

**Supporting Statement B
Paperwork Reduction Act Submission**

**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.**

This effort will occur over a three-year period. For each period, if the community has less than 100 households, 100% of the households will be included in the sample. In the communities with more than 100 households, we will randomly select a representative number of households in each community to be sampled. The numbers below reflect the total effort during the 3-year period of approval. Based on the most recent census data, there are 2,519 households in the survey area. Our goal is to contact a total of 1,834 households and we expect to complete 1,389 interviews.

The respondent universe for this collection is adults (heads of households) living in the following communities; and communities (*) that have positive customary and traditional use determinations from the Federal Subsistence Board authorizing subsistence harvests.

National Park or Monument and Resident Zone Community

- Aniakchak National Monument
Chignik Bay, Chignik Lagoon, Chignik Lake, Port Heiden
- Cape Krusenstern National Monument and
Kobuk Valley National Park Kiana, Kivalina, Noatak
- Denali National Park and Preserve
Lake Minchumina
- Lake Clark National Park and Preserve
Port Alsworth, Nondalton, Iliamna, Newhalen
- Wrangell-St. Elias National
Parkhisana/North Wrangell Mountains, Chistochina, Tanacross, Tetlin
- Bering Land Bridge National Preserve
*Brevig Mission, Teller, Nome
- Katmai National Preserve
*Igiugig, Kokhanok, Levelock, King Salmon, Naknek, South Naknek

- Noatak National Preserve
*Kiana, Kivalina, Noatak

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*.

$$ME = z \sqrt{\frac{\hat{p}(1 - \hat{p})}{n}} \quad \text{Multiplied by} \quad FPC = \sqrt{\frac{N-n}{N-1}}$$

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 the previous collection of information, we anticipate a response rate of approximately 90 percent. With this, we anticipate response rates at or above levels needed to obtain statistically viable results.

Communities	Respondent Universe (2010 Census)	Anticipated number of contacts	Estimated number of completed interviews
Aniakchak (ANIA)			
Chignik Bay	31	31	28
Chignik Lagoon	28	28	25
Chignik Lake	21	21	19
Port Heiden	29	29	26
Total	109	109	98
Bering Land Bridge (BELA)			
Brevig Mission	93	93	84
Nome	1216	606	304
Teller	72	72	65
Total	1,381	771	453
Cape Krusenstern (CAKR) Kobuk Valley (KOVA) Noatak (NOAT)			
Kiana	101	101	91
Kivalina	85	85	77
Noatak	125	113	101
Total	311	299	269
Denali (DENA)			
Lake Minchumina	6	6	5
Katmai (KATM)			
Igiugig	16	16	14
Kokhanok	52	52	47
Levelock	27	27	24
King Salmon	100	75	60
Naknek	154	116	92
South Naknek	35	35	32
Total	384	321	269
Lake Clark (LACL)			
Port Alsworth	44	44	40
Nondalton	57	57	51
Iliamna	39	39	35
Newhalen	50	50	45
Total	190	190	171
Wrangell-St. Elias (WRST)			
Chistochina	36	36	32
Tetlin	43	43	39
Tanacross	53	53	48
Chisana/N. Wrangell Mtns	6	6	5
TOTAL	2,519	1,834	1,389

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 6 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 a percentage of all households will be surveyed. In order to draw a sample in larger communities, all permanently occupied housing units in the community will be mapped, randomly numbered and sampled using a list of randomly generated numbers.

Researchers will contact each household by phone or in person. We will explain the purpose of 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 up to 10 minutes. In those communities and neighborhoods where the sampling goal is to survey all households, households that decline to participate will be asked to participate in a non-response survey. If they continue to decline they will be skipped. For communities where the sampling goal is a percentage of all households, 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 sorted list of households.

If respondents agree to participate, researchers will schedule a time to conduct a face-to-face interview with the head(s) 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, schedule interviews, and help complete the survey.

A non-respondent bias check will be conducted. During the initial contact, respondents refusing to

participate will be asked the following questions taken directly from the form:

- (1) How many people live in this household?
- (2) In 20XX, did anyone in this household go hunting or fishing?

Data will be analyzed by comparing the responses of those who participate with those of households who decline to participate to identify potential non-response 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 largely the same as the previously approved version of this collection. The vast majority of the questions are the same, with minor changes to the individual participation and additional assessments sections. The locally harvested species lists will be adjusted for the different park areas. A previous version of the 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. It received a 75% response rate. The revisions in the current instrument were developed in collaboration with the Alaska Department of Fish and Game 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.

- 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 in 2019:

- James Fall, ADF&G Subsistence Research Director (907-267-2359),
- Dave Koster, ADF&G Subsistence Division Research Analyst IV (907-267-2371)

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

- Robin Dublin is the Subsistence Division staff member responsible for ANIA, KATM, LACL, DENA, and WRST project oversight, data collection and project logistics (907-267-2807).
- Elizabeth Mikow is the Subsistence Division staff member responsible for BELA and WEAR project oversight, data collection and project logistics (907-328-6107).

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).

- Nicole Braem, Bering Land Bridge National Preserve Cultural Anthropologist, will serve as the agency representative on the BELA project (907-443-6107).
- Hannah Atkinson, Western Arctic Parklands Cultural Anthropologist, will serve as the agency representative on the WEAR (CAKR, KOVA, NOAT) project (907 442-8342).
- Linda Chisholm, Aniakchak National Monument Cultural Resources Program Manager, will serve as the agency representative on the ANIA and KATM project (907-246-2154).
- Elizabeth Rupp, Lake Clark National Park and Preserve Cultural Resources Program Manager and Subsistence Coordinator, will serve as the agency representative for the LACL project (907 644-3648).
- Amy Craver, Denali National Park and Preserve Subsistence Manager/Cultural Anthropologist, will serve as the agency representative for the DENA project, (907 644-3604).