

**Supporting Statement B**

**Community Harvest Assessments for Alaskan National Parks, Preserves, and Monuments**

OMB Control Number 1024-0262

Terms of Clearance: None

**Collections of Information Employing Statistical Methods**

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

The respondent universe for this collection is adults (heads of households) living in the following communities:

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<b>National Park or Monument</b>	<b>Resident Zone Community</b>
Aniakchak National Monument	Chignik Bay, Chignik Lagoon, Chignik Lake, Port Heiden
Gates of the Arctic National Park	Nuiqsut
Wrangell-St. Elias National Park	Tetlin, Yakutat
Cape Krusenstern National Monument and Kobuk Valley National Park	Buckland, Kiana, Kivalina, Noatak, Selawik

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It also includes adult heads of households living in communities that have positive customary and traditional use determinations from the Federal Subsistence Board authorizing subsistence harvests in:

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<b>NPS National Preserves</b>	<b>Communities having positive customary and traditional use determinations</b>
Bering Land Bridge National Preserve	Brevig Mission, Nome, Wales, White Mountain
Noatak National Preserve	Buckland, Kiana, Kivalina, Noatak. Selawik
Yukon-Charley Rivers National Preserve	Central, Circle, Eagle, Eagle Village

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For larger communities (100 households or more) a random sample of households will be surveyed. In order to draw a sample in larger communities, all permanently occupied houses in the community will be mapped, numbered and randomly sampled using a list of randomly generated numbers.

In order to determine the sample size for a particular survey, the Division of Subsistence takes a number of variables into consideration (Jim Fall, 2015). Once they determine the values for the following variables, they plug into the following equation and solve for the sample size,  $n$ .

$$ME = z \sqrt{\frac{\hat{p}(1 - \hat{p})}{n}}$$

Multiplied by

$$FPC = \sqrt{\frac{N-n}{N-1}}$$

Where:

- 1) **Population size:**  $N$  is the population size (as opposed to  $n$ , which is the sample size). They typically estimate the current population size using the most recent US Census data and data from tribal and community leaders in the survey areas.
- 2) **Margin of Error:**  $ME$  is the desired Margin of Error, which measures how accurate we desire the estimate to be. The Division of Subsistence usually attempts to have a margin of error of between 10% (.10) and 20% (.20) for total resource harvests and harvests of major resource categories (e.g. salmon, fish other than salmon, large land mammals), depending on budgetary and other factors.
- 3) **Confidence level:**  $z$  is the z-SCORE (1.645 for a 90% confidence interval, 1.96 for a 95% confidence interval, and 2.58 for a 99% confidence interval). The Division of Subsistence typically uses z-SCOREs instead of t-SCOREs—for sample sizes 30 or fewer, they typically attempt a census. They typically seek to use a 90% to 99% confidence level, with 95% the most common.
- 4) **Estimates of proportion:**  $\hat{p}$  is the prior judgment of the correct value of the proportion we are trying to estimate. Typically, the Division of Subsistence will use the most conservative estimate of .5 for the estimated proportion. However, if they believe they have better estimates of the proportions for key variables on our survey, either based on past data from that community or current data from similar communities, instead of .5 they may use the largest  $p$ -hat estimate from each variable they are trying to determine the proportion of.
- 5) **Finite Population Correction factor:**  $FPC$  is the Finite Population Correction (FPC) factor. For small finite populations where the sample size is expected to be 5% or greater of the population, we use a Finite Population Correction factor in accordance with standard statistical practice.

Fieldwork will be spread out over a three-year period, with the survey occurring only once in a given community during the three year period. We will survey households in a select number of communities each year. All respondents will be rural residents who are eligible to subsistence hunt and fish in the relevant parks, preserves, or monuments.

Based on our experience with a similar survey conducted in 2012 (OMB Control Number 1024-0262), we anticipate a response rate of at least 90%. We found during the previous effort that the individuals who

accepted the invitation to participate the interviews, therefore we anticipate response rates at or above levels needed to obtain statistically viable results.

**Table 1. Gates of the Arctic National Park Communities**

<b>GAAR Community</b>	<b>Respondent Universe (2010 Census)</b>	<b>Target Contact Goal</b>	<b>Expected Number of Responses (based on an assumed 90% response rate)</b>
Nuiqsut	114	85	77
<b>Total</b>	<b>114</b>	<b>85</b>	<b>77</b>
<b>Annual Total</b>		<b>28</b>	<b>26</b>

**Table 2. Wrangell-St. Elias National Park Communities**

<b>WRST Communities</b>	<b>Respondent Universe (2010 Census)</b>	<b>Target Contact Goal</b>	<b>Expected Number of Responses</b>
Tetlin	43	43	39
Yakutat	270	128	115
<b>Total</b>	<b>313</b>	<b>171</b>	<b>154</b>
<b>Annual Total</b>		<b>57</b>	<b>51</b>

**Table 3. Aniakchak National Monument**

<b>ANIA Communities</b>	<b>Respondent Universe (2010 Census)</b>	<b>Target Contact Goal</b>	<b>Expected Number of Responses</b>
Chignik Bay	31	31	28
Chignik Lagoon	28	28	25
Chignik Lake	21	21	19
Port Heiden	29	29	26
<b>Total</b>	<b>109</b>	<b>109</b>	<b>98</b>
<b>Annual Total</b>		<b>36</b>	<b>33</b>

**Table 4. Bering Land Bridge National Preserve**

<b>BELA Communities</b>	<b>Respondent Universe (2010 Census)</b>	<b>Target Contact Goal</b>	<b>Expected Number of Responses</b>
Brevig Mission	93	93	84
Nome	1216	105	95
Wales	43	43	39
White Mountain	65	65	59
<b>Total</b>	<b>1,417</b>	<b>306</b>	<b>277</b>
<b>Annual Total</b>		<b>102</b>	<b>92</b>

**Table 5. Cape Krusenstern National Monument, Kobuk Valley National Park, Noatak National Preserve**

<b>CAKR, KOVA, NOAT Communities</b>	<b>Respondent Universe (2010 Census)</b>	<b>Target Contact Goal</b>	<b>Expected Number of Responses</b>
Buckland	98	85	77
Kiana	101	85	77
Kivalina	85	85	77
Noatak	114	85	77
Selawik	186	85	77
<b>Total</b>	<b>584</b>	<b>425</b>	<b>385</b>
<b>Annual Total</b>		<b>142</b>	<b>128</b>

**Table 6. Yukon-Charley Rivers National Preserve**

<b>YUCH Communities</b>	<b>Respondent Universe (2010 Census)</b>	<b>Target Contact Goal</b>	<b>Expected Number of Responses</b>
Central	53	53	48
Circle	40	40	36
Eagle	41	41	37
Eagle Village	31	31	28
<b>Total</b>	<b>165</b>	<b>165</b>	<b>149</b>
<b>Annual Total</b>		<b>55</b>	<b>50</b>

**2. Describe the procedures for the collection of information including:**

- \* **Statistical methodology for stratification and sample selection,**
- \* **Estimation procedure,**
- \* **Degree of accuracy needed for the purpose described in the justification,**
- \* **Unusual problems requiring specialized sampling procedures, and**
- \* **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

We will not conduct a random sample of households in communities of less than 100 households) where sampling is not needed. All households that live in the community at least 9 months a year and consider the community their primary residence will be contacted and asked to participate.

For larger communities (100 households or more) a random sample of households will be surveyed. In order to draw a sample in larger communities, all permanently occupied houses in the community will be mapped, numbered and randomly sampled using a list of randomly generated numbers.

Researchers will contact each household by phone using the local phone book or in person. We will explain the project and ask heads of households if they would be willing to participate in the interview. We expect that the initial contact will take about 10 minutes. In those communities and neighborhoods where the goal is to survey all households, households that decline to participate will be asked to participate in the non-response survey. If they continue to decline they will be skipped. For communities that are sampled, households that decline will be asked to participate in the non-response survey. If they continue to decline they will be replaced with the next household on the randomly ordered list of households.

If respondents agree to participate, researchers will schedule a time to conduct a face-to-face interview with the head of the household. Depending upon family size and levels of subsistence harvest, the number of questions asked and the time it takes to complete them may vary. Based on past experience with similar surveys, we anticipate that the survey will take an average of 60 minutes to complete. Much of the interviewing will be done by local fieldworkers who will receive extensive training on survey methodology and interviewing techniques.

Unusual problems are not anticipated.

**3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.**

Several methods will be used to maximize response rates.

1. One strategy for increasing participation rates is to conduct the survey during the winter and early spring, when local residents tend to be less busy with subsistence activities than other times of year.
2. We will also hire local research assistants in each community to help make introductions, scheduling interviews, and completing the survey.

A non-respondent bias check will be conducted. During the initial contact, all potential respondents will be asked the following three questions taken directly from the survey:

- (1) How many people lived in your household in the study period,
- (2) How many years have you (the head of household) lived in this community, and
- (3) Between January and December (insert study period), did members of your household use or try to harvest salmon.

Data will be analyzed by comparing the responses of those who participate with those of households who decline to participate to identify potential nonresponse bias. Results of the non-response analysis will be interpreted and discussed in the report.

**4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.**

The survey instrument is the same as the previously approved version of this collection. The questions are the same and only locally harvested species have been added. This revised instrument was pretested by the University of Alaska's Institute of Social and Economic Research to determine the utility and anticipated burden of this survey instrument. The previous version of the instrument received a 75% response rate. The revisions in the current instrument were developed in collaboration with the Alaska Department of Fish and Game, the University of Alaska's Institute of Social and Economic Research, and the National Park Service. The collaboration drew upon years of collective experience conducting similar surveys in rural Alaska Native villages, as well as expertise in economics and anthropology. The revisions were pretested for clarity and accuracy with one representative from each of the communities to be surveyed. We asked them to provide feedback on the accuracy of the species added to their community survey.

**5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

Individuals consulted on statistical aspects of the design

- James Fall ADF&G Subsistence Program Manager include (907-267-2359),
- Davin Holen ADF&G Subsistence Program Manager(907-267-2807),
- Dave Koster ADF&G Subsistence Division Research Analyst IV (907-267-2371), and
- Donald Callaway (retired), NPS Alaska Region Senior Cultural Anthropologist.

The Subsistence Division of the Alaska Department of Fish and Game will be the lead agency in collecting and analyzing the data.

- Davin Holen is the Subsistence Division staff member responsible for WRST and ANIA project oversight, data collection and project logistics (907-267-2807).
- Caroline Brown is the Subsistence Division staff member responsible for YUCH project oversight, data collection and project logistics (907-328-6116).
- Nicole Braem is the Subsistence Division staff member responsible for WEAR and GAAR project oversight, data collection and project logistics (907-328-6106).

#### NPS Agency Representatives

- Barbara Cellarius, Wrangell-St. Elias National Park and Preserve Cultural Anthropologist will serve as the agency technical representative on the project for WRST and will also be involved in analyzing the information (907-822-7236).
- Marcy Okada, Gates of the Arctic National Park and Preserve and Yukon-Charley Rivers National Preserve Subsistence Program Manager will serve as the agency representative on the GAAR and YUCH project (907-455-0639).
- Ken Adkisson, Western Arctic Parklands Subsistence Program Manager will serve as the agency representative on the WEAR (BELA, CAKR, KOVA, NOAT) project (907-443-6104).
- Linda Chisholm, Aniakchak National Monument Subsistence Manager will serve as the agency representative on the ANIA project (907-246-2154).