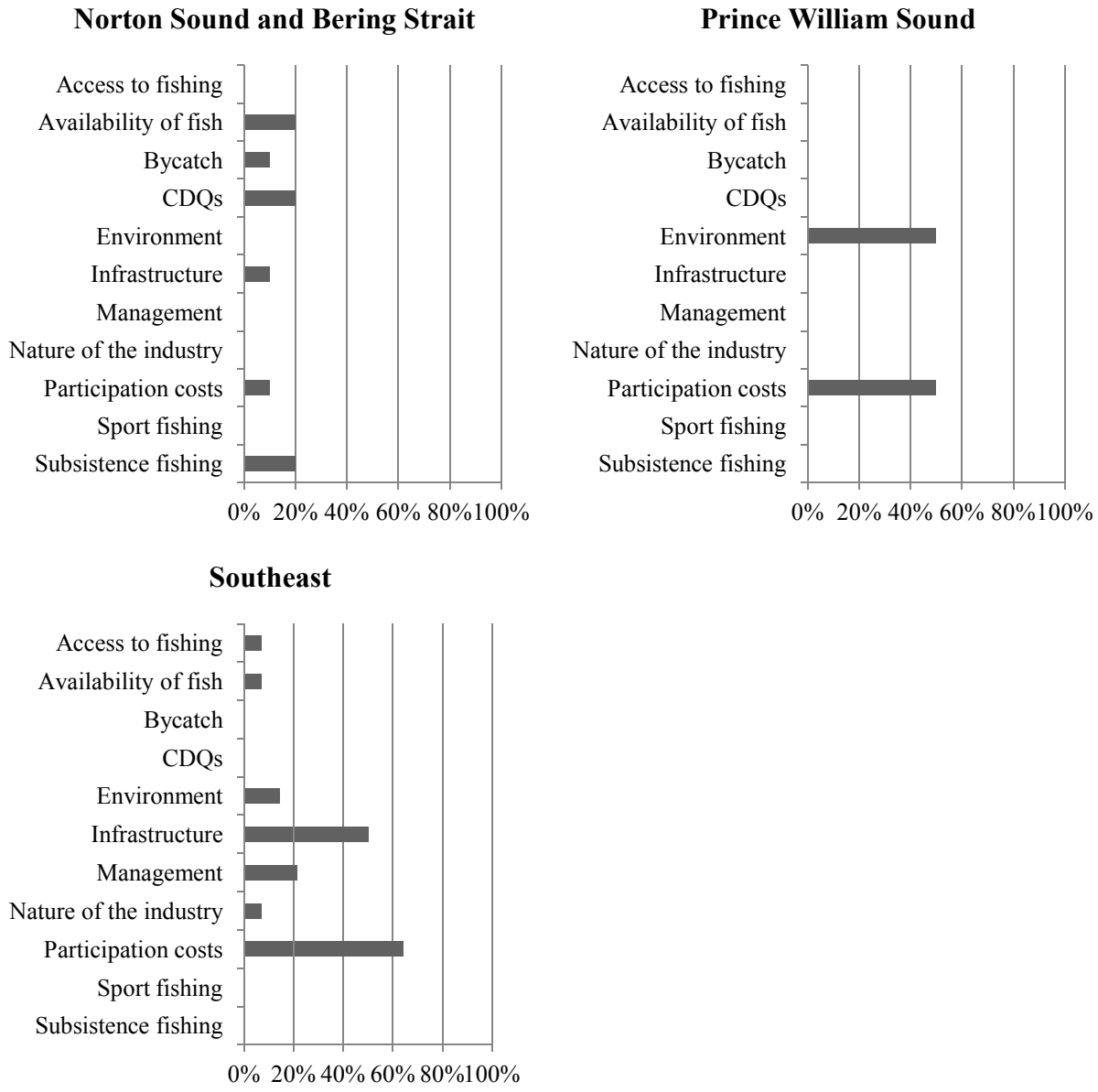


Effects of fisheries policies

The second open-ended question posed to survey respondents asked communities to describe any observed effects of fisheries policies or management actions on the community (Q27). A total of 88 respondents included a response to this question (77% of survey respondents). Responses were grouped into 8 themes based on the type of fisheries policy or management action that produced observed effects in the community. Policy or management actions that dealt with access to fishing opportunities were cited by 46% of item respondents as having had observed effects on the community (Table 26). Another common policy or action

dealt with the availability of fish (37% of item respondents). Additionally, catch shares were cited by respondents (11%).

Management actions involving access to fishing opportunities was cited by 66% of Aleutian and Pribilof Islands regional grouping respondent communities, 55% of Interior grouping communities, and 75% of Kodiak Island communities (Table 27, Fig. 36). Sample responses are included below:

> "One of the few regulatory policy/management decisions that were positive for Adak was the State of Alaska's decision to open State water Pacific Cod fishery concurrently with the federal season. This allowed a reasonable amount of fish to be processed at Icicle Seafood's facility in Adak that provided jobs and commercial activity that would have not existed if Adak had relied solely on the federal cod fishery during the 2012 federal Cod A season."

> "Being on the upper portion of the Yukon River our district was split into 3 sections and now we face 3 times as many closures compared to other districts. We also have no commercial opportunities. Our total subsistence closure days consisted of 30 plus days with 36 hour opener in the middle. Not enough fishing time for fishers to provide for their families."

> "In 2012 the complete closure on most of the East side Cook Inlet Setnetters/and drift fleet was devastating. Ninilchik has made many strides in advancing subsistence proposals and opportunities. This has been a positive trend in opportunity for the community."

Management actions concerning the availability of fish was a theme cited by 60% of Kenai Peninsula and Cook Inlet respondents and 46% of Southeast regional grouping communities. Responses included:

> "Big negative impacts to dive fisheries from sea otter predation, and unwillingness of feds to work with region to craft a solution."

> "Our Halibut and Salmon stocks have declined considerably over the last five years more slowly than before that, our residents have to go much further and work much harder to subsistence fish."

Effects of catch shares were cited by several respondent communities as a response to management actions that produced observed effects in the community. Of the Aleutian and Pribilof Islands regional grouping, 50% of respondent communities mentioned catch shares. Additionally, 38% of Southeast communities reported on this theme. Some of the responses included:

> "The reduction of IFQ quotas and increased regulations requiring observers on smaller vessels have created a hardship for the small fishing vessels that typically operate out of Port Alexander [...]"

“Fisher rationalization programs such as halibut/sablefish IFQs and BS/AI crab rationalization IFQs/IPQ's have negatively affected Kodiak in a number of ways, such as consolidation of fishing fleets, movement of capital out of the community, reduction of landings in the community and reduction of employment opportunities.”

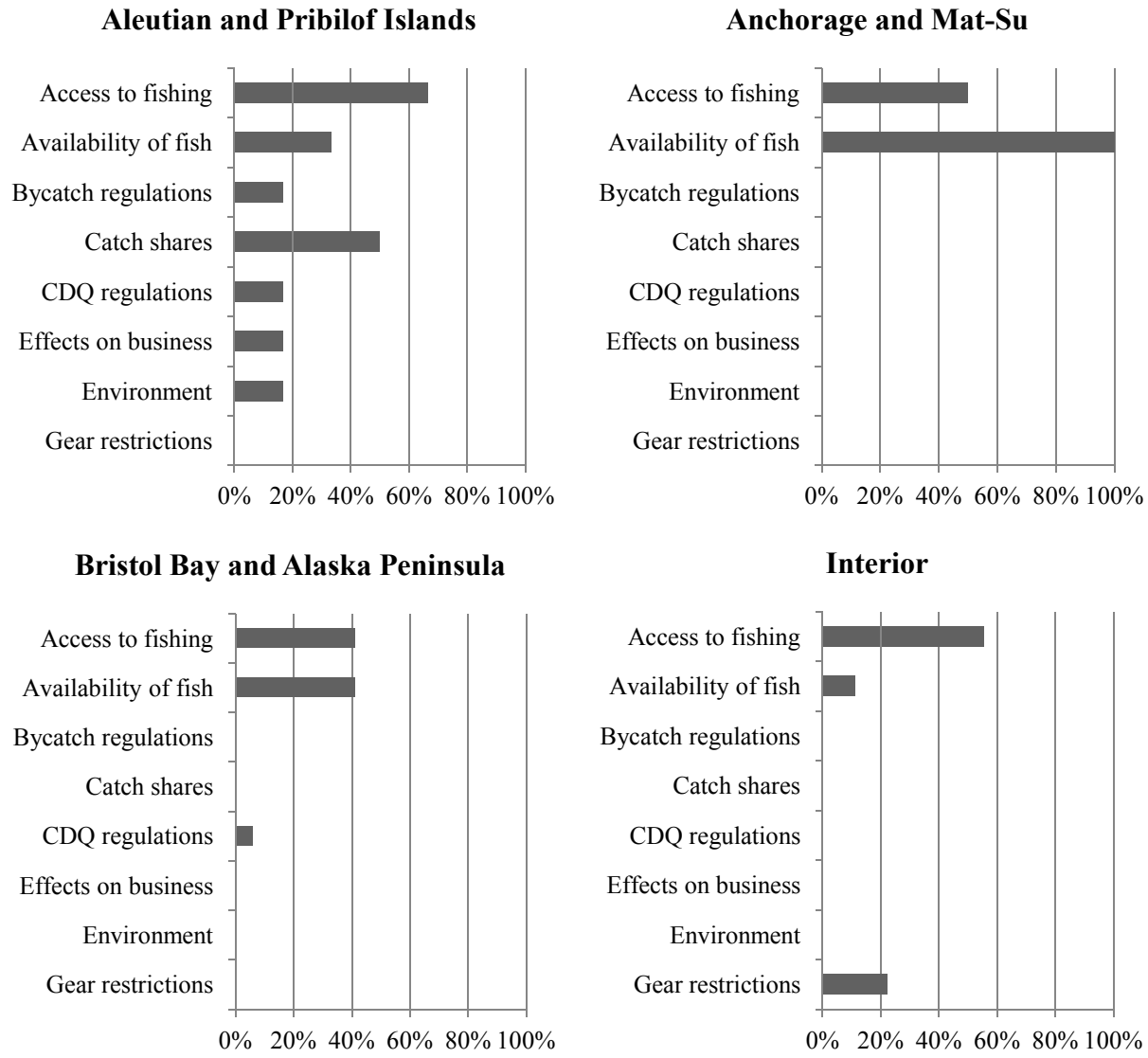
Table 26. -- Distribution of responses to the following question: Please describe the effects you've seen of fisheries policies or management actions, if any, on your community. (Q27)

Response themes	N	% survey respondents	% item respondents
Access to fishing opportunities	41	35.96%	46.59%
Availability of fish	33	28.95%	37.50%
Bycatch regulations	3	2.63%	3.41%
Catch shares	10	8.77%	11.36%
Community Development Quota regulations	6	5.26%	6.82%
Effects on business	5	4.39%	5.68%
Environment and environmental regulations	2	1.75%	2.27%
Gear regulations	6	5.26%	6.82%
Total item respondents	**88**	**77.19%**	**-**

Table 27. -- Regional breakdown of responses to the following question: Please describe the effects you've seen of fisheries policies or management actions, if any, on your community. (Q27)

Response themes	Aleutian and Pribilof Islands	Anchorage and Mat-Su	Bristol Bay and Alaska Peninsula	Interior	Kenai Peninsula and Cook Inlet	Kodiak Island	Kuskokwim River Mouth	Norton Sound and Bering Strait	Prince William Sound	Southeast
Access to fishing opportunities	66.67%	50.00%	41.18%	55.56%	50.00%	75.00%	50.00%	30.00%	100.00%	30.77%
Availability of fish	33.33%	100.00%	41.18%	11.11%	60.00%	50.00%	6.25%	50.00%	100.00%	46.15%
Bycatch regulations	16.67%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	10.00%	0.00%	0.00%
Catch shares	50.00%	0.00%	0.00%	0.00%	10.00%	25.00%	0.00%	0.00%	0.00%	38.46%
Community Development Quotas regulations	16.67%	0.00%	5.88%	0.00%	0.00%	0.00%	18.75%	10.00%	0.00%	0.00%
Effects on business	16.67%	0.00%	0.00%	0.00%	0.00%	25.00%	6.25%	0.00%	0.00%	15.38%
Environment and environmental regulations	16.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.69%
Gear regulations	0.00%	0.00%	0.00%	22.22%	0.00%	0.00%	18.75%	10.00%	0.00%	0.00%
Item Respondents	6	2	17	9	10	4	16	10	1	13

Figure 36. -- Regional breakdown of responses to the following question: Please describe the effects you've seen of fisheries policies or management actions, if any, on your community. (Q27)



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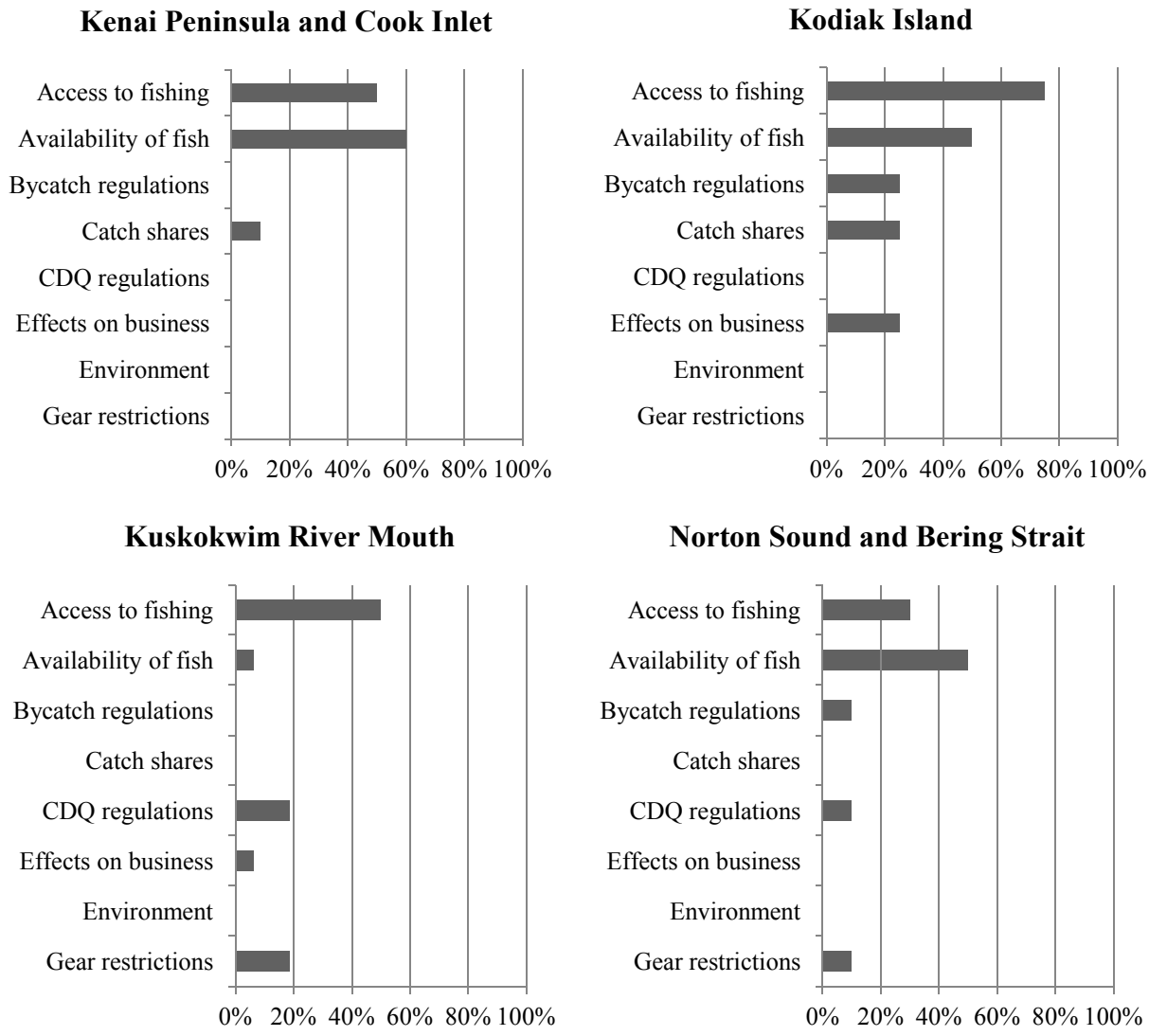

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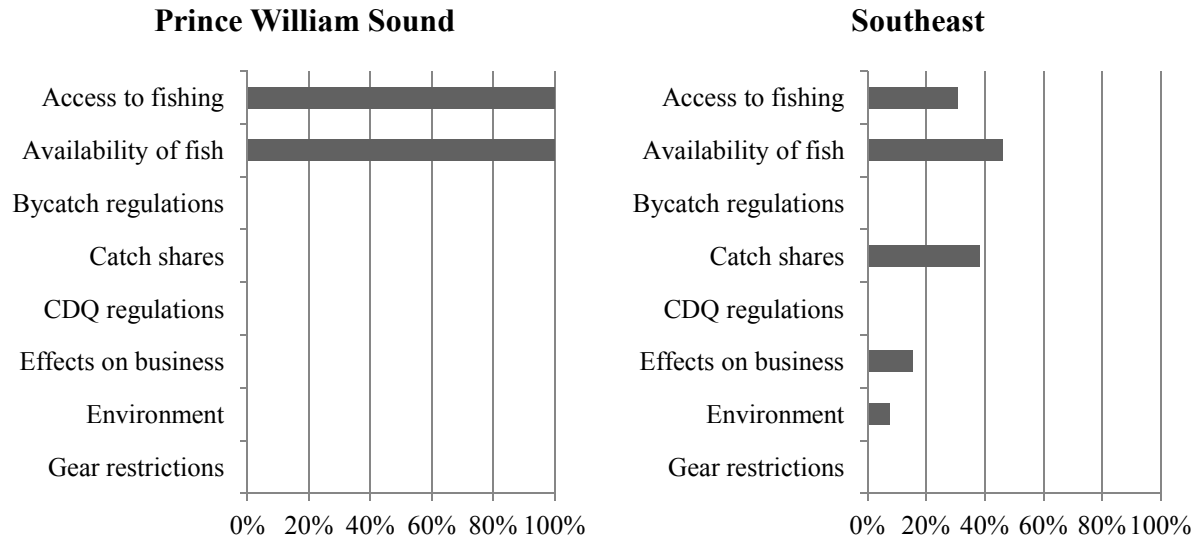


Past and current management actions affecting communities

Communities were asked to describe a past or current fisheries policy or management action that affected their community the most (Q28). The responses were organized into categories of management actions, shown below in Table 28. The most cited type of management decision was fishery season openings and closures (21% of item respondents). Management actions including limited entry and catch shares were cited by 18% of communities. Communities that reported on season openings and closures included 44% of Kenai Peninsula and Cook Inlet and 46% of Kuskokwim River Mouth regional grouping communities (Table 29, Fig. 37). Community responses included:

> "State waters management of Cook Inlet Commercial Fisheries/Alaska Board of Fisheries regulations impacting commercial salmon fishermen in Cook Inlet. Numerous Homer area residents are impacted by decreased fishing time, and decreased fishing area in the Cook Inlet Commercial Salmon fishery due to the highly-charged political environment surrounding the use of the Cook Inlet salmon run by Sport fishermen, Personal Use Fishermen, and Commercial Fishermen."

> "Commercial fishing closures are affecting the residents economically. The subsistence closures on Chinook salmon are affecting the residents. Chinook salmon is the main diet of the residents."

Communities that cited limited entry decisions or catch share management as specific policies that affected their community included 75% of Kodiak Island communities, 33% of Aleutian and Pribilof Islands communities, and 35% of Southeast regional grouping communities. Sample responses are below:

"IFQ implementation and limitation of the commercial halibut fishery. This policy created an owner class in the commercial halibut fishery based on vessel catch. The money essentially guaranteed to vessel owners in the halibut fishery allowed many vessel owners with large quota amounts to essentially retire from fishing. Less job opportunities for local residents in commercial fishing was the direct result of IFQ implementation. The program created a steady spring to fall supply of halibut to the market, opening up new, fresh markets for halibut which has led to an increase in the market price of the resource. This in turn leads to an increase in the price of halibut quota, which creates a barrier to new entrants into the fishery."

"In 1968 the state begin managing Kasilof River Sockeye escapements with sonar counters. This led to consistently achieving escapement goals. The same is true for the Kenai River. Consequently, even though Cook inlet commercial fishing for sockeye begin in 1882 and used traps which were a superior method of harvest until 1958, the top 21 commercial sockeye harvest have all been after 1981. Introduction of limited entry in the mid 1970's and elimination of high seas drift net fishing in 1990 have all contributed to better returns. These things have sustained commercial sockeye fisheries in the face of a steady erosion in allocation to sport fisheries & P.U. fisheries."

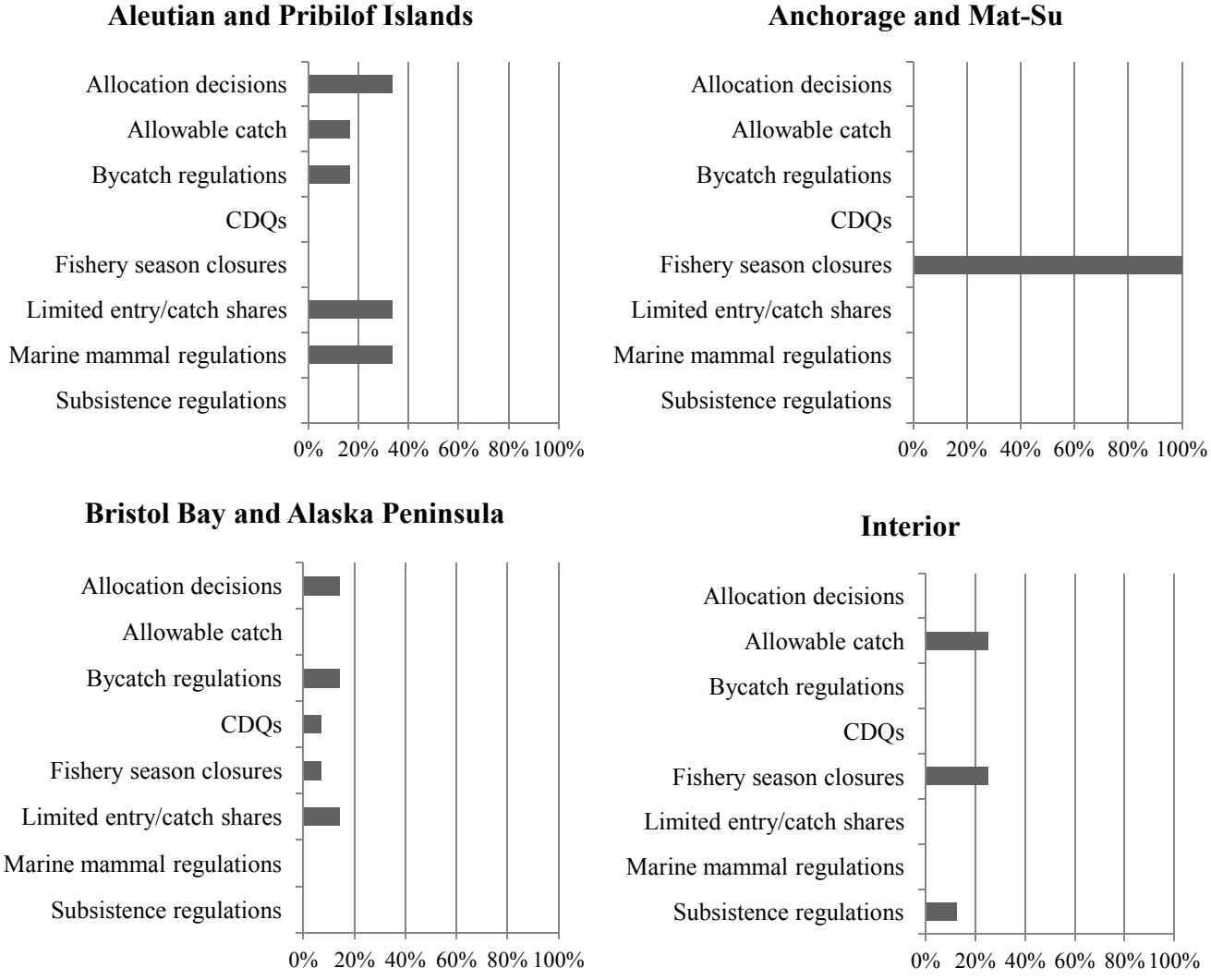
Table 28. -- Distribution of responses to the following question: Which past or current fisheries policy or management action affected your community the most? (Q28).

Response themes	N	% survey respondents	% item respondents
Allocation decisions	10	8.77%	12.35%
Allowable catch decisions	9	7.89%	11.11%
Bycatch regulations	9	7.89%	11.11%
Community Development Quotas	4	3.51%	4.94%
Fishery season openings and closures	17	14.91%	20.99%
Limited entry and catch shares	15	13.16%	18.52%
Marine mammal regulations	4	3.51%	4.94%
Subsistence regulations	9	7.89%	11.11%
Total item respondents	**81**	**71.05%**	-

Table 29. -- Regional breakdown of responses to the following question: Which past or current fisheries policy or management action affected your community the most? (Q28).

Response themes	Aleutian and Pribilof Islands	Anchorage and Mat-Su	Bristol Bay and Alaska Peninsula	Interior	Kenai Peninsula and Cook Inlet	Kodiak Island	Kusko-kwim River Mouth	Norton Sound and Bering Strait	Prince William Sound	Southeast
Allocation decisions	33.33%	0.00%	14.29%	0.00%	22.22%	0.00%	0.00%	10.00%	50.00%	14.29%
Allowable catch decisions	16.67%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%	10.00%	0.00%	35.71%
Bycatch regulations	16.67%	0.00%	14.29%	0.00%	11.11%	25.00%	7.69%	30.00%	0.00%	0.00%
Community Development Quotas	0.00%	0.00%	7.14%	0.00%	0.00%	0.00%	15.38%	10.00%	0.00%	0.00%
Fishery season openings and closures	0.00%	100.00%	7.14%	25.00%	44.44%	0.00%	46.15%	0.00%	0.00%	21.43%
Limited entry and catch shares	33.33%	0.00%	14.29%	0.00%	33.33%	75.00%	0.00%	0.00%	0.00%	35.71%
Marine mammal regulations	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	14.29%
Subsistence regulations	0.00%	0.00%	0.00%	12.50%	11.11%	0.00%	38.46%	10.00%	50.00%	0.00%
Item respondents	**6**	**1**	**14**	**8**	**9**	**4**	**13**	**10**	**2**	**14**

Figure 37. -- Regional breakdown of responses to the following question: Which past or current fisheries policy or management action affected your community the most? (Q28).



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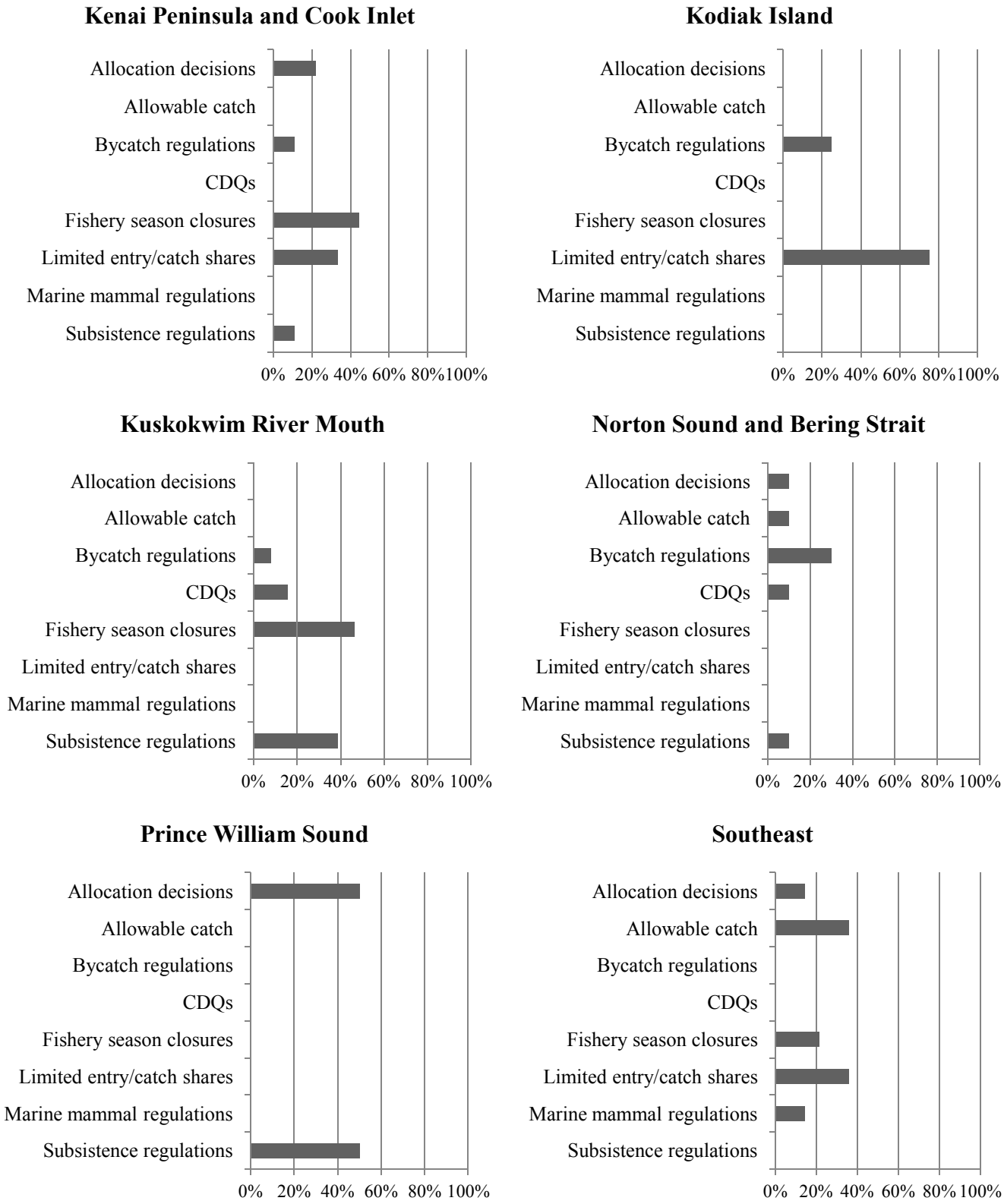


Future fisheries management issues

The final open-ended question posed to respondents asked what potential future fisheries management action concerned the community the most (Q29). Allocation and other quota decisions were cited by 35% of the total item respondents (Table 30). Another 15% of item respondents reported answers that included concerns about subsistence regulations. Allocation and quota decisions were reported on by communities in every grouping but Kodiak Island (Table 31, Fig. 39). A full 71% of Kenai Peninsula and Cook Inlet grouping communities reported on this theme. Responses included:

> "BoF [Board of Fish] proposal 243 - adding herring to the State's forage fish management plan. + Future proposals that would reduce the risk of overexploitation of this ecological and cultural keystone species."

> "Possible expansion of commercial chum (summer + fall) salmon fishing to alleviate the non-existent chinook salmon fishery. Opening more summer chum opportunity will only result in more chinook by catch. Increasing opportunity of fall chum commercial fishery will only make it more difficult for upper river fishermen to meet their customary traditional needs. Again, the closures on fishing are affecting the ability for fishers to provide enough fish for consumption throughout the winter months."

> "Another potentially disruptive policy/management issue we see coming down the road is the BSAI (combined) Pacific Cod split into a separate BS and AI fishery. It is our understanding that the current trawl surveys show that AI portion of the biomass currently stands at 7% and BS at 93%. However historically the AI cod catch has been well above the 7% that is being discussed as a starting point for the split. This would lower drastically the available cod to fish in the Aleutian Island. When combined with the potential of a facility opening in Atka through the economic development efforts of the Aleutian Pribilof Island Development Association (APICDA), CDQ group, the availability of fish for Adak declines further. It is important to note that Adak is dependent on BOTH the Amendment 80 fleet AND the shore side processing facility in Adak. It is hard to imagine Adak could survive without both. Large fuel sales to Amendment 80 fleet help in keeping fuel costs low in Adak which in turn allows for lower fuel costs to the community and to the shore side facility. Without the shore side facility and their employees, schools could shut down, power generation fixed costs would have to be shared by a smaller number of people, and essential air service provided by Alaska Airlines could be jeopardized. This in turn would drive up costs for operating the large fuel facility in Adak and make fuel prices unattractive to the Amendment 80 fleet. The very murky crystal ball shows the possibility of the following scenario. Basic assumptions of scenario: BSAI cod is split into BS and AI separate quotas. AI region gets 7% of the current BSAI cod TAC as the trawl surveys and talks at NPFMC suggest it might."

Subsistence regulations were also of significant concern to many respondent communities. For the Interior and Kuskokwim River Mouth regional groupings, 33% of communities mentioned subsistence regulations in their response to this question. Responses included:

> "Uneducated policies of restricting fishing opportunities for fish food gathering of Alaskan native fishermen who have and still are depending on dried fish supply for cold winter days and months."

> "If chinook returns continue to decline. Subsistence harvest restrictions will have the most negative impact the community has never experienced before. […]"

Table 30. -- Distribution of responses to the following question: What, if any, potential future fisheries policy or management action concerns your community the most? (Q29).

Response themes	N	% survey respondents	% item respondents
Allocation and quota decisions	25	21.93%	35.21%
Bycatch	9	7.89%	12.68%
Catch shares	7	6.14%	9.86%
Community Development Quotas	4	3.51%	5.63%
Environmental issues	5	4.39%	7.04%
Endangered Species Act	1	0.88%	1.41%
Fisheries closure	1	0.88%	1.41%
Gear changes	3	2.63%	4.23%
Market changes	2	1.75%	2.82%
Regulation	2	1.75%	2.82%
Sea otter management	1	0.88%	1.41%
Sport fishing regulations	6	5.26%	8.45%
Subsistence regulations	11	9.65%	15.49%
Vessel restrictions	2	1.75%	2.82%
Total item respondents	**71**	**62.28%**	**-**

Table 31. -- Regional breakdown of responses to the following question: What, if any, potential future fisheries policy or management action concerns your community the most? (Q29).

Response themes	Aleutian and Pribilof Islands	Bristol Bay and Alaska Peninsula	Interior	Kenai Peninsula and Cook Inlet	Kodiak Island	Kuskokwim River Mouth	Norton Sound and Bering Strait	Prince William Sound	Southeast
Allocation and quota decisions	33.33%	21.43%	33.33%	71.43%	0.00%	41.67%	22.22%	50.00%	41.67%
Bycatch	16.67%	14.29%	16.67%	28.57%	0.00%	16.67%	11.11%	0.00%	0.00%
Catch shares	33.33%	7.14%	0.00%	14.29%	66.67%	0.00%	0.00%	0.00%	8.33%
Community Development Quotas	0.00%	7.14%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%
Environmental issues	16.67%	14.29%	0.00%	0.00%	0.00%	8.33%	11.11%	0.00%	0.00%
Endangered Species Act	16.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Fisheries closure	0.00%	7.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gear changes	0.00%	7.14%	0.00%	0.00%	0.00%	0.00%	22.22%	0.00%	0.00%
Market changes	0.00%	7.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8.33%
Regulation	0.00%	0.00%	16.67%	14.29%	0.00%	0.00%	0.00%	0.00%	0.00%
Sea otter management	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8.33%
Sport fishing regulations	0.00%	7.14%	16.67%	42.86%	0.00%	0.00%	0.00%	0.00%	8.33%
Subsistence regulations	0.00%	0.00%	33.33%	14.29%	0.00%	33.33%	22.22%	50.00%	8.33%
Vessel restrictions	0.00%	7.14%	0.00%	0.00%	0.00%	8.33%	0.00%	0.00%	0.00%
Item Respondents	**6**	**14**	**6**	**7**	**3**	**12**	**9**	**2**	**12**

Figure 38. -- Regional breakdown of responses to the following question: What, if any, potential future fisheries policy or management action concerns your community the most? (Q29).

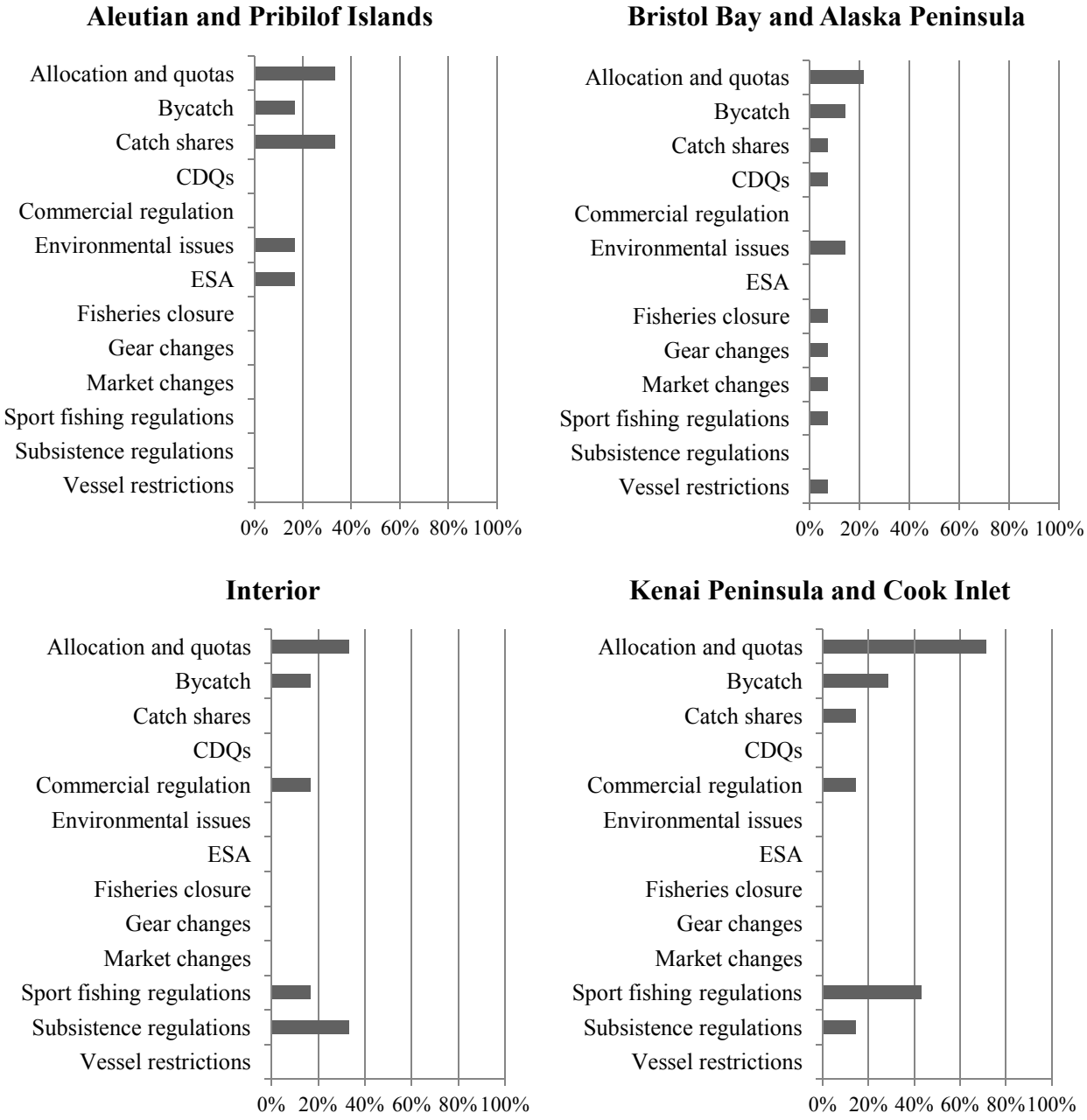


Figure 38. -- Cont'd.

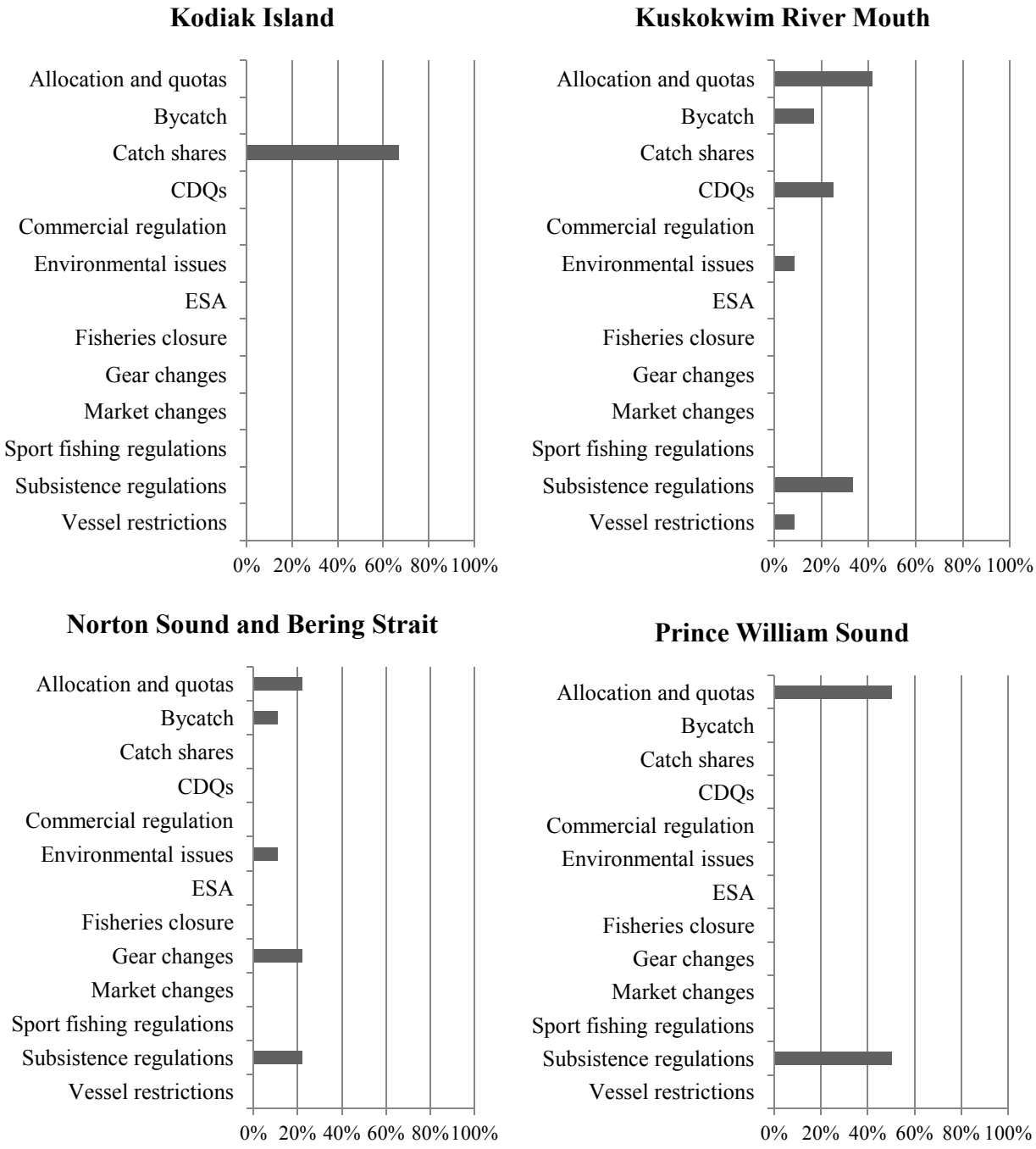
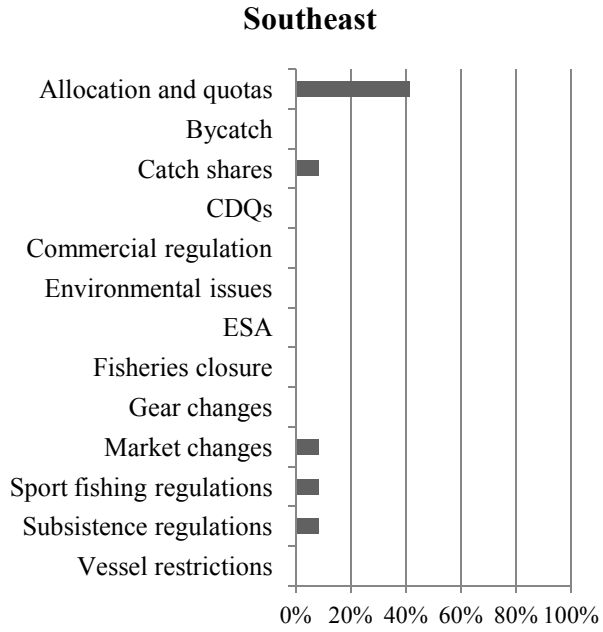


Figure 38. -- Cont'd.



Discussion and Conclusion

This report detailed the development, implementation, and results of the second year of the Alaska Community Survey data collection. Surveys were sent to communities in Alaska that met specific criteria for participation and engagement in commercial, recreational, and/or subsistence fisheries. The survey was implemented with the goal of addressing an existing informational void by collecting community-level data that can be utilized for numerous fisheries management purposes. The overall response rate for the survey was 59.1%. A non-response analysis was done to reveal any potential bias in the survey results based on characteristics of the communities that did and did not respond to the survey. Twenty-one variables were analyzed, of which response to the first year of survey implementation and number of vessels homeported in the community returned significant values for the relationship between the characteristic and survey response.

The results of the second year of survey implementation are presented here as stand-alone data. However, given that communities appear to be more likely to participate in the second year of the survey if they participated in the first year of implementation, the results could be slightly biased towards communities that are more engaged in fishing than others. Given this, it is important to note that any comparison between the first and second years of data collection would need to take this into account. Additionally, subsequent years of data collection should take measures to address the representativeness of the sample compared to the communities contacted. In general, the data presented in this report have not been adjusted for potential sources of bias.

The data summary presented here indicates that among Alaskan communities pre-selected based on measures of participation in fisheries, there are likely both commonalities and substantial differences that are important in regards to how communities can support and are supported by fishing activity. The survey data was analyzed by post-hoc assignment of communities into 11 different regional groupings with the purpose of approximating perceived regional identities.

Most respondent communities reported seasonal fluctuations in their population based on influxes of seasonal workers and non-residents that correspond in varying degrees to fishing activity. Overall, all regional groupings include a majority of communities that reported having seasonal workers between May and September, highlighting summer-time jumps in population statewide. An increase in summertime population may strain a community's infrastructure if it is not adapted to the fluctuations, or conversely, may bring outside cash into the community during those months. In different regions of the state, the fluctuation was more closely linked with fishing activity. Respondent communities on Kodiak Island or in the Kenai Peninsula and Cook Inlet and Southeast regions reported a closer connection between seasonal workers and fishing activity.

The survey also asked about community infrastructure for vessels and fisheries activity. Communities were pre-selected for the survey based on metrics of fisheries engagement, but many communities reported that they had no public moorage available. Some communities that participate in fisheries that predominately are prosecuted by skiff are believed to use beaches for moorage. Other communities may have private moorage; for example, moorage associated with a shore-side seafood processor. Or some communities may have residents that engage in fisheries based out of other communities. This highlights the different infrastructure characterizations that

a community engaged in fishing might have. A community that has public moorage that is utilized by residents of nearby towns might see ripple effects across a region if there is an issue with funding for infrastructure maintenance, for example. Many respondent communities reported making investments to support or draw further fishery activity into the community with the construction of infrastructure projects such as improved dock space and haul-out facilities.

Many respondent communities reported they received revenue from moorage, with communities in the Kenai Peninsula and Cook Inlet grouping reporting, on average, the highest value. A few communities reported they also had local fishing-related fee programs that were specifically designed to generate funding for public services and infrastructure. Respondent communities reported revenue from fishing-related taxes was used to support many community needs beyond just fishery infrastructure. Roads were the most commonly cited public service funded by fisheries-related revenue; some communities reported medical services and police and fire departments as funded by fisheries revenue as well. This finding suggests Alaskan communities derive funding for many needs in their communities from fisheries activity, and potential changes that impact the level of revenue a community receives from fisheries can have far-reaching consequences for the community as a whole.

A major finding of this survey was the existence of regional hubs of fishery support businesses. There were a handful of respondent communities that were named statewide as hubs that people in other communities went to for fishery support businesses that were not available in their own community. Many of the statewide hubs were, as expected, the larger communities in the state (e.g., Anchorage, Homer, Seward, and Kodiak). The results suggest that the assessment of fisheries management impacts on communities needs to be done holistically as communities are rarely self-sufficient in having all of the infrastructure and support businesses fishermen may need. Impacts may not occur in isolation within the bounds of a community but rather spread across other communities that are connected through fisheries-related activity.

The sociograms of fishery support business hubs in the state also suggest patterns of revenue flow due to the expenditures fishermen might make in a community other than their home community for fishing-related expenses, including gear and services. There is likely fluidity in where the revenue fishermen receive ends up across the state. It is important to note, though, that the regional groupings are a post-hoc data attribute chosen to help illustrate likely regional affiliation between communities. It is possible that for certain communities on the geographic edge of their grouping, a neighboring grouping may be physically closer and thus more likely to serve as connection if it happens to have the needed fishery support businesses. Future analyses could be done on the networks using variables such as physical distance or transportation infrastructure to further elucidate the connections between communities.

The survey also gathered information on the fisheries in which community members participate. When asked generally about fisheries (e.g., not specific to commercial, recreational, or subsistence), fisheries for salmon were the most reported fishery across all respondent communities. Other reported species showed some regionalization such as halibut and sablefish being reported more often from Aleutian and Pribilof Islands and Kenai Peninsula and Cook Inlet communities. Subsistence fishing activity across regional groupings showed similarities for the portion of respondent communities in each regional grouping targeting salmon species. Other subsistence species such as beluga and bowhead whales were reported by communities in Northern Alaska and Norton Sound and Bering Strait regional groupings.

Specific to commercial fisheries, communities were asked to provide information on types of vessels and gears that were based out of the community in the year. Many respondent

communities in all regional groupings reported gillnets as a major gear type used out of the community. Longline gear was reported prevalently in regional groupings including the Kenai Peninsula and Cook Inlet and Southeast. Respondent communities in the Kodiak Island grouping and Southeast grouping reported the greatest diversification of gear types used out of each community which might provide some community insulation against management changes specific to one gear type or fleet.

There were significant differences across regional groupings for recreational fishing activity. The Kodiak Island, Southeast, and Kenai Peninsula and Cook Inlet respondent communities reported a majority of communities that had charter boats operating out of the community. Respondent communities in other groupings such as the Aleutian and Pribilof grouping and Anchorage and Mat-Su reported more residents participating in shore-based or dock fishing as a component of their recreational fisheries involvement. In terms of species targeted, communities in the Southeast reported the most variety, from all five Pacific salmon species to halibut, rockfish, crab, black cod, shrimp, and clams. Respondent communities in the Aleutian and Pribilof Islands grouping also reported multiple recreational targets.

Another interesting component of the survey results was the differences in representation of communities in the management process. The majority of respondent communities in the Kuskokwim River Mouth and Northern Alaska regional groupings reported they did not participate in the state or federal fisheries management process. The absence of organized representation may affect a community's perception about how well-represented their concerns are or how well their voices are heard in the management process. Communities were also asked to provide written responses as to the impacts of management actions on their communities and the current challenges their communities face relative to fishery activity. The management actions most often cited by respondent communities were fishery openings or closures and limited entry or catch share programs. The most salient challenges for respondent communities centered on the availability of fish, fisheries support infrastructure and services, and costs of participation. Many communities tied the lack of fish and high costs of participation to a reduction in revenue that could help support fisheries infrastructure. A community needs infrastructure to host fisheries activity and fishermen need infrastructure to be able to earn the revenue that they will bring back to the community.

The results of this survey offer a snapshot in time for many Alaskan communities and their respective fisheries participation. The data reported here represent data for 2011. The survey was also implemented in 2011 to provide data for 2010 which was presented in a separate report (Himes-Cornell and Kent 2014). The survey is being implemented for a third time in the fall of 2014. It is our hope that implementation of the survey over successive years will provide longitudinal insight into Alaskan communities' fisheries participation.

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CITATIONS

Bazeley, P. 2007. Qualitative data analyis with NVivo. Sage, Los Angeles, CA. 217 p.

Borgatti, S.P., M. G. Everett, and L.C. Freeman. 2002. Ucinet for Windows: Software for Social Network Analysis. Analytic Technologies, Harvard, MA.

Dillman, D. A., J. D. Smyth, and L.M. Christian. 2009. Internet, mail, and mixed-mode surveys: The Tailored Design Method. John Wiley and Sons, Inc., Hoboken, NJ. 512 p.

Ernoul, L., and A. Wardell-Johnson. 2013. Governance in integrated coastal zone management: a social networks analysis of cross-scale collaboration. Environ. Conserv. 40(3): 231-240.

Hannenman, R., and J. Riddle. 2005. Introduction to social network methods. University of California, Riverside, CA. 322 p.

Himes-Cornell, A., K. Hoelting, C. Maguire, L. Munger-Little, J. Lee, J. Fisk, R. Felthoven, C. Geller, and P. Little. 2013. Community profiles for North Pacific Fisheries - Alaska. U. S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-259, Volumes 1-12.

Himes-Cornell, A., and K. Kent. 2014. Involving fishing communities in data collection: A summary and description of the Alaska Community Survey, 2010. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-280, 170 p.

Himes-Cornell, A., C. Package, and A. Durland. 2011. Improving community profiles for the North Pacific fisheries. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-230, 85 p.

Sepez, J. A., B. D. Tilt, C.L. Package, H.M. Lazrus, and I. Vaccaro. 2005. Community profiles for North Pacific Fisheries - Alaska, U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-160, 552 p.

Sepez, J., K. Norman and R. Felthoven. 2007. A quantitative model for identifying and ranking communities involved in commercial fisheries. Nat. Assoc. Practicing Anthropol. Bull. 28: 43-56.

U.S. Census Bureau. 2010. Profile of selected social, economic and housing characteristics of all places within Alaska. Datasets utilized include the 2010 (Demographic Profile SF) Decennial Census. Retrieved 1 November 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

APPENDIX A: REGIONAL RESPONSE DISRIBUTION TABLES

TABLES

TABLES

Appendix Table A1. -- Regional breakdown of responses to the following question: How many people live in your community as year-round residents? (Q1).

Region	N	Mean	Median	Max	Min	St.Dev.
Aleutian and Pribilof Islands	8	263.25	85	1008	18	342.77
Anchorage and Mat-Su	3	14,962.33	6087	38000	800	20,125.57
Bristol Bay and Alaska Peninsula	19	300.32	129	2376	1	552.20
Interior	11	627.09	180	2200	15	605.08
Kenai Peninsula and Cook Inlet	12	2,765.75	2345	7100	192	2,598.08
Kodiak Island	6	1,090.83	137	6000	3	2,406.67
Kuskokwim River Mouth	16	4,165.88	450	60000	190	14,889.79
Northern Alaska	5	505.40	430	950	225	276.55
Norton Sound and Bering Strait	11	729.09	440	3695	148	863.42
Prince William Sound	2	1,253.50	1253.5	2289	218	1,464.42
Southeast	18	2,954.44	581	31000	16	7,316.38

Appendix Table A2. -- Regional breakdown of responses to the following question: How many live in your community as year round-residents and work in a shore-side processing plant? (Q1).

Region	N	Mean	Median	Max	Min	St.Dev.
Aleutian and Pribilof Islands	8	309.50	125	1200	0	416.90
Anchorage and Mat-Su	1	775.00	775	775	775	0
Bristol Bay and Alaska Peninsula	19	230.05	147	2000	0	441.18
Interior	10	85.10	22	500	0	157.38
Kenai Peninsula and Cook Inlet	11	454.00	22	1500	11	157.38
Kodiak Island	6	211.83	28.75	1000	10	392.35
Kuskokwim River Mouth	16	73.31	35	500	0	123.94
Northern Alaska	5	20.00	10	50	0	20.00
Norton Sound and Bering Strait	11	110.50	20	550	0	206.23
Prince William Sound	2	1,257.50	1257.5	2500	15	1,757.16
Southeast	18	489.11	135	3000	2	783.42

Appendix Table A3. -- Regional breakdown of responses to the following question: How many people live in your community as seasonal workers or transients? (Q1).

Region	N	Mean	Median	Max	Min	St.Dev.
Aleutian and Pribilof Islands	7	143.71	3	981	0	369.23
Anchorage and Mat-Su	1	0.00	0	0	0	0
Bristol Bay and Alaska Peninsula	18	21.86	0	200	0	56.69
Interior	10	1.00	0	10	0	3.16
Kenai Peninsula and Cook Inlet	8	93.38	22.5	300	0	123.28
Kodiak Island	4	125.50	1	500	0	249.67
Kuskokwim River Mouth	14	22.36	4	200	0	52.54
Northern Alaska	4	0.00	0	0	0	0.00
Norton Sound and Bering Strait	11	95.36	0	635	0	200.66
Prince William Sound	1	4,300.00	4300	4300	4300	0
Southeast	16	82.31	12	500	0	149.91

Appendix Table A4. -- Regional breakdown of responses to the following question: In what month(s) does the population in your community reach its annual peak? (Q4).

Region	N	Jan	Feb	March	April	May	June
Aleutian and Pribilof Islands	7	42.86%	28.57%	28.57%	0.00%	0.00%	28.57%
Anchorage and Mat-Su	3	0.00%	0.00%	0.00%	0.00%	0.00%	66.67%
Bristol Bay and Alaska Peninsula	20	15.00%	10.00%	10.00%	15.00%	25.00%	65.00%
Interior	11	0.00%	0.00%	0.00%	9.09%	18.18%	36.36%
Kenai Peninsula and Cook Inlet	12	0.00%	0.00%	0.00%	0.00%	8.33%	33.33%
Kodiak Island	6	0.00%	0.00%	0.00%	0.00%	33.33%	83.33%
Kuskokwim River Mouth	15	6.67%	6.67%	6.67%	6.67%	13.33%	40.00%
Northern Alaska	5	0.00%	0.00%	0.00%	20.00%	20.00%	40.00%
Norton Sound and Bering Strait	11	9.09%	9.09%	0.00%	0.00%	9.09%	18.18%
Prince William Sound	2	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Southeast	18	0.00%	0.00%	0.00%	0.00%	11.11%	33.33%

Appendix Table A4. -- Cont'd.

Region	N	July	August	Sept	Oct	Nov	Dec	No peak
Aleutian and Pribilof Islands	7	71.43%	71.43%	42.86%	14.29%	14.29%	14.29%	0.00%
Anchorage and Mat-Su	3	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	20	60.00%	45.00%	30.00%	25.00%	20.00%	15.00%	0.00%
Interior	11	45.45%	36.36%	27.27%	9.09%	0.00%	18.18%	9.09%
Kenai Peninsula and Cook Inlet	12	100.00%	33.33%	8.33%	0.00%	0.00%	0.00%	0.00%
Kodiak Island	6	83.33%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%
Kuskokwim River Mouth	15	53.33%	46.67%	20.00%	6.67%	13.33%	13.33%	13.33%
Northern Alaska	5	40.00%	40.00%	20.00%	0.00%	0.00%	0.00%	40.00%
Norton Sound and Bering Strait	11	63.64%	36.36%	27.27%	0.00%	0.00%	18.18%	9.09%
Prince William Sound	2	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Southeast	18	94.44%	61.11%	5.56%	5.56%	0.00%	0.00%	0.00%

Appendix Table A5. -- Regional breakdown of responses to the following question: On average, which months per year does your community have seasonal workers living there? (Q2).

Region	N	Jan	Feb	March	April	May	June	July
Aleutian and Pribilof Islands	7	57.14%	57.14%	57.14%	57.14%	42.86%	85.71%	85.71%
Anchorage and Mat-Su	3	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%
Bristol Bay and Alaska Peninsula	18	5.56%	11.11%	11.11%	22.22%	66.67%	88.89%	88.89%
Interior	11	9.09%	9.09%	18.18%	45.45%	63.64%	72.73%	72.73%
Kenai Peninsula and Cook Inlet	10	0.00%	0.00%	0.00%	10.00%	90.00%	100.00%	100.00%
Kodiak Island	6	0.00%	0.00%	0.00%	33.33%	83.33%	100.00%	100.00%
Kuskokwim River Mouth	14	14.29%	14.29%	14.29%	14.29%	42.86%	78.57%	78.57%
Northern Alaska	4	25.00%	25.00%	0.00%	0.00%	25.00%	75.00%	75.00%
Norton Sound and Bering Strait	11	18.18%	18.18%	18.18%	18.18%	54.55%	81.82%	81.82%
Prince William Sound	2	0.00%	0.00%	50.00%	100.00%	100.00%	100.00%	100.00%
Southeast	18	5.56%	5.56%	11.11%	33.33%	61.11%	94.44%	100.00%

Appendix Table A5. -- Cont'd.

Region	N	August	Sept	Oct	Nov	Dec	All year	None
Aleutian and Pribilof Islands	7	100.00%	100.00%	71.43%	28.57%	0.00%	0.00%	0.00%
Anchorage and Mat-Su	3	100.00%	100.00%	33.33%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	18	88.89%	72.22%	38.89%	11.11%	5.56%	0.00%	0.00%
Interior	11	72.73%	72.73%	27.27%	9.09%	9.09%	0.00%	18.18%
Kenai Peninsula and Cook Inlet	10	100.00%	100.00%	10.00%	0.00%	0.00%	0.00%	0.00%
Kodiak Island	6	100.00%	83.33%	16.67%	0.00%	0.00%	0.00%	0.00%
Kuskokwim River Mouth	14	85.71%	42.86%	14.29%	14.29%	14.29%	7.14%	7.14%
Northern Alaska	4	75.00%	75.00%	75.00%	50.00%	25.00%	0.00%	25.00%
Norton Sound and Bering Strait	11	81.82%	72.73%	27.27%	27.27%	18.18%	0.00%	9.09%
Prince William Sound	2	100.00%	100.00%	50.00%	0.00%	0.00%	0.00%	0.00%
Southeast	18	100.00%	88.89%	27.78%	16.67%	5.56%	0.00%	0.00%

Appendix Table A6. -- Regional breakdown of responses to the following question: To what degree is this peak in population driven by employment in the fishing sectors? (Q5).

Region	N	Entirely	Mostly	Somewhat	A little	Not at all
Aleutian and Pribilof Islands	7	42.86%	42.86%	14.29%	0.00%	0.00%
Anchorage and Mat-Su	3	0.00%	0.00%	0.00%	66.67%	0.00%
Bristol Bay and Alaska Peninsula	20	35.00%	20.00%	10.00%	5.00%	10.00%
Interior	12	0.00%	8.33%	8.33%	16.67%	58.33%
Kenai Peninsula and Cook Inlet	12	0.00%	50.00%	25.00%	0.00%	0.00%
Kodiak Island	6	50.00%	33.33%	16.67%	0.00%	0.00%
Kuskokwim River Mouth	17	0.00%	11.76%	17.65%	5.88%	41.18%
Northern Alaska	5	0.00%	20.00%	20.00%	0.00%	60.00%
Norton Sound and Bering Strait	11	0.00%	18.18%	27.27%	18.18%	9.09%
Prince William Sound	2	50.00%	0.00%	0.00%	50.00%	0.00%
Southeast	17	5.88%	64.71%	11.76%	0.00%	5.88%

Appendix Table A7. -- Regional breakdown of responses to the following question: Which, if any, natural resource-based industries does your community's economy rely upon? (Q19).

Region	N	Mining	Logging	Fishing	Oil and gas	Geo-thermal	Eco-tourism	Sportfishing & hunting
Aleutian and Pribilof Islands	7	0.00%	0.00%	85.71%	0.00%	0.00%	28.57%	57.14%
Anchorage and Mat-Su	3	33.33%	0.00%	33.33%	33.33%	0.00%	66.67%	66.67%
Bristol Bay and Alaska Peninsula	18	11.11%	0.00%	94.44%	0.00%	0.00%	27.78%	50.00%
Interior	12	41.67%	41.67%	16.67%	8.33%	8.33%	25.00%	33.33%
Kenai Peninsula and Cook Inlet	12	8.33%	25.00%	91.67%	66.67%	8.33%	50.00%	100.00%
Kodiak Island	6	0.00%	16.67%	100.00%	0.00%	0.00%	33.33%	83.33%
Kuskokwim River Mouth	17	17.65%	17.65%	76.47%	5.88%	5.88%	5.88%	17.65%
Northern Alaska	5	20.00%	0.00%	0.00%	40.00%	0.00%	0.00%	20.00%
Norton Sound and Bering Strait	11	9.09%	9.09%	63.64%	9.09%	0.00%	9.09%	45.45%
Prince William Sound	2	50.00%	50.00%	100.00%	0.00%	50.00%	50.00%	100.00%
Southeast	18	11.11%	16.67%	94.44%	0.00%	0.00%	61.11%	83.33%

Appendix Table A8. -- Regional breakdown of responses to the following question: How many feet of public dock space for moorage are located in and around the port of your community for permanent vessels? (Q7).

Region	N	None	<500 ft	500-1,000 ft	1,000-3,000 ft	3,000-8,000 ft	>8,000 ft
Aleutian and Pribilof Islands	7	57.14%	0.00%	14.29%	28.57%	0.00%	0.00%
Anchorage and Mat-Su	2	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	19	94.74%	0.00%	0.00%	5.26%	0.00%	0.00%
Interior	12	83.33%	8.33%	8.33%	0.00%	0.00%	0.00%
Kenai Peninsula and Cook Inlet	10	70.00%	0.00%	0.00%	0.00%	10.00%	20.00%
Kodiak Island	5	40.00%	0.00%	20.00%	20.00%	0.00%	20.00%
Kuskokwim River Mouth	13	84.62%	7.69%	7.69%	0.00%	0.00%	0.00%
Northern Alaska	5	80.00%	0.00%	20.00%	0.00%	0.00%	0.00%
Norton Sound and Bering Strait	11	63.64%	27.27%	9.09%	0.00%	0.00%	0.00%
Prince William Sound	2	50.00%	0.00%	0.00%	0.00%	0.00%	50.00%
Southeast	15	6.67%	13.33%	13.33%	13.33%	26.67%	26.67%

Appendix Table A9. -- Regional breakdown of responses to the following question: How many feet of public dock space for moorage are located in and around the port of your community for temporary vessels? (Q7).

Region	N	None	<100 ft	100-500 ft	500-1,000 ft	1,000-3,000 ft	>3,000 ft
Aleutian and Pribilof Islands	7	14.29%	0.00%	28.57%	42.86%	14.29%	0.00%
Anchorage and Mat-Su	3	66.67%	33.33%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	18	72.22%	11.11%	11.11%	5.56%	0.00%	0.00%
Interior	9	88.89%	0.00%	0.00%	11.11%	0.00%	0.00%
Kenai Peninsula and Cook Inlet	10	60.00%	0.00%	10.00%	10.00%	0.00%	20.00%
Kodiak Island	5	20.00%	0.00%	60.00%	20.00%	0.00%	0.00%
Kuskokwim River Mouth	14	78.57%	7.14%	14.29%	0.00%	0.00%	0.00%
Northern Alaska	5	80.00%	0.00%	20.00%	0.00%	0.00%	0.00%
Norton Sound and Bering Strait	8	75.00%	0.00%	0.00%	12.50%	12.50%	0.00%
Prince William Sound	2	50.00%	0.00%	0.00%	50.00%	0.00%	0.00%
Southeast	16	6.25%	6.25%	25.00%	18.75%	31.25%	12.50%

Appendix Table A10. -- Regional breakdown of responses to the following question: Which of the following types of regulated vessels is the port of your community capable of handling? (Q10).

Region	N	Rescue vessels	Cruise ships	Ferries	Fuel barges	HAZ-MAT	None
Aleutian and Pribilof Islands	7	57.14%	57.14%	57.14%	85.71%	14.29%	14.29%
Anchorage and Mat-Su	3	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Bristol Bay and Alaska Peninsula	19	26.32%	0.00%	5.26%	57.89%	10.53%	36.84%
Interior	12	0.00%	0.00%	0.00%	58.33%	8.33%	50.00%
Kenai Peninsula and Cook Inlet	11	36.36%	9.09%	18.18%	36.36%	27.27%	54.55%
Kodiak Island	5	80.00%	20.00%	60.00%	80.00%	20.00%	20.00%
Kuskokwim River Mouth	17	11.76%	5.88%	5.88%	94.12%	11.76%	5.88%
Northern Alaska	5	0.00%	0.00%	0.00%	60.00%	0.00%	40.00%
Norton Sound and Bering Strait	11	36.36%	18.18%	0.00%	100.00%	27.27%	0.00%
Prince William Sound	2	50.00%	0.00%	50.00%	50.00%	50.00%	50.00%
Southeast	18	72.22%	38.89%	55.56%	77.78%	27.78%	11.11%

Appendix Table A11. -- Regional breakdown of item response for the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6).

Region	Number of Item Respondents	Total survey respondents
Aleutian and Pribilof Islands	6	8
Anchorage and Mat-Su	3	3
Bristol Bay and Alaska Peninsula	18	20
Interior	11	12
Kenai Peninsula and Cook Inlet	11	12
Kodiak Island	6	6
Kuskokwim River Mouth	17	17
Northern Alaska	3	5
Prince William Sound	11	11
Southeast	2	2

Appendix Table A12. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Aleutian and Pribilof Islands.* Item response n = 6.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	16.67%	0.00%	0.00%
Barge landing area	66.67%	0.00%	0.00%
Construct new dock space	66.67%	0.00%	33.33%
Improve existing dock structure	16.67%	0.00%	33.33%
Electricity serving the dock	50.00%	0.00%	50.00%
Water serving the dock	66.67%	0.00%	33.33%
Roads serving dock space	50.00%	0.00%	33.33%
Pilings	33.33%	0.00%	16.67%
Fuel tanks at dock	16.67%	0.00%	33.33%
Breakwater	66.67%	0.00%	16.67%
Harbor dredging	50.00%	0.00%	33.33%
Jetty	33.33%	0.00%	0.00%
Dry dock space	16.67%	16.67%	16.67%
Haul-out facilities	33.33%	16.67%	16.67%
EPA certified boat cleaning station	0.00%	0.00%	16.67%
Broadband internet access	16.67%	0.00%	33.33%
Road	50.00%	0.00%	33.33%
Airport/seaplane base	66.67%	0.00%	0.00%
Water and sewer pipelines	33.33%	16.67%	33.33%
Diesel powerhouse	50.00%	0.00%	16.67%
Sewage treatment	33.33%	0.00%	50.00%
Water treatment	83.33%	0.00%	16.67%
Alternative energy (e.g., hydro, wind, tidal).	16.67%	33.33%	33.33%
New landfill/solid waste site	50.00%	0.00%	16.67%
Community center/Library	33.33%	0.00%	16.67%
Public safety – Police department	50.00%	16.67%	0.00%
Emergency response	50.00%	16.67%	0.00%
Fire department	66.67%	16.67%	0.00%
School	33.33%	16.67%	0.00%
Telephone service	50.00%	16.67%	0.00%
Post office	66.67%	0.00%	0.00%

Appendix Table A13. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Anchorage and Mat-Su.* Item response n = 3.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	0.00%	0.00%	0.00%
Barge landing area	0.00%	0.00%	0.00%
Construct new dock space	0.00%	0.00%	0.00%
Improve existing dock structure	0.00%	0.00%	0.00%
Electricity serving the dock	0.00%	0.00%	0.00%
Water serving the dock	0.00%	0.00%	0.00%
Roads serving dock space	0.00%	0.00%	0.00%
Pilings	0.00%	0.00%	0.00%
Fuel tanks at dock	0.00%	0.00%	0.00%
Breakwater	0.00%	0.00%	0.00%
Harbor dredging	0.00%	0.00%	0.00%
Jetty	0.00%	0.00%	0.00%
Dry dock space	0.00%	0.00%	0.00%
Haul-out facilities	0.00%	0.00%	0.00%
EPA certified boat cleaning station	0.00%	0.00%	0.00%
Broadband internet access	33.33%	0.00%	0.00%
Road	0.00%	66.67%	100.00%
Airport/seaplane base	0.00%	0.00%	0.00%
Water and sewer pipelines	33.33%	66.67%	33.33%
Diesel powerhouse	0.00%	33.33%	0.00%
Sewage treatment	33.33%	0.00%	0.00%
Water treatment	0.00%	0.00%	0.00%
Alternative energy (e.g., hydro, wind, tidal).	0.00%	0.00%	66.67%
New landfill/solid waste site	33.33%	0.00%	0.00%
Community center/Library	33.33%	0.00%	33.33%
Public safety – Police department	33.33%	0.00%	0.00%
Emergency response	33.33%	0.00%	0.00%
Fire department	0.00%	0.00%	0.00%
School	66.67%	0.00%	0.00%
Telephone service	0.00%	0.00%	0.00%
Post office	0.00%	0.00%	0.00%

Appendix Table A14. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Bristol Bay and Alaska Peninsula.* Item response n = 18.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	11.11%	5.56%	11.11%
Barge landing area	16.67%	16.67%	22.22%
Construct new dock space	11.11%	16.67%	44.44%
Improve existing dock structure	11.11%	0.00%	38.89%
Electricity serving the dock	5.56%	0.00%	33.33%
Water serving the dock	0.00%	0.00%	22.22%
Roads serving dock space	16.67%	27.78%	27.78%
Pilings	11.11%	11.11%	38.89%
Fuel tanks at dock	11.11%	5.56%	22.22%
Breakwater	5.56%	5.56%	27.78%
Harbor dredging	11.11%	0.00%	11.11%
Jetty	0.00%	0.00%	5.56%
Dry dock space	5.56%	5.56%	11.11%
Haul-out facilities	22.22%	0.00%	27.78%
EPA certified boat cleaning station	0.00%	0.00%	0.00%
Broadband internet access	38.89%	22.22%	0.00%
Road	38.89%	38.89%	22.22%
Airport/seaplane base	50.00%	5.56%	16.67%
Water and sewer pipelines	27.78%	11.11%	16.67%
Diesel powerhouse	55.56%	11.11%	5.56%
Sewage treatment	27.78%	11.11%	5.56%
Water treatment	27.78%	27.78%	5.56%
Alternative energy (e.g., hydro, wind, tidal).	27.78%	27.78%	33.33%
New landfill/solid waste site	61.11%	5.56%	16.67%
Community center/Library	33.33%	11.11%	11.11%
Public safety – Police department	38.89%	16.67%	11.11%
Emergency response	44.44%	5.56%	5.56%
Fire department	50.00%	16.67%	5.56%
School	61.11%	11.11%	0.00%
Telephone service	66.67%	0.00%	0.00%
Post office	61.11%	0.00%	0.00%

Appendix Table A15. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Interior.* Item response n = 11.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	0.00%	0.00%	9.09%
Barge landing area	27.27%	0.00%	36.36%
Construct new dock space	9.09%	0.00%	45.45%
Improve existing dock structure	0.00%	0.00%	9.09%
Electricity serving the dock	0.00%	0.00%	0.00%
Water serving the dock	9.09%	0.00%	0.00%
Roads serving dock space	0.00%	0.00%	9.09%
Pilings	0.00%	0.00%	0.00%
Fuel tanks at dock	9.09%	0.00%	0.00%
Breakwater	0.00%	0.00%	0.00%
Harbor dredging	9.09%	0.00%	0.00%
Jetty	9.09%	0.00%	0.00%
Dry dock space	9.09%	0.00%	0.00%
Haul-out facilities	9.09%	0.00%	0.00%
EPA certified boat cleaning station	0.00%	0.00%	0.00%
Broadband internet access	9.09%	9.09%	0.00%
Road	18.18%	18.18%	18.18%
Airport/seaplane base	9.09%	0.00%	9.09%
Water and sewer pipelines	18.18%	9.09%	18.18%
Diesel powerhouse	9.09%	0.00%	18.18%
Sewage treatment	9.09%	9.09%	9.09%
Water treatment	27.27%	9.09%	9.09%
Alternative energy (e.g., hydro, wind, tidal).	9.09%	27.27%	18.18%
New landfill/solid waste site	36.36%	18.18%	18.18%
Community center/Library	18.18%	18.18%	9.09%
Public safety – Police department	0.00%	18.18%	0.00%
Emergency response	18.18%	18.18%	0.00%
Fire department	9.09%	9.09%	9.09%
School	36.36%	0.00%	0.00%
Telephone service	18.18%	9.09%	0.00%
Post office	18.18%	0.00%	0.00%

Appendix Table A16. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Kenai Peninsula and Cook Inlet.* Item response n = 11.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	54.55%	0.00%	18.18%
Barge landing area	9.09%	0.00%	18.18%
Construct new dock space	18.18%	9.09%	18.18%
Improve existing dock structure	36.36%	27.27%	18.18%
Electricity serving the dock	9.09%	18.18%	9.09%
Water serving the dock	18.18%	9.09%	18.18%
Roads serving dock space	9.09%	9.09%	18.18%
Pilings	27.27%	18.18%	18.18%
Fuel tanks at dock	0.00%	0.00%	9.09%
Breakwater	9.09%	0.00%	18.18%
Harbor dredging	18.18%	18.18%	27.27%
Jetty	0.00%	0.00%	9.09%
Dry dock space	0.00%	0.00%	27.27%
Haul-out facilities	9.09%	18.18%	18.18%
EPA certified boat cleaning station	9.09%	18.18%	9.09%
Broadband internet access	36.36%	18.18%	0.00%
Road	18.18%	18.18%	9.09%
Airport/seaplane base	9.09%	18.18%	9.09%
Water and sewer pipelines	9.09%	27.27%	0.00%
Diesel powerhouse	9.09%	0.00%	0.00%
Sewage treatment	9.09%	18.18%	9.09%
Water treatment	18.18%	36.36%	18.18%
Alternative energy (e.g., hydro, wind, tidal).	9.09%	9.09%	9.09%
New landfill/solid waste site	27.27%	9.09%	0.00%
Community center/Library	54.55%	18.18%	0.00%
Public safety – Police department	18.18%	0.00%	9.09%
Emergency response	18.18%	18.18%	9.09%
Fire department	27.27%	9.09%	18.18%
School	18.18%	0.00%	0.00%
Telephone service	18.18%	18.18%	9.09%
Post office	18.18%	0.00%	0.00%

Appendix Table A17. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Kodiak Island.* Item response n = 6.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	50.00%	16.67%	0.00%
Barge landing area	33.33%	0.00%	0.00%
Construct new dock space	50.00%	0.00%	33.33%
Improve existing dock structure	50.00%	16.67%	16.67%
Electricity serving the dock	66.67%	0.00%	0.00%
Water serving the dock	16.67%	0.00%	0.00%
Roads serving dock space	16.67%	0.00%	0.00%
Pilings	66.67%	16.67%	16.67%
Fuel tanks at dock	0.00%	0.00%	0.00%
Breakwater	0.00%	0.00%	16.67%
Harbor dredging	16.67%	0.00%	16.67%
Jetty	0.00%	0.00%	0.00%
Dry dock space	16.67%	0.00%	0.00%
Haul-out facilities	16.67%	0.00%	0.00%
EPA certified boat cleaning station	16.67%	0.00%	0.00%
Broadband internet access	50.00%	16.67%	0.00%
Road	16.67%	16.67%	0.00%
Airport/seaplane base	0.00%	16.67%	0.00%
Water and sewer pipelines	33.33%	0.00%	16.67%
Diesel powerhouse	33.33%	16.67%	0.00%
Sewage treatment	16.67%	0.00%	0.00%
Water treatment	66.67%	16.67%	0.00%
Alternative energy (e.g., hydro, wind, tidal).	16.67%	16.67%	0.00%
New landfill/solid waste site	16.67%	33.33%	0.00%
Community center/Library	0.00%	16.67%	0.00%
Public safety – Police department	16.67%	0.00%	0.00%
Emergency response	0.00%	0.00%	0.00%
Fire department	16.67%	0.00%	0.00%
School	0.00%	16.67%	0.00%
Telephone service	16.67%	16.67%	0.00%
Post office	16.67%	0.00%	0.00%

Appendix Table A18. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Kuskokwim River Mouth.* Item response n = 17.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	29.41%	0.00%	0.00%
Barge landing area	23.53%	0.00%	11.76%
Construct new dock space	11.76%	5.88%	23.53%
Improve existing dock structure	11.76%	5.88%	11.76%
Electricity serving the dock	5.88%	5.88%	17.65%
Water serving the dock	11.76%	5.88%	11.76%
Roads serving dock space	29.41%	11.76%	17.65%
Pilings	11.76%	0.00%	11.76%
Fuel tanks at dock	5.88%	0.00%	23.53%
Breakwater	17.65%	0.00%	5.88%
Harbor dredging	0.00%	5.88%	35.29%
Jetty	0.00%	0.00%	5.88%
Dry dock space	11.76%	0.00%	29.41%
Haul-out facilities	5.88%	0.00%	11.76%
EPA certified boat cleaning station	0.00%	0.00%	5.88%
Broadband internet access	23.53%	35.29%	0.00%
Road	23.53%	35.29%	35.29%
Airport/seaplane base	29.41%	23.53%	11.76%
Water and sewer pipelines	23.53%	23.53%	17.65%
Diesel powerhouse	35.29%	17.65%	0.00%
Sewage treatment	35.29%	23.53%	17.65%
Water treatment	58.82%	29.41%	17.65%
Alternative energy (e.g., hydro, wind, tidal).	35.29%	17.65%	23.53%
New landfill/solid waste site	35.29%	17.65%	35.29%
Community center/Library	17.65%	0.00%	17.65%
Public safety – Police department	41.18%	23.53%	5.88%
Emergency response	41.18%	17.65%	5.88%
Fire department	29.41%	17.65%	23.53%
School	47.06%	23.53%	11.76%
Telephone service	52.94%	11.76%	5.88%
Post office	58.82%	11.76%	0.00%

Appendix Table A19. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Northern Alaska.* Item response n = 5.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	0.00%	0.00%	0.00%
Barge landing area	66.67%	0.00%	0.00%
Construct new dock space	0.00%	0.00%	33.33%
Improve existing dock structure	0.00%	0.00%	66.67%
Electricity serving the dock	0.00%	0.00%	33.33%
Water serving the dock	0.00%	0.00%	33.33%
Roads serving dock space	33.33%	0.00%	0.00%
Pilings	33.33%	0.00%	0.00%
Fuel tanks at dock	0.00%	0.00%	0.00%
Breakwater	0.00%	0.00%	0.00%
Harbor dredging	0.00%	0.00%	33.33%
Jetty	0.00%	0.00%	0.00%
Dry dock space	0.00%	0.00%	0.00%
Haul-out facilities	0.00%	0.00%	0.00%
EPA certified boat cleaning station	0.00%	0.00%	0.00%
Broadband internet access	66.67%	0.00%	0.00%
Road	33.33%	0.00%	33.33%
Airport/seaplane base	33.33%	0.00%	0.00%
Water and sewer pipelines	66.67%	0.00%	0.00%
Diesel powerhouse	33.33%	0.00%	0.00%
Sewage treatment	66.67%	33.33%	0.00%
Water treatment	66.67%	0.00%	0.00%
Alternative energy (e.g., hydro, wind, tidal).	0.00%	0.00%	0.00%
New landfill/solid waste site	33.33%	0.00%	0.00%
Community center/Library	33.33%	0.00%	0.00%
Public safety – Police department	66.67%	0.00%	0.00%
Emergency response	33.33%	33.33%	0.00%
Fire department	66.67%	33.33%	33.33%
School	66.67%	0.00%	0.00%
Telephone service	66.67%	0.00%	0.00%
Post office	66.67%	0.00%	0.00%

Appendix Table A20. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Norton Sound and Bering Strait*. Item response n = 11.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	27.27%	0.00%	18.18%
Barge landing area	45.45%	18.18%	18.18%
Construct new dock space	0.00%	9.09%	54.55%
Improve existing dock structure	9.09%	18.18%	36.36%
Electricity serving the dock	0.00%	9.09%	9.09%
Water serving the dock	0.00%	9.09%	18.18%
Roads serving dock space	36.36%	0.00%	18.18%
Pilings	0.00%	0.00%	27.27%
Fuel tanks at dock	36.36%	9.09%	18.18%
Breakwater	18.18%	9.09%	18.18%
Harbor dredging	0.00%	0.00%	27.27%
Jetty	9.09%	0.00%	9.09%
Dry dock space	0.00%	9.09%	27.27%
Haul-out facilities	9.09%	9.09%	18.18%
EPA certified boat cleaning station	0.00%	0.00%	9.09%
Broadband internet access	27.27%	18.18%	18.18%
Road	45.45%	18.18%	18.18%
Airport/seaplane base	45.45%	9.09%	18.18%
Water and sewer pipelines	72.73%	9.09%	9.09%
Diesel powerhouse	54.55%	0.00%	9.09%
Sewage treatment	72.73%	18.18%	9.09%
Water treatment	63.64%	18.18%	18.18%
Alternative energy (e.g., hydro, wind, tidal).	27.27%	36.36%	36.36%
New landfill/solid waste site	36.36%	18.18%	27.27%
Community center/Library	18.18%	9.09%	18.18%
Public safety – Police department	45.45%	27.27%	18.18%
Emergency response	36.36%	45.45%	9.09%
Fire department	36.36%	36.36%	18.18%
School	81.82%	9.09%	9.09%
Telephone service	81.82%	0.00%	9.09%
Post office	72.73%	0.00%	0.00%

Appendix Table A21. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Prince William Sound.* Item response n = 2.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	0.00%	0.00%	0.00%
Barge landing area	0.00%	50.00%	0.00%
Construct new dock space	0.00%	0.00%	50.00%
Improve existing dock structure	0.00%	0.00%	50.00%
Electricity serving the dock	0.00%	0.00%	0.00%
Water serving the dock	0.00%	0.00%	0.00%
Roads serving dock space	0.00%	0.00%	0.00%
Pilings	50.00%	0.00%	0.00%
Fuel tanks at dock	0.00%	0.00%	0.00%
Breakwater	0.00%	0.00%	50.00%
Harbor dredging	50.00%	0.00%	0.00%
Jetty	0.00%	0.00%	0.00%
Dry dock space	50.00%	0.00%	0.00%
Haul-out facilities	50.00%	0.00%	0.00%
EPA certified boat cleaning station	50.00%	0.00%	0.00%
Broadband internet access	50.00%	50.00%	0.00%
Road	0.00%	50.00%	0.00%
Airport/seaplane base	0.00%	50.00%	0.00%
Water and sewer pipelines	50.00%	0.00%	0.00%
Diesel powerhouse	0.00%	0.00%	0.00%
Sewage treatment	0.00%	0.00%	0.00%
Water treatment	0.00%	0.00%	50.00%
Alternative energy (e.g., hydro, wind, tidal).	50.00%	0.00%	50.00%
New landfill/solid waste site	0.00%	0.00%	0.00%
Community center/Library	0.00%	0.00%	0.00%
Public safety – Police department	0.00%	50.00%	0.00%
Emergency response	0.00%	50.00%	0.00%
Fire department	50.00%	0.00%	0.00%
School	50.00%	0.00%	0.00%
Telephone service	50.00%	0.00%	0.00%
Post office	50.00%	0.00%	0.00%

Appendix Table A22. -- Regional breakdown of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6). *Southeast*. Item response n = 18.

	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?
Fish cleaning station	55.56%	0.00%	11.11%
Barge landing area	16.67%	5.56%	0.00%
Construct new dock space	16.67%	5.56%	44.44%
Improve existing dock structure	38.89%	22.22%	44.44%
Electricity serving the dock	27.78%	5.56%	5.56%
Water serving the dock	38.89%	5.56%	11.11%
Roads serving dock space	16.67%	0.00%	0.00%
Pilings	27.78%	16.67%	11.11%
Fuel tanks at dock	27.78%	0.00%	5.56%
Breakwater	22.22%	0.00%	11.11%
Harbor dredging	5.56%	5.56%	27.78%
Jetty	5.56%	0.00%	0.00%
Dry dock space	0.00%	0.00%	0.00%
Haul-out facilities	22.22%	5.56%	16.67%
EPA certified boat cleaning station	16.67%	5.56%	5.56%
Broadband internet access	44.44%	0.00%	0.00%
Road	11.11%	27.78%	11.11%
Airport/seaplane base	33.33%	11.11%	0.00%
Water and sewer pipelines	16.67%	11.11%	5.56%
Diesel powerhouse	27.78%	0.00%	0.00%
Sewage treatment	16.67%	0.00%	5.56%
Water treatment	16.67%	0.00%	22.22%
Alternative energy (e.g., hydro, wind, tidal).	0.00%	16.67%	27.78%
New landfill/solid waste site	11.11%	0.00%	11.11%
Community center/Library	16.67%	11.11%	22.22%
Public safety – Police department	16.67%	5.56%	11.11%
Emergency response	11.11%	16.67%	0.00%
Fire department	16.67%	11.11%	0.00%
School	22.22%	5.56%	0.00%
Telephone service	11.11%	5.56%	0.00%
Post office	16.67%	0.00%	0.00%

Appendix Table A23. -- Regional breakdown of responses to the following question: What is the maximum vessel length that can use moorage in your community? (Q8).

Region	N	0 ft	1-100 ft	100-200 ft	200-300 ft	300-400 ft	400-500 ft	>500 ft
Aleutian and Pribilof Islands	7	14.29%	0.00%	14.29%	57.14%	0.00%	0.00%	14.29%
Anchorage and Mat-Su	3	66.67%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	18	50.00%	27.78%	16.67%	5.56%	0.00%	0.00%	0.00%
Interior	11	72.73%	9.09%	9.09%	0.00%	9.09%	0.00%	0.00%
Kenai Peninsula and Cook Inlet	10	40.00%	30.00%	10.00%	0.00%	0.00%	10.00%	10.00%
Kodiak Island	5	20.00%	20.00%	20.00%	0.00%	40.00%	0.00%	0.00%
Kuskokwim River Mouth	16	56.25%	18.75%	25.00%	0.00%	0.00%	0.00%	0.00%
Northern Alaska	5	60.00%	40.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Norton Sound and Bering Strait	10	50.00%	0.00%	30.00%	0.00%	10.00%	10.00%	0.00%
Prince William Sound	2	50.00%	0.00%	50.00%	0.00%	0.00%	0.00%	0.00%
Southeast	17	0.00%	23.53%	41.18%	5.88%	0.00%	5.88%	23.53%

Appendix Table A24. -- Regional breakdown of responses to the following question: What types of fishing support businesses are located in your community? (Q16).

	Aleutian and Pribilof Islands	Anchorage and Mat-Su	Bristol Bay and Alaska Peninsula	Interior	Kenai Peninsula and Cook Inlet	Kodiak Island	Kusko-kwim River Mouth	Northern Alaska	Norton Sound and Bering Strait	Prince William Sound	Southeast
Fish processing plants	80.00%	0.00%	31.58%	0.00%	58.33%	50.00%	23.53%	0.00%	36.36%	50.00%	61.11%
Fishing gear sales	60.00%	66.67%	26.32%	16.67%	58.33%	33.33%	76.47%	20.00%	18.18%	50.00%	72.22%
Fishing gear manufacturer	0.00%	0.00%	5.26%	0.00%	16.67%	16.67%	0.00%	0.00%	0.00%	0.00%	11.11%
Boat repair	20.00%	66.67%	15.79%	25.00%	58.33%	33.33%	64.71%	0.00%	27.27%	50.00%	44.44%
Electrical	20.00%	66.67%	10.53%	16.67%	50.00%	16.67%	29.41%	0.00%	27.27%	50.00%	33.33%
Welding	20.00%	66.67%	26.32%	33.33%	75.00%	33.33%	64.71%	0.00%	36.36%	50.00%	55.56%
Mechanical services	20.00%	66.67%	26.32%	16.67%	58.33%	33.33%	58.82%	0.00%	36.36%	50.00%	50.00%
Machine Shop	20.00%	66.67%	26.32%	16.67%	50.00%	33.33%	29.41%	0.00%	27.27%	50.00%	33.33%
Hydraulics	20.00%	33.33%	21.05%	16.67%	33.33%	33.33%	23.53%	0.00%	18.18%	50.00%	33.33%
Haul-out facilities for small boats (less than 60 tons).	60.00%	33.33%	52.63%	8.33%	50.00%	16.67%	23.53%	20.00%	54.55%	50.00%	61.11%
Haul-out facilities for large boats (more than 60 tons).	20.00%	0.00%	5.26%	8.33%	16.67%	16.67%	5.88%	0.00%	0.00%	50.00%	22.22%
Tidal grid for small boats (less than 60 tons).	20.00%	0.00%	21.05%	0.00%	25.00%	33.33%	11.76%	0.00%	18.18%	50.00%	94.44%
Tidal grid for large boats (more than 60 tons).	20.00%	0.00%	0.00%	0.00%	16.67%	33.33%	5.88%	0.00%	0.00%	50.00%	22.22%
Commercial fishing vessel moorage	80.00%	0.00%	42.11%	8.33%	50.00%	83.33%	17.65%	0.00%	27.27%	50.00%	88.89%
Recreational fishing vessel moorage	60.00%	0.00%	47.37%	8.33%	58.33%	83.33%	11.76%	20.00%	30.00%	50.00%	83.33%
Tackle sales	20.00%	100.00%	26.32%	33.33%	58.33%	16.67%	52.94%	40.00%	20.00%	100.00%	77.78%
Bait sales	60.00%	100.00%	5.26%	8.33%	58.33%	33.33%	29.41%	40.00%	20.00%	100.00%	83.33%
Commercial cold storage facilities	60.00%	0.00%	0.00%	8.33%	41.67%	66.67%	17.65%	0.00%	10.00%	50.00%	50.00%
Drydock storage	40.00%	0.00%	52.63%	16.67%	41.67%	16.67%	17.65%	0.00%	10.00%	50.00%	33.33%
Marine Refrigeration	20.00%	0.00%	0.00%	0.00%	25.00%	16.67%	17.65%	0.00%	10.00%	50.00%	16.67%
Fish lodges	0.00%	33.33%	52.63%	16.67%	83.33%	83.33%	11.76%	20.00%	10.00%	100.00%	83.33%

Appendix Table A24. -- Cont'd.

	Aleutian and Pribilof Islands	Anchorage and Mat-Su	Bristol Bay and Alaska Peninsula	Interior	Kenai Peninsula and Cook Inlet	Kodiak Island	Kusko-kwim River Mouth	Northern Alaska	Norton Sound and Bering Strait	Prince William Sound	Southeast
Fishing business attorneys	0.00%	0.00%	0.00%	0.00%	25.00%	16.67%	0.00%	0.00%	10.00%	50.00%	16.67%
Fishing related bookkeeping	20.00%	33.33%	15.79%	0.00%	58.33%	16.67%	23.53%	0.00%	10.00%	50.00%	33.33%
Boat fuel Sales	100.00%	33.33%	78.95%	41.67%	66.67%	83.33%	82.35%	40.00%	80.00%	50.00%	94.44%
Fishing gear repair	20.00%	66.67%	21.05%	8.33%	66.67%	16.67%	11.76%	0.00%	20.00%	50.00%	50.00%
Fishing gear storage	60.00%	66.67%	42.11%	25.00%	66.67%	83.33%	5.88%	0.00%	20.00%	50.00%	50.00%
Ice sales	60.00%	33.33%	26.32%	25.00%	66.67%	50.00%	17.65%	0.00%	10.00%	50.00%	61.11%
Water taxi	0.00%	33.33%	10.53%	0.00%	33.33%	16.67%	5.88%	0.00%	0.00%	50.00%	27.78%
Seaplane service	0.00%	33.33%	26.32%	0.00%	50.00%	33.33%	17.65%	0.00%	0.00%	50.00%	72.22%
Air taxi	80.00%	33.33%	78.95%	33.33%	50.00%	50.00%	70.59%	60.00%	60.00%	50.00%	44.44%
N	**5**	**3**	**19**	**12**	**12**	**6**	**17**	**5**	**11**	**2**	**18**

Appendix Table A25. -- Network in-degree and out-degree measures by community.

	Out-degree	In-degree
Anchorage	0	35
Homer	2	22
Seattle	0	16
Bethel	2	12
Dillingham	2	11
Kodiak	0	11
Naknek	0	11
Seward	3	10
Juneau	3	9
Sitka	4	9
Fairbanks	0	8
Petersburg	3	7
Wrangell	1	7
Dutch Harbor/Unalaska	0	6
Kenai	0	6
Ketchikan	0	6
Hoonah	3	5
Nome	5	5
Soldotna	3	5
Valdez	0	5
King Salmon	0	4
Aniak	0	3
Craig	3	3
Salcha	0	3
Unalakleet	0	3
Kotzebue	0	2
Wasilla	0	2
Whittier	0	2
Adak	3	1
Akutan	0	1
Anvik	0	1
Atka	2	1
Barrow	0	1
Chignik	3	1
Eagle River	4	1
Egegik	0	1
Emmonak	3	1
Glennallen	0	1
Kasilof	3	1
King Cove	0	1

Appendix Table A25. -- Cont'd.

	Out-degree	In-degree
Kwethluk	3	1
Mekoryuk	2	1
Napakiak	0	1
Nenana	1	1
New Stuyahok	1	1
Newtok	2	1
Pilot Point	0	1
Pitkas Point	0	1
Saint Paul	3	1
Sand Point	4	1
Skagway	0	1
Taksook	0	1
Tanana	2	1
Thorne Bay	2	1
Tuksook Bay	0	1
Willow	0	1
Port Townsend	0	1
Aleknagik	2	0
Alitak Bay	1	0
Brevig Mission	2	0
Chefornak	2	0
Clam Gulch	3	0
Clarks Point	3	0
Cordova	3	0
Delta Junction	3	0
Eek	2	0
Ekuk	3	0
Ekwok	2	0
Elfin Cove	3	0
False Pass	3	0
Fort Yukon	2	0
Gakona	3	0
Grayling	3	0
Haines	3	0
Holy Cross	0	0
Igiugig	3	0
Iliamna	3	0
Kake	3	0
Karluk	3	0
Kasigluk	1	0

Appendix Table A25. -- Cont'd.

	Out-degree	In-degree
Kiana	2	0
Levelock	3	0
Lower Kalskag	3	0
Manokotak	3	0
McGrath	1	0
Metlakatla	3	0
Moose Pass	3	0
Nanwalek	2	0
Napaskiak	1	0
Newhalen	3	0
Nikiski	3	0
Nikolski	3	0
Ninilchik	4	0
North Pole	3	0
Nunapitchuk	1	0
Old Harbor	3	0
Palmer	3	0
Pelican	3	0
Perryville	3	0
Pilot Station	2	0
Point Baker	3	0
Point Lay	1	0
Port Alexander	3	0
Port Alsworth	3	0
Port Heiden	2	0
Port Lions	2	0
Port Protection	3	0
Portage Creek	3	0
Quinhagak	3	0
Russian Mission	3	0
Saint George	3	0
Saint Mary's	3	0
Saint Michael	3	0
Selawik	1	0
Seldovia	3	0
Shageluk	2	0
Shaktoolik	3	0
Sterling	3	0
Talkeetna	4	0
Tenakee Springs	3	0

Appendix Table A25. -- Cont'd.

	Out-degree	In-degree
Togiak	3	0
Tok	1	0
Tununak	2	0
Ugashik	3	0
Wainwright	0	0
Wales	3	0
Whale Pass	3	0
White Mountain	4	0
Wiseman	1	0
Yakutat	3	0

Appendix Table A26. -- Regional breakdown of the fishing season(s) in the community each year. (Q3).

Region	N	Salmon	Herring	Halibut/ Sablefish	Cod	Pollock	Crab	Whitefish
Aleutian and Pribilof Islands	6	33.33%	0.00%	66.67%	50.00%	16.67%	33.33%	0.00%
Anchorage and Mat-Su	2	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	18	72.22%	22.22%	22.22%	11.11%	0.00%	5.56%	0.00%
Interior	9	55.56%	0.00%	0.00%	0.00%	0.00%	0.00%	11.11%
Kenai Peninsula and Cook Inlet	12	75.00%	16.67%	50.00%	16.67%	0.00%	0.00%	0.00%
Kodiak Island	6	100.00%	50.00%	33.33%	83.33%	0.00%	33.33%	0.00%
Kuskokwim River Mouth	16	50.00%	25.00%	31.25%	0.00%	0.00%	0.00%	6.25%
Northern Alaska	1	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Norton Sound and Bering Strait	9	100.00%	22.22%	0.00%	22.22%	0.00%	22.22%	22.22%
Prince William Sound	2	50.00%	0.00%	50.00%	0.00%	0.00%	0.00%	0.00%
Southeast	18	77.78%	11.11%	33.33%	0.00%	0.00%	27.78%	0.00%

Appendix Table A27. -- Regional breakdown of responses to the following question: Which size classes of commercial fishing boats use your community as their base of operation during the fishing season? (Q11).

Region	N	<35 ft	35-60 ft	61-125 ft	>125 ft	NONE
Aleutian and Pribilof Islands	7	42.86%	71.43%	42.86%	28.57%	14.29%
Anchorage and Mat-Su	3	33.33%	0.00%	0.00%	0.00%	66.67%
Bristol Bay and Alaska Peninsula	19	73.68%	21.05%	10.53%	0.00%	21.05%
Interior	12	33.33%	0.00%	0.00%	0.00%	66.67%
Kenai Peninsula and Cook Inlet	11	90.91%	54.55%	27.27%	18.18%	9.09%
Kodiak Island	5	40.00%	80.00%	40.00%	20.00%	20.00%
Kuskokwim River Mouth	17	76.47%	11.76%	0.00%	0.00%	17.65%
Northern Alaska	4	25.00%	25.00%	0.00%	0.00%	75.00%
Norton Sound and Bering Strait	10	70.00%	30.00%	10.00%	20.00%	30.00%
Prince William Sound	2	50.00%	50.00%	50.00%	50.00%	50.00%
Southeast	18	77.78%	94.44%	50.00%	5.56%	0.00%

Appendix Table A28. -- Regional breakdown of responses to the following question: Which fishing gear types are used by commercial fishing boats that use your community as their base of operation during the fishing season? (Q15).

Region	N	Trawl	Pot	Longline	Gillnet	Purse seiner	Troll	None
Aleutian and Pribilof Islands	7	28.57%	71.43%	85.71%	28.57%	28.57%	0.00%	14.29%
Anchorage and Mat-Su	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Bristol Bay and Alaska Peninsula	19	0.00%	10.53%	31.58%	73.68%	15.79%	0.00%	5.26%
Interior	10	0.00%	0.00%	0.00%	20.00%	0.00%	0.00%	70.00%
Kenai Peninsula and Cook Inlet	11	0.00%	18.18%	63.64%	72.73%	36.36%	9.09%	27.27%
Kodiak Island	6	16.67%	66.67%	66.67%	83.33%	83.33%	16.67%	16.67%
Kuskokwim River Mouth	17	0.00%	0.00%	35.29%	76.47%	0.00%	0.00%	5.88%
Northern Alaska	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Norton Sound and Bering Strait	11	0.00%	18.18%	18.18%	72.73%	0.00%	0.00%	27.27%
Prince William Sound	2	0.00%	50.00%	50.00%	50.00%	50.00%	0.00%	50.00%
Southeast	18	11.11%	66.67%	88.89%	55.56%	50.00%	88.89%	5.56%

Appendix Table A29. -- Regional breakdown of number of gear types used by commercial fishing boats that use the community as their base of operation during the fishing season. (Q15).

Region	One gear	Two gears	Three gears	Four gears	Five gears	Six gears	Seven gears
Aleutian and Pribilof Islands	16.67%	33.33%	16.67%	0.00%	33.33%	0.00%	0.00%
Anchorage and Mat-Su	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	55.56%	27.78%	16.67%	0.00%	0.00%	0.00%	0.00%
Interior	66.67%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%
Kenai Peninsula and Cook Inlet	12.50%	37.50%	12.50%	12.50%	25.00%	0.00%	0.00%
Kodiak Island	0.00%	20.00%	0.00%	20.00%	40.00%	20.00%	0.00%
Kuskokwim River Mouth	62.50%	25.00%	12.50%	0.00%	0.00%	0.00%	0.00%
Northern Alaska	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Norton Sound and Bering Strait	62.50%	12.50%	12.50%	12.50%	0.00%	0.00%	0.00%
Prince William Sound	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Southeast	0.00%	17.65%	17.65%	29.41%	17.65%	5.88%	11.76%

Appendix Table A30. -- Regional breakdown of responses to the following question: To the best of your knowledge, what type of recreational or sport fishing, if any, goes on in your community? (Q13).

Region	N	Charter boats/ Party boats	Private boats owned by residents	Private boats owned by non-residents	Shore based or dock fishing by local residents	Shore based or dock fishing by non-residents	None
Aleutian and Pribilof Islands	7	28.57%	57.14%	28.57%	57.14%	28.57%	28.57%
Anchorage and Mat-Su	3	33.33%	100.00%	66.67%	66.67%	66.67%	0.00%
Bristol Bay and Alaska Peninsula	19	31.58%	94.74%	57.89%	31.58%	36.84%	5.26%
Interior	12	25.00%	75.00%	41.67%	16.67%	16.67%	25.00%
Kenai Peninsula and Cook Inlet	11	81.82%	90.91%	72.73%	63.64%	63.64%	9.09%
Kodiak Island	6	100.00%	100.00%	83.33%	33.33%	16.67%	0.00%
Kuskokwim River Mouth	17	0.00%	52.94%	29.41%	17.65%	17.65%	35.29%
Northern Alaska	5	0.00%	60.00%	0.00%	60.00%	0.00%	20.00%
Norton Sound and Bering Strait	11	0.00%	90.91%	36.36%	36.36%	18.18%	0.00%
Prince William Sound	2	100.00%	100.00%	100.00%	100.00%	100.00%	0.00%
Southeast	18	88.89%	100.00%	77.78%	66.67%	50.00%	0.00%

Appendix Table A31. -- Regional breakdown of responses to the following question: What saltwater species, if any, are targeted by recreational fishermen that use boats based in your community? (Q14).

Region	N	Pink salmon	Chum salmon	Chinook/ King salmon	Coho/ Silver salmon	Sockeye/ Red salmon	Halibut
Aleutian and Pribilof Islands	7	71.43%	57.14%	57.14%	57.14%	71.43%	100.00%
Anchorage and Mat-Su	3	66.67%	66.67%	66.67%	66.67%	100.00%	0.00%
Bristol Bay and Alaska Peninsula	19	36.84%	47.37%	73.68%	78.95%	89.47%	26.32%
Interior	10	0.00%	20.00%	20.00%	20.00%	0.00%	0.00%
Kenai Peninsula and Cook Inlet	12	33.33%	25.00%	75.00%	75.00%	50.00%	66.67%
Kodiak Island	6	83.33%	100.00%	100.00%	100.00%	100.00%	100.00%
Kuskokwim River Mouth	17	35.29%	52.94%	47.06%	47.06%	35.29%	23.53%
Northern Alaska	4	0.00%	25.00%	0.00%	25.00%	0.00%	0.00%
Norton Sound and Bering Strait	11	63.64%	100.00%	100.00%	100.00%	54.55%	18.18%
Prince William Sound	2	50.00%	50.00%	100.00%	50.00%	50.00%	50.00%
Southeast	18	61.11%	50.00%	100.00%	100.00%	61.11%	100.00%

Region	N	Rockfish	Crab	Black cod/ sablefish	Shrimp	Clam	None
Aleutian and Pribilof Islands	7	71.43%	57.14%	14.29%	14.29%	28.57%	0.00%
Anchorage and Mat-Su	3	0.00%	33.33%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	19	0.00%	10.53%	5.26%	0.00%	31.58%	5.26%
Interior	10	0.00%	0.00%	0.00%	0.00%	0.00%	80.00%
Kenai Peninsula and Cook Inlet	12	58.33%	25.00%	25.00%	16.67%	50.00%	8.33%
Kodiak Island	6	66.67%	83.33%	33.33%	0.00%	66.67%	0.00%
Kuskokwim River Mouth	17	0.00%	0.00%	0.00%	0.00%	11.76%	47.06%
Northern Alaska	4	0.00%	0.00%	0.00%	0.00%	0.00%	75.00%
Norton Sound and Bering Strait	11	0.00%	36.36%	18.18%	0.00%	27.27%	0.00%
Prince William Sound	2	50.00%	50.00%	0.00%	50.00%	50.00%	0.00%
Southeast	18	83.33%	88.89%	33.33%	88.89%	61.11%	0.00%

Appendix Table A32. -- Regional breakdown of responses to the following question: What are the three (3) most important subsistence marine or aquatic resource to the residents of your community? (Q20).

Region	N	Salmon	Seals, sea lions, walruses	Whales	Halibut	Herring	Molluscs and crustaceans
Aleutian and Pribilof Islands	8	62.50%	87.50%	0.00%	100.00%	0.00%	25.00%
Anchorage and Mat-Su	2	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%
Bristol Bay and Alaska Peninsula	19	73.68%	47.37%	15.79%	5.26%	5.26%	15.79%
Interior	10	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kenai Peninsula and Cook Inlet	11	90.91%	0.00%	0.00%	54.55%	0.00%	45.45%
Kodiak Island	6	83.33%	33.33%	0.00%	100.00%	0.00%	50.00%
Kuskokwim River Mouth	17	82.35%	58.82%	0.00%	35.29%	23.53%	5.88%
Northern Alaska	5	40.00%	60.00%	80.00%	0.00%	0.00%	0.00%
Norton Sound and Bering Strait	11	72.73%	81.82%	54.55%	0.00%	18.18%	36.36%
Prince William Sound	2	100.00%	0.00%	0.00%	50.00%	0.00%	50.00%
Southeast	18	72.22%	5.56%	0.00%	61.11%	11.11%	66.67%

Appendix Table A33. -- Regional breakdown of CDQ Funding. (Q21).

Region	N	Funding or Grants	Special Allocation	None
Aleutian and Pribilof Islands	6	66.67%	16.67%	33.33%
Anchorage and Mat-Su	3	0.00%	0.00%	100.00%
Bristol Bay and Alaska Peninsula	16	62.50%	6.25%	37.50%
Interior	10	10.00%	0.00%	90.00%
Kenai Peninsula and Cook Inlet	9	0.00%	0.00%	100.00%
Kodiak Island	4	0.00%	0.00%	100.00%
Kuskokwim River Mouth	14	42.86%	14.29%	50.00%
Northern Alaska	2	0.00%	0.00%	100.00%
Norton Sound and Bering Strait	8	87.50%	62.50%	12.50%
Prince William Sound	2	0.00%	0.00%	100.00%
Southeast	16	0.00%	0.00%	100.00%

Appendix Table A34. -- Regional breakdown of responses to the following question: Did the community receive revenue from fisheries related taxes or fee programs this year? (Q22).

Region	N	Fishing gear storage	Leasing public lands to fishing industry	Marine Fuel Sales Tax	Harbor Rental	Municipal dock use fees
Aleutian and Pribilof Islands	2	0.00%	0.00%	50.00%	50.00%	50.00%
Anchorage and Mat-Su	3	0.00%	0.00%	0.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	14	0.00%	0.00%	7.14%	0.00%	7.14%
Interior	11	0.00%	0.00%	0.00%	0.00%	9.09%
Kenai Peninsula and Cook Inlet	8	12.50%	12.50%	25.00%	25.00%	37.50%
Kodiak Island	4	50.00%	0.00%	0.00%	25.00%	25.00%
Kuskokwim River Mouth	12	0.00%	8.33%	0.00%	0.00%	0.00%
Northern Alaska	2	0.00%	0.00%	0.00%	0.00%	0.00%
Norton Sound and Bering Strait	7	14.29%	14.29%	0.00%	0.00%	14.29%
Prince William Sound	1	100.00%	0.00%	0.00%	100.00%	100.00%
Southeast	13	38.46%	23.08%	0.00%	69.23%	30.77%

Appendix Table A35. -- Regional breakdown of responses to the following question: Does your community have local fishing-related fee programs charged to the fishing industry that specifically support public services and infrastructure? (Q24).

Region	N	Yes	No
Aleutian and Pribilof Islands	6	16.67%	83.33%
Anchorage and Mat-Su	3	0.00%	100.00%
Bristol Bay and Alaska Peninsula	19	15.79%	84.21%
Interior	12	0.00%	100.00%
Kenai Peninsula and Cook Inlet	11	18.18%	81.82%
Kodiak Island	5	20.00%	80.00%
Kuskokwim River Mouth	16	0.00%	100.00%
Northern Alaska	4	0.00%	100.00%
Norton Sound and Bering Strait	10	20.00%	80.00%
Prince William Sound	2	50.00%	50.00%
Southeast	18	16.67%	77.78%

Appendix Table A36. -- Regional breakdown of responses to the following question: Which of your community's public services are at least partially supported or funded by any of the following: Local or Borough Raw Fish Tax, Shared Fisheries Business Tax, the Fisheries Resource Landing Tax, or marine fuel sales tax? (Q23).

Region	N	Maintaining the harbor	Hospital/ Medical clinic	Educational scholarships	Roads	Social Services	Water and wastewater systems	Police enforcement & fire protection	No community services are funded by fish taxes
Aleutian and Pribilof Islands	6	50.00%	33.33%	16.67%	66.67%	33.33%	33.33%	33.33%	16.67%
Anchorage and Mat-Su	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Bristol Bay and Alaska Peninsula	18	16.67%	27.78%	16.67%	44.44%	16.67%	33.33%	33.33%	33.33%
Interior	11	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Kenai Peninsula and Cook Inlet	9	44.44%	11.11%	0.00%	22.22%	22.22%	11.11%	22.22%	55.56%
Kodiak Island	4	75.00%	25.00%	25.00%	75.00%	50.00%	75.00%	25.00%	25.00%
Kuskokwim River Mouth	15	13.33%	0.00%	6.67%	20.00%	6.67%	13.33%	26.67%	73.33%
Northern Alaska	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	75.00%
Norton Sound and Bering Strait	9	11.11%	22.22%	33.33%	44.44%	22.22%	55.56%	33.33%	55.56%
Prince William Sound	2	0.00%	50.00%	50.00%	50.00%	50.00%	0.00%	50.00%	50.00%
Southeast	18	55.56%	33.33%	0.00%	33.33%	16.67%	16.67%	33.33%	22.22%

Appendix Table A37. -- Regional breakdown of responses to the following question: Which public social services are available in your community? (Q18).

Region	N	Medical services or doctors	Food bank	Soup kitchen	Job placement services	Publicly subsidized housing	Public library
Aleutian and Pribilof Islands	6	100.00%	16.67%	0.00%	0.00%	0.00%	66.67%
Anchorage and Mat-Su	3	100.00%	100.00%	0.00%	66.67%	100.00%	100.00%
Bristol Bay and Alaska Peninsula	18	83.33%	33.33%	5.56%	27.78%	38.89%	38.89%
Interior	12	83.33%	25.00%	8.33%	25.00%	33.33%	75.00%
Kenai Peninsula and Cook Inlet	11	72.73%	72.73%	27.27%	45.45%	63.64%	90.91%
Kodiak Island	5	100.00%	20.00%	20.00%	20.00%	40.00%	80.00%
Kuskokwim River Mouth	16	87.50%	18.75%	0.00%	37.50%	37.50%	31.25%
Northern Alaska	5	100.00%	40.00%	0.00%	0.00%	40.00%	40.00%
Norton Sound and Bering Strait	11	90.91%	27.27%	18.18%	27.27%	27.27%	27.27%
Prince William Sound	2	100.00%	50.00%	0.00%	0.00%	100.00%	50.00%
Southeast	16	68.75%	37.50%	18.75%	18.75%	50.00%	87.50%

Appendix Table A38. -- Regional breakdown of responses to the following question: For the types of boast listed, would you say there were a lot more, more, no more or less, less, or a lot less boats in your community compared to five years ago? (Q12).

A. Charter boats/party boats

Region	N	A lot more	More	No more or less	Less	A lot less
Aleutian and Pribilof Islands	5	0.00%	20.00%	40.00%	0.00%	20.00%
Anchorage and Mat-Su	2	0.00%	0.00%	50.00%	50.00%	0.00%
Bristol Bay and Alaska Peninsula	11	0.00%	18.18%	36.36%	27.27%	18.18%
Interior	7	0.00%	0.00%	57.14%	28.57%	0.00%
Kenai Peninsula and Cook Inlet	9	0.00%	22.22%	44.44%	22.22%	0.00%
Kodiak Island	5	0.00%	20.00%	60.00%	0.00%	0.00%
Kuskokwim River Mouth	10	0.00%	0.00%	40.00%	10.00%	50.00%
Northern Alaska	4	0.00%	25.00%	75.00%	0.00%	0.00%
Norton Sound and Bering Strait	10	0.00%	0.00%	30.00%	0.00%	60.00%
Prince William Sound	2	0.00%	0.00%	100.00%	0.00%	0.00%
Southeast	18	11.11%	16.67%	38.89%	33.33%	0.00%

Table A38. -- Cont'd.

B. Private pleasure boats

Region	N	A lot more	More	No more or less	Less	A lot less
Aleutian and Pribilof Islands	4	0.00%	0.00%	50.00%	25.00%	0.00%
Anchorage and Mat-Su	2	0.00%	0.00%	100.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	15	13.33%	33.33%	13.33%	13.33%	6.67%
Interior	9	0.00%	11.11%	44.44%	22.22%	11.11%
Kenai Peninsula and Cook Inlet	9	0.00%	55.56%	33.33%	0.00%	0.00%
Kodiak Island	5	0.00%	60.00%	40.00%	0.00%	0.00%
Kuskokwim River Mouth	13	15.38%	23.08%	15.38%	0.00%	23.08%
Northern Alaska	4	25.00%	50.00%	25.00%	0.00%	0.00%
Norton Sound and Bering Strait	10	10.00%	20.00%	30.00%	20.00%	10.00%
Prince William Sound	2	0.00%	0.00%	100.00%	0.00%	0.00%
Southeast	18	5.56%	22.22%	38.89%	22.22%	0.00%

C. Commercial fishing boats

Region	N	A lot more	More	No more or less	Less	A lot less
Aleutian and Pribilof Islands	7	14.29%	14.29%	42.86%	14.29%	14.29%
Anchorage and Mat-Su	2	0.00%	0.00%	50.00%	50.00%	0.00%
Bristol Bay and Alaska Peninsula	16	0.00%	12.50%	50.00%	18.75%	6.25%
Interior	7	0.00%	0.00%	71.43%	28.57%	0.00%
Kenai Peninsula and Cook Inlet	8	0.00%	12.50%	50.00%	0.00%	0.00%
Kodiak Island	5	0.00%	40.00%	40.00%	20.00%	0.00%
Kuskokwim River Mouth	15	6.67%	26.67%	26.67%	0.00%	13.33%
Northern Alaska	2	0.00%	0.00%	100.00%	0.00%	0.00%
Norton Sound and Bering Strait	10	10.00%	20.00%	20.00%	20.00%	20.00%
Prince William Sound	2	0.00%	50.00%	50.00%	0.00%	0.00%
Southeast	18	0.00%	27.78%	38.89%	22.22%	0.00%

Table A38. -- Cont'd.

D. Boats less than 35 ft

Region	N	A lot more	More	No more or less	Less	A lot less
Aleutian and Pribilof Islands	5	0.00%	0.00%	100.00%	0.00%	0.00%
Anchorage and Mat-Su	2	0.00%	0.00%	50.00%	50.00%	0.00%
Bristol Bay and Alaska Peninsula	17	11.76%	23.53%	23.53%	17.65%	5.88%
Interior	11	9.09%	18.18%	45.45%	9.09%	9.09%
Kenai Peninsula and Cook Inlet	9	0.00%	44.44%	44.44%	0.00%	0.00%
Kodiak Island	4	0.00%	50.00%	50.00%	0.00%	0.00%
Kuskokwim River Mouth	16	25.00%	37.50%	18.75%	0.00%	6.25%
Northern Alaska	3	33.33%	0.00%	66.67%	0.00%	0.00%
Norton Sound and Bering Strait	10	40.00%	20.00%	0.00%	10.00%	10.00%
Prince William Sound	2	0.00%	50.00%	0.00%	0.00%	0.00%
Southeast	16	0.00%	31.25%	56.25%	12.50%	0.00%

E. Boats 35 to 60 ft

Region	N	A lot more	More	No more or less	Less	A lot less
Aleutian and Pribilof Islands	5	0.00%	20.00%	40.00%	20.00%	0.00%
Anchorage and Mat-Su	1	0.00%	0.00%	100.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	13	0.00%	7.69%	53.85%	15.38%	23.08%
Interior	6	0.00%	0.00%	83.33%	0.00%	16.67%
Kenai Peninsula and Cook Inlet	9	0.00%	22.22%	44.44%	11.11%	0.00%
Kodiak Island	4	0.00%	50.00%	50.00%	0.00%	0.00%
Kuskokwim River Mouth	12	0.00%	16.67%	25.00%	16.67%	33.33%
Northern Alaska	3	0.00%	0.00%	100.00%	0.00%	0.00%
Norton Sound and Bering Strait	10	10.00%	10.00%	30.00%	40.00%	10.00%
Prince William Sound	1	0.00%	100.00%	0.00%	0.00%	0.00%
Southeast	16	0.00%	37.50%	43.75%	12.50%	0.00%

Table A38. -- Cont'd.

F. Boats 61 to 125 ft

Region	N	A lot more	More	No more or less	Less	A lot less
Aleutian and Pribilof Islands	4	0.00%	0.00%	50.00%	0.00%	25.00%
Anchorage and Mat-Su	1	0.00%	0.00%	100.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	12	0.00%	0.00%	50.00%	16.67%	25.00%
Interior	6	0.00%	0.00%	83.33%	0.00%	16.67%
Kenai Peninsula and Cook Inlet	7	0.00%	42.86%	28.57%	14.29%	0.00%
Kodiak Island	3	0.00%	33.33%	66.67%	0.00%	0.00%
Kuskokwim River Mouth	12	0.00%	0.00%	33.33%	8.33%	58.33%
Northern Alaska	3	0.00%	0.00%	100.00%	0.00%	0.00%
Norton Sound and Bering Strait	10	10.00%	0.00%	50.00%	20.00%	10.00%
Prince William Sound	1	0.00%	0.00%	100.00%	0.00%	0.00%
Southeast	14	0.00%	7.14%	71.43%	14.29%	0.00%

G. Boats greater than 125 ft

Region	N	A lot more	More	No more or less	Less	A lot less
Aleutian and Pribilof Islands	4	0.00%	0.00%	25.00%	25.00%	25.00%
Anchorage and Mat-Su	1	0.00%	0.00%	100.00%	0.00%	0.00%
Bristol Bay and Alaska Peninsula	11	0.00%	0.00%	45.45%	18.18%	36.36%
Interior	6	0.00%	0.00%	83.33%	0.00%	16.67%
Kenai Peninsula and Cook Inlet	6	0.00%	16.67%	50.00%	33.33%	0.00%
Kodiak Island	2	0.00%	50.00%	50.00%	0.00%	0.00%
Kuskokwim River Mouth	12	0.00%	0.00%	33.33%	8.33%	58.33%
Northern Alaska	4	25.00%	0.00%	75.00%	0.00%	0.00%
Norton Sound and Bering Strait	10	10.00%	0.00%	40.00%	20.00%	30.00%
Prince William Sound	1	0.00%	0.00%	100.00%	0.00%	0.00%
Southeast	11	0.00%	0.00%	81.82%	9.09%	0.00%

Appendix Table A39. -- Regional breakdown of responses to the following question: Does your community participate in the fisheries management process in Alaska? (Q25).

Region	N	Paid staff member attends NPFMC &/or Board of Fish meetings	Representative participates in NPFMC committees or advisory groups	Representative sits on regional fisheries advisory &/or working groups run by ADF&G	Representative participates in Federal subsistence Board or Federal Subsistence Regional Advisory Council process	Relies on regional organizations to provide information on fisheries management issues	Financially supports research organizations, industry coalitions, and trade associations	Doesn't participate
Aleutian and Pribilof Islands	7	14.29%	57.14%	28.57%	28.57%	71.43%	28.57%	0.00%
Anchorage and Mat-Su	3	0.00%	0.00%	33.33%	0.00%	0.00%	0.00%	33.33%
Bristol Bay and Alaska Peninsula	17	23.53%	35.29%	47.06%	41.18%	23.53%	5.88%	17.65%
Interior	12	0.00%	8.33%	58.33%	50.00%	0.00%	0.00%	33.33%
Kenai Peninsula and Cook Inlet	11	9.09%	9.09%	45.45%	18.18%	9.09%	18.18%	27.27%
Kodiak Island	5	40.00%	60.00%	40.00%	60.00%	40.00%	20.00%	20.00%
Kuskokwim River Mouth	16	0.00%	0.00%	12.50%	25.00%	0.00%	0.00%	75.00%
Northern Alaska	5	0.00%	0.00%	20.00%	20.00%	20.00%	0.00%	60.00%
Norton Sound and Bering Strait	11	9.09%	36.36%	36.36%	45.45%	18.18%	9.09%	45.45%
Prince William Sound	2	0.00%	0.00%	50.00%	0.00%	0.00%	50.00%	50.00%
Southeast	17	17.65%	11.76%	41.18%	47.06%	35.29%	17.65%	11.76%

Appendix Table A40. -- Regional breakdown of item response for the following question: In your opinion, what are the current challenges for the portion of your community's economy that is based on fishing? (Q26).

Region	N	Response rate	Total
Aleutian and Pribilof Islands	6	75.00%	8
Anchorage and Mat-Su	3	100.00%	3
Bristol Bay and Alaska Peninsula	17	85.00%	20
Interior	10	83.33%	12
Kenai Peninsula and Cook Inlet	11	91.67%	12
Kodiak Island	5	83.33%	6
Kuskokwim River Mouth	16	94.12%	17
Northern Alaska	5	100.00%	5
Norton Sound and Bering Strait	10	90.91%	11
Prince William Sound	2	100.00%	2
Southeast	14	77.78%	18
Total	**99**	**86.84%**	**114**

Appendix Table A41. -- Regional breakdown of item response for the following question: Please describe the effects you've seen of fisheries policies or management actions, if any, on your community. (Q27).

Region	N	Response rate	Total
Aleutian and Pribilof Islands	6	75.00%	8
Anchorage and Mat-Su	2	66.67%	3
Bristol Bay and Alaska Peninsula	17	85.00%	20
Interior	9	75.00%	12
Kenai Peninsula and Cook Inlet	10	83.33%	12
Kodiak Island	4	66.67%	6
Kuskokwim River Mouth	16	94.12%	17
Northern Alaska	0	0.00%	5
Norton Sound and Bering Strait	6	54.54%	11
Prince William Sound	0	0.00%	2
Southeast	12	66.67%	18
Total	**88**	**77.19%**	**114**

Appendix Table A42. -- Regional breakdown of item response for the following question: Which past or current fisheries policy or management action affected your community the most? (Q28).

Region	N	Response rate	Total
Aleutian and Pribilof Islands	6	75.00%	8
Anchorage and Mat-Su	1	33.33%	3
Bristol Bay and Alaska Peninsula	14	70.00%	20
Interior	8	66.67%	12
Kenai Peninsula and Cook Inlet	9	75.00%	12
Kodiak Island	4	66.67%	6
Kuskokwim River Mouth	13	76.47%	17
Northern Alaska	0	00.00%	5
Norton Sound and Bering Strait	10	90.91%	11
Prince William Sound	2	100.00%	2
Southeast	14	77.78%	18
Total	**81**	**71.05%**	**114**

Appendix Table A43. -- Regional breakdown of item response for the following question: What, if any, potential future fisheries policy or management action concerns your community the most? (Q29).

Region	N	Response rate	Total
Aleutian and Pribilof Islands	6	75.00%	8
Anchorage and Mat-Su	0	0.00%	3
Bristol Bay and Alaska Peninsula	14	70.00%	20
Interior	6	50.00%	12
Kenai Peninsula and Cook Inlet	7	58.33%	12
Kodiak Island	3	50.00%	6
Kuskokwim River Mouth	12	70.59%	17
Northern Alaska	0	0.00%	5
Norton Sound and Bering Strait	9	81.82%	11
Prince William Sound	2	100.00%	2
Southeast	12	66.67%	18
Total	**71**	**62.28%**	**114**

APPENDIX B: SUMMARY RESPONSE DISTRIBUTION TABLES

Tables

Appendix Table B1. -- Distribution of responses to the following question: On average, which months per year does your community have seasonal workers living there? (Q2).

	Count	% survey respondents	% item respondents
Jan-March	15	13.27%	13.76%
April-June	93	82.30%	85.32%
July-Sept	79	69.91%	72.48%
Oct-Dec	31	27.43%	28.44%
All year	4	3.54%	3.67%
None	5	4.42%	4.59%
Blank	4	3.54%	-
Total	**114**		

Appendix Table B2. -- Distribution of responses to the following question: In what month(s) does the population in your community reach its annual peak? (Q4).

	Count	% survey respondents	% item respondents
Constant population	6	5.31%	5.50%
Peak in Jan-Mar	8	7.08%	7.34%
Peak in Apr-Jun	51	45.13%	46.79%
Peak in July-Sept	89	78.76%	81.65%
Peak in Oct-Dec	15	13.27%	13.76%
Blank	4	3.54%	-
Total	**114**		

Appendix Table B3. -- Distribution of responses to the following question: To what degree is this peak in population driven by employment in the fishing sectors? (Q5).

	Count	% survey respondents	% item respondents
Entirely	15	13.27%	13.51%
Mostly	32	28.32%	28.83%
Somewhat	16	14.16%	14.41%
A little	9	7.96%	8.11%
Not at all	21	18.58%	18.92%
Blank	2	1.77%	-
Total	**114**		

Appendix Table B4. -- Distribution of responses to the following question: Which, if any, natural resource-based industries does your community's economy rely upon? (Q19).

	Count	% survey respondents	% item respondents
Mining	16	14.16%	14.55%
Logging	16	14.16%	14.55%
Fishing	78	69.03%	70.91%
Oil and gas	10	8.85%	9.09%
Geothermal	1	0.88%	0.91%
Ecotourism	2	1.77%	1.82%
Sportfishing/hunting	6	5.31%	5.45%
Other	3	2.65%	2.73%
None	12	10.62%	10.91%
Blank	3	2.65%	-
Total	**114**		

Appendix Table B5. -- Distribution of responses to the following question: What types of fishing support businesses are located in your community? (Q16).

	N	% survey respondents	% item respondents
Fish processing plants	40	35.40%	36.70%
Fishing gear sales	51	45.13%	46.79%
Fishing gear manufacturer	6	5.31%	5.50%
Boat repair	40	35.40%	36.70%
Electrical	29	25.66%	26.61%
Welding	48	42.48%	44.04%
Mechanical services	43	38.05%	39.45%
Machine Shop	33	29.20%	30.28%
Hydraulics	27	23.89%	24.77%
Haulout facilities for small boats (less than 60 tons).	45	39.82%	41.28%
Haulout facilities for large boats (more than 60 tons).	12	10.62%	11.01%
Tidal grid for small boats (less than 60 tons).	32	28.32%	29.36%
Tidal grid for large boats (more than 60 tons).	11	9.73%	10.09%
Commercial fishing vessel moorage	47	41.59%	43.12%
Recreational fishing vessel moorage	48	42.48%	44.04%
Tackle sales	51	45.13%	46.79%
Bait sales	44	38.94%	40.37%
Commercial cold storage facilities	28	24.78%	25.69%
Drydock storage	31	27.43%	28.44%
Marine Refrigeration	14	12.39%	12.84%
Fish lodges	48	42.48%	44.04%
Fishing business attorneys	10	8.85%	9.17%
Fishing related bookkeeping	25	22.12%	22.94%
Boat fuel Sales	81	71.68%	74.31%
Fishing gear repair	31	27.43%	28.44%
Fishing gear storage	43	38.05%	39.45%
Ice sales	40	35.40%	36.70%
Water taxi	15	13.27%	13.76%
Seaplane service	31	27.43%	28.44%
Air taxi	62	54.87%	56.88%
Blank	4	3.54%	
Total	**114**		

Appendix Table B6. -- Distribution of responses to the following question: How many feet of public dock space for moorage are located in and around the port of your community for permanent and transient vessels? (Q7).

	Permanent			Transient		
Dock feet	**N**	**% survey respondents**	**% item respondents**	**N**	**% survey respondents**	**% item respondents**
None	66	58.41%	64.71%	51	45.13%	54.26%
<500 ft	6	5.31%	5.88%	19	16.81%	20.21%
500-1000 ft	8	7.08%	7.84%	12	10.62%	12.77%
1000-2000 ft	2	1.77%	1.96%	4	3.54%	4.26%
2000-3000 ft	4	3.54%	3.92%	3	2.65%	3.19%
3000-5000 ft	3	2.65%	2.94%	0	0.00%	0.00%
5000-6000 ft	1	0.88%	0.98%	0	0.00%	0.00%
6000-8000 ft	2	1.77%	1.96%	1	0.88%	1.06%
8000-20000 ft	2	1.77%	1.96%	2	1.77%	2.13%
>20000 ft	6	5.31%	5.88%	1	0.88%	1.06%
Blank	11	9.73%	-	19	16.81%	-
Total	**114**			**114**		

Appendix Table B7. -- Distribution of responses to the following question: Which of the following types of infrastructure projects have been completed in your community since 2000, are currently in progress, or are being planned for completion in the next 10 years? (Q6).

Type of infrastructure project	Completed in the last 10 years?			Currently in progress?			Plan to complete in the next 10 years?		
	N	% survey respondents	% item respondents	N	% survey respondents	% item respondents	N	% survey respondents	% item respondents
Fish cleaning station	30	26.55%	76.92%	2	1.77%	5.13%	9	7.96%	23.08%
Barge landing area	29	25.66%	60.42%	11	9.73%	22.92%	16	14.16%	33.33%
Construct new dock space	19	16.81%	35.85%	6	5.31%	11.32%	36	31.86%	67.92%
Improve existing dock structure	24	21.24%	47.06%	9	7.96%	17.65%	31	27.43%	60.78%
Electricity serving the dock	18	15.93%	54.55%	2	1.77%	6.06%	17	15.04%	51.52%
Water serving the dock	17	15.04%	53.13%	4	3.54%	12.50%	15	13.27%	46.88%
Roads serving dock space	22	19.47%	55.00%	11	9.73%	27.50%	15	13.27%	37.50%
Pilings	22	19.47%	55.00%	6	5.31%	15.00%	18	15.93%	45.00%
Fuel tanks at dock	14	12.39%	46.67%	2	1.77%	6.67%	14	12.39%	46.67%
Breakwater	17	15.04%	53.13%	3	2.65%	9.38%	14	12.39%	43.75%
Harbor dredging	12	10.62%	35.29%	4	3.54%	11.76%	21	18.58%	61.76%
Jetty	5	4.42%	55.56%	0	0.00%	0.00%	4	3.54%	44.44%
Dry dock space	7	6.19%	29.17%	3	2.65%	12.50%	14	12.39%	58.33%
Haul-out facilities	18	15.93%	52.94%	6	5.31%	17.65%	15	13.27%	44.12%
EPA certified boat cleaning station	6	5.31%	42.86%	3	2.65%	21.43%	5	4.42%	35.71%
Broadband internet access	39	34.51%	67.24%	20	17.70%	34.48%	4	3.54%	6.90%
Road	29	25.66%	47.54%	29	25.66%	47.54%	23	20.35%	37.70%
Airport/seaplane base	34	30.09%	69.39%	12	10.62%	24.49%	12	10.62%	24.49%
Water and sewer pipelines	36	31.86%	60.00%	20	17.70%	33.33%	18	15.93%	30.00%
Diesel powerhouse	37	32.74%	86.05%	9	7.96%	20.93%	6	5.31%	13.95%
Sewage treatment	29	25.66%	61.70%	12	10.62%	25.53%	13	11.50%	27.66%
Water treatment	40	35.40%	70.18%	18	15.93%	31.58%	15	13.27%	26.32%
Alternative energy (e.g., hydro, wind, tidal).	20	17.70%	35.71%	23	20.35%	41.07%	27	23.89%	48.21%
New landfill/solid waste site	39	34.51%	61.90%	15	13.27%	23.81%	20	17.70%	31.75%
Community center/Library	28	24.78%	57.14%	15	13.27%	30.61%	16	14.16%	32.65%
Public safety – Police department	34	30.09%	65.38%	17	15.04%	32.69%	10	8.85%	19.23%
Emergency response	32	28.32%	61.54%	20	17.70%	38.46%	4	3.54%	7.69%
Fire department	37	32.74%	63.79%	19	16.81%	32.76%	12	10.62%	20.69%
School	48	42.48%	84.21%	11	9.73%	19.30%	6	5.31%	10.53%
Telephone service	48	42.48%	88.89%	13	11.50%	24.07%	4	3.54%	7.41%
Post office	49	43.36%	98.00%	6	5.31%	12.00%	1	0.88%	2.00%

Appendix Table B8. -- Distribution of responses to the following question: What is the maximum vessel length that can use moorage in your community? (Q8).

	N	% survey respondents	% item respondents
0 ft	41	36.28%	39.81%
1-100 ft	18	15.93%	17.48%
101-200 ft	11	9.73%	10.68%
201-300 ft	6	5.31%	5.83%
301-400 ft	4	3.54%	3.88%
401-500 ft	3	2.65%	2.91%
>500 ft	5	4.42%	4.85%
Blank	10	8.85%	-
Total	**114**		

Appendix Table B9. -- Distribution of responses to the following question: What is the annual revenue that public moorage facilities earned in 2011? (Q9).

	Value
N	88
Mean	$189,307.98
Median	$0.00
Maximum	$3,890,000.00
Minimum	$0.00
Standard deviation	$612,051.61

Appendix Table B10. -- Distribution of responses to the following question: Which size classes of commercial fishing boats use your community as their base of operation during the fishing season? (Q11).

	N	% survey respondents	% item respondents
Under 35 feet	69	61.06%	64.49%
35-60 feet	43	38.05%	40.19%
61-125 feet	20	17.70%	18.69%
Over 125 feet	7	6.19%	6.54%
None	27	23.89%	25.23%
Blank	6	5.31%	-
Total	**114**		

Appendix Table B11. -- Distribution of responses to the following question: Which of the following types of regulated vessels is the port of your community capable of handling? (Q10).

	N	% survey respondents	% item respondents
Rescue vessels	37	32.74%	33.94%
Cruise ships	16	14.16%	14.68%
Ferries	12	10.62%	11.01%
Fuel barges	49	43.36%	44.95%
Hazmat	8	7.08%	7.34%
None	28	24.78%	25.69%
Blank	4	3.54%	-
Total	**114**		

Appendix Table B12. -- Distribution of responses to the following question: Which fishing gear types are used by commercial fishing boats that use your community as their base of operation during the fishing season? (Q15).

	N	% survey respondents	% item respondents
Trawl	5	4.42%	4.63%
Pots	28	24.78%	25.93%
Longline	48	42.48%	44.44%
Gillnet	63	55.75%	58.33%
Purse Seine	18	15.93%	16.67%
Troll	7	6.19%	6.48%
None	26	23.01%	24.07%
Blank	5	4.42%	-
Total	**114**		

Appendix Table B13. -- Distribution of the number of different gears used by commercial fishing boats that use the community as their base of operation during the fishing season. (Q15).

	N	% item respondents[1]
One gear	28	34.15%
Two gears	21	25.61%
Three gears	11	13.41%
Four gears	9	10.98%
Five gears	9	10.98%
Six gears	2	2.44%
Seven gears	2	2.44%
Total	**82**	-

[1] The pool of item respondents in this case refers to communities that reported at least one specific gear type.

Appendix Table B14. -- Distribution of responses to the following question: To the best of your knowledge, what type of recreational or sport fishing, if any, goes on in your community? (Q13).

	N	% survey respondents	% item respondents
Charter boats/Party boats	45	39.82%	40.91%
Private boats owned by residents	91	80.53%	82.73%
Private boats owned by non- residents	57	50.44%	51.82%
Shore based or dock fishing by local residents	36	31.86%	32.73%
Shore based or dock fishing by non- residents	29	25.66%	26.36%
None	14	12.39%	12.73%
Blank	3	2.65%	-
Total	**114**		

Appendix Table B15. -- Distribution of responses to the following question: What saltwater species, if any, are targeted by recreational fishermen that use boats based in your community? (Q14).

	N	% survey respondents	% item respondents
Pink salmon	48	42.48%	44.86%
Chum salmon	57	50.44%	53.27%
Chinook/King salmon	76	67.26%	71.03%
Coho/Silver salmon	77	68.14%	71.96%
Sockeye/Red salmon	61	53.98%	57.01%
Halibut	51	45.13%	47.66%
Rockfish	32	28.32%	29.91%
Crab	36	31.86%	33.64%
Black cod/sablefish	15	13.27%	14.02%
Shrimp	20	17.70%	18.69%
Clam	35	30.97%	32.71%
Other	22	19.47%	20.56%
None	21	18.58%	19.63%
Blank	6	5.31%	-
Total	**114**		

Appendix Table B16. -- Distribution of community fishery participation (Q3).

	N	% survey respondents	% item respondents
Salmon	70	61.95%	84.34%
Herring	17	15.04%	20.48%
Halibut/sablefish	28	24.78%	33.73%
Cod	14	12.39%	16.87%
Pollock	1	0.88%	1.20%
Crab	12	10.62%	14.46%
Whitefish	5	4.42%	6.02%
Shrimp	6	5.31%	7.23%
Shellfish	2	1.77%	2.41%
Blank	13	11.50%	-
Total	**114**		

[1] Survey question was: "On average, how long is the fishing season(s) in your community each year?"

Appendix Table B17. -- Distribution of responses to the following question: What are the three (3) most important subsistence marine or aquatic resource to the residents of your community? (Q20).

	N	% survey respondents	% item respondents
Salmon	92	81.42%	82.88%
Pinnipeds (e.g., seals and walrus)	39	34.51%	35.14%
Whales	14	12.39%	12.61%
Plants	12	10.62%	10.81%
Ungulates	23	20.35%	20.72%
Unspecified fish	50	44.25%	45.05%
Halibut	38	33.63%	34.23%
Herring	10	8.85%	9.01%
Molluscs and crustaceans (e.g., clams and crabs)	32	28.32%	28.83%
Birds	9	7.96%	8.11%
Bear	2	1.77%	1.80%
Beaver/mink	2	1.77%	1.80%
Blanks	2	1.77%	-
Total	**114**		

Appendix Table B18. -- Distribution of responses to the following question: Does the local government, organizations, or other local entities of your community receive any funding or grants from a Community Development Quota entity? (Q21).

	N	% survey respondents	% item respondents
Funding and Grants	25	22.12%	28.09%
Special Allocations	8	7.08%	8.99%
None	61	53.98%	68.54%
Blank	24	21.24%	
Total	**114**	-	

Appendix Table B19. -- Distribution of item response for the following question: How much total revenue did the community receive from fisheries-related taxes or fee programs this year? (Q22).

	N	% survey respondents	% item respondents
Fishing gear storage	10	8.85%	11.36%
Leasing public land to fishing industry	6	5.31%	6.82%
Marine fuel sales tax	4	3.54%	4.55%
Harbor rental	14	12.39%	15.91%
Municipal dock use fees	13	11.50%	14.77%
Blank	25	22.12%	-
Total	**114**		

Appendix Table B20. -- Distribution of responses to the following question: Does your community have local fishing-related fee programs charged to the fishing industry that specifically support public services and infrastructure? (Q24).

	N	% survey respondents	% item respondents
Yes	13	11.50%	12.50%
No	91	80.53%	87.50%
Blank	10	8.77%	-
Total	**114**		

Appendix Table B21. -- Distribution of responses to the following question: Which of your community's public services are at least partially supported or funded by any of the following: Local or Borough Raw Fish Tax, Shared Fisheries Business Tax, the Fisheries Resource Landing Tax, or marine fuel sales tax? (Q23).

	N	% survey respondents	% item respondents
Maintaining the Harbor	26	23.01%	26.53%
Hospital/Medical clinic	18	15.93%	18.37%
Educational scholarships	10	8.85%	10.20%
Roads	15	13.27%	15.31%
Social Services	9	7.96%	9.18%
Water and wastewater systems	9	7.96%	9.18%
Roads	8	7.08%	8.16%
Police enforcement/fire protection	7	6.19%	7.14%
Not able to determine	8	7.08%	8.16%
Other	7	6.19%	7.14%
No community services are funded by fish taxes	35	30.97%	35.71%
Blank	15	13.27%	-
Total	**114**		

Appendix Table B22. -- Distribution of responses to the following question: Which public social services are available in your community? (Q18).

	N	% survey respondents	% item respondents
Medical services or doctors	88	77.88%	84.62%
Food bank	37	32.74%	35.58%
Soup kitchen	9	7.96%	8.65%
Job placement services	8	7.08%	7.69%
Publicly subsidized housing	7	6.19%	6.73%
Public library	12	10.62%	11.54%
Other	28	24.78%	26.92%
Blank	10	8.77%	-
Total	**114**		

Appendix Table B23. -- Distribution of responses to the following question: For the types of boats listed, would you say there were a lot more, more, no more or less, less, or a lot less boats in your community compared to five years ago? (Q12).

		A lot more	More	No more no less	Less	A lot less	Blanks	Total
Charter boats/ Party boats	N	2	10	37	14	14	31	114
	% survey respondents	1.77%	8.85%	32.74%	12.39%	12.39%	27.43%	
	% item respondents	2.44%	12.20%	45.12%	17.07%	17.07%	-	
Private pleasure boats	N	7	25	30	10	6	23	114
	% survey respondents	6.19%	22.12%	26.55%	8.85%	5.31%	20.35%	
	% item respondents	7.78%	27.78%	33.33%	11.11%	6.67%	-	
Commercial fishing boats	N	3	18	39	13	6	22	114
	% survey respondents	2.65%	15.93%	34.51%	11.50%	5.31%	19.47%	
	% item respondents	3.30%	19.78%	42.86%	14.29%	6.59%	-	
Boats <35 ft	N	12	26	34	8	4	19	114
	% survey respondents	10.62%	23.01%	30.09%	7.08%	3.54%	16.81%	
	% item respondents	12.77%	27.66%	36.17%	8.51%	4.26%	-	
Boats between 35-60 ft	N	1	16	37	12	9	33	114
	% survey respondents	0.88%	14.16%	32.74%	10.62%	7.96%	29.20%	
	% item respondents	1.25%	20.00%	46.25%	15.00%	11.25%	-	
Boats between 61-125 ft	N	1	5	41	8	13	40	114
	% survey respondents	0.88%	4.42%	36.28%	7.08%	11.50%	35.40%	
	% item respondents	1.37%	6.85%	56.16%	10.96%	17.81%	-	
Boats >125 ft	N	2	2	37	9	16	45	114
	% survey respondents	1.77%	1.77%	32.74%	7.96%	14.16%	39.82%	
	% item respondents	2.94%	2.94%	54.41%	13.24%	23.53%	-	

Appendix Table B24. -- Distribution of responses to the following question: Does your community participate in the fisheries management process in Alaska? (Q25).

	N	% survey respondents	% item respondents
Paid staff attends fed & state	12	10.53%	11.32%
Rep participates in federal	21	18.42%	19.81%
Rep sits on state advisory groups	40	35.09%	37.74%
Rep participates in subsistence	38	33.33%	35.85%
Rely on regional organizations	21	18.42%	19.81%
Financially supports groups	11	9.65%	10.38%
Don't participate	35	30.70%	33.02%
Blank	8	7.02%	-
Total	**114**		

Appendix Table B25. – Distribution of responses to the following question: What types of fishing support businesses are located in your community (Q16)?

Business type	N	% survey respondents	% item respondents
Fish processing plants	40	35.09%	36.36%
Fishing gear sales	51	44.74%	46.36%
Fishing gear manufacturer	6	5.26%	5.45%
Boat repair	41	35.96%	37.27%
Electrical	29	25.44%	26.36%
Welding	49	42.98%	44.55%
Mechanical services	43	37.72%	39.09%
Machine Shop	33	28.95%	30.00%
Hydraulics	27	23.68%	24.55%
Haulout facilities for small boats (less than 60 tons)	45	39.47%	40.91%
Haulout facilities for large boats (more than 60 tons)	12	10.53%	10.91%
Tidal grid for small boats (less than 60 tons)	32	28.07%	29.09%
Tidal grid for large boats (more than 60 tons)	11	9.65%	10.00%
Commercial fishing vessel moorage	47	41.23%	42.73%
Recreational fishing vessel moorage	48	42.11%	43.64%
Tackle sales	51	44.74%	46.36%
Bait sales	44	38.60%	40.00%
Commercial cold storage facilities	28	24.56%	25.45%
Drydock storage	32	28.07%	29.09%
Marine Refrigeration	14	12.28%	12.73%
Fish lodges	49	42.98%	44.55%
Fishing business attorneys	10	8.77%	9.09%
Fishing related bookkeeping	25	21.93%	22.73%
Boat fuel Sales	82	71.93%	74.55%
Fishing gear repair	31	27.19%	28.18%
Fishing gear storage	43	37.72%	39.09%
Ice sales	40	35.09%	36.36%
Water taxi	15	13.16%	13.64%
Seaplane service	31	27.19%	28.18%
Air taxi	63	55.26%	57.27%
Blank	4	3.51%	--
Total	**114**		

APPENDIX C: RESPONSE RATES

TABLES

Appendix Table C1. -- Alaska Community Survey Implementation and Response.

Community	Number of Surveys Received	Number of Surveys Returned
Adak	2	1
Akhiok	2	0
Akiachak	2	0
Akiak	2	1
Akutan	2	1
Alakanuk	2	0
Aleknagik	2	1
Alitak Bay	1	1
Anchor Point	1	0
Anchorage	2	0
Angoon	2	0
Aniak	2	0
Anvik	2	0
Atka	3	1
Barrow	2	0
Bethel	2	1
Brevig Mission	2	2
Chefornak	2	0
Chenega	1	0
Chevak	2	0
Chignik (Bay).	2	1
Chignik Lagoon	2	0
Chignik Lake	1	0
Chugiak	1	0
Clam Gulch	1	1
Clarks Point	2	2
Cold Bay	1	0
Cooper Landing	1	0
Copper Center	1	0
Cordova	1	1
Craig	2	1
Delta Junction	1	1
Dillingham	2	1
Diomede	2	0
Douglas	1	0
Dutch Harbor/Unalaska	2	0
Eagle River	2	2
Edna Bay	2	0
Eek	2	1
Egegik	2	0
Ekuk	2	1
Ekwok	3	3

Appendix Table C1. – Cont'd.

Community	Number of Surveys Received	Number of Surveys Returned
Elfin Cove	1	1
Elim	2	0
Emmonak	2	1
Excursion Inlet	1	0
Fairbanks	2	0
False Pass	2	1
Fort Yukon	2	2
Fritz Creek	1	0
Gakona	2	2
Galena	2	1
Gambell	2	0
Glennallen	2	0
Golovin	2	0
Goodnews Bay	2	0
Grayling	2	1
Gustavus	1	0
Haines	2	2
Halibut Cove	1	0
Hobart Bay	1	0
Holy Cross	2	1
Homer	2	2
Hoonah	2	1
Hooper Bay	2	0
Huslia	2	1
Hydaburg	2	0
Hyder	2	0
Igiugig	3	0
Iliamna	2	2
Ivanof Bay	1	0
Juneau	3	1
Kake	2	1
Karluk	2	1
Kasigluk	2	2
Kasilof	1	1
Kenai	2	1
Ketchikan	2	0
Kiana	2	1
King Cove	2	0
King Salmon	1	0
Kipnuk	2	0
Kivalina	3	1
Klawock	2	0
Kodiak	2	2
Kokhanok	2	0

Appendix Table C1. – Cont'd.

Community	Number of Surveys Received	Number of Surveys Returned
Koliganek	1	0
Kongiganak	2	0
Kotlik	2	0
Kotzebue	2	0
Koyuk	2	0
Kwethluk	3	3
Kwigillingok	2	0
Larsen Bay	2	1
Levelock	1	1
Lower Kalskag	2	2
Manokotak	2	2
Marshall	2	0
McGrath	2	2
Mekoryuk	2	2
Metlakatla	1	1
Meyers Chuck	1	0
Moose Pass	1	1
Mountain Village	2	0
Naknek	2	0
Nanwalek	2	2
Napakiak	2	0
Napaskiak	2	1
Nelson Lagoon	2	0
Nenana	2	1
New Stuyahok	2	1
Newhalen	2	2
Newtok	2	2
Nightmute	2	0
Nikiski	1	1
Nikolaevsk	1	0
Nikolski	3	1
Ninilchik	2	2
Noatak	1	0
Nome	2	2
Nondalton	2	1
North Pole	2	1
Nunapitchuk	2	1
Old Harbor	2	1
Oscarville	2	0
Ouzinkie	2	0
Palmer	3	1
Pedro Bay	2	1
Pelican	2	1
Perryville	2	1

Appendix Table C1. – Cont'd.

Community	Number of Surveys Received	Number of Surveys Returned
Petersburg	2	1
Pilot Point	2	0
Pilot Station	2	2
Platinum	2	0
Point Baker	1	1
Point Lay	2	1
Port Alexander	1	1
Port Alsworth	2	1
Port Graham	2	0
Port Heiden	2	1
Port Lions	2	1
Port Moller	1	0
Port Protection	1	1
Portage Creek	2	1
Prudhoe Bay	1	0
Quinhagak	2	2
Russian Mission	2	1
Saint George	2	1
Saint Mary's	2	1
Saint Michael	2	2
Saint Paul	2	1
Sand Point	2	2
Savoonga	2	0
Scammon Bay	2	0
Selawik	2	1
Seldovia	2	2
Seward	2	1
Shageluk	2	1
Shaktoolik	2	1
Sheldon Point (Nunam Iqua)	2	0
Shishmaref	2	1
Sitka	2	2
Skwentna	1	0
Soldotna	1	1
South Naknek	1	0
Stebbins	2	0
Sterling	1	1
Talkeetna	2	2
Tanana	2	1
Tatitlek	1	0
Teller	2	0
Tenakee Springs	1	1
Thorne Bay	2	1
Togiak	2	2

Appendix Table C1. – Cont'd.

Community	Number of Surveys Received	Number of Surveys Returned
Tok	2	1
Toksook Bay	2	2
Tuluksak	1	0
Tuntutuliak	2	1
Tununak	2	1
Twin Hills	1	0
Ugashik	2	2
Unalakleet	2	0
Valdez	2	0
Wainwright	2	2
Wales	2	2
Wasilla	1	0
Whale Pass	1	1
White Mountain	2	2
Whittier	2	0
Willow	2	0
Wiseman	1	1
Wrangell	2	2
Yakutat	2	1
Total	**348**	**148**

Appendix D: Survey instrument

Alaska Community Survey

Sponsored by:
NOAA Fisheries (National Marine Fisheries Service).
Alaska Fisheries Science Center
Economic and Social Science Research Program

Questions?

Administered by:
Pacific States Marine Fisheries Commission
Scott Prose
Phone: (877). 741-8913
Email: sprose@psmfc.org

OMB Control No.: 0648-0626 **EXPIRATION DATE:** 03/31/2014

This survey is voluntary. **All responses are anonymous.**

SURVEY INSTRUCTIONS

◊ All answers given in this survey should reflect information about Seattle.

◊ Please ask questions if anything is unclear. Contact Scott Prose at sprose@psmfc.org or toll free at (877).741-8913.

◊ Please use pen in blue or black ink.

◊ Please **DO NOT** write your name anywhere on this survey.

◊ Please mark only one answer for each question unless otherwise instructed.

◊ If you are unable to answer the question, please write why you are unable to answer in the margin. (e.g., Data not available).

THANK YOU FOR YOUR TIME AND PARTICIPATION

Q1 **How many people live in Seattle…** *Please indicate the source of the number of people or if the number is an estimation. Seasonal workers includes all industries (for example, fishing, construction, tourism, etc.).*

… as year round residents? _____ people
- ❑ Source: _____
- ❑ This is an estimation.

… as seasonal workers or transients? _____ people
- ❑ Source: _____
- ❑ This is an estimation.

… as year round residents and work in a shore-side processing plant? _____ people
- ❑ Source: _____
- ❑ This is an estimation.

Q2 **On average, which months per year does Seattle have seasonal workers living there?** *Seasonal workers includes all industries (for example, fishing, construction, tourism, etc.).*

_____

Q3 **On average, how long is the fishing season(s) in Seattle each year?** *Please provide the months that fishing out of Seattle typically begins and ends each year and indicate which fishery(ies) you are referring to.*

Fishery: _____ **From** _____ **to** _____
Fishery: _____ **From** _____ **to** _____
Fishery: _____ **From** _____ **to** _____
Fishery: _____ **From** _____ **to** _____

Q4 **In what month(s) does the population in Seattle reach its annual peak?**

_____
_____
_____

Q5 **To what degree is this peak in population driven by employment in the fishing sectors (for example, processing plants, commercial fishing, subsistence fishing, recreational/sport fishing, and charter fishing)?**

❑ Entirely ❑ Mostly ❑ Somewhat ❑ A little ❑ Not at all

Q6 **Which of the following types of infrastructure projects, if any, have been completed in Seattle since 2000, are currently in progress, or are being planned for completion in the next 10 years?** *Please mark the applicable boxes for each project.*

Type of infrastructure project	Completed in the last 10 years?	Currently in progress?	Plan to complete in the next 10 years?	Year of completion or planned completion (if not known, write "unknown").
Fish cleaning station	❑	❑	❑	_____
Barge landing area	❑	❑	❑	_____
Construct new dock space	❑	❑	❑	_____
Improve existing dock structure	❑	❑	❑	_____
Electricity serving the dock	❑	❑	❑	_____
Water serving the dock	❑	❑	❑	_____
Roads serving dock space	❑	❑	❑	_____
Pilings	❑	❑	❑	_____
Fuel tanks at dock	❑	❑	❑	_____
Breakwater	❑	❑	❑	_____
Harbor dredging	❑	❑	❑	_____
Jetty	❑	❑	❑	_____
Dry dock space	❑	❑	❑	_____
Haul-out facilities	❑	❑	❑	_____
EPA certified boat cleaning station	❑	❑	❑	_____
Broadband internet access	❑	❑	❑	_____
Road	❑	❑	❑	_____
Airport/seaplane base	❑	❑	❑	_____
Water and sewer pipelines	❑	❑	❑	_____
Diesel powerhouse	❑	❑	❑	_____
Sewage treatment	❑	❑	❑	_____
Water treatment	❑	❑	❑	_____
Alternative energy (e.g., hydro, wind, tidal).	❑	❑	❑	_____
New landfill/solid waste site	❑	❑	❑	_____
Community center/Library	❑	❑	❑	_____
Public safety – Police department	❑	❑	❑	_____
Emergency response	❑	❑	❑	_____
Fire department	❑	❑	❑	_____
School	❑	❑	❑	_____
Telephone service	❑	❑	❑	_____
Post office	❑	❑	❑	_____
Other_____	❑	❑	❑	_____

Q7 How many feet of <u>public</u> dock space for moorage are located in and around the port of Seattle for permanent and transient vessels?

_____ feet of dock space is available for permanent vessels to moor at.

❑ No dock space is available for permanent vessels to moor at.

_____ feet of dock space is available for transient vessels to moor at.

❑ No dock space is available for transient vessels to moor at.

Q8 What is the maximum vessel length that can use moorage in Seattle?

Vessels up to _____ feet long can use moorage in Seattle.

❑ No dock space is available for public moorage.

Q9 What is the annual revenue that public moorage facilities earned in 2011?

US$ _____

Q10 Which of the following types of regulated vessels, if any, is the port of Seattle capable of handling? *Regulated vessels are those that are specially regulated by the U.S. Coast Guard and must conform to the Maritime Transportation Security Act.*

❑ Rescue vessels (e.g., Coast Guard).
❑ Cruise ships
❑ Ferries
❑ Fuel barges
❑ HAZMAT
❑ None of the above
❑ Other: _____

Q11 Which size classes, if any, of commercial fishing boats use Seattle as their base of operation <u>during</u> the fishing season? *Check all that apply.*

❑ Under 35 feet
❑ 35 to 60 feet
❑ 61 to 125 feet
❑ Over 125 feet
❑ None

Q12 For the types of boats listed, would you say there were a lot more, more, no more or less, less, or a lot less boats in Seattle compared to five years ago?

	A lot more	More	No more or less	Less	A lot less
Charter boats/Party boats	❑	❑	❑	❑	❑
Private pleasure boats	❑	❑	❑	❑	❑
Commercial fishing boats	❑	❑	❑	❑	❑
Boats shorter than 35 feet	❑	❑	❑	❑	❑
Boats between 35 and 60 feet	❑	❑	❑	❑	❑
Boats between 61 and 125 feet	❑	❑	❑	❑	❑
Boats longer than 125 feet	❑	❑	❑	❑	❑
Other (specify): _____	❑	❑	❑	❑	❑

Q12a For any changes you noted in Q12, please describe any changes that you have noticed.

Q13 To the best of your knowledge, what type of recreational or sport fishing, if any, goes on in Seattle? *Check all that apply.*

- ❑ Charter boats or party boats
- ❑ Private boats owned by local residents
- ❑ Private boats owned by non-residents
- ❑ Shore-based or dock fishing by local residents
- ❑ Shore-based or dock fishing by non-residents
- ❑ Other: _____
- ❑ None

Q14 What saltwater species, if any, are targeted by recreational fishermen that use boats based in Seattle? *Check all that apply.*

- ❑ Pink salmon
- ❑ Chum salmon
- ❑ Chinook/King salmon
- ❑ Coho/Silver salmon
- ❑ Sockeye/Red salmon
- ❑ Halibut
- ❑ Rockfish
- ❑ Crab
- ❑ Black cod/sablefish
- ❑ Shrimp
- ❑ Clam
- ❑ Other: _____
- ❑ None

Q15 Which fishing gear types, if any, are used by commercial fishing boats that use Seattle as their base of operation <u>during</u> the fishing season? *Check all that apply.*

- ❑ Trawl
- ❑ Pots
- ❑ Longline
- ❑ Gillnet
- ❑ Purse seiner
- ❑ Troll
- ❑ Other: _____
- ❑ None of the above

Q16 What types of fishing support businesses are located in Seattle? *From the list below, check one box for each type of business to indicate if it is present in Seattle.*

Business type	**Located in the community?**	
Fish processing plants	❑ Yes	❑ No
Fishing gear sales	❑ Yes	❑ No
Fishing gear manufacturer	❑ Yes	❑ No
Boat repair	❑ Yes	❑ No
Electrical	❑ Yes	❑ No
Welding	❑ Yes	❑ No
Mechanical services	❑ Yes	❑ No
Machine Shop	❑ Yes	❑ No
Hydraulics	❑ Yes	❑ No
Haulout facilities for small boats (less than 60 tons).	❑ Yes	❑ No
Haulout facilities for large boats (more than 60 tons).	❑ Yes	❑ No
Tidal grid for small boats (less than 60 tons).	❑ Yes	❑ No
Tidal grid for large boats (more than 60 tons).	❑ Yes	❑ No
Commercial fishing vessel moorage	❑ Yes	❑ No
Recreational fishing vessel moorage	❑ Yes	❑ No
Tackle sales	❑ Yes	❑ No
Bait sales	❑ Yes	❑ No
Commercial cold storage facilities	❑ Yes	❑ No
Drydock storage	❑ Yes	❑ No
Marine Refrigeration	❑ Yes	❑ No
Fish lodges	❑ Yes	❑ No
Fishing business attorneys	❑ Yes	❑ No
Fishing related bookkeeping	❑ Yes	❑ No
Boat fuel Sales	❑ Yes	❑ No
Fishing gear repair	❑ Yes	❑ No
Fishing gear storage	❑ Yes	❑ No
Ice sales	❑ Yes	❑ No
Water taxi	❑ Yes	❑ No
Seaplane service	❑ Yes	❑ No
Air taxi	❑ Yes	❑ No
Other: _____	❑ Yes	❑ No

Q17 For those businesses in Q16 that are not available in Seattle, please list the top three communities that people go to for these services.

1) _____
2) _____
3) _____

Q18 Which public social services are available in Seattle? *Check all that apply.*

- ❑ Medical services or doctors
- ❑ Food bank
- ❑ Soup kitchen
- ❑ Job placement services
- ❑ Publicly subsidized housing
- ❑ Public library
- ❑ Other _____

Q19 Which, if any, natural resource-based industries does Seattle's economy rely upon? *Check all that apply.*

- ❑ Mining
- ❑ Logging
- ❑ Fishing
- ❑ Oil and natural gas exploration or drilling
- ❑ Geothermal
- ❑ Ecotourism (e.g., whale watching, kayaking).
- ❑ Sport hunting and fishing
- ❑ Other: _____
- ❑ None of the above

Q20 What are the three (3). most important subsistence marine or aquatic resources to the residents of Seattle? *Subsistence may be defined as the harvest of local natural resources for local consumption. We encourage you to answer this question in conjunction with others from Seattle.*

1) _____
2) _____
3) _____

- ❑ Subsistence harvesting is not done by residents of Seattle.

Q21 Does the Seattle local government, organizations, or other local entities receive any funding or grants from a Community Development Quota entity? *If funding or grants were received in 2011, please indicate how much the local government received.*

- ❑ Seattle received $ _____ in funding or grants from a Community Development Quota entity in 2011.
- ❑ Seattle received $ _____ in special allocations from a Community Development Quota entity in 2011.
- ❑ Seattle does not receive any funding or grants from Community Development Quota entities.

Q22 How much total revenue did the community of Seattle receive from fisheries related taxes or fee programs in <u>2011</u>? *If no revenue was received from one of the sources of revenue listed,*

please write $0 in the "Revenue Received" column. If revenue is received for one of the sources of revenue listed, but there are no records of the total amount, please write "unknown."

Source of Revenue	Amount of Total Revenue Received in US$
Fishing gear storage on public/tribal land	US$_____
Leasing public/tribal land to members of the fishing industry	US$_____
Tax on the sale of marine fuel (used to power private and commercially owned boats).	US$_____
Harbor rental	US$_____
Municipal dock use fees (for example, container offloading/onloading, fishing gear transfer, etc.).	US$_____
Other:_____	US$_____
Other:_____	US$_____
Other:_____	US$_____

Q23 Which of Seattle's public services are at least partially supported or funded by any of the following: Local or Borough Raw Fish Tax, Shared Fisheries Business Tax, the Fisheries Resource Landing Tax, or marine fuel sales tax? *Check all that apply.*

- ❑ Maintaining the harbor
- ❑ Hospital/medical clinic/emergency response
- ❑ Educational scholarships
- ❑ Roads
- ❑ Social services (e.g., libraries, etc.).
- ❑ Water and wastewater systems
- ❑ Roads
- ❑ Police/enforcement/fire protection
- ❑ Not able to determine
- ❑ Other: _____
- ❑ No community services are funded by these taxes.

Q24 Does Seattle have local fishing-related fee programs charged to the fishing industry that specifically support public services and infrastructure?

- ❑ Yes
- ❑ No

Q24a If you answered yes to Q24, please describe those local fee programs and what community services and infrastructure they support.

Q25 Does Seattle participate in the fisheries management process in Alaska?

- ❑ **Yes**

❑ **No**

Q25a If yes, how? ***Check all that apply.***

- ❑ Seattle has a paid staff member that attends North Pacific Fisheries Management Council meetings and/or Board of Fisheries meetings.
- ❑ Seattle has a representative that participates in North Pacific Fisheries Management Council committees or advisory groups.
- ❑ Seattle has a representative that sits on regional fisheries advisory and/or working groups run by Alaska Department of Fish and Game.
- ❑ Seattle has a representative that participates in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council process.
- ❑ Seattle relies on regional organizations, such as the Gulf of Alaska Coastal Communities Coalition, Southeast Conference, or Southwest Alaska Municipal Conference, to provide information on fisheries management issues.
- ❑ Seattle financially supports research organizations, industry coalitions, and trade associations, such as_____.
- ❑ Other: _____

Q26 In your opinion, what are the current challenges for the portion of Seattle's economy that is based on fishing? *Please feel free to provide additional information on a separate sheet of paper.*

Q27 Please describe the effects you've seen of fisheries policies or management actions you've seen, if any, on Seattle. *Please describe the policies or management action(s), both positive and negative and what impact it has had on Seattle. Please feel free to provide additional information on a separate sheet of paper.*

Q28 Which <u>past or current</u> fisheries policy or management action affected Seattle the most? *Please describe the policy or management action, positive or negative, and how Seattle residents were affected. Please feel free to provide additional information on a separate sheet of paper.*

Q29 What, if any, potential future fisheries policy or management action concerns Seattle the most? *Please describe the policy or management action, positive or negative, and why Seattle residents are concerned. Please feel free to provide additional information on a separate sheet of paper.*

Q30 Who contributed to filling out this survey? *Check all that apply. The answers to this question will not be reported.*

- ☐ Local government staff
- ☐ Local elected officials
- ☐ Harbormaster
- ☐ Tribal Council member or staff
- ☐ Non-governmental organization (for example, GOACCC, SWAMC, etc.).
- ☐ Fishing industry participants (for example, commercial/recreational/subsistence fishermen, processing plant workers, etc.).
- ☐ Local fishing support sector businesses
- ☐ Other: _____

Q31 Please use the space below to provide us with any additional information you would like us to know about Seattle that shows how Seattle is engaged in or affected by fisheries. *Please feel free to provide additional information on a separate sheet of paper.*

THANK YOU FOR YOUR PARTICIPATION!

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AFSC-

283 GARVIN, M. R., M. M. MASUDA, J. J. PELLA, P. D. BARRY, S. A. FULLER, R. J. RILEY, R. L. WILMOT, V. BRYKOV, and A. J. GHARRETT. 2014. A Bayesian cross-validation approach to evaluate genetic baselines and forecast the necessary number of informative single nucleotide polymorphisms, 59 p. NTIS number pending.

282 DALY, B. J., C. E. ARMISTEAD, and R. J. FOY. 2014. The 2014 eastern Bering Sea continental shelf bottom trawl survey: Results for commercial crab species, 167 p. NTIS No. PB2015-101255.

281 FAUNCE, C., J. CAHALAN, J. GASPER, T. A'MAR, S. LOWE, F. WALLACE, and R. WEBSTER. 2014. Deployment performance review of the 2013 North Pacific Groundfish and Halibut Observer Program, 74 p. NTIS No .PB2015-100579.

280 HIMES-CORNELL, A., and K. KENT. 2014. Involving fishing communities in data collection: a summary and description of the Alaska Community survey, 2010, 170 p. NTIS No PB2015-100578.

279 FISSEL, B. E. 2014. Economic indices for the North Pacific groundfish fisheries: Calculation and visualization, 47 p. NTIS No. PB2015-100577.

278 GODDARD, P., R. LAUTH, and C. ARMISTEAD. 2014. Results of the 2012 Chukchi Sea bottom trawl survey of bottomfishes, crabs, and other demersal macrofauna, 110 p. NTIS No.PB2015-100576.

277 ALLEN, B. M., and R. P. ANGLISS. Alaska marine mammal stock assessments, 2013, 294 p. NTIS No. PB2015-100575.

276 LOEFFLAD, M. R., F. R. WALLACE, J. MONDRAGON, J. WATSON, and G. A. HARRINGTON. 2014. Strategic plan for electronic monitoring and electronic reporting in the North Pacific, 52 p. NTIS No. PB2014-106286.

275 ZIMMERMANN, M., and M. M. PRESCOTT. 2014. Smooth sheet bathymetry of Cook Inlet, Alaska, 32 p. NTIS number pending.

274 ALLEN, B. M., V. T. HELKER, and L. A. JEMISON. 2014. Human-caused injury and mortality of NMFS-managed Alaska marine mammal stocks, 2007-2011, 84 p. NTIS number pending.

273 SMITH, K. R., and C. E. ARMISTEAD. 2014. Benthic invertebrates of the Eastern Bering Sea: a synopsis of the life history and ecology of the sea star *Asterias amurensis*, 60 p. NTIS number pending.

272 DE ROBERTIS, A., D. MCKELVEY, K. TAYLOR, and T. HONKALEHTO. 2014. Development of acoustic-trawl survey methods to estimate the abundance of age-0 walleye pollock in the eastern Bering Sea shelf during the Bering Arctic subarctic survey, 46 p. NTIS number pending.

271 VULSTEK, S. C., C. M. KONDZELA, C. T. MARVIN, J. WHITTLE, and J. R. GUYON. 2014. Genetic stock composition analysis of chum salmon bycatch and excluder device samples from the 2012 Bering Sea walleye pollock trawl fishery, 35 p. NTIS No. PB2014-105096.

270 GUTHRIE, C. M., III, H. T. NGUYEN, and J. R. GUYON. 2014. Genetic stock composition analysis of Chinook salmon bycatch samples from the 2012 Bering Sea and Gulf of Alaska trawl fisheries, 33 p. NTIS No. PB2014-105095.

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