

Data Book

Bering Strait Community Needs Assessment

September 2019

Prepared by

**McDowell
GROUP**

Prepared for



Bering Strait Community Needs Assessment Data Book

PREPARED FOR:

Kawerak, Inc.

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Introduction and Methodology

This *Bering Strait Community Needs Assessment* describes and analyzes the human conditions within the Kawerak Service Area. The report includes a wide range of health, educational, and economic indicator data, in addition to residents' perspectives on the needs of their community and region. Community strengths and needs are discussed, with particular attention to families and children, cultural considerations, and local village needs. Findings from the assessment are designed to inform Kawerak strategic plans and help ensure programs and services address community needs as effectively as possible. The assessment may also be used to assist with applications for funding and meet program reporting requirements.

This assessment expands upon previous studies, including the 2016 Kawerak Community Needs Assessment completed by Kawerak Early Head Start, Head Start, and Child Care Partnership Programs, the Kawerak Strategic Plan 2016-2020, and local economic development plans.

Methodology

This study identified community needs and assets through a systematic and comprehensive evaluation of public data and information from community members. The assessment consisted of four main components: (1) Public data collection and analysis on socio-economics, demographics, education, health, and other indicators, (2) Community engagement through site visits and interviews with community members, (3) Parent engagement through discussion groups with parents of Pre-K and school-age children about community services and needs for families, and (4) a questionnaire about community needs, strengths, and challenges.

Data Collection and Analysis

The report draws on a wide variety of data from local, state, and federal government departments; state and national research centers; private data sources; and organizational data. Below is a brief description of the key sources used. The most currently available data was collected from each source. Community-level data was obtained when possible; some data was only available at the regional level. Several regions were used as a proxy for Kawerak Service Area data, including the Nome Census Area and the Norton Sound Health Corporation region. In a few cases, Northern Region data was the only information available, which includes the North Slope Borough, Nome Census Area, and Northwest Arctic Borough. Data was collected from February to July 2019.

SOCIO-ECONOMIC AND DEMOGRAPHIC DATA SOURCES

All the socio-economic data presented in this report are publicly available and compiled by either public agencies or nonprofit organizations. The information was obtained by these entities in several ways, including random sampling, administrative data requirements, and by collecting operational data. Where possible and appropriate, data for the Kawerak Service Area is compared to the statewide average. The primary sources for this information include:

Alaska Department of Labor and Workforce Development (ADOLWD) – Population and Census Unit

The Population and Census unit within the Department’s Research and Analysis group estimates current population for every community, borough, Census Area (the statistical equivalent of a borough within the unincorporated portion of Alaska), and other statistical areas in the state. The primary inputs of their annual population model include decennial census counts, current population estimates from the Census Bureau, and the number of Permanent Fund Dividend filers in the community/area. At the community level, only the total population is estimated. For larger areas, the Population Unit provides detail on gender, race, and age distribution within the area.

American Community Survey (ACS)

The ACS, administered by the U.S. Census Bureau, collects a wide range of demographic, social, economic, and housing information through a random mail and online survey process. This survey is widely considered the most comprehensive survey of social and demographic characteristics in the country. At the national and state level, the ACS produces one-year and five-year estimates; however, this report relies on five-year estimates exclusively, as the sample area is not large enough to produce single-year estimates. The Census Bureau tries to include responses from each of the sixty months within the five-year period. Where appropriate, the Census Bureau assigns extra weight to more recent responses when finalizing their estimates.

The most recent ACS five-year estimates cover 2013-2017 for the total population, selected groups within the population, and households in the region. Where comparisons are made between communities and the state, the same five-year period is used. The information gleaned from the survey includes the following social characteristics:

American Community Survey Information Used

People	Households and Housing
Age	Number of households
Gender	Types of households
Race	Householder characteristics
Language(s) spoken	Number of housing units
Tribal groupings	Vacancy rates
Wages and salaries	Physical housing characteristics

Throughout this report, Alaska Native refers to Alaska Native and/or American Indian people in any combination with any other races unless otherwise noted (e.g. Alaska Native Alone). These data provide the most accurate picture of the Alaska Native population within the Kawerak Service Area (i.e. Nome Census Area). While the data are older, it provides a more comprehensive estimate of people potentially eligible for Kawerak services.

Finally, as the ACS is a product of a population sample and not a census of the population, there is some random sampling error associated with the estimates. As such, caution is advised when evaluating the estimates.

Permanent Fund Dividend Filer Database

The application for the annual Permanent Fund Dividend (PFD) from the State of Alaska requires an accurate physical address. PFD filing data is aggregated by ADOLWD to estimate the number of people entering and leaving communities from year to year. Migration information within the state is tracked using this data.

Other State of Alaska Departments

Besides ADOLWD, several State of Alaska Departments manage data included in this report. These include:

- **Alaska Department of Commerce, Community and Economic Development – Division of Community and Regional Affairs (ADCRA):** The Community Database Online includes data on every community and region in Alaska and is maintained by ADCRA staff. The Database includes information ranging from transportation access, cost of living indicators, general social data, and historical and cultural information.
- **Alaska Department of Public Safety – Alaska State Troopers (AST):** A request was made to the State Trooper for offenses reported and arrests made in the Kawerak Service Area. This data includes general categories for type of crime reported and the community which the State Trooper responded to. This report summarizes the data for years 2013-2017.

COMMUNITY HEALTH DATA

A wide range of secondary data was compiled and analyzed from various sources, including Alaska Department of Health and Social Services (ADHSS), Health Resources & Services Administration (HRSA), Indian Health Service (IHS), Alaska Department of Labor and Workforce Development (ADOLWD), Centers for Disease Control and Prevention (CDC), and Norton Sound Health Corporation (NSHC), among others.

Alaska Behavioral Risk Factor Surveillance System (BRFSS) survey is a national CDC grant-funded telephone survey of randomly selected adults regarding health-related behaviors. There are national questions and optional modules specific to Alaska. BRFSS data were obtained from ADHSS's Indicator-Based Information System (AK-IBIS) for Public Health by Tribal Health Organization. Data are presented for the Norton Sound Health Corporation service area and the rest of Alaska.

Alaska child safety and maltreatment services data are maintained within ADHSS, Office of Children's Services (OCS). McDowell Group obtained OCS service data solely specific to the Nome Census Area through a special data request submitted to ADHSS. OCS research analysts compiled the data; McDowell Group reported data findings. OCS field definitions were obtained via OCS web report.

Communicable disease data specific to Alaska is collected and maintained through ADHSS, Division of Public Health, Section of Epidemiology. McDowell Group queried ADHSS public data sets to obtain regional tuberculosis data (as per defined public health region). Chlamydia and gonorrhea data, specific to NSHC service area and Alaska statewide, was also obtained through ADHSS public data sets. Comparative national data were accessed via CDC Division of Sexually Transmitted Disease (STD) Prevention public data sets. All data were further compiled and analyzed by McDowell Group.

Health Analytics and Vital Records Section (HAVRS) Vital Records birth and death data are maintained by ADHSS, Division of Public Health. HAVRS Vital Records data include birth, death, marriage, and adoption records for events occurring in Alaska. Throughout this report, mortality data only include deaths of Alaska residents occurring in Alaska. Birth data represent only births to mothers who are Alaska residents. Data were censored according to HAVRS protocol where there were fewer than six counts for statistical reliability and identification purposes. Data were suppressed to protect confidentiality if a count or total could be used to calculate counts for censored categories. McDowell Group contracted with Peter Holck, a biostatistician, to query Vital Records data and calculate birth and mortality rates for the region and villages of interest. ADOLWD population estimates were used to calculate crude birth rates and age-adjusted mortality rates. Age-adjusted mortality rates are adjusted to the 2000 U.S. Standard population. Prenatal care data were captured through birth records.

Health Facilities Reporting Data (HFRD) is collected by the Alaska Health Facilities Data Reporting Program. HFRD is maintained through ADHSS, Office of Substance Misuse and Addiction Prevention. The program collects inpatient and outpatient discharge data from Alaska health care facilities. HFRD does not include military hospitals. The data collected comprise the Alaska Inpatient Database and the Alaska Outpatient Database. Health facilities discharge data show utilization of health services and provide evidence of the conditions for which people receive treatment. Under 7 AAC 27.660, HFRD includes neonatal abstinence syndrome (NAS) information, specifically associated with neonatal withdrawal symptoms for maternal use of drugs of addiction, as per ICD-10-CM code. NAS 3-month rolling and race data was obtained and compiled by McDowell Group via Office of Substance Misuse and Addiction Prevention website.

HRSA Uniform Data Systems (UDS) data from Federally Qualified Health Centers (FQHCs) is submitted annually. Health center information includes quality of care indicator data such as childhood immunization status. McDowell Group queried HRSA UDS public data sets to obtain annual childhood immunization rates associated with services delivered at NSHC, a FQHC.

National Immunization Surveys (NIS) are sponsored and conducted by the National Center for Immunization and Respiratory Diseases (NCIRD) of the CDC and authorized by the Public Health Service Act [Sections 306]. The NIS are a group of phone surveys used to monitor vaccination coverage among children and teens of various age groups. NIS are conducted annually and used to obtain national, state, and selected local area estimates of vaccination coverage rates for U.S. children. McDowell Group queried CDC's NIS immunization data base, ChildVaxView, to obtain and compile described estimated vaccine coverage rates for children entering kindergarten.

NSHC provided various service utilization, program, community infrastructure and population health data, upon request. Data were compiled and summarized by McDowell Group.

Sanitation Deficiency System (SDS) data is collected and maintained with the Sanitation Tracking and Reporting System (STARS). STARS is an Indian Health Service web-based database used to track sanitation facilities projects. McDowell Group queried STARS' to obtain SDS data and definitional criteria about sanitation deficiencies related to Alaska Native/American Indian individual homes and communities, including water, sewer, and solid waste indicators.

Youth Risk Behavior (YRBS) survey is a school-based survey of high school students administered by ADHSS Alaska Youth Risk Behavior Surveillance System (YRBSS) in cooperation with the Department of

Education & Early Development. YRBS data were obtained from the AK-IBIS Local Query Module. The Local Query Module provides estimates for school district or regional prevalence of high school student risk or protective behaviors. The local YRBS dataset includes students in public traditional, alternative, and correctional high schools. YRBS is a survey administered every other year to all high school students (grades 9 through 12) regarding risk-related behaviors. The anonymous nationwide survey assesses youth risk in a minimum of six areas:

1. Behaviors that contribute to unintentional injuries and violence
2. Sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases including HIV infection
3. Alcohol and other drug use
4. Tobacco use
5. Unhealthy dietary behaviors
6. Inadequate physical activity

The Norton Sound Tribal Health Region for YRBS data is comprised of the following school districts or schools:

- Nome School District
- Bering Strait School District

Community Engagement

McDowell Group conducted site visits, interviews, and parent discussion groups with community members during two visits to the region, one in March and another in late April and early May 2019. Both visits are described in more detail below. In addition to these visits, in addition to the site visits, McDowell Group conducted a series of interviews by phone. A list of interviews is included in Appendix A.

March 2019 - Nome

Two members of the McDowell Group team traveled to Nome in March 2019. During the visit, the team met for a kick-off meeting with Kawerak's CNA committee, toured Kawerak offices, met with Kawerak staff in a number of departments, and conducted interviews and site visits in the community. Interviews during that visit, outside of Kawerak, included discussions with the Nome Eskimo Community, Public Health, Norton Sound Health Corporation, and Bering Straits Regional Housing Authority.

April 2019 – Nome, Gambell, Shishmaref

Two members of the McDowell Group team returned to Nome in late April to meet with the CNA committee again, conduct additional community interviews, and facilitate parent discussion groups. After arriving in Nome, one team member remained in town to meet with the CNA committee and conduct community interviews, while the second team member traveled with Kawerak staff to Gambell and Shishmaref to conduct parent discussion groups and community interviews.

Bering Strait Community Needs Assessment Questionnaire

In May 2019, Kawerak distributed a paper and online questionnaire as part of the CNA community engagement process. Respondents were asked for thoughts on community needs, and perspectives on community strengths and challenges. Respondents with children were asked about child services, family experiences, and opinions on child and family health and well-being.

Distribution occurred primarily through the Kawerak Head Start program, with advertising for the online version by Kawerak's Outreach Director. A chance to win 20,000 Alaska Airline miles was provided as an incentive for completion.

Report Organization

This report is divided into the following sections:

- **Summary of Findings and Recommendations** – presents a summary of findings, their implications, and strategic recommendations.
- **Chapter 1: Overview of Kawerak, Inc.** – provides a brief history and description of Kawerak programs and services, the geographic region and populations Kawerak serves, and Kawerak's governing structure and staff resources.
- **Chapter 2: Demographic and Socio-economic Profile** – presents population estimates and projections, household and family characteristics, household and family economic indicators, employment and employers, and economic activity and trends.
- **Chapter 3: Housing and Infrastructure** – describes housing and homelessness in the region, including housing statistics, conditions, affordability, and services. Utility, transportation, and communication infrastructure is also documented and analyzed.
- **Chapter 4: Education and Early Care and Learning** – profiles education indicators from birth through post-secondary levels, including child care availability, education attainment, assessment data, enrollment, graduation and drop-out rates, and training opportunities.
- **Chapter 5: Kawerak Head Start Program in Focus** – focuses on Kawerak Head Start data and needs, including attendance, health, and other demographic information for children served, as well as staff resources.
- **Chapter 6: Community Health and Safety** – summarizes health and wellness data for the region, including for youth and families. Social services are also discussed, as is public safety infrastructure and programming.
- **Chapter 7: Community Engagement - Household Questionnaire Results** – presents responses regarding education, cultural participation, land use, medical and behavioral health, communications, tribal member employment, and respondent demographics.
- **Chapter 8: Community Engagement – Interview and Discussion Group Results** – identifies trends and important takeaways from the series of community and parent discussions conducted during the study period.

Six appendices conclude the report:

- **Appendix A: List of Interviewees and Contacts**
- **Appendix B: Water, Sewer & Solid Waste System Needs by Community**
- **Appendix C: CNA Questionnaire**
- **Appendix D: CNA Questionnaire Comments**
- **Appendix E: Questionnaire – Other Responses**
- **Appendix F: Kawerak Parent Discussion Group Protocol**

Chapter 1: Overview of Kawerak, Inc.

This chapter provides an overview of the Kawerak, Inc. service region and the organization.

Bering Strait Region

The Bering Strait Region in northwestern Alaska covers approximately 23,000 square miles on the Seward Peninsula, and includes St. Lawrence Island, King Island, Little Diomed Island, and the communities along the eastern and southeastern shores of Norton Sound. The region contains 570 miles of coastline, 20 communities, approximately 2.3 million acres, and a varied landscape including open ocean, seasonal sea ice, coastal waters, river deltas, tundra, hilly regions, and mountain ranges. The area overlaps closely with the designated Nome Census Area, not including Port Clarence. Shishmaref is the most northern community in the region, with Stebbins the most southern.

Overview of Kawerak

The Bering Straits Native Association (BSNA) was formed in 1967 as an association of regional villages. BSNA incorporated Kawerak as a regional non-profit, now a 501(c)(3), in 1973, with a mission *“to advance the capacity of our people and tribes for the benefit of the region.”* Kawerak works within a set of values important to provide context to this analysis:

- *Teamwork, unity, and achieving positive results in all our work.*
- *Perseverance, integrity and working hard to overcome challenges to create a better future.*
- *Upholding our Tribes along with their cultures, language, heritage, and traditional ways of life.*
- *Engaging with, respecting and supporting each other.*
- *Fair healthy relationships based on respect, trust, honesty, persevering together, openness, giving everyone a voice, and agreeing to disagree.*
- *Spirituality, community, generosity and each individual's purpose and voice.*
- *Keeping a positive attitude and outlook in all situations and never losing our sense of humor.*
- *Leadership that listens, is responsible, experienced, capable and supportive of self-governance. These leaders are role models and give positive advice.*
- *Education, learning, knowledge and the use of wisdom in building our people up to serve their communities and villages.*

Kawerak Programs and Services

Kawerak serves communities throughout the Bering Strait Region through six program areas:

- **Community services**, including services for children and families, wellness, community planning and development, transportation, tribal affairs, and VSPO.
- **Cultural development services**, through the Eskimo Heritage Program and Katirvik Cultural Center.
- **Educational services**, which covers Pre-K to postsecondary education and community education.
- **Employment services**, including employment and training programs for youth and adults.

- **Natural resources**, which includes environmental and social sciences, land management, marine programs, subsistence resources, the Eskimo Walrus Commission, and Reindeer Herders Association.
- **Supportive services**, which covers various forms of financial and other assistance.

Kawerak Service Area

Kawerak, Inc. serves the 20 communities of the Bering Strait Region.

- | | | |
|------------------|----------------|------------------|
| • Brevig Mission | • Koyuk | • St. Michael |
| • Council | • Mary's Igloo | • Stebbins |
| • Diomedede | • Nome | • Teller |
| • Elim | • Savoonga | • Unalakleet |
| • Gambell | • Shaktoolik | • Wales |
| • Golovin | • Shishmaref | • White Mountain |
| • King Island | • Solomon | |

Sixteen of the communities are permanently inhabited, while four (Council, King Island, Mary's Igloo, and Solomon) are visited seasonally, primarily for fish camps or other subsistence uses. The region includes one first class city (Nome) and fifteen second class cities. Each community includes three entities that provide some form of governance: a municipal government, at least one federally recognized tribal government (Indian Reorganization Act (IRA) or Traditional Council), and at least one Native Corporation.

Figure 1. Map of Kawerak Service Area



Three culturally distinct groups live in the Kawerak Service Area: the Inupiaq on the Seward Peninsula and Diomedede Islands, the Central Yu'pik who live mostly in the villages south of Unalakleet, and Siberian Yupik on St. Lawrence Island.

Kawerak Governance Structure and Staffing

GOVERNANCE

All 20 villages in the Kawerak region are represented by a tribal government. Kawerak bylaws require that each tribe appoint the village council president or a delegate to the Board of Directors. Additional board members include two Elder representatives and the chair of the Norton Sound Health Corporation Board of Directors.

Aside from government entities located in the 16 villages, the four primarily unoccupied villages have governance structures headquartered in other Kawerak communities. The Mary's Igloo Traditional Council is located in Teller, where many traditional Mary's Igloo residents now live. King Island is recognized as a distinct village corporation under the Alaska Native Claims Settlement Act (ANCSA). The King Island Native Community operates an IRA Council and is based in Nome. Council functions primarily as a fish camp for Nome residents. The Inupiaq Village of Council is now headquartered in Nome, which is connected by road to Council. The Solomon Traditional Council is also headquartered in Nome.

Federally recognized tribes within the Service Area include:

- Native Village of Brevig Mission
- Chinik Eskimo Community (Golovin)
- Native Village of Council (Nome)
- Native Village of Diomedede (Inalik)
- Native Village of Elim
- Native Village of Gambell
- King Island Native Community (Nome)
- Native Village of Koyuk
- Native Village of Mary's Igloo (Teller)
- Nome Eskimo Community
- Native Village of Savoonga
- Native Village of Saint Michael
- Native Village of Shaktoolik
- Native Village of Shishmaref
- Village of Solomon
- Stebbins Community Association
- Native Village of Teller
- Native Village of Unalakleet
- Native Village of Wales
- Native Village of White Mountain

LAND OWNERSHIP

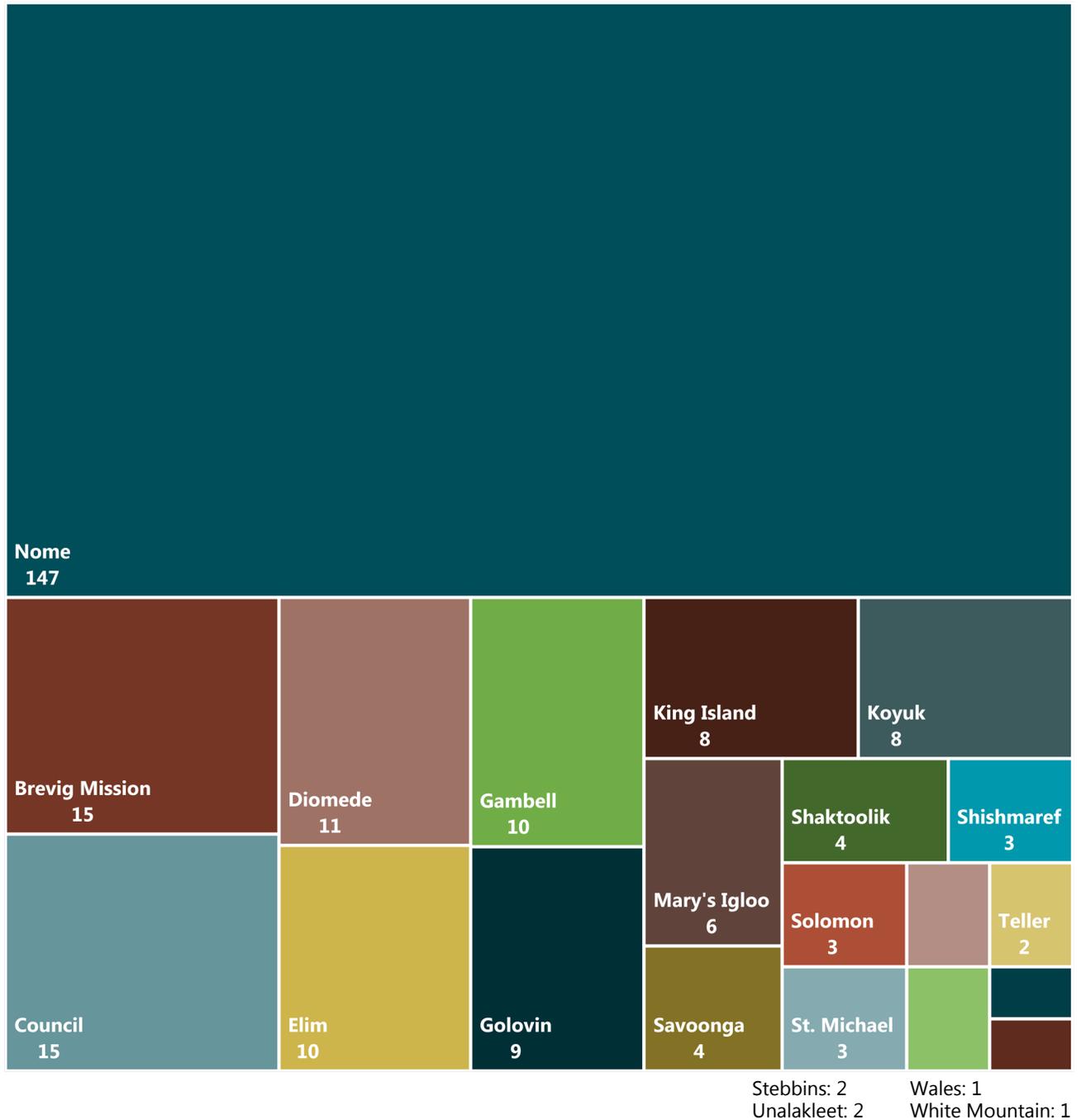
The federal government manages the majority of land in the region, including the Bering Land Bridge National Preserve. The Preserve covers 2.7 million acres on the Seward Peninsula. A Bureau of Land Management (BLM) office is located in Nome. The State of Alaska is the second largest landholder in the region. The Bering Straits Native Corporation (BSNC) is the primary private landowner in the region, with combined surface and subsurface rights equaling about two million acres. Each village corporation in the region holds title to surface lands surrounding the village as determined in the Alaska Native Claims Settlement Act (ANCSA). Elim, Gambell, and Savoonga landownership is different from other villages, with the Elim Native Corporation owning surface and sub-surface rights and Gambell and Savoonga ownership of all of St. Lawrence Island.

STAFFING

Kawerak employs over 250 people in the region. In April 2019, 266 individuals were employed, including 147 (55%) in Nome and 119 (35%) in the other villages in the service area. In the villages outside Nome, a Tribal

Coordinator and Tribal Family Coordinator are employed for each village. Some villages also have VPSO staff, and those with Head Start programs have several staff related to Head Start operations (detailed in *Chapter 5: Kawerak Head Start Program in Focus*). Seventy percent of Kawerak employees are regular full or part-time staff, while 30% are temporary or emergency hires. A large proportion, 83%, of Kawerak employees are Alaska Native people. Over 80% of Kawerak employees are female.

Figure 2. Distribution of Kawerak Staff, by Community 2019



Kawerak Strategic Plan

It is important to understand this community needs assessment in the context of Kawerak's strategic plan. The current strategic plan ends in 2020; a new plan will be developed with the help of this assessment. The *2016-2020 Kawerak Strategic Plan* contains five priorities:

- **Priority One: Culture & Language**, including language, cultural awareness, teaching subsistence preservation, and healthy lifestyles.
- **Priority Two: Public Safety & Well-Being**, including a focus on children, youth, and families, and on ensuring the safety and security of all Kawerak people.
- **Priority Three: Arctic Resource Enhancement and Protection**, including preservation and conservation, protecting the subsistence way of life, and policy engagement such as on issues with marine traffic and climate change.
- **Priority Four: Regional Capacity Building**, including tribal partnerships, village technology, funding, education and workforce development, infrastructure (sewer, water, housing, transportation), and economic development through small business development and tourism expansion.
- **Priority Five: Internal Capacity Building**, including technology, funding, streamlined policies and procedures, workplace cultural integration, and communications and public relations.

These Kawerak priorities are considered throughout this assessment.

Chapter 2: Demographic and Socio-Economic Profile

Population Overview

The population in the Kawerak Service Area has remained relatively stable over the past decade, with some individual communities growing and a few becoming slightly less populated. The regional population is expected to grow over the next few decades.

- The Nome Census Area population in 2018 totaled 9,988, averaging 9,841 people per year between 2009 and 2018.
- The City of Nome is the population hub for the area, with 37% of the population (3,662 people) in 2018.
- Outside of Nome, the regional population is spread over the other 16 communities, with Savoonga (751), Gambell (722), Unalakleet (722), Stebbins (646), and Shishmaref (598) each supporting populations over 500 people; the rest have populations under 500.
- Nome Census Area's population has grown by 5%, 496 people over the past decade.
- Among communities in the area, Brevig Mission has grown the most, at 29%, followed by Elim at 22%. Diomedes's population has decreased the most, by 16%, followed by White Mountain at 7%.
- The population in the Nome Census Area is projected to grow to 11,462 by 2045, an increase of 15%.

Population by Age Group

- One-third (35%) of the population is between 0 and 18 years of age, with another third (31%) between 19 and 39 years of age. One-quarter (26%) of the population is 40 to 64 years of age, and 7% are 65 years of age or older.
- While the population as a whole is projected to increase, the proportion of the population in each age group is not projected to change significantly over the next 25 years.
- Age distribution in the region as a whole has not changed significantly over the past decade.

Population by Gender

- Slightly more than half (53%) of the Nome Census Area population is male, while 47% is female.
- Gender distribution does vary by community in the Kawerak Service Area, with Golovin having the highest percentage of female residents, at 54%, and Wales having the highest percentage of males, at 66%.

Population by Race

- Three-quarters of the Nome Census Area population is Alaska Native or American Indian (AIAN), while 16% are White. Asians make up 1% of the population, Blacks 1%, and Native Hawaiian or Pacific Islanders make up less than 1%.
- Racial composition in the Nome Census Area differs significantly from Alaska as a whole, where statewide AIAN people make up only 15% of Alaska's population, and Whites make up 66%.

- In most Kawerak Service Area communities, Alaska Natives make up most of the population. The Alaska Native population (alone or in combination with another race) is above 90% in every community in the Service Area aside from Unalakleet (75%) and Nome (64%).
- For ten of the Service Area communities, Inupiat people make up 90% or more of the AIAN population in the community, with Shaktoolik and Brevig Mission at 99% each.
- Primarily Yupik communities are Stebbins, Gambell, Savoonga, and St. Michael.

Language

- English is the primary language for the Kawerak Service Area, and for each community in the area. In the area, 95% of people speak English only or speak English “very well.”
- In three communities, more than 10% of the population speaks English less than “very well” (Gambell at 14% and Unalakleet and Savoonga at 16%).
- Siberian Yupik is spoken in Gambell and Savoonga. According to the Alaska Native Language Center, many children in Gambell and Savoonga learn Siberian Yupik as the first language of the home.

Table 1. Population of Nome Census Area and Alaska

Area	Population 2018	Change from 2009	% Change from 2009
Nome Census Area	9,988	+496	+5.2%
Alaska	736,239	+38,411	+5.5%

Source: ADOLWD.

Table 2. Nome Census Area Population, 2009-2018

Year	Population	Annual change	Annual % change
2009	9,492	+38	+0.4%
2010	9,492	--	--
2011	9,709	+217	+2.3%
2012	9,841	+132	+1.4%
2013	9,868	+27	+0.3%
2014	9,963	+95	+1.0%
2015	10,020	+57	+0.6%
2016	10,041	+21	+0.2%
2017	9,994	-47	-0.5%
2018	9,988	-6	-0.1%

Source: ADOLWD.

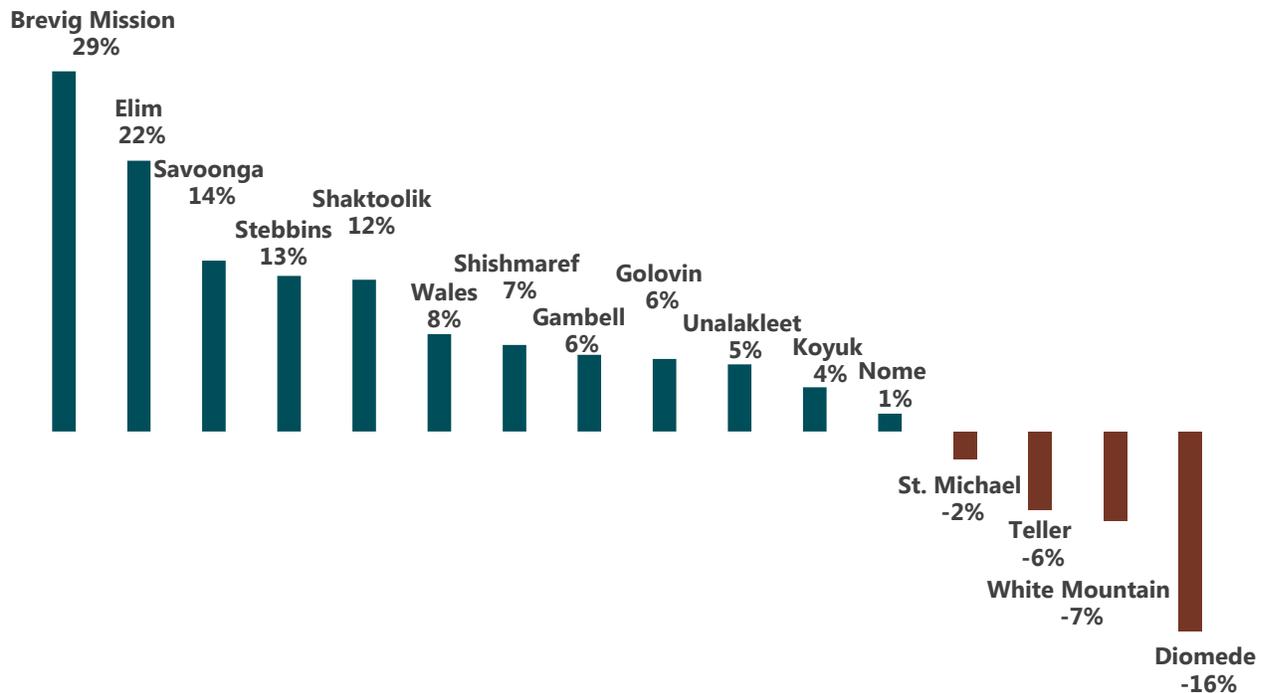
Table 3. Population of Kawerak Service Area Communities, 2018

Community	Population	Percent Nome Census Area Population
Nome	3,662	37%
Savoonga	751	8%
Gambell	722	7%
Unalakleet	722	7%
Stebbins	646	6%
Shishmaref	598	6%
Brevig Mission	462	5%
St. Michael	398	4%
Elim	368	4%
Koyuk	350	4%
Shaktoolik	275	3%
Teller	237	2%
White Mountain	194	2%
Wales	165	2%
Golovin	163	2%
Diomedede	99	1%

Source: ADOLWD.

Note: The remaining 2% are people living in Port Clarence or outside any Kawerak communities.

Figure 3. Percent Population Change, Kawerak Service Area Communities, 2009-2018



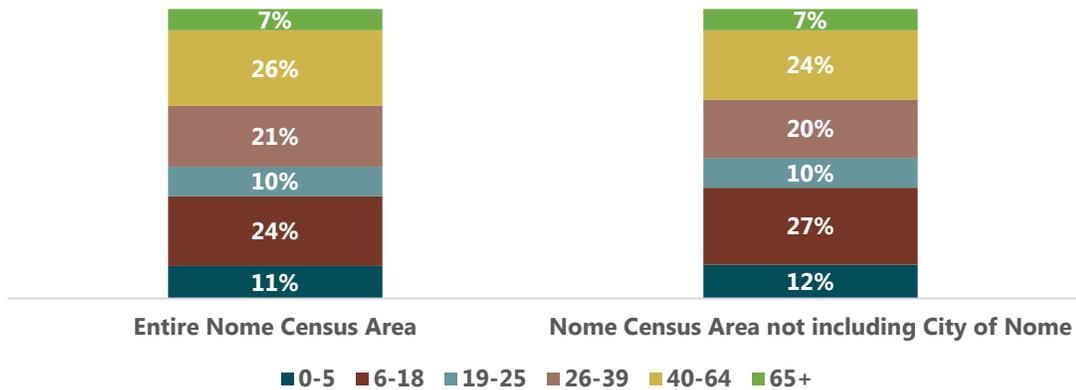
Source: ADOLWD.

Table 4. Population in Age Ranges, Nome Census Area, 2009-2018

Year	0-5	6-18	19-25	26-39	40-64	65+	Total
2009	1,206	2,260	1,078	1,703	2,670	575	9,492
2010	1,197	2,265	1,046	1,713	2,669	603	9,492
2011	1,251	2,286	1,091	1,784	2,684	613	9,709
2012	1,275	2,258	1,136	1,823	2,713	635	9,841
2013	1,241	2,290	1,138	1,820	2,716	663	9,868
2014	1,211	2,334	1,121	1,921	2,690	686	9,963
2015	1,203	2,376	1,081	2,022	2,639	699	10,020
2016	1,144	2,401	1,076	2,019	2,665	736	10,041
2017	1,114	2,412	1,033	2,084	2,616	735	9,994
2018	1,120	2,404	1,022	2,092	2,612	739	9,988

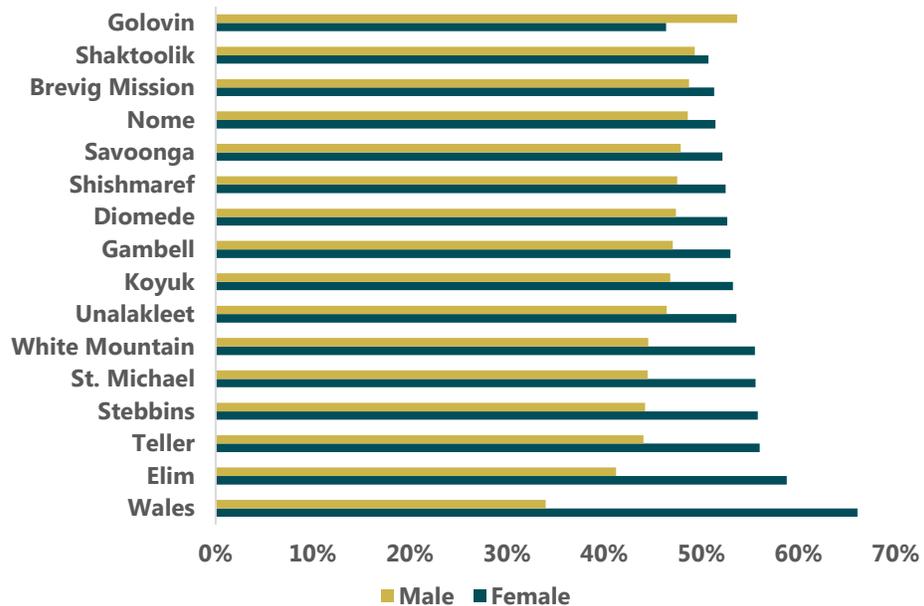
Source: ADOLWD.

Figure 4. Percent of Population by Age Range, Nome Census Area Compared to Census Area without City of Nome, 2018



Source: ADOLWD.

Figure 5. Gender by Community (Percent)



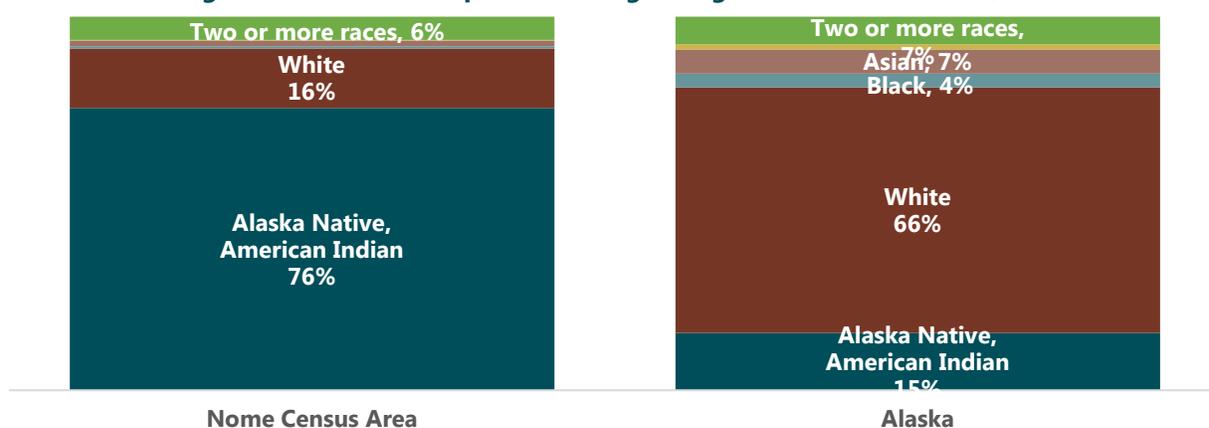
Source: ACS, 2013-2017 Five-Year Estimates.

Table 5. Number of People by Race, Nome Census Area and Alaska, 2017

Race	Nome		Alaska	
	Count	Percent of Total	Count	Percent of Total
One race alone	9,380	93.7%	682,545	92.6%
Alaska Native or American Indian	7,564	75.6%	113,082	15.3%
White	1,588	15.9%	484,515	65.7%
Black	65	0.6%	27,240	3.7%
Asian	149	1.5%	47,583	6.5%
Native Hawaiian or Pacific Islander	14	0.1%	10,125	1.4%
Two or more races	626	6.3%	54,535	7.4%
Total	10,006	--	737,080	--

Source: ADOLWD.

Figure 6. Percent of Population in Age Range, Nome Census Area, 2017



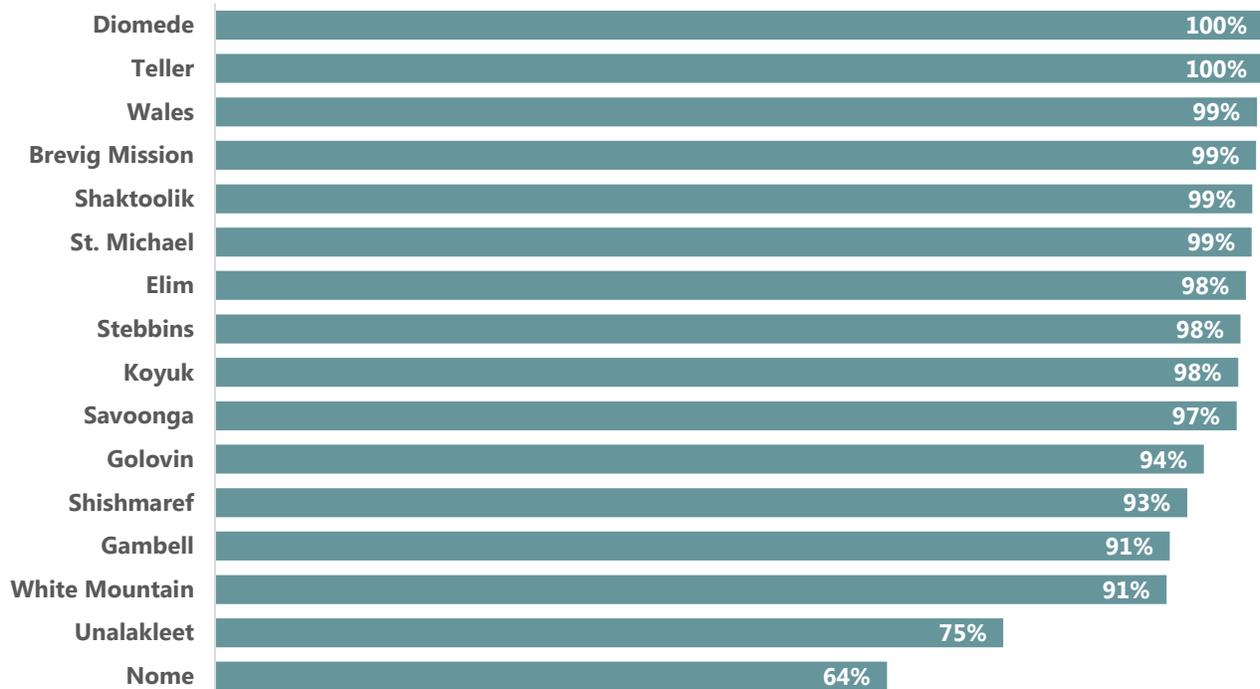
Source: ADOLWD.

Table 6. Number of People by Race, Kawerak Communities

Community	ANAI	White	Black	Asian	Pacific Islander	Some other race alone	Two or more races
Nome	1,916	1,182	72	41	29	10	543
Savoonga	890	24	0	0	0	0	18
Gambell	621	42	0	18	0	0	12
Unalakleet	473	81	0	80	0	0	51
Shishmaref	475	34	3	1	0	0	9
Stebbins	471	11	0	0	0	0	18
St. Michael	428	5	0	0	0	0	8
Brevig Mission	408	3	0	0	0	0	10
Elim	288	5	0	0	0	0	3
Shaktolik	276	3	0	0	0	0	3
Koyuk	224	5	0	1	0	0	18
Teller	170	0	0	0	0	0	14
White Mountain	155	16	0	0	0	0	2
Wales	148	1	0	0	0	0	10
Golovin	113	6	0	0	0	1	3
Diomedes	76	0	0	0	0	0	0

Source: ACS, 2013-2017 Five-Year Estimates.

Figure 7. Percent of Population Alaska Native alone or in combination with another race, Kawerak Communities



Source: ACS, 2013-2017 Five-Year Estimates.

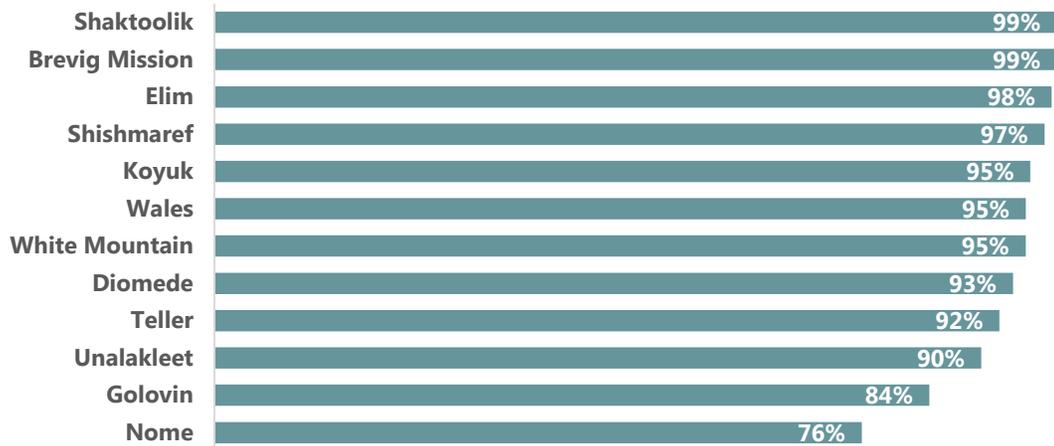
Table 7. Alaska Native Population by Tribal Grouping

Community	AIAN Total	Inupiat	Yupik	Athabascan	Aleut	Tlingit-Haida	Not specified
Nome	2,436	1,841	226	60	27	27	98
Savoonga	908	5	893	6	0	0	4
Gambell	631	7	624	0	0	0	0
Unalakleet	517	462	29	8	0	0	15
Stebbins	489	2	486	0	1	0	0
Shishmaref	486	470	3	0	0	0	10
St. Michael	441	11	411	0	14	2	2
Brevig Mission	418	412	0	2	0	0	4
Elim	319	285	30	0	0	0	2
Shaktoolik	279	275	2	0	2	0	0
Koyuk	246	231	5	2	6	0	2
Teller	184	169	6	0	0	0	9
Wales	158	150	7	0	0	0	1
White Mountain	157	149	2	4	0	0	2
Golovin	117	97	0	4	0	0	15
Diomedede	76	71	2	0	0	0	3

Source: ACS, 2013-2017 Five-Year Estimates.

Note: AIAN total includes Alaska Native or American Indian alone or in combination with any other race.

Figure 8. Inupiat People as a Percent of ANAI Population, Selected Kawerak Communities, 2013-2017 Five-Year Estimates



Source: ACS, 2013-2017 Five-Year Estimates.

Figure 9. Yupik People as a Percent of ANAI Population, Selected Kawerak Communities, 2013-2017 Five-Year Estimates



Source: ACS, 2013-2017 Five-Year Estimates.

Table 8. English Use and Ability, Kawerak Communities

	English only or speaks English "very well"	Speaks English less than "very well"
Alaska	95%	5%
Nome Census Area	95%	5%
Diomede	100%	0%
Elim	100%	0%
White Mountain	99%	1%
Golovin	99%	1%
Koyuk	99%	1%
Wales	99%	1%
Nome	98%	2%
Shaktoolik	98%	2%
St. Michael	97%	3%
Shishmaref	97%	3%
Brevig Mission	97%	3%
Stebbins	96%	4%
Teller	92%	8%
Gambell	86%	14%
Unalakleet	84%	16%
Savoonga	84%	16%

Source: ACS, 2013-2017 Five-Year Estimates.

Components of Population Change

Population change in the Kawerak Service Area occurs through births, deaths, and migration in and out of the area. Over the past decade, migration from the area has resulted in more people moving out than in, or negative net migration. The population has grown overall in the past decade, however, as the number of births have added more people than negative net migration and deaths combined.

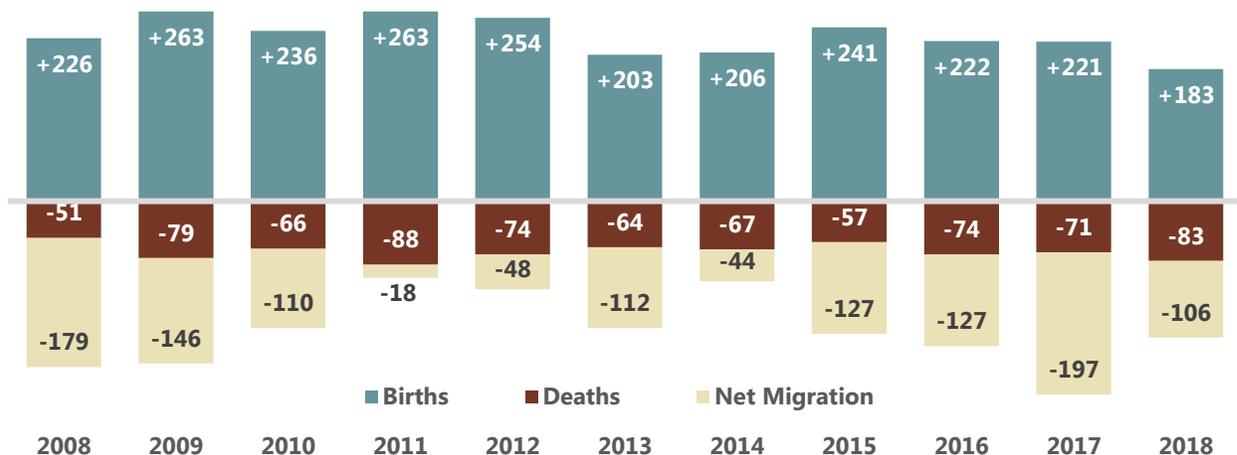
- In the City of Nome, net migration between 2009 and 2018 was slightly negative, at -0.2%.
- Migration into the City of Nome included 18% who came from other communities in the Nome Census Area, 28% who came from other locations in Alaska, and 55% who were new to the PFD, including births.
- Migration out of the city included 14% who left for other locations in the Nome Census Area, 37% who left for other locations in Alaska, and 48% who either died or did not apply for a PFD for other reasons, including moving to other areas outside of Alaska.
- Migration data for other individual Kawerak communities may be found in the tables and figures below.

Table 9. Population Change and Components, Nome Census Area, 2009-2018

Year	Births	Deaths	Net Migration	Population Change
2009	+263	-79	-146	+38
2010	+236	-66	-110	+60
2011	+263	-88	-18	+157
2012	+254	-74	-48	+132
2013	+203	-64	-112	+27
2014	+206	-67	-44	+95
2015	+241	-57	-127	+57
2016	+222	-74	-127	+21
2017	+221	-71	-197	-47
2018	+183	-83	-106	-6
Total 2009-18	+2,292	-723	-1,035	+534

Source: ADOLWD.

Figure 10. Components of Population Change, Nome Census Area, 2009-2018



Source: ADOLWD.

Table 10. Migration by Community, 2009-2018

Community	In from...			Out to...			NET (Annual Avg.)
	Elsewhere in NCA	Outside of NCA	New to PFD (incl. births)	Elsewhere in NCA	Outside of NCA	Left PFD (incl. deaths)	
Nome	+85	+133	+262	-70	-181	-233	-5
Unalakleet	+16	+28	+43	-10	-35	-38	+4
Stebbins	+14	+24	+44	-12	-32	-28	+10
St. Michael	+10	+18	+31	-17	-24	-19	+0
Savoonga	+7	+6	+40	-10	-9	-25	+9
Gambell	+9	+6	+35	-14	-8	-26	+2
Shishmaref	+13	+10	+27	-16	-13	-15	+6
Brevig Mission	+10	+4	+25	-11	-5	-13	+11
Koyuk	+14	+5	+17	-13	-9	-11	+3
Elim	+10	+5	+20	-10	-7	-12	+7
Shaktoolik	+7	+7	+13	-7	-8	-10	+3
Teller	+9	+3	+12	-13	-4	-9	-2
White Mountain	+8	+4	+12	-8	-7	-10	-1
Diomedede	+11	+3	+7	-13	-5	-7	-3
Golovin	+6	+3	+10	-7	-6	-7	+0
Wales	+5	+2	+11	-6	-3	-9	+2

Source: ADOLWD.

Note: NCA denotes Nome Census Area.

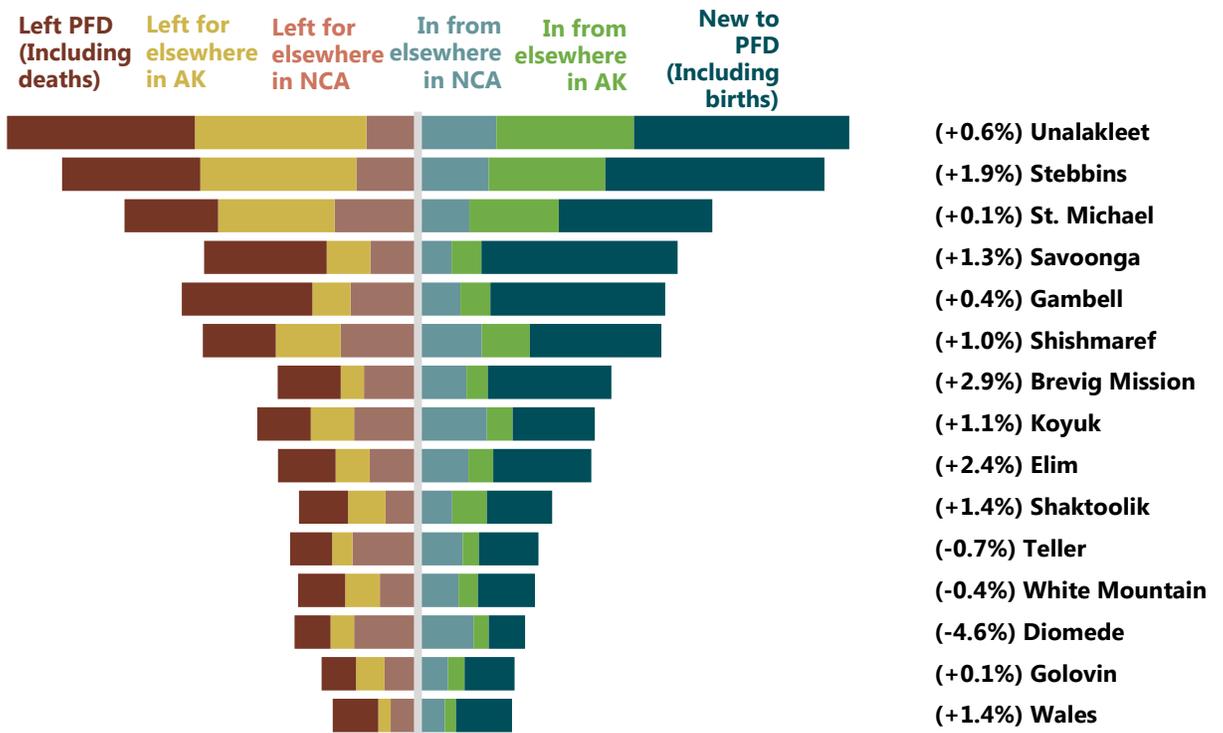
Figure 11. Migration, City of Nome, 2009-2018



Source: ADOLWD.

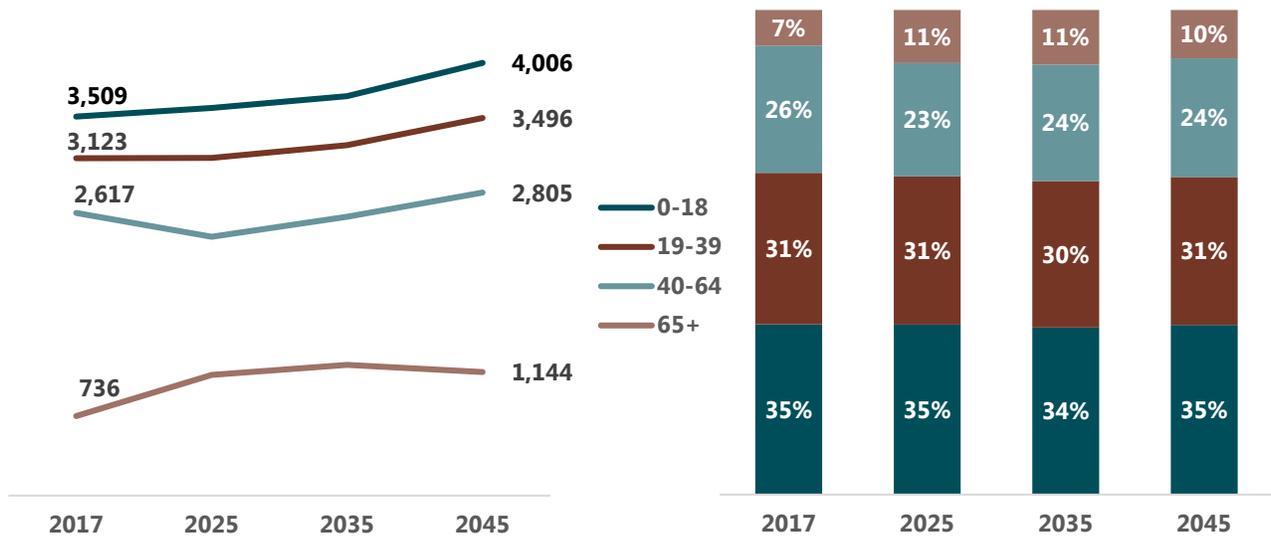
Figure 12. Migration, Kawerak Communities other than Nome, 2009-2018

(Average annual percent change shown)



Source: ADOLWD.

Figure 13. Projected Population Change, by Age, Nome Census Area, 2017-2045



Source: ADOLWD.

Households and Families

- Of the approximately 2,900 households in the Nome Census Area, three-quarters (76%) are family households (a household with two or more people related by marriage or birth).
- Among the 2,198 family households, half (50%) are married-couple households, and the other half have a non-married head of household (single male or single female).
- Among the 699 nonfamily households, 82% are a person living alone.
- Family type varies by community, with 92% of households in Shaktoolik being family households (the highest proportion), compared to 48% in Diomedé (the lowest).
- Average household size in the Kawerak Service Area is 3.3; this number is higher for most communities outside of the City of Nome, which has an average household size of 2.8.
- Household sizes are largest in Brevig Mission and Savoonga, at 4.5 people on average, followed by St. Michael at 4.3.

Extended Families and Subfamilies

- Subfamilies, defined as a married couple with or without children or a single parent with one or more children who do not maintain their own household and live in the home of someone else, are prevalent in the region.
- For the entire Kawerak Service Area, 13% of households include subfamilies. However, within many individual communities, a quarter or more households include subfamilies: 42% in Savoonga, 27% in Shaktoolik and St. Michael, 26% in Brevig Mission and Gambell, and 25% in Golovin.
- The percent of children living in subfamilies is high in many communities as well, as reflected in subfamily counts, and also in the percent of children living in households with other relatives as the householder. Brevig Mission has the largest proportion: 46% of children live in subfamilies and 43% with a grandparent as the householder. White Mountain has the least, with only 4% in subfamilies.

Households with Children

- Seventy-one percent of children in the Kawerak Service Area live in households in which their own parent or parents are the householder, while 21% live with a grandparent householder, 4% with other relatives, and 4% with foster parents or another caregiver unrelated to the child.
- The percentage of children living with their parents as householder is lower than for Alaska statewide, at 88% for Alaska versus 71% in the region. Children may still live with their parents at a higher rate than this data reflects, as their parents may not be head of household. For example, they may be part of a subfamily.
- The percent of children who live with parents who are the householder varies widely by community, with 87% living with parents as householders in White Mountain, 85% in Nome, and 45% in Savoonga.

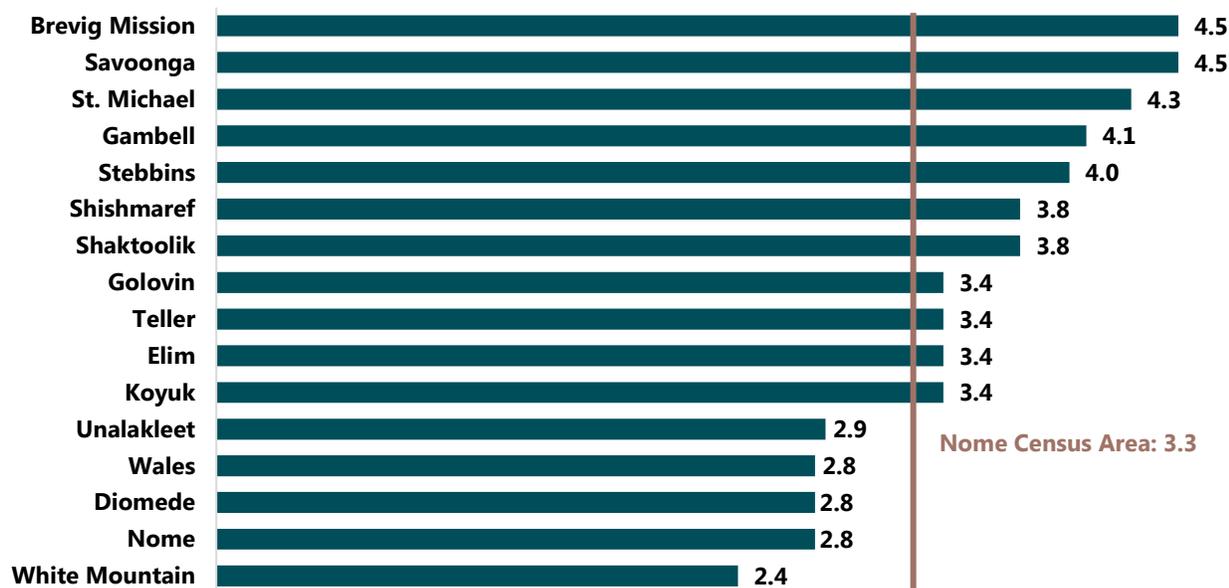
Table 11. Number of Households, by Type

	Family Households				Nonfamily Households			Total All Households
	Total	Married-Couple	Single Male Head of Household	Single Female Head of Household	Total	Living Alone	Living with Non-Relatives	
Nome Census Area	2,198	1,090	522	586	699	571	128	2,897
Nome	916	480	204	232	380	295	85	1,296
Savoonga	177	82	61	34	32	27	5	209
Unalakleet	153	86	26	41	49	45	4	202
Gambell	131	57	42	32	26	24	2	157
Shishmaref	115	50	30	35	24	16	8	139
Stebbins	100	45	23	32	23	16	7	123
St. Michael	89	41	24	24	14	11	3	103
Brevig Mission	80	34	20	26	13	12	1	93
Elim	70	29	22	19	18	18	0	88
Shaktolik	69	44	9	16	6	6	0	75
Koyuk	60	21	11	28	14	14	0	74
White Mountain	49	13	9	27	22	17	5	71
Wales	32	10	17	19	24	22	2	56
Teller	47	11	14	8	7	6	1	54
Golovin	24	15	2	7	12	11	1	36
Diomedede	13	2	5	6	14	10	4	27

Source: ACS, 2013-2017 Five-Year Estimates.

Note: Family is defined as a household with two or more people related by marriage or birth. Nonfamily households include people living alone or households not related by marriage or birth.

Figure 14. Average Household Size



Source: ACS, 2013-2017 Five-Year Estimates.

Table 12. Subfamilies Living Within a Larger Household, Nome Census Area and Kawerak Communities

	Subfamilies	Total Households	Percent Subfamilies
Nome Census Area	380	2,897	13%
Savoonga	88	209	42%
Shaktoolik	20	75	27%
St. Michael	28	103	27%
Brevig Mission	24	93	26%
Gambell	41	157	26%
Golovin	9	36	25%
Stebbins	26	123	21%
Diomedede	5	27	19%
Teller	9	54	17%
Shishmaref	21	139	15%
Unalakleet	23	202	11%
Wales	6	56	11%
Elim	9	88	10%
Koyuk	5	74	7%
Nome	64	1,296	5%
White Mountain	2	71	3%

Source: ACS, 2013-2017 Five-Year Estimates.

Table 13. Subfamilies as a Percent of Family Population

	Percent of children in subfamilies	Percent of children living with a grandparent as householder	Percent of children living with another relative as householder
Nome Census Area	19%	11%	4%
Savoonga	47%	50%	4%
Brevig Mission	46%	43%	3%
Stebbins	32%	33%	3%
Gambell	29%	27%	14%
Golovin	29%	27%	15%
Shaktoolik	28%	28%	4%
St. Michael	26%	23%	5%
Wales	24%	25%	0%
Diomedede	23%	23%	-
Teller	22%	18%	11%
Shishmaref	21%	28%	1%
Elim	16%	14%	5%
Unalakleet	16%	18%	8%
Koyuk	11%	17%	-
Nome	6%	6%	3%
White Mountain	4%	13%	0%

Source: ACS, 2013-2017 Five-Year Estimates.

Table 14. Child Relationship to Householder, by Community

	Parents	Grandparents	Other Relatives	Unrelated
Alaska	88%	7%	2%	2%
Nome Census Area	71%	21%	4%	4%
White Mountain	87%	13%	0%	0%
Nome	85%	6%	3%	5%
Koyuk	83%	17%	0%	0%
Diomedede	77%	23%	0%	0%
Elim	73%	14%	5%	9%
Unalakleet	71%	18%	8%	3%
Teller	70%	18%	11%	0%
Shishmaref	68%	28%	1%	2%
Shaktoolik	68%	28%	4%	0%
Teller	70%	18%	11%	0%
St. Michael	67%	23%	5%	4%
Stebbins	63%	33%	3%	1%
Golovin	58%	27%	15%	0%
Gambell	54%	27%	14%	5%
Brevig Mission	50%	43%	3%	4%
Savoonga	45%	50%	4%	0%

Source: ACS 2013-2017 Five-Year Estimates.

Economy and Employment

The economy in the Kawerak Service Area includes a combination of wage and salary employment, other income sources (such as dividends), and subsistence.

Employers and Employment

- In 2018, 314 employers operated in the region, compared to a peak of 361 in 2014.
- The largest employers in the region are Norton Sound Health Corporation (NSHC), the Bering Strait and Nome School Districts, Norton Sound Seafood Products, and Bering Air. Other significant employers include local governments, Native corporations, and health clinics and services.
- The largest employer in the region, NSHC, has 715 employees, approximately half in Nome..
- Self-employment has increased over the past decade, from 440 establishments in 2008 to 528 in 2017.

Employment

- Monthly wage and salary employment in the Kawerak Service Area averaged 3,904 in 2018.
- Over the past decade, employment fluctuated from a low of 3,712 in 2009 to a high of 3,991 in 2015.
- Average wage and salary employment falls slightly during the peak subsistence season (July and August). Seasonal or temporary work in other months is also reflected in monthly employment.
- The entire Nome Census Area workforce is made up of approximately half government employment, 20% education and health services, 10% trade, transportation and utilities, and 5% manufacturing.

- Outside City of Nome, local government makes up a much larger proportion of employment, ranging from 54% in Unalakleet to 87% in Diomed.
- Nearly 100% of the Nome Census Area workforce work within the Census Area.
- Unemployment rates in the region are higher than statewide, at 11.6% for 2018 in the Nome Census Area, compared to 6.6% for Alaska. This rate remained relatively steady for the past decade. Rates are generally higher in the communities outside of Nome, though data is not robust enough to report for specific communities.

Wages and Income

- Monthly wages averaged \$4,260 in 2018, for a total of \$200 million in wages for the Nome Census Area.
- Self-employed workers earned \$17 million in wages total during 2017 (last available data).
- Total personal income in the Kawerak Service Area totaled \$496 million in 2017.
- Fifty-eight percent of personal income came from wages, 30% from transfer receipts (which include government social benefits), and 12% from dividends and investment income.
- Household income in the Nome Census Area averaged \$69,905 in 2017.
- Per-capita income averaged \$20,952.
- Average household income is highest in the City of Nome, at \$91,935, followed by Unalakleet at \$73,069. Average household income is lowest in Wales (\$34,216) and Diomed (\$37,000).
- Average income differs by gender, with females who work full time year-round earning \$55,104 and males \$58,975.¹

Cost of Living

- Limited access to remote areas, along with other factors, makes the cost of living high throughout the Kawerak Service Area.
- For a family of four with children 6 to 11 years of age, the cost of groceries for a week in Nome is 131% of the Alaska average.² Costs in smaller communities in the region are even higher.

Poverty and Assistance Programs

- One-quarter of residents in the Nome Census Area, and 30% of children, are below the federal poverty line. This compares to 10% of Alaska residents and 14% of children in Alaska.
- Among Kawerak Service Area communities, the percent of children below the poverty line is highest in Brevig Mission, at 67%, followed by Wales (61%) and Gambell (54%). Nome has the lowest percentage at 14% of children below the poverty line.
- The proportions of households receiving income by source for the Nome Census Area are similar to Alaska as a whole, aside from a higher proportion in the Nome Census Area who receive SNAP benefits, at 31% versus 10% statewide, and cash public assistance, 11% versus 6% statewide.
- The proportion of Nome Census Area households receiving retirement income is smaller than for Alaska statewide, at 12% versus 19%.

¹ American Community Survey, 2013-2017 estimates.

² University of Alaska Fairbanks, Cooperative Extension Service, Alaska Food Cost Survey, December 2017 (latest available for Nome).

- Half or more households in several communities receive SNAP benefits: 69% in Brevig Mission, 66% in Gambell, 63% in Savoonga, 57% in Wales, 54% in Koyuk and Shishmaref, 52% in St. Michael, and 50% in Stebbins and Teller.
- Kawerak monitors food security in the region. After a poor walrus harvest in 2015, four communities (Diomedede, Gambell, Savoonga, and Wales) declared states of economic disaster because of food shortages. Donated fish boxes were delivered to the communities, though nutritional values were not fulfilled like they would have been with walrus. Food security and nutrition remain a concern, as noted in the Climate Change discussion later in this chapter.

Table 15. Nome Census Area Employers, Employment, and Wages, 2009-2018

Year	Employers	Employment	Monthly Avg. Wages	Total Wages (\$Millions)
2009	336	3,712	\$3,142	\$140.0
2010	328	3,841	\$3,363	\$155.0
2011	332	3,839	\$3,468	\$159.8
2012	350	3,971	\$3,567	\$170.0
2013	355	3,877	\$3,722	\$173.2
2014	361	3,911	\$3,773	\$177.1
2015	345	3,991	\$3,944	\$188.9
2016	320	3,814	\$3,947	\$180.7
2017	310	3,850	\$4,091	\$189.0
2018	314	3,904	\$4,260	\$199.6

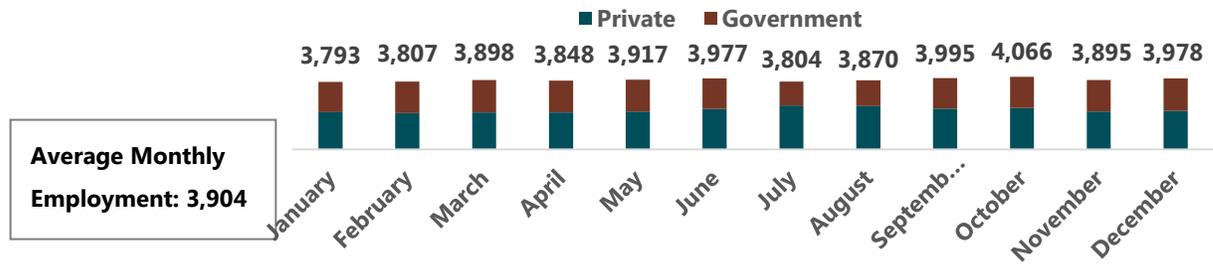
Source: ADOLWD, Quarterly Census of Employment and Wages, 2009-2018.

Table 16. Self-Employed (Non-Employer) Establishments and Sales (Nominal and Real 2017 Dollars)

Year	Non-Employer Establishments	Gross Receipts (\$Millions)	Gross Receipts (Real \$Millions)
2008	440	\$13.6	\$15.7
2009	439	\$12.4	\$14.2
2010	462	\$14.8	\$16.6
2011	515	\$15.1	\$16.5
2012	547	\$17.5	\$18.6
2013	572	\$19.8	\$20.4
2014	523	\$17.5	\$17.8
2015	504	\$15.6	\$15.8
2016	525	\$13.9	\$13.9
2017	528	\$16.8	\$16.8

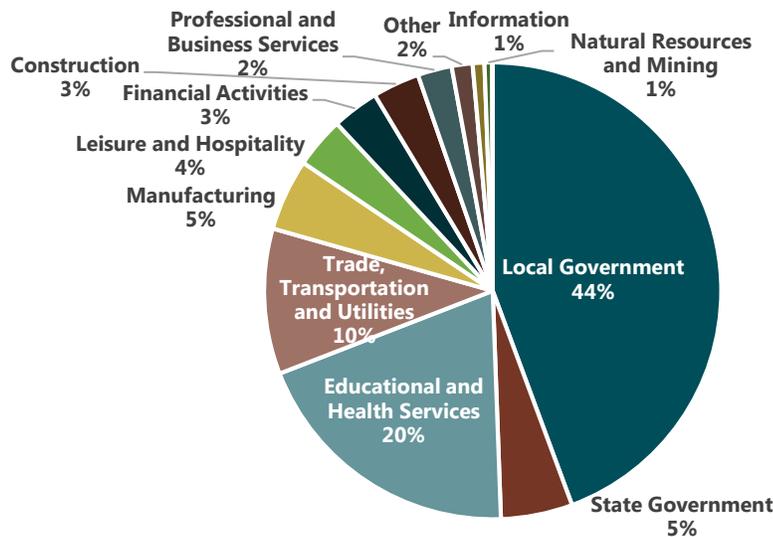
Source: U.S. Census Bureau, Non-Employer Statistics 2008-2017.

Figure 15. Number of a Wage and Salary Positions by Month, Nome Census Area, 2018



Source: ADOLWD, Quarterly Census of Employment and Wages, 2019.

Figure 16. Workforce Composition, Nome Census Area, 2016



Source: ADOLWD, Local and Regional Information, 2016.

Table 17. Workforce Composition, Kawerak Communities, by Percent of Community Workforce, 2016

Community	Local Government	Educational & Health Services	Manufacturing	All other
Diomedede	87%	9%	2%	2%
Teller	76%	13%	2%	8%
Shaktoolik	75%	11%	10%	5%
Wales	73%	18%	-	10%
Koyuk	70%	10%	8%	12%
White Mountain	70%	16%	1%	13%
Elim	69%	11%	10%	10%
Golovin	68%	14%	4%	14%
Stebbins	65%	10%	6%	19%
Savoonga	62%	9%	3%	25%
Shishmaref	62%	12%	-	26%
Brevig Mission	62%	17%	5%	17%
St. Michael	58%	9%	6%	26%
Gambell	57%	12%	2%	29%
Unalakleet	54%	7%	16%	22%
Nome	15%	33%	4%	48%

Source: ADOLWD, Local and Regional Information, 2016.

Table 18. Components of Personal Income (\$millions), Nome Census Area and Alaska, 2017

Component	Nome Census Area		Alaska	
	\$ (millions)	% of Total	\$ (millions)	% of Total
Net Wages	\$286.5	58%	\$27,503.7	65%
Dividends and investment income	\$59.7	12%	\$7,839.1	19%
Personal current transfer receipts	\$149.7	30%	\$6,958.2	16%
Total personal income	\$495.9		\$42,300.9	

Source: Bureau of Economic Analysis.

Table 19. PFD Filers by Zip Code, Nome Census Area

Community	Total Applications
Nome, Diomedede, Golovin, Little Diomedede	3,551
Savoonga	829
Unalakleet	820
Gambell	676
Stebbins	669
Shishmaref	612
Brevig Mission	429
Saint Michael	424
Elim	345
Koyuk	341
Shaktolik	258
Teller	253
White Mountain	203
Wales	162
Total	9,572

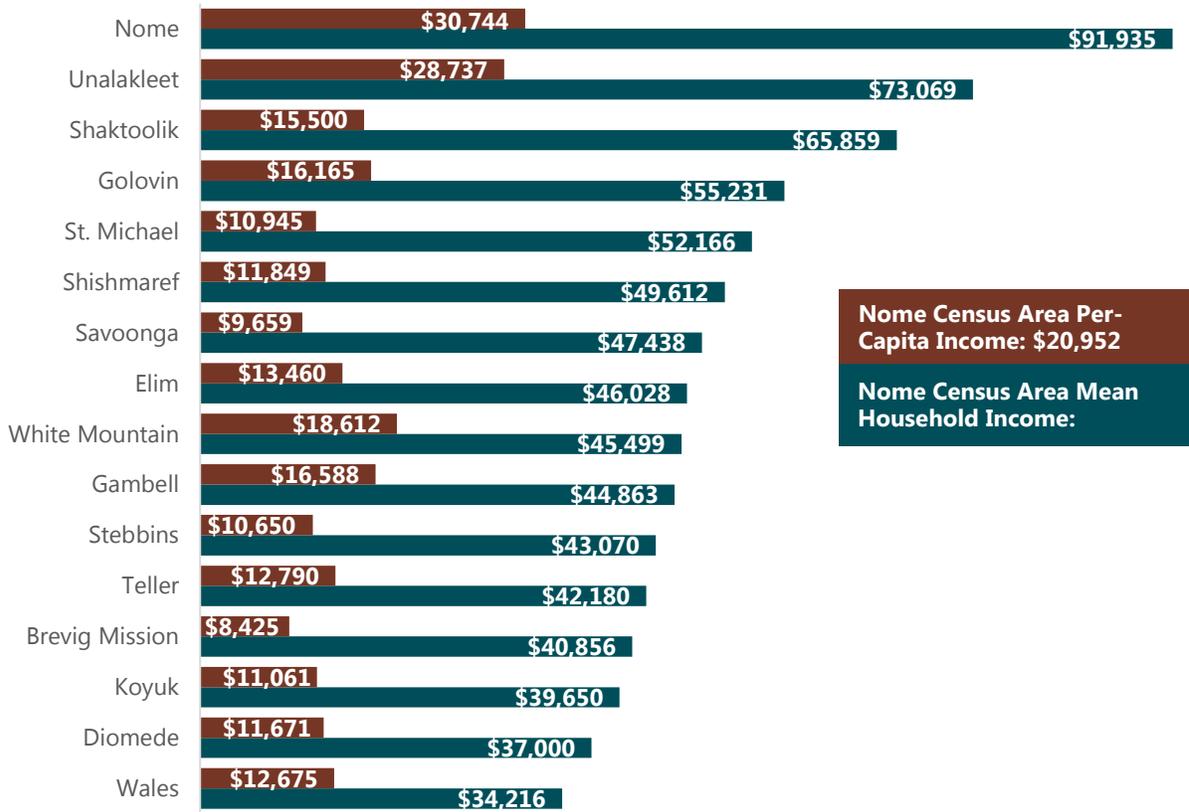
Source: Alaska Department of Revenue, Permanent Fund Dividend Division.

Table 20. Percent of Households in Kawerak Communities with Selected Income Sources

Community	Wage/Salary Earnings	Social Security	Retirement Income	Supp. Social Security	Cash public assistance	SNAP benefits
Alaska	86%	21%	19%	5%	6%	10%
Nome Census Area	89%	22%	12%	7%	11%	31%
Shaktolik	97%	27%	15%	12%	15%	27%
Diomedede	96%	4%	-	-	-	41%
Nome	93%	15%	12%	3%	6%	12%
St. Michael	90%	16%	11%	2%	12%	52%
Koyuk	89%	19%	11%	7%	12%	54%
Stebbins	88%	31%	5%	19%	18%	50%
Brevig Mission	87%	25%	8%	14%	20%	69%
White Mountain	87%	17%	6%	1%	13%	47%
Elim	86%	23%	15%	9%	14%	32%
Gambell	85%	31%	17%	13%	31%	66%
Unalakleet	84%	40%	16%	9%	6%	22%
Wales	84%	20%	14%	4%	14%	57%
Golovin	83%	19%	3%	3%	-	22%
Savoonga	82%	33%	7%	21%	28%	63%
Teller	82%	24%	7%	11%	15%	50%
Shishmaref	77%	33%	14%	15%	17%	54%

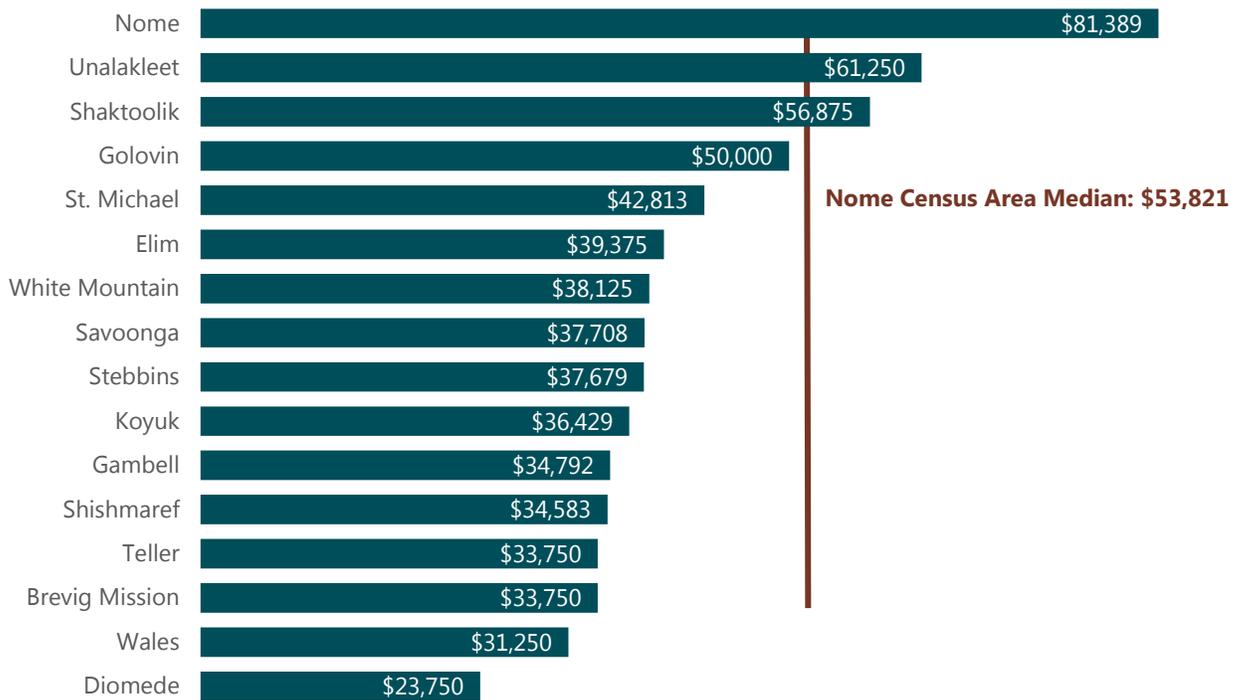
Source: ACS, 2013-2017 Five-Year Estimates.

Figure 17. Mean Household and Per-Capita Income, Kawerak Communities, Nome Census Area, and Alaska



Source: ACS, 2013-2017 Five-Year Estimates.

Table 21. Household Median Income, by Community



Source: ACS, 2013-2017 Five-Year Estimates.

Figure 18. Percent of Families and Individuals Below Poverty Line, by Community

Community	Percent of residents below poverty line	Percent of families below poverty line	Percent of children below poverty line
Nome Census Area	25%	21%	30%
Alaska	10%	7%	14%
Brevig Mission	59%	58%	67%
Gambell	43%	40%	54%
Savoonga	43%	41%	44%
Wales	41%	47%	61%
Koyuk	41%	37%	51%
Teller	38%	30%	36%
Shishmaref	37%	37%	43%
Diomedes	37%	39%	39%
Stebbins	34%	34%	34%
White Mountain	31%	18%	42%
Elim	26%	21%	28%
St. Michael	23%	24%	23%
Golovin	20%	21%	15%
Shaktolik	16%	12%	19%
Unalakleet	14%	15%	25%
Nome	12%	8%	14%

Source: ACS, 2013-2017 Five-Year Estimates.

Note: Residents in households with aggregate earnings below the poverty level (as determined annually by the U.S. Department of Health and Human Services) are categorized as living below the poverty line. In 2017, the poverty line began at \$15,060 for a single-person household and increased by \$5,030 for each additional person in the household.

Economic Activities

This section highlights economic sectors outside of local government and health/education that are impacting or may present future opportunities within the Kawerak Service Area.

Tourism

Tourism in the Kawerak Service Area primarily occurs in Nome. Employment in the Leisure and Hospitality sector represented 4% of all employment in the Nome Census Area in 2016. Tourism employment also occurs in the transportation sector (part of Trade, Transportation, and Utilities; 20%). Businesses catering to Nome's visitors include accommodations, attractions, bars/restaurants, rental car agencies, taxis, retail shops, and tour providers, among others.

The number of out-of-state visitors to Nome was estimated at 6,000 in summer 2016, the last time traffic was measured.³ Nome also attracts winter visitors, primarily for Iditarod-related activities, which alone accounts for an estimated 1,000 visitors.⁴

³ *Alaska Visitor Statistics Program 7*, prepared by McDowell Group for Alaska Department of Commerce, Community, and Economic Development.

⁴ <https://www.discoverak.com/iditarod-nome-finish>.

While most visitors travel to Nome via air, cruise ships have played an increasing role in the local visitor sector. (They are also much easier to track and project.)

Cruise ships calling at Nome are primarily small ships with capacity of less than 300 passengers. While a few ships are on single-day port calls, many use Nome as a turnaround port; that is, passengers begin or end their journey in Nome, allowing them to spend more time (and money) in the community than in most Alaska cruise ports.

Cruise passenger traffic has fluctuated widely over the last decade, from a low of 308 passengers in 2010 to a high of 1,839 in 2016. The 2016 and 2017 cruise seasons were boosted by one stop by the 1,080 passenger *Crystal Serenity*. Even though 2018 port calls were slightly higher (seven, up from six in 2016 and 2017), the number of passengers fell due to smaller ship capacities.

Current schedules indicate nearly 3,000 passengers are anticipated in summer 2019: well above the recent peak of 2,079 (2016). The spike is attributable to one stop of the *Maasdam*, with a capacity of 1,266. The *Maasdam* is not scheduled to return in 2020; however, the projected 2020 passenger volume of 2,104 will still represent much more traffic than previous levels.

Table 22. Nome Cruise Ship Traffic, 2009-2018

	# Passengers	# of Calls
2009	949	8
2010	308	2
2011	528	4
2012	522	3
2013	1,039	8
2014	1,218	8
2015	640	5
2016	2,079	6
2017	1,839	6
2018	992	7

Source: Cruise Line Agencies of Alaska.

Table 23. Nome Cruise Ship Traffic (Projected), 2019 and 2020

	# Passengers	# of Calls	Total Passengers
2019		10	2,994
World of Residensea	150	1	150
Silver Explorer	120	1	120
Maasdam	1,266	1	1,266
Roald Amundsen	530	1	530
Le Boreal	260	1	260
L'Austral	260	1	260
Orion	102	4	408
2020		9	2,104
Silver Explorer	120	2	240
Silver Cloud	254	1	254
Bremen	166	2	332
Le Boreal	260	1	260
L'Austral	260	1	260
Roald Amundsen	530	1	530
Scenic Eclipse	228	1	228

Source: Cruise Line Agencies of Alaska; McDowell Group calculations.

There is some tourism industry activity outside of Nome that results from the birdwatching market; special events such as the Iditarod also bring visitors to outlying communities, albeit in small numbers.

OUTLOOK

The outlook for Nome's visitor industry is largely positive. The worldwide luxury cruise market (that Nome primarily caters to) is growing at unprecedented pace, with total capacity projected to nearly triple within the next ten years (from 545,000 passengers in 2018 to 1.4 million in 2027, according to Cruise Lines International Association). In addition, as cruising in the Arctic increases in response to thinning ice, Nome is likely to see some portion of the growth in the Arctic market.

The air market is more uncertain and is heavily dependent on the state of the U.S. economy. Domestic travel to Alaska tends to rise and fall in accordance with disposable income. The ability of the State of Alaska to market the state also plays a role, and this funding has been variable in recent years due to the state's fiscal crisis. Alaska's (non-cruise-related) air market has been stagnant the last two summers (2017 and 2018), increasing only incrementally year to year.

Port of Nome

The Port of Nome serves as a critical transshipment hub for western Alaska communities for a wide array of supplies including heating oil, gasoline, construction supplies, non-perishable food, gravel, and other cargo. The ice-free months, typically between June and December, are extremely busy for the port.

Primary sources of revenue for the port are fuel, freight, and gravel. During summer months, activity at the port increases with the commercial harvest (primarily salmon, halibut, and king crab).

The *Port of Nome Strategic Development Plan*, developed by McDowell Group in January 2016, noted that Nome is poised to play an increasingly important role in Arctic development. Currently, much of the large-vessel traffic in the region must anchor near Nome or bypass the community as the existing harbor is too shallow.

Selected in 2015 by the Army Corps of Engineers (ACOE) as the Arctic Deep Draft Port site, the City of Nome and ACOE entered into a formal agreement to resume the port expansion feasibility study in 2018.

Arts and Crafts

While difficult to quantify, arts and crafts represent an important income source for the Kawerak Service Area. Local artists engage in a wide variety of art forms and use many different platforms (including traveling outside the region) to sell their work.

In 2018, Kawerak sponsored a survey of 172 artists in the region. Survey results below demonstrate the wide variety of arts and crafts produced, as well as the importance of the income derived from sales of artwork.

When asked about the type of arts and crafts they created, artists most commonly noted carving baleen, bone, and ivory (44%), followed by skin sewing (36%), beadwork (34%), crocheting/knitting (27%), and fabric sewing (26%). Over two-thirds of artists (68%) said they sold their art to supplement their monthly income. Among these artists, the most common sales methods were from their home (54%), in the village to visiting professionals (50%), online (29%), and at local bazaars/fairs/events (25%). When all respondents were asked whether they traveled outside of their community to sell their artwork, one-third (34%) answered affirmatively. Full survey results will be available on www.kawerak.org.

Table 24. Selected Results, Kawerak Arts and Crafts Survey, 2018

	% of Total
What type(s) of arts and crafts do you create?	
Carving baleen, bone, fossilized ivory, raw ivory – figurines, jewelry, masks, or scrimshaw	44
Skin sewing – hats, mittens, parka ruffs	36
Beadwork	34
Crocheting/knitting – hats, mittens, scarves, headwraps	27
Fabric sewing – parks, kuspuks, hats, scarves, etc.	26
Performance art – traditional singing, dancing, drumming, and storytelling	24
Visual arts – photos, paintings, drawing, etchings	20
Doll making	13
Wood carving – bowls, spoons, berry combs, berry buckets, masks	11
Basket making	1
Other	19
Do you sell any of your art/crafts as a way to supplement your monthly income?	
Yes	68
No	32
Where do you sell most of your art/crafts? (Base: Sells art)	
From your home – buyers/individuals come to you	54
In the village to visiting professionals such as teachers, doctors/dentist, engineers, social service providers, etc.	50
Online via Facebook, Instagram, Etsy.com, Shopify, or personal website	29
At local bazaars, craft fairs, or other community events	25
At regional bazaars and craft fairs, like the Iditarod Craft Fair in Nome, Kawerak Regional Conference, Bering Strait School District events	21
Door to door and/or direct to buyers/individuals	21
At statewide bazaars and craft fairs, like the AFN Convention, BIA Service Providers, Alaska State Fair, WEIO, etc.	14
Other	29
Do you travel outside your community in order to sell your art/crafts? (Base: Total)	
Yes	34
No	66

Subsistence

A markedly higher percentage of adults in the Norton Sound Health Corporation service area follow a subsistence lifestyle, as compared to the rest of Alaska (76% and 28%, respectively).

The Bering Strait between Russia and the Seward Peninsula experiences a substantial migration of marine mammals, fish, and birds. These resources, in addition to food resources on the land, such as eggs, roots, berries, and greens, are an important resource and source of food security for communities in the region. The seasonality of the Bering Strait environment brings with it changes in abundance in subsistence resources throughout the year. While people traditionally moved as the seasons progressed to harvest species when and where available, most of the population now lives year-round in communities and travels to camps throughout the region to collect subsistence resources.

A 2014 report by Kawerak and Oceana cites a study which documented an average of 3,760 pounds of subsistence food harvested annually per household across twelve communities in the Kawerak Service Area.⁵ Over two-thirds of the harvest, 68%, was of marine mammals, including walrus; bearded, ringed, spotted, and ribbon seals; and beluga and bowhead whales. Fish and shellfish, including salmon, clams, and crab, are another important component of the harvest, as are land mammals, including caribou and moose.

According to the Kawerak and Oceana study, the warming of the Arctic has caused sea ice loss, reduction in ice thickness, and changing ice patterns, in addition to coastal erosion and thawing permafrost. These conditions create longer open water seasons, and weather and sea ice changes that can negatively impact the health of subsistence resources while making traditional hunting practices more difficult and dangerous. Also, the potential for increased vessel traffic and industrialization is a concern for subsistence lifestyles.

Seafood Industry

In the Bering Strait region, residents earn revenue from commercial harvest and processing of seafood. The seafood industry is modest when compared to other rural coastal Alaska areas, such as Bristol Bay or Bering Sea & Aleutian Islands which host industrial-scale fishery infrastructure. Most fishermen in the region operate from vessels less than 30 feet long, and processing capacity is limited.

Salmon is the main fishery in the region (measured by participation) with fish harvested by gillnets. Halibut is harvested with longline (hook and line), and king crab is harvested with pots. The region hosts the only king crab fishery in the state in which pots are dropped through holes in the ice. A small amount of herring, tomcod, and Dolly Varden are also harvested, primarily for bait.

Although salmon fisheries continue to have the largest number of participants of any local fishery, earnings from king crab have exceeded earnings from salmon in recent years. Area residents earned \$3.0 million from king crab and \$2.8 million from salmon in 2017.⁶

Norton Sounds Seafood Products (NSSP) is the main buyer of seafood in the region. NSSP is a subsidiary of the Norton Sound Economic Development Corporation (NSEDCC), a Community Development Quota (CDQ) group. The company operates a processing facility in Nome, along with smaller plants in Unalakleet and Savoonga. Fish buying stations are maintained seasonally in Shaktoolik, Golovin, Koyuk and Moses Point (Elim).

In 2017, NSSP paid nearly \$1.5 million in wages to 205 seasonal processing employees (not including NSSP administration). The company provides a housing stipend to individuals who live in member communities outside of Nome and Unalakleet. NSEDCC operated six vessels in the region in 2017 and hired 23 seasonal employees (paying \$595,507 in crew wages) to purchase product directly from fishermen and transport it to the processing facilities.

The NSEDCC also provides annual grants for regional and community projects. In 2019, the NSEDCC Board of Directors awarded \$2.7 million in grants. A significant amount of the 2019 funding went to two energy projects.

⁵ Ahmasuk, et. al, A Comprehensive Subsistence Use Study of the Bering Strait Region. Kawerak, Inc. 2008.

⁶ Commercial Fisheries Entry Commission, 2019.

LOCAL PARTICIPATION

In 2018, preliminary data indicate 202 residents in the Nome Census Area earned \$6.5 million. Earnings and participation were highest in Unalakleet, with 72 fishermen earning \$2.4 million, followed by Nome with 40 participants and \$1.7 million in earnings, and Shaktoolik with 28 participants and \$1.1 million in earnings.

Table 25. Commercial Fishing Participation and Earnings in the Nome Census Area, 2018

Community	Permits Held	Fishermen Who Fished	Total Pounds	Total Earnings
Unalakleet	152	72	2,024,751	\$2,420,406
Nome	119	40	463,967	\$1,712,542
Shaktoolik	54	28	878,496	\$1,065,880
Elim	45	24	407,013	\$406,152
Golovin	24	11	216,089	\$349,575
Koyuk	20	14	191,994	\$212,077
Savoonga	10	8	38,496	\$171,630
Shishmaref	1	0	0	0
Gambell	1	1	(D)	(D)
Saint Michael	8	1	(D)	(D)
Stebbins	15	1	(D)	(D)
White Mountain	4	2	(D)	(D)
TOTAL	453	202	4,258,393	\$6,524,315

Source: CFEC.

Note: (D) signifies data suppressed to avoid disclosing individual identities. Data is preliminary.

Resident earnings from commercial fisheries have trended higher over the 2009 to 2018 period, including a peak of \$6.6 million in 2017. In 2009, 125 fishermen participated in local fisheries, with participation increasing to 216 by 2013. Participation has exceeded 200 for the past four years.

Table 26. Commercial Fishing Participation and Earnings in the Nome Census Area, 2009-2018

Year	Permits Held	Fishermen Who Fished	Total Pounds	Total Earnings
2009	370	125	1,673,268	\$2,781,989
2010	395	168	3,102,448	\$3,324,156
2011	406	178	3,284,671	\$4,165,177
2012	510	199	1,842,558	\$4,046,314
2013	473	216	2,792,756	\$4,196,135
2014	473	186	2,645,338	\$4,411,549
2015	455	214	3,286,281	\$4,932,662
2016	460	206	2,618,682	\$4,904,380
2017	501	213	3,446,626	\$6,644,687
2018	453	202	4,258,393	\$6,524,315

Source: CFEC.

Note: 2018 data is preliminary.

Mining and Gravel

CAPE NOME QUARRY

Industrial grade armor stone and rip rap is mined from the Cape Nome quarry, operated by Sound Quarry Inc., a subsidiary of Bering Straits Native Corporation. The rock is crushed in gravel pits around Nome. The product is transported throughout the region and statewide. Demand for quarry products varies with public and other construction projects, such as seawalls, causeways, breakwaters, airport runways, and roads.

GRAPHITE ONE

Graphite I, a Canadian company, is proposing a mine at a graphite deposit approximately 40 miles north of Nome in the Kigluaik Mountains. The deposit is considered one of the world's largest. Drilling and sampling was performed in 2018 and will occur in 2019. According to a company press release, the project "is proposed as a vertically integrated enterprise to mine, process, and manufacture high grade coated spherical graphite primarily for the lithium-ion electric vehicle battery market." The company proposes a processing plant located near the mine, with value-added products manufactured at a facility (location to be determined). While hundreds of jobs are projected to be generated from the mine, the Native Villages of Teller, Mary's Igloo, and Brevig Mission (closest to the mine) have expressed concerns about fish and game resources and public health if the mine is permitted.

Reindeer Herding

Twenty-one reindeer herders operate in the Seward Peninsula's reindeer industry, which supplies reindeer meat. There are approximately 10,000 reindeer on permitted ranges in the region. The Kawerak Reindeer Herders Association assists operators in the industry.

Climate Change

Climate change is impacting daily life and traditional practices in the Kawerak Service Area. Thawing permafrost and erosion are damaging infrastructure and homes, and warming oceans are changing subsistence practices.⁷ Communities are responding with climate change adaptation plans.

WARMING OCEANS

Regional effects of warming oceans will likely continue to impact daily lives, traditional subsistence practices, and economies around Norton Sound and the northern Bering Sea. Warmer oceans contribute to the loss of sea ice, a shortened season of ice pack coverage, ocean acidification, and shifting patterns of sea mammal migration. The loss of shore ice pack and warmer oceans also contribute to coastal erosion and flooding. Die offs of fish, sea birds, and mollusks have occurred from changes in ocean acidity, resulting in starvation for some

⁷ Markon, C., S. Gray, M. Berman, L. Eerkes-Medrano, T. Hennessy, H. Huntington, J. Littell, M. McCammon, R. Thoman, and S. Trainor, 2018: Alaska. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 1185–1241. doi: 10.7930/NCA4.2018.CH26

animals. Migrations of fish species due to warmer waters in the northern Bering Sea and Norton Sound are occurring more frequently, disrupting traditional fish harvests.

Kawerak Service Area communities, including Shishmaref, Shaktoolik, Unalakleet, and Nome (and Nome-area tribal members), have partnered with agencies to develop strategic plans to adapt to the changing climate. Emergency drills, evacuation centers, sea barriers, and infrastructure upgrades along with adaptations of subsistence practices are highlights of these planning documents.^{8,9} These plans highlight the need to utilize traditional knowledge to develop a better understanding of climate change and its local impacts.

PERMAFROST AND COASTAL EROSION

Cost estimates on the impact on public infrastructure from thawing permafrost, erosion, and flooding have been forecast at a possible \$3.6-\$6.1 billion through 2030. These numbers assume agencies adapt future infrastructure projects to changing climate conditions.¹⁰ Thawing permafrost shifts foundations of building across the tundra, leading to infrastructure damage in some communities. In 2017, in St. Michael, water and sewer pipes froze and broke due to ground and foundation shifts, resulting in two months without water or sewer services in the community.¹¹ Water security, already an issue in many communities, will be a continuing issue for communities like St. Michael, from infrastructure damage, and Teller and Golovin, whose groundwater sources are particularly vulnerable to permafrost.¹²

FOOD SECURITY

Reduced access to marine mammals caused by deteriorating ice cover, warming oceans, and shorter hunting seasons (when traveling over ice) will likely lead to reduced access to traditional food sources in the region. Since more than three-quarters of Norton Sound residents (as noted in the Subsistence section previously) rely on traditional food sources, changes in the climate are impacting not only traditional practices but food security. Fish camp access due to erosion, changes in the type and quantity of available fish, shifts in marine mammal hunting opportunities, and berry harvests may result in substantial impacts.¹³

⁸ Alaska Division of Community and Regional Affairs, Planning & Land Management: Climate change Impact Mitigation Program

⁹ Kettle, N., J. Martin, and M. Sloan. 2017. Nome Tribal Climate Adaptation Plan. Nome Eskimo Community and The Alaska Center for Climate Assessment and Policy. Fairbanks, AK.

¹⁰ Larsen, P. H. et al. (2008) 'Estimating future costs for Alaska public infrastructure at risk from climate change', *Global Environmental Change Part A: Human & Policy Dimensions*, 18(3), pp. 442–457. doi: 10.1016/j.gloenvcha.2008.03.005.

¹¹ Alaska Native Tribal Health Consortium. (2017). The community of St. Michael restores water service to key community buildings. [online] Available at: <https://anthc.org/news/the-community-of-st-michael-restores-water-service-to-key-community-buildings/> [Accessed 30 Jul. 2019].

¹² Chambers, M., White, D., Busey, R., Hinzman, L., Alessa, L., and Kliskey, A. (2007), Potential impacts of a changing Arctic on community water sources on the Seward Peninsula, Alaska, *J. Geophys. Res.*, 112, G04S52, doi:10.1029/2006JG000351.

¹³ Lily Gadamus (2013) Linkages between human health and ocean health: a participatory climate change vulnerability assessment for marine mammal harvesters, *International Journal of Circumpolar Health*, 72:1, DOI: 10.3402/ijch.v72i0.20715

Chapter 3: Housing and Infrastructure

Housing Overview

- As of 2017, the Nome Census Area contained 4,082 housing units. Of these units, 2,897 are occupied and 1,185 are seasonal or otherwise vacant.
- Sixty-one percent of occupied housing units are owner-occupied, while 39% are occupied by renters.
- Vacancy rates are lower than the statewide average. Homeowner vacancy rates are 0.3% in the Nome Census Area, compared to 1.8% statewide. Rental vacancy rates are 4.2%, compared to 6.5% statewide.
- For all Kawerak communities, aside from Nome, Golovin, and Diomed, vacancy rates for homeowners are at zero. Rental vacancy rates are at zero for Brevig Mission, Gambell, Elim, Shaktoolik, St. Michael, Stebbins, Teller, Wales, and White Mountain.
- BSRHA, which operates through HUD funding, continues to build homes in the region. Currently, the housing authority has over 400 units in 17 communities. BSRHA has built 106 homes through Native American Housing Assistance and Self-Determination Act (NAHASDA) since 1996.

Table 27. Housing Inventory and Vacancy Rates, by Kawerak Service Area Community

	Total Housing Units	Homeowner Vacancy Rate	Rental Vacancy Rate
Alaska	313,937	1.8%	6.5%
Nome Census Area	4,082	0.3%	4.2%
Nome	1,559	0.5%	3.8%
Unalakleet	259	0%	10.4%
Savoonga	254	0%	11.4%
Gambell	199	0%	0%
Shishmaref	149	0%	1.9%
Stebbins	132	0%	0%
St. Michael	118	0%	0%
Elim	100	0%	0%
Brevig Mission	98	0%	0%
Koyuk	91	0%	6.5%
White Mountain	83	0%	0%
Shaktoolik	81	0%	0%
Teller	72	0%	0%
Wales	72	0%	0%
Golovin	62	7.7%	20.0%
Diomed	45	0%	11.1%

Source: ACS 2013-2017 Five-Year Estimates.

Table 28. Percent Owner and Renter-Occupied Housing, Kawerak Service Area Communities

	Total Occupied Housing Units	Percent Owner Occupied	Percent Renter Occupied
Alaska	252,536	64%	36%
Nome Census Area	2,897	61%	39%
Savoonga	209	85%	15%
Gambell	157	84%	16%
Shaktoolik	75	80%	20%
Stebbins	123	69%	31%
Unalakleet	202	67%	33%
Teller	54	67%	33%
Golovin	36	67%	33%
Elim	88	65%	35%
Brevig Mission	93	63%	37%
Shishmaref	139	62%	38%
Koyuk	74	62%	38%
St Michael	103	59%	41%
Wales	56	59%	41%
Nome	1,296	49%	51%
White Mountain	71	49%	51%
Diomedea	27	41%	59%

Source: ACS, 2013-2017 Five-Year Estimates.

Housing Conditions

- Much of the Kawerak Service Area housing infrastructure is aging, with 89% of housing units built prior to 2000 and 45% built before 1980.
- In 2018, a single-family home in the Nome Census Area averaged 1,171 sq. ft, and a multi-family unit 1,043 sq. ft. This is 60% of the average single-family home size in Alaska and 81% for multi-family units.
- Overcrowding is an issue, with 14% in overcrowded conditions (more than one person per room) and another 16% in severely overcrowded situations (more than 1.5 people per room).¹⁴
- Outside the City of Nome, a larger proportion of households live in overcrowded conditions. One-quarter or more households are overcrowded, aside from White Mountain and Unalakleet.
- In several Kawerak Service Area communities, half or more of households live in overcrowded conditions, including Savoonga and Shaktoolik (60% each), Brevig Mission (51%), and Stebbins (50%).
- By 2020, 123 new of housing units are needed to prevent worse overcrowding, and 246 by 2025.
- In 2018 in Nome, 185 clients were in the Nome Emergency Shelter or permanent supportive housing. Seventy-eight percent of the clients were under 55 years of age, with 22% older than 55.¹⁵
- Overcrowding is linked with homelessness, as homelessness may be undercounted in the region because of weather conditions that force people indoors and lead to overcrowding.

¹⁴ Alaska Housing Finance Corporation, 2018 Housing Assessment.

¹⁵ Alaska Coalition on Housing and Homelessness.

Table 29. Year Built, Housing Units in Kawerak Service Area Communities

	2014 or Later	2000 to 2013	1980 to 1999	Prior to 1980
Alaska	0.5%	19%	40%	41%
Nome Census Area	0%	11%	44%	45%
Diomedede	0%	9%	29%	62%
Gambell	0%	11%	29%	60%
Savoonga	0%	15%	26%	59%
Wales	0%	11%	32%	57%
Teller	0%	6%	40%	54%
Shishmaref	0%	7%	40%	53%
St Michael	0%	9%	41%	50%
Unalakleet	0%	15%	36%	49%
Golovin	0%	13%	40%	47%
Elim	0%	16%	38%	46%
Shaktoolik	0%	14%	41%	46%
Nome	0%	9%	46%	45%
White Mountain	2%	6%	55%	36%
Koyuk	3%	18%	46%	33%
Stebbins	0%	16%	52%	33%
Brevig Mission	0%	21%	49%	30%

Source: ACS, 2013-2017 Five-Year Estimates.

Table 30. Percent Owner and Renter-Occupied Housing, Kawerak Service Area Communities

	Total Occupied Housing Units	Percent Owner Occupied	Percent Renter Occupied
Alaska	252,536	64%	36%
Nome Census Area	2,897	61%	39%
Savoonga	209	85%	15%
Gambell	157	84%	16%
Shaktoolik	75	80%	20%
Stebbins	123	69%	31%
Unalakleet	202	67%	33%
Teller	54	67%	33%
Golovin	36	67%	33%
Elim	88	65%	35%
Brevig Mission	93	63%	37%
Shishmaref	139	62%	38%
Koyuk	74	62%	38%
St Michael	103	59%	41%
Wales	56	59%	41%
Nome	1,296	49%	51%
White Mountain	71	49%	51%
Diomedede	27	41%	59%

Source: ACS, 2013-2017 Five-Year Estimates.

Table 31. Occupants per Room, Occupied Housing Units, Kawerak Service Area Communities

	Occupants per Room					Total Overcrowding
	0.50 or less	0.51 to 1.00	Overcrowded	Severely Overcrowded		
			1.01 to 1.50	1.51 to 2.00	2.01 or more	1.01 or more
Nome Census Area	31%	40%	14%	10%	6%	30%
Shaktoolik	16%	24%	25%	15%	20%	60%
Savoonga	17%	23%	24%	18%	17%	60%
Brevig Mission	20%	29%	22%	9%	20%	51%
Stebbins	25%	25%	19%	22%	9%	50%
Gambell	21%	31%	24%	13%	11%	48%
Diomedede	26%	26%	19%	30%	0%	48%
Koyuk	22%	36%	24%	7%	11%	42%
St. Michael	19%	43%	10%	20%	8%	38%
Elim	43%	20%	15%	17%	5%	36%
Shishmaref	17%	48%	23%	7%	5%	35%
Golovin	31%	36%	25%	8%	0%	33%
Wales	38%	34%	11%	18%	0%	29%
Teller	17%	59%	6%	7%	11%	24%
Unalakleet	38%	43%	11%	6%	1%	19%
Nome	36%	47%	10%	6%	2%	18%
White Mountain	45%	39%	6%	10%	0%	15%

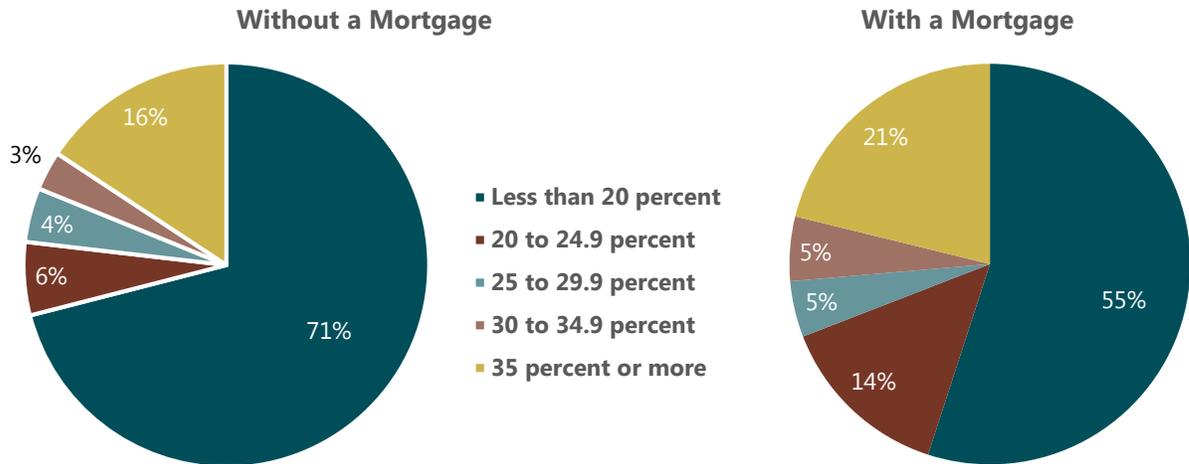
Source: ACS, 2013-2017 Five-Year Estimates.

Note: Overcrowded is defined as over 1 person per room. Severe overcrowding is defined as over 1.5 people per room.

Affordability

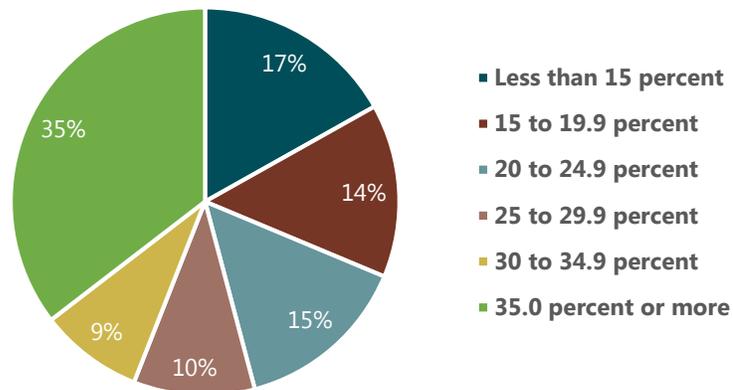
- One-quarter (26%) of Nome Census Area homeowners with a mortgage pay 30% or more of their household income for housing costs. This compares to 19% of owners without a mortgage.
- At least one-half of owners with mortgages pay 30% or more of their income toward housing in Brevig Mission (50%), Shishmaref (55%), and White Mountain (55%).
- One-half of renters in the City of Nome, Stebbins, and Diomedede pay 30% or more of their household income toward housing.
- Over one-half of owners with a mortgage and 71% of owners without a mortgage pay less than 20% of household income.
- Among renter households, 44% pay 30% or more of household income for rent.
- The percent area median income (AMI) required to afford rental housing in Nome is the highest in the state, at 114% of AMI for a two-bedroom rental.

Figure 19. Monthly Owner Costs as a Percentage of Household Income, Nome Census Area



Source: ACS, 2013-2017 Five-Year Estimates.

Figure 20. Monthly Rental Costs as a Percentage of Household Income, Nome Census Area



Source: ACS, 2013-2017 Five-Year Estimates.

Housing Services

BERING STRAITS REGIONAL HOUSING AUTHORITY

The Bering Straits Regional Housing Authority (BSRHA), headquartered in Nome, is the primary service provider for housing projects in the region. The organization pools funding provided to federally recognized tribes in the region from Housing and Urban Development (HUD) and uses it where needed. BSRHA works to build and provide safe, sanitary, and affordable homes for residents in the Bering Strait Region. BSRHA services include construction of new affordable housing units, preservation of existing housing, homebuyer and emergency utility assistance, home repair and weatherization assistance, and support for youth through grants for culture camps and traditional activities. BSRHA manages approximately 400 housing units in 17 communities throughout the region.

ALASKA HOUSING FINANCE CORPORATION

The Alaska Housing Finance Corporation (AHFC) finances housing and provides energy and weatherization, low-income rental assistance, and programs for homelessness throughout the state. This State entity manages approximately 36 properties in Nome.¹⁶

STEBBINS HOUSING AUTHORITY

Stebbins split with BSRHA in 1997 and took control of their own HUD funding. The Stebbins Housing Authority (SHA) built four homes in 2017 and plans to build five to six more homes in 2019 to assist with overcrowding issues and other housing needs in the community.

NOME ESKIMO COMMUNITY HOUSING PROGRAM

The Nome Eskimo Community Housing Program provides housing services to tribal members in the City of Nome. The program provides energy efficiency services for weatherization and repairs to lower utility costs, home renovations to upgrade older homes and bring them up to code, rental assistance, and related services.

HOUSING SHELTERS

The Bering Sea Women's Group Shelter for people experiencing domestic violence (not a homeless shelter) and the Nome Emergency Shelter Team (NEST) for winter overnight shelter and meals both operate in Nome. There are no shelters in any of the other Kawerak communities.

Utilities

Water and Sewer

- Only Nome and three villages in the service area, Unalakleet, Elim and Shaktoolik, have complete water and sewer systems.
- For the homes without piped water and sewer, a typical bathroom is a honey bucket and a small washing basin with standing water. In some of the older houses, the bathroom is behind a curtain.
- Diomedes, Shishmaref, Stebbins, Teller, and Wales do not have piped water systems.
- Based on current Indian Health Service (IHS) Sanitation Deficiency System (SDS) scoring criteria, the conditions of water systems within six communities present, at a minimum, a potential adverse health impact. Sanitation deficiency level scores indicate 11 communities have inadequate, unsafe, or no water supply disposal system.
- Based on IHS SDS scoring criteria, six communities have inadequate, unsafe or no solid waste disposal system. These include Brevig Mission, Koyuk, Savoonga, Shishmaref, St. Michael, and Stebbins.
- Poor sanitation conditions have been determined to be the cause of periodic outbreaks of respiratory diseases in communities without water and sewer systems.
- Many communities have central washeterias for laundry services: Golovin, Koyuk, Little Diomedes, Shaktoolik, Shishmaref, Stebbins, Teller, and Wales.

¹⁶ City of Nome Real Property Records.

Heating

- Nearly all (91%) homes in the region are heated with fuel oil (diesel), compared to 29% statewide.
- Energy costs for single-family homes in the region average \$6,427 per year. This is the highest energy cost in the state.¹⁷ For multi-family units, the cost is \$4,546, the third highest in the state.

Electricity

- Most communities in the Kawerak Service Area have electricity, aside from Solomon and Council.
- Petroleum power plants operate in Koyuk and Elim, Nome, Brevig Mission, and Shishmaref.
- Electricity generation occurs primarily from diesel, resulting in high prices, more than double statewide.
- Power Cost Equalization (PCE) credits help make rates more comparable to the rest of the state.
- Kawerak and other partners are engaged in energy planning for the region, including technical assistance, an annual regional energy summit, and a regional energy steering committee.
- The Alaska Village Electric Cooperative serves 36 villages in Alaska, including Brevig Mission, Elim, Gambell, Koyuk, Mountain Village, St. Michael, Savoonga, Shaktoolik, Shishmaref, Stebbins, Teller, and Wales. The cooperative undertakes energy projects, including wind turbines, heat recovery (in partnership with Alaska Native Health Consortium (ANTHC)), power plants, and interties.

Table 32. Percent Occupied Housing Units with Selected Characteristics, Kawerak Service Area Communities

	Lacking Complete Plumbing	Lacking Complete Kitchen Facilities	Increased Risk of Indoor Air Quality Issues	Heating Fuel			
				Fuel Oil, Kerosene, Etc.	Wood	Electricity	Other
Alaska	4%	3%	10%	29%	6%	12%	52%
Nome Census Area	23	16	55	91	5	2	2
Brevig Mission	15	18	95	98	2	0	0
Diomedes	100	78	100	89	0	11	0
Elim	9	8	81	73	27	0	0
Gambell	46	40	100	99	1	0	0
Golovin	50	19	81	75	14	11	0
Koyuk	24	20	97	86	14	0	0
Nome	1	2	22	92	2	3	2
Savoonga	23	33	96	97	1	0	2
Shaktoolik	3	4	77	92	8	0	0
Shishmaref	85	45	95	94	3	4	0
St Michael	33	19	89	96	4	0	0
Stebbins	96	61	84	85	9	2	5
Teller	91	50	74	100	0	0	0
Unalakleet	5	2	52	85	9	4	2
Wales	100	63	96	100	0	0	0
White Mountain	28	15	94	86	13	1	0

Source: ACS, 2013-2017 Five-Year Estimates.

¹⁷ Alaska Housing Finance Corporation, 2018 Housing Assessment.

Table 33. Sanitation Status, by Community 2018

Community	Sanitation Lead	Status
Brevig Mission	ANTHC	Piped; circulating water; gravity sewer
Diomedea	ANTHC	Unserved; washeteria and self-haul
Elim	ANTHC	Piped; circulating water; gravity sewer
Gambell	VSW	Piped; circulating water; gravity sewer
Golovin	ANTHC	Piped; circulating water; gravity sewer
Koyuk	ANTHC	Piped; circulating water; gravity sewer
St Michael	ANTHC	Piped; circulating water; vacuum sewer
Savoonga	ANTHC	Piped; circulating water; vacuum sewer
Shaktoolik	VSW	Piped; circulating water; gravity sewer
Shishmaref	ANTHC	Unserved; washeteria & self-haul; approximately 35 homes with flush tank & haul
Stebbins	ANTHC	Unserved; washeteria and self-haul
Teller	VSW	Unserved; washeteria and self-haul
Unalakleet	VSW	Piped; circulating water; gravity sewer
Wales	VSW	Unserved; washeteria and self-haul
White Mountain	ANTHC	Piped; circulating water; gravity sewer

Source: Kawerak, Inc. 2018 Federal Priorities.

Table 34. Affordability of Water and Sewer Household Rates, by Community, 2018.

	Combined Water & Sewer Rate	Water Only Rate	Sewer Only Rate	Indicator Score
Brevig Mission	\$100	-	-	Medium burden
Elim	\$90	-	-	High burden
Gambell	\$106	-	-	Medium burden
Golovin	\$110	\$70	\$70	Medium burden
Koyuk	\$70	\$35	\$35	High burden
Savoonga	\$85	\$60	\$60	High burden
Shaktoolik	\$60	-	-	Medium burden
St. Michael	\$250	\$150	\$150	Medium burden
Unalakleet	\$90	-	-	High burden
White Mountain	\$105	\$69	\$36	Medium burden

Source: State of Alaska Department of Environmental Conservation, Division of Water, 2018.

Note: This affordability indicator, developed by the Alaska Department of Environmental Conservation, is for use in determining whether users can afford annual operation, maintenance, repair, equipment and capital replacement costs of water, waste water, or solid waste facilities. Some Kawerak Service Area communities are not included in this analysis.

Table 35. Heating Fuel Prices for Selected Communities, 2019

	2015	2016	2017	2018	2019
Alaska	-	-	-	-	\$4.68
Northwest AK Region	-	-	-	-	\$4.86
Brevig Mission	\$ 5.80	\$ 4.78	\$ 3.38	\$ 4.06	\$ 4.35
Gambell	\$ 5.80	\$ 5.25	\$ 4.47	\$ 4.35	\$ 4.58
Golovin	\$ 6.00	\$ 4.50	\$ 4.00	\$ 3.70	\$ 3.70
Koyuk	\$ 6.68	\$ 5.40	\$ 4.71	\$ 4.76	\$ 4.74
Nome	\$ 5.63	\$ 5.25	\$ 4.38	\$ 4.42	\$ 4.45
Savoonga	\$ 5.91	\$ 4.08	\$ 4.05	\$ 4.42	\$ 4.42
Shishmaref	\$ 6.76	\$ 5.88	\$ 5.77	\$ 6.12	\$ 4.63
St Michael	\$ 7.22	\$ 5.69	\$ 5.02	\$ 4.54	\$ 4.55
Stebbins	\$ 6.28	\$ 5.46	\$ 5.71	\$ 5.39	\$ 5.31
Teller	\$ 5.78	\$ 4.57	\$ 3.94	\$ 4.04	\$ 5.25
Unalakleet	\$ 6.49	\$ 7.21	\$ 6.83	\$ 6.34	\$ 6.44
Wales	\$ 4.90	\$ 4.20	\$ 3.50	\$ 3.96	\$ 4.42
White Mountain	\$ 5.80	\$ 4.78	\$ 3.38	\$ 4.06	\$ 4.35

Source: Department of Community and Regional Affairs, 2019.

Note: Average retail price of heating fuel in winter seasons (Nov - Feb). Typically this is for heating fuel #1.

Table 36. Average Electricity Rates, Kawerak Service Area Communities, 2018 Estimates

	Residential Electrical Rates*		Number of Customers			Utility
	Rate/ kWh	Rate w/PCE credit - first 500 kWh	Residential	Community Facilities	Other Customers (non-PCE)	
Alaska (2019)	\$0.23					
Diomedes	\$0.65	\$0.43	39	4	14	Diomedes Joint Utilities
Wales	\$0.56	\$0.24	47	5	23	AVEC
White Mountain	\$0.55	\$0.29	65	8	29	City of White Mountain
Teller	\$0.54	\$0.24	72	6	33	AVEC
Shishmaref	\$0.53	\$0.24	145	10	48	AVEC
Elim	\$0.52	\$0.24	90	11	32	AVEC
Gambell	\$0.51	\$0.27	162	14	36	AVEC
Koyuk	\$0.51	\$0.24	93	11	28	AVEC
Brevig Mission	\$0.50	\$0.26	91	10	24	AVEC
Savoonga	\$0.50	\$0.25	158	9	46	AVEC
Shaktoolik	\$0.50	\$0.27	62	4	28	AVEC
St Michael	\$0.50	\$0.24	92	10	40	AVEC
Stebbins	\$0.50	\$0.24	135	12	36	AVEC
Unalakleet	\$0.44	\$0.28	270	21	88	Unalakleet Valley Electric
Golovin	\$0.38	\$0.25	49	11	43	Golovin Power Utilities
Nome	\$0.33	\$0.25	1,744	79	373	Nome Joint Utility System

Source: Alaska Energy Authority. *Power Cost Equalization Program Statistical Report, FY2018*. U.S. Energy Information Administration, *Average Price of Electricity to Ultimate Customers by End-Use Sector, March 2019*.

Note: AVEC is the Alaska Village Electric Cooperative. *Based on 500 kWh.

Table 37. Water System Needs, Health Impact Tier, Score and Deficiency Level, by Community, 2019

Community	Water System		
	Health Impact Tier (A-C) ^a	Health Impact Score (12-30) ^b	Sanitation Deficiency Level (3-5) ^c
Brevig Mission	✓	✓	✓
Little Diomedede	✓	✓	✓
Elim	✓	✓	**
Gambell	✓	✓	✓
Golovin	✓	✓	✓
Koyuk	✓	✓	✓
Nome	***	***	***
Savoonga	**	**	**
Shaktoolik	✓	*	✓
Shishmaref	✓	*	✓
St. Michael	*	*	✓
Stebbins	✓	*	✓
Teller	✓	*	✓
Unalakleet	***	***	***
Wales	✓	*	✓
White Mountain	***	***	***

Source: Current Indian Health Service Sanitation Deficiency Scoring (SDS) criteria.

Notes:

a. SDS health impact tier (A-C): first service (A), regulatory compliance (B), essential upgrades (C).

b. SDS health impact scoring framework (12-30): potential adverse health impact (12) - documented acute disease outbreak attributable to a documented drinking water facility deficiency (30).

c. SDS sanitation deficiency level (3-5): community with sanitation system with an inadequate or partial water supply and sewage disposal facility that does not comply with applicable water supply and pollution control laws or has no solid waste disposal facility (3), community with a sanitation system which lacks either a safe water supply system or a sewage disposal system (4), community lacks a safe water supply and a sewage disposal system (5).

* No best practice score available.

** Best practice scores outside described parameters.

*** Water system needs information not included among SDS public information.

Table 38. Solid Waste System Needs, Health Impact Tier, Score and Deficiency Level, by Community, 2019

Community	Solid Waste System		
	Health Impact Tier ^a (A-C)	Health Impact Tier ^a (A-C)	Health Impact Tier ^a (A-C)
Brevig Mission	**	**	✓
Diomedede (Little)	***	***	***
Elim	**	**	**
Gambell	*	*	*
Golovin	***	***	***
Koyuk	**	**	✓
Nome	***	***	***
Savoonga	**	**	✓
Shaktoolik	***	***	***
Shishmaref	**	*	✓
St. Michael	**	*	✓
Stebbins	**	*	✓
Teller	***	***	***
Unalakleet	**	*	*
Wales	**	*	**
White Mountain	**	*	*

Source: Current Indian Health Service Sanitation Deficiency Scoring (SDS) criteria.

Notes:

- a. SDS health impact tier (A-C): first service (A), regulatory compliance (B), essential upgrades (C).
- b. SDS health impact scoring framework (12-30): potential adverse health impact (12) - documented acute disease outbreak attributable to a documented drinking water facility deficiency (30).
- c. SDS sanitation deficiency level (3-5): community with sanitation system with an inadequate or partial water supply and sewage disposal facility that does not comply with applicable water supply and pollution control laws or has no solid waste disposal facility (3) community with a sanitation system which lacks either a safe water supply system or a sewage disposal system (4), community lacks a safe water supply and a sewage disposal system (5).

* No best practice score available.

** Best practice scores outside described parameters.

*** Solid waste system needs information not included among SDS public information.

Table 39. Village Washeteria Status, Norton Sound Health Corporation Service Region, 2019

Community	Washeteria	Construction	Renovation	Condition	Additional Information
Golovin	Yes	2009	-	Good	
Koyuk	Yes	1980	-	Very poor, unsafe	Deemed "unsafe for public use" 2010, closed 2018. A new facility is under construction.
Little Diomedede	Yes	1988	-	OK	-
Shaktoolik	Yes	1978	1993	OK/Poor	-
Shishmaref	Yes	1985?	2003	OK/Small	Renovation & expansion scheduled for completion in 2019.
Stebbins	Yes	1992?	2009	OK	Possible poor ventilation
Teller	Yes	Late 1970s	1993	OK	Scheduled for upgrades in 2019.
Wales	Yes	1982	-	-	New facilities under construction in 2019/2020.

Source: NSHC: Office of Environmental Health: 2019 data.

Table 40. Percent Occupied Housing Units with Telephone Service, Kawerak Service Area Communities

No Telephone Service	
Alaska	2%
Nome Census Area	3
Brevig Mission	4
Diomedede	0
Elim	5
Gambell	8
Golovin	6
Koyuk	9
Nome	0
Savoonga	6
Shaktoolik	0
Shishmaref	9
St Michael	7
Stebbins	15
Teller	4
Unalakleet	0
Wales	4
White Mountain	6

Source: ACS, 2013-2017 Five-Year Estimates.

Transportation

- There is no road system connecting the Kawerak Service Area to the rest of Alaska.
- Kawerak Service Area transportation varies seasonally for much of the area, with unpaved gravel roads connecting many communities in the summer and frozen and snow-covered trails providing snowmachine and dogsled routes in the winter. Trail staking is occurring between communities as well.
- Within communities, foot and ATV/snow machines are common forms of transportation, with vehicle use limited in many places.
- Jet service is available between Nome and Anchorage daily, year-round, with smaller commuter planes connecting Nome to other Kawerak communities. Percent on-time arrival at the Nome airport is 90%.¹⁸
- Barge service is dependent on weather and ice conditions leading to variability in the amount and schedule of goods shipped in and out of the area.
- The Port of Nome is typically iced over from November/December to April/May. Barge and freight services are available to all communities when the Bering Sea is free of ice (approximately four months of the year).
- Freight shipments affected by adverse weather and sea conditions can cause transportation issues throughout the region. Weather or condition delays in Nome delay final deliveries to other communities and also impact back-haul traffic outside of the region for re-supplying, sometimes leading to canceled voyages.

¹⁸ Bureau of Transportation Statistics, 2019.

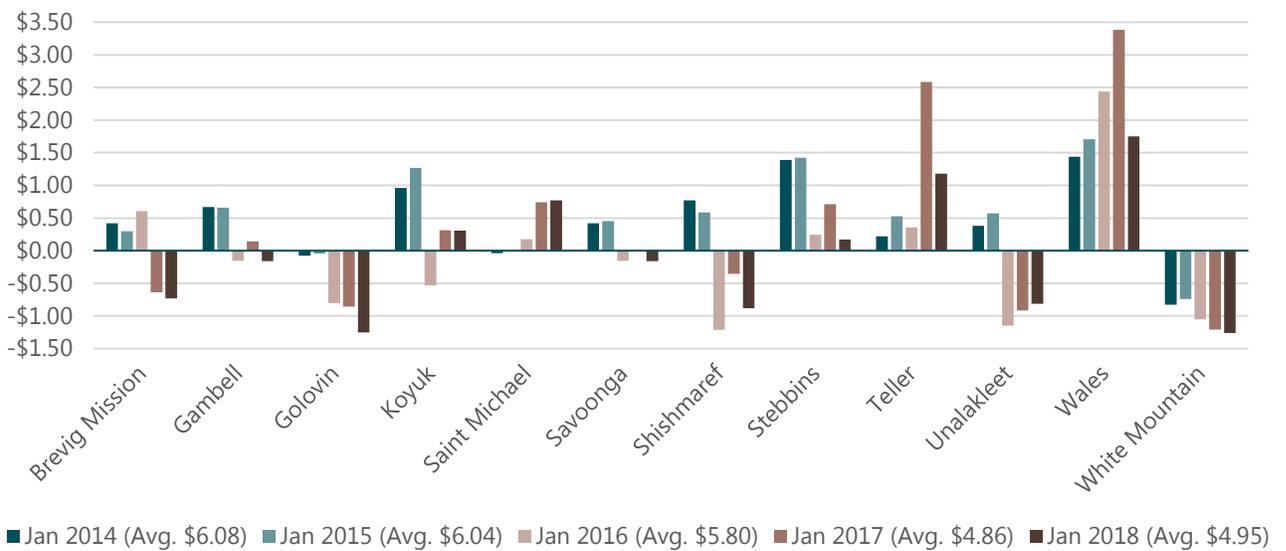
- Gasoline prices are comparable to statewide averages for many communities in the region, with the exception of Stebbins, Teller, and Wales, where prices are significantly higher.

Table 41. Vehicle Availability by Occupied Housing Units

No Vehicles Available	
Alaska	10%
Nome Census Area	55
Diomedede	100
Gambell	100
Koyuk	97
Savoonga	96
Wales	96
Brevig Mission	95
Shishmaref	95
White Mountain	94
St Michael	89
Stebbins	84
Elim	81
Golovin	81
Shaktolik	77
Teller	74
Unalakleet	52
Nome	22

Source: ACS, 2013-2017 Five-Year Estimates.
 Note: "Vehicle" is defined as automobiles, vans, trucks of one-ton capacity or less kept at home for use by members of the household).

Figure 21. Gasoline Prices, Difference from State Average, Selected Communities, 2014 - 2018



Source: DCRA, 2018.

Note: Prices are per gallon for unleaded gasoline in winter season (Nov – Feb).

Table 42. Kawerak Community Transportation Infrastructure

Community	Access by Air	Access by Water	Access by Land
Brevig Mission	<ul style="list-style-type: none"> State-owned 3,000 by 100-foot gravel air strip with gravel crosswind strip. Regular air service to Nome, charters to Teller. 	<ul style="list-style-type: none"> 9 miles to Teller via boat across Grantley Harbor. Summer barge service, no dock, cargo offload on beach. Boats and skiffs for ocean and river navigation, subsistence hunting and gathering. 	<ul style="list-style-type: none"> Unimproved routes to Teller, Wales, and Shishmaref. Nome-Teller Highway accessed via Grantley Harbor. ATV four-wheeler in summer, snow machine in winter 1,360 stakes 70 miles to Wales.
Diomedede	<ul style="list-style-type: none"> State-owned heliport for weekly mail delivery. Ice runway for regular air service when sea-ice thick enough. Few floatplane landing attempts on rough, foggy, open sea. 	<ul style="list-style-type: none"> 28 miles to Wales. Skin boats for sea travel. Barge service irregular due to sea or ice conditions, at least annually. Lighterage services available from Nome. 	<ul style="list-style-type: none"> By foot or ATV four-wheeler on the island.
Elim	<ul style="list-style-type: none"> State-owned 3,400 by 67-foot paved runway with crosswind runway. Elim Native Corporation-owned 4,700 by 100-foot paved airstrip, with crosswind runway. Regular service to Nome, flag stop to Unalakleet. 	<ul style="list-style-type: none"> Annual barge delivery. No dock supplies lightered to shore. Plans are underway to develop a harbor with a dock. 	<ul style="list-style-type: none"> Plans are under consideration to develop an access road.
Gambell	<ul style="list-style-type: none"> State-owned 4,800-foot paved runway. Regular service to Nome, charters to Unalakleet. 	<ul style="list-style-type: none"> Most people own boats for personal transportation. Lighterage services bring freight from Nome and Shishmaref. 	<ul style="list-style-type: none"> Snow machines in winter. Unimproved road to Savoonga.
Golovin	<ul style="list-style-type: none"> State-owned 4,000-foot gravel airstrip. Scheduled and charter service to Nome. 	<ul style="list-style-type: none"> City sets out a floating boat harbor when ice is out. No permanent dock, lighterage from Nome, offload on beach. Deep-water landing allows for navigation during all tides. 	<ul style="list-style-type: none"> Unimproved routes to White Mountain, Solomon, and Elim.
Koyuk	<ul style="list-style-type: none"> State-owned 3,000 by 60-foot gravel runway. Regular service to Nome and Unalakleet. 	<ul style="list-style-type: none"> Summer barge service. No dock, supplies lightered to shore. 	<ul style="list-style-type: none"> Unimproved subsistence routes to Elim, Shaktoolik, and Buckland.
Mary's Igloo	<ul style="list-style-type: none"> No scheduled service. Airplanes equipped with floats or skis can land on the river. 	<ul style="list-style-type: none"> Summer access by river boat. Supplies barged to Teller, trucked to Mary's Igloo in summer. 	<ul style="list-style-type: none"> Winter access by snow machine and dog teams. Unimproved subsistence routes to Teller, Nome, Solomon.
Nome	<ul style="list-style-type: none"> Two State-owed airports with scheduled jet service, charter, and helicopter services. Two paved runways at Nome Airport 5,500-feet to 6,000 feet by 150-feet. A gravel airstrip 2,000 by 110-feet at City Field or Munz Field. Emergency runway at private gravel airstrip on Kougarok Road. 	<ul style="list-style-type: none"> Norton Sound Economic Development Corporation and the City of Nome are funding harbor dredging, two seasonal floating docks, and a boat launch. 	<ul style="list-style-type: none"> Routes to Teller, Council and the Kougarok River. State-owned road to Glacier Creek.

Table 40. Kawerak Community Transportation Infrastructure (cont'd)

Community	Access by Air	Access by Water	Access by Land
Savoonga	<ul style="list-style-type: none"> State-owned 4,400 by 100-foot gravel airstrip. Service to Nome, Unalakleet. Crosswind runway needed. 	<ul style="list-style-type: none"> Summer barge service. No dock, lightering from Nome, offload on beach. 	<ul style="list-style-type: none"> Unimproved routes to Gambell.
Shaktoolik	<ul style="list-style-type: none"> State-owned 4,000-foot gravel airstrip. Regular service to Nome, Unalakleet. 	<ul style="list-style-type: none"> Cargo lightered to Shaktoolik from Nome or Unalakleet. No dock, natural protective harbor available. 	<ul style="list-style-type: none"> Summer travel often by ATV four-wheeler or truck. Winter travel by snow machine and dog team.
Shishmaref	<ul style="list-style-type: none"> State-owned 5,000-foot by 70-foot paved runway. Service to Nome. 	<ul style="list-style-type: none"> Natural boat harbor. Most people own boats for trips to the mainland. 	<ul style="list-style-type: none"> Winter travel to the mainland via snow machines. Dirt gravel road from village to dump and sewage lagoon. Paved road from airstrip to village.
Solomon	<ul style="list-style-type: none"> Grass airstrip occasionally used for private planes. 	<ul style="list-style-type: none"> Boat launching pad at the north end of the Bonanza River Bridge used from May to October. Norton Sound east to Golovin 70 miles. 	<ul style="list-style-type: none"> On Nome-Council Highway. Unimproved routes to White Mountain and Mary's Igloo.
St. Michael	<ul style="list-style-type: none"> State-owned 4,000-foot gravel airstrip. Seaplane base available. Regular charters to Nome, Unalakleet. 	<ul style="list-style-type: none"> Nearest natural deep-water port to Yukon and Kuskokwim River Deltas. No dock, grounded privately-owned barge used for landing. At least one annual shipment of bulk cargo, lighterage service frequent from Nome. 	<ul style="list-style-type: none"> 10.5-mile road to Stebbins. Primitive roads in winter to Unalakleet and Kotlik. 2.5-mile road to water source and airport.
Stebbins	<ul style="list-style-type: none"> State-owned 3,000-foot gravel runway. Regular service to Nome, Unalakleet. 	<ul style="list-style-type: none"> Annual barge service. Fuel delivery twice a year. No dock, lighterage to shore provided out of Nome. Freight often barged to St. Michael, transported by road. 	<ul style="list-style-type: none"> 10.5-mile road to St. Michael. Trucks, cars, ATV four-wheelers in summer; snow machines in winter.
Teller	<ul style="list-style-type: none"> State-owned 3,000 by 60-foot gravel runway. Daily service to Nome. 	<ul style="list-style-type: none"> No docks, barges come through the channel to beach. 	<ul style="list-style-type: none"> Nome-Teller highway (72 miles long) to Nome in summer. Unimproved routes to Brevig Mission and Mary's Igloo.
Unalakleet	<ul style="list-style-type: none"> Two runways in crosswind configuration. Regular service to Nome, Anchorage. 	<ul style="list-style-type: none"> Summer barge service. Freight lightered to shore. 	<ul style="list-style-type: none"> Unimproved subsistence routes to St. Michael, Shaktoolik, Kaltag.
Wales	<ul style="list-style-type: none"> State-owned 4,000-foot gravel airstrip. Scheduled and charter services. 	<ul style="list-style-type: none"> Barge service to Tin City, hauled by truck to Wales. Aluminum skiffs popular for sea travel. 	<ul style="list-style-type: none"> Unimproved routes to Brevig Mission and Shishmaref. Roads to Tin City. Trail staked for 70 miles to Brevig Mission.
White Mountain	<ul style="list-style-type: none"> State-owned 3,000-foot gravel runway. Daily service to Nome. 	<ul style="list-style-type: none"> Lightering from Nome, offload on beach. 	<ul style="list-style-type: none"> Unimproved routes to Golovin, Council, Solomon.

Communications

- Most households in the region have telephone service, including cell phones. However, 15% of households in Stebbins do not, along with 9% in Shishmaref and Koyuk, and 8% in Gambell.
- Public radio stations in the region are KUAC in Nome and KNSA in Unalakleet. KNOM in Nome is also a main station.
- Internet service is available in all communities, though service can be slow and often disrupted. TelAlaska provides DSL service and highspeed internet through Quintillion as of December 2018, GCI provides fixed wireless service, and HughesNet and X2nSat provide satellite service.
- An undersea fiber-optic cable was laid in 2017 from Nome to Prudhoe Bay. The main cable extends lines to several western Alaska communities, including Nome.
- Social media has increased as a communication tool within and between communities, with local schools and organizations maintaining active Facebook pages and groups, as well as other announcement services.

Table 43. Telephone Service and Internet Status, by Community

	Occupied Housing Units with No Telephone Service	Internet Speed Estimates	
		Avg. Download Speed (Mbps)	Difference from Avg. Statewide Speed
Alaska	2%	25.1	
Nome Census Area	3		
Brevig Mission	4	1.0*	-96%
Diomedede	-	1.0*	-96%
Elim	5	1.0*	-96%
Gambell	8	0.77	-97%
Golovin	6	1.0*	-96%
Koyuk	9	1.0*	-96%
Nome	-	2.60**	-90%
Savoonga	6	0.42	-98%
Shaktoolik	-	3.05	-88%
Shishmaref	9	8.33	-67%
St Michael	7	3.03	-88%
Stebbins	15	1.0*	-96%
Teller	4	3.24	-87%
Unalakleet	-	1.67	-93%
Wales	4	0.46	-98%
White Mountain	6	0.47	-98%

Sources: ACS 2013-2017 Five-Year Estimates and BroadbandNow 2018, accessed 5/30/19. Alaska estimate is for 2019.

*Average not available, 1.0 is the fastest available.

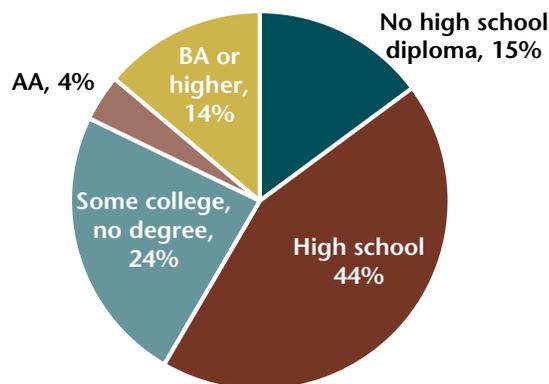
**In Nome, speeds up to 25 Mbps download and 3Mbps upload available as of December 2018.

Chapter 4: Education and Early Care and Learning

Education Attainment

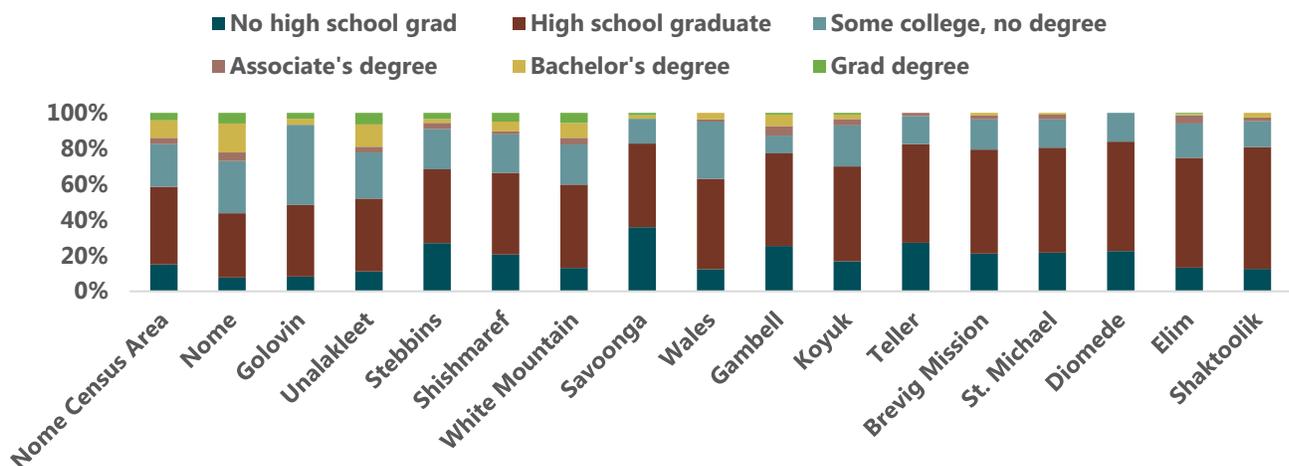
- Eighty-five percent of adults 25 years of age or older in the Nome Census Area have graduated from high school (or equivalent) or received a higher level of education. This compares to 93% statewide.
- The highest degree of educational attainment for 44% of adults in the region is a high school degree, 4% have an associate degree, 10% a bachelor's degree, and 4% have a graduate or professional degree.
- One quarter (24%) of adults have some college, though no post-secondary degree. This number is higher than the regional average for Golovin (45%), Wales (32%), Nome (29%), and Unalakleet (26%).
- Among Kawerak communities, Nome and Golovin have the lowest percentage of adults *without* a high school degree or equivalent, at 8%, and Savoonga has the highest, at over one-third of the population (36%).

Figure 22. Education Attainment, Percent of Population Over 25 Years of Age, Nome Census Area



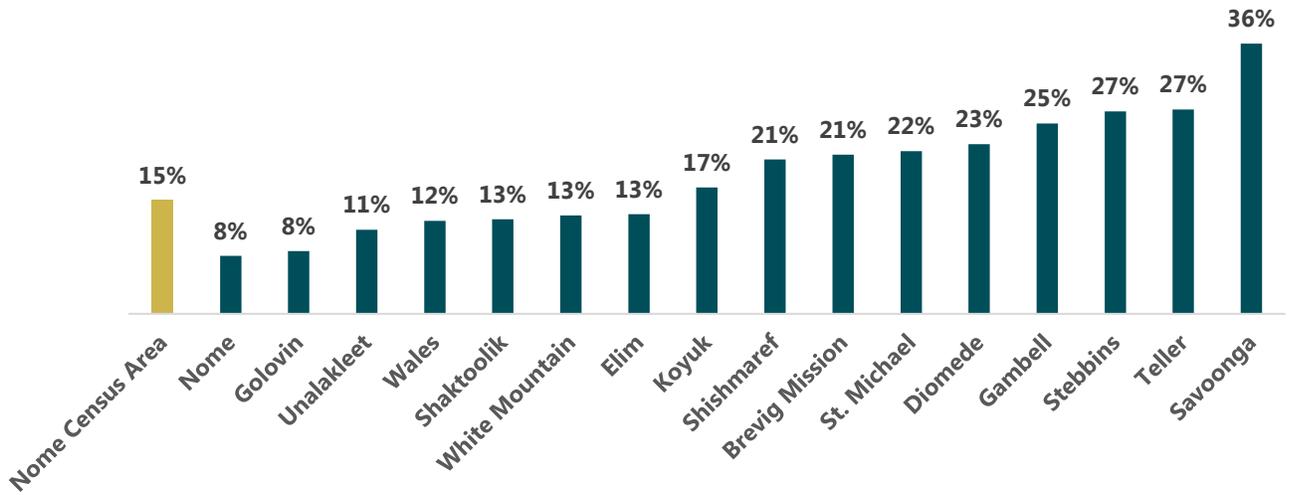
Source: ACS, 2013-2017 Five-Year Estimates.

Figure 23. Education Attainment, Percent of Population Over 25 Years of Age, by Community



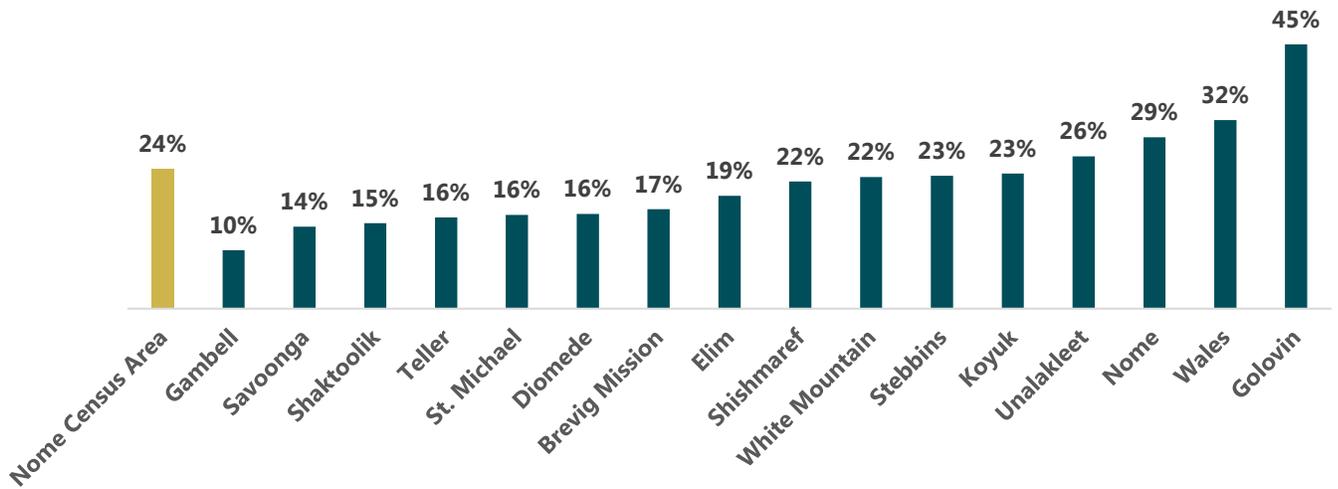
Source: ACS, 2013-2017 Five-Year Estimates.

Figure 24. Education Attainment, Percent of Population Over 25 Years of Age with Less Than High School Graduation



Source: ACS, 2013-2017 Five-Year Estimates.

Figure 25. Education Attainment, Percent of Population Over 25 Years of Age with Some College, No Degree



Source: ACS, 2013-2017 Five-Year Estimates.

Early Care and Learning

Approximately 3,363 children under 18 year of age lived in the Kawerak Service Area in 2018. Of that number, approximately 2,243 are school age children and 1,120 are younger than six years of age.

Table 44. Relationship to Householder, Children Under 18 Years of Age, Count by Community

	Under 18 Years of Age	Under 6 Years of Age	6 to 12 Years of Age	13 and Older
Alaska	185,916	61,874	74,455	49,597
Nome Census Area	3,363	1,120	1,383	860
Brevig Mission	176	61	67	48
Diomede	34	9	15	11
Elim	106	38	40	28
Gambell	206	67	81	58
Golovin	46	19	16	11
Koyuk	113	46	39	28
Nome	1,135	383	439	313
St. Michael	208	65	84	60
Savoonga	362	124	139	99
Shaktoolik	111	46	38	27
Shishmaref	202	70	77	55
Stebbins	205	64	82	59
Teller	62	21	24	17
Unalakleet	160	70	52	37
Wales	58	29	17	12
White Mountain	52	22	17	12

Source: ADOLWD, 2018, ACS 2013-2017 Five-Year Estimates, McDowell Group estimates.

Table 45. Relationship to Householder, Children Under 18 Years of Age, Percent, by Community

	Parent	Grandparent	Other Relatives	Unrelated
Alaska	88%	7%	2%	2%
Nome Census Area	71%	21%	4%	4%
White Mountain	87%	13%	-	-
Nome	85%	6%	3%	5%
Koyuk	83%	17%	-	-
Diomede	77%	23%	-	-
Elim	73%	14%	5%	9%
Unalakleet	71%	18%	8%	3%
Teller	70%	18%	11%	-
Shishmaref	68%	28%	1%	2%
Shaktoolik	68%	28%	4%	-
Wales	68%	25%	-	7%
St. Michael	67%	23%	5%	4%
Stebbins	63%	33%	3%	1%
Golovin	58%	27%	15%	-
Gambell	54%	27%	14%	5%
Brevig Mission	50%	43%	3%	4%
Savoonga	45%	50%	4%	-

Source: ACS 2013-2017 Five-Year Estimates.

Table 46. Relationship to Householder, Children Under 18 Years of Age, Percent, by Community

	Living with Own Parent(s) - All in The Labor Force				Living with Someone Other Than Parents - In the Labor Force		Total with All Available Adults in the Labor Force
	Number of Children	Two-Parent Household	Father Only	Mother Only	Living With a Grandparent Who Is Responsible for the Child	Living with Other Relatives and Unrelated Adults	
Alaska	186,246	37%	9%	16%	2%		2%
Nome Census Area	3,402	21%	18%	32%	5%		4%
Brevig Mission	181	9%	23%	52%	9%	9%	-
Diomedede	31	0%	25%	25%	2%	1%	5%
Elim	110	17%	29%	40%	3%	7%	-
Gambell	221	3%	11%	41%	8%	12%	-
Golovin	52	24%	18%	12%	4%	7%	9%
Koyuk	109	7%	29%	17%	4%	3%	3%
Nome	1,140	25%	27%	25%	1%	5%	-
St. Michael	211	19%	31%	17%	6%	8%	2%
Savoonga	370	15%	7%	44%	11%	9%	-
Shaktoolik	103	40%	0%	52%	6%	4%	7%
Shishmaref	204	20%	16%	39%	6%	4%	4%
Stebbins	203	14%	10%	33%	8%	5%	1%
Teller	61	16%	16%	42%	6%	4%	-
Unalakleet	164	30%	2%	31%	4%	2%	5%
Wales	59	0%	31%	54%	4%	3%	4%
White Mountain	52	25%	0%	55%	1%	2%	-

Source: ACS 2013-2017 Five-Year Estimates.

Pre-K to Secondary Education

Pre-K

- In the City of Nome, two Pre-K programs operate for children four to five years of age: Nome Preschool (capacity 20) and Kawerak Head Start. A day care business with capacity for eight children also operates. Throughout the rest of the region, Early Head Start and Head Start (EHS/HS) programs are operated by Kawerak and Rural CAP. No other state-licensed or approved programs operate in the region.
- Rural CAP Head Starts operate in Savoonga and Stebbins. In FY19, 22 children three to five years of age were served in Savoonga, and 26 were enrolled in Stebbins.
- Kawerak Head Start programs are discussed in detail in the following chapter of this report.

School Enrollment

- School-aged children are enrolled in two school districts within the area: Nome Public Schools in the City of Nome, and Bering Strait School District throughout the rest of the region.
- Over the past ten years, enrollment in Nome Public Schools remained relatively flat, ranging from 657 in 2009-2010 to 716 in 2015-2016. Enrollment in 2018-2019 totaled 704 students.

- In Nome, 9% of students attend the Anvil Science Academy, 2% correspondence, and 1% the Nome Youth Facility. All other children attend Nome Elementary School or Nome-Beltz Jr./Sr. High School
- Bering School District enrollment increased by 15% over the past decade, reaching a high of 1,981 students in both 2017-2018 and 2018-2019.
- Many schools in the region experience a degree of transient populations with families moving between communities in the region, particularly to and from Nome, likely in search of employment.

Children with Disabilities

- Within the Bering Strait School District, 175 students (9% of enrollment) are reported to have disabilities.¹⁹ Among these students, the graduation rate, at 89%, is higher than the state rate of 59%.
- In Nome Public Schools, 84 students (12%) have disabilities: seven who are three to five years of age and 77 who are six to 21 years of age. Graduation rates for these students is 50%.

Drop Out and Graduation Rates

- The high school graduation rate in the Kawerak Service Area is similar to statewide, both around 79%.
- The 2017-2018 graduation rate for Bering Strait School District was 75%, with a drop-out rate of 2.6%. The graduation rate was higher for females (86%) compared to males (67%).
- For Nome Public Schools, the graduation rate was 77%, with a drop-out rate of 3%.

Assessments

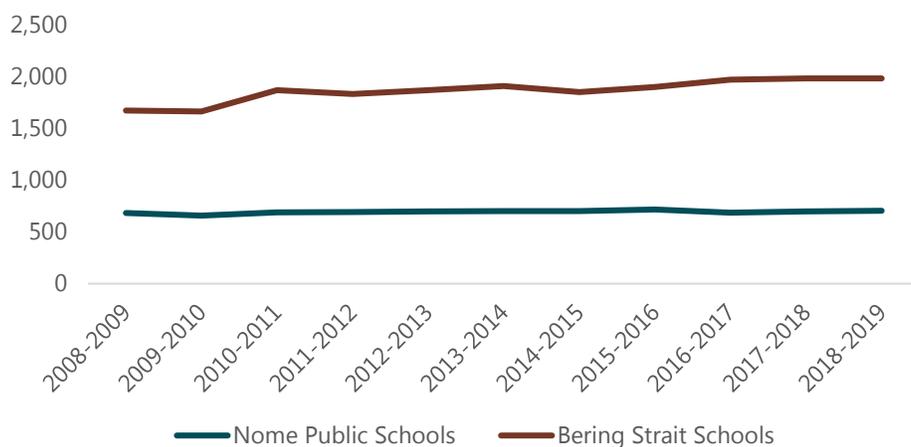
- One-quarter of Bering Strait School District kindergarten-age students and 18% in Nome Public Schools entered their kindergarten school year meeting at least 11 of 13 Alaska Developmental Profile goals for child development. This compares to 32% of students statewide.
- Nome Public Schools and Bering School District assessment scores are below statewide averages for proficiency for both English Language Arts and Math on the Performance Evaluation for Alaska's Schools (PEAKS) and for Science on the Alaska Science Assessment.

Teacher Turnover

- In rural Alaska, teacher turnover generally averages 20%. A 2017 study by UA estimates the cost to school districts of teacher turnover at approximately \$20,000 per teacher.
- Teacher recruitment and retention has been identified as an issue by school officials and other education organizations in the region. In the 2018-2019 school year, Nome Public Schools had a turnover of 15 or 16 teachers, and 12 going into 2019-2020. Reported reasons for turnover include:
 - Not a good cultural fit
 - High health care plan costs
 - Can't compete with benefits/salaries of other school districts
 - Housing unavailable and expensive

¹⁹ Department of Education and Early Development.

Figure 26. School Enrollment in Pre-K through 12th Grade, by School District, 2008-2009 to 2018-2019



Source: Alaska Department of Education and Early Development.

Table 47. Kindergarten Students Who Consistently Demonstrate at Least 11 of 13 Alaska Developmental Profile Goals, 2018-2019

	Student Count	Percentage of Students Who Consistently Demonstrated at Least 11 of 13 ADP Goals
Alaska	9,576	32%
Bering Strait School District	125	24%
Nome Public Schools	51	18%
Brevig Mission	11	<=20%
Diomedede	2	*
Elim	4	*
Gambell	5	<=40%
Golovin	3	*
Koyuk	11	46%
Nome	51	18%
Savoonga	21	19%
Shaktoolik	6	<=40%
Shishmaref	12	<=20%
St. Michael	7	<=40%
Stebbins	12	<=20%
Teller	6	>=60%
Unalakleet	17	53%
Wales	6	<=40%
White Mountain	2	*

Source: Alaska Department of Education and Early Development.

Note: Students who "consistently met" a goal were able to demonstrate that skill or behavior 80% or more of the time.

*Sample size too small to report results.

Table 48. Percent of Kindergarten Students Who Consistently Met Alaska Developmental Profile Goals, 2018-2019

Category	Alaska	Bering Strait SD	Nome Public Schools
Physical Well-Being, Health and Motor Development			
Goal 1: Demonstrates strength and coordination of large motor muscles	64%	77%	22%
Goal 2: Demonstrates strength and coordination of small motor muscles	57%	66%	51%
Social and Emotional Development			
Goal 3: Participates positively in group activities	53%	58%	31%
Goal 4: Regulates their feelings and impulses	47%	55%	31%
Approaches to Learning			
Goal 5: Shows curiosity and interest in learning new things and having new experiences	55%	51%	29%
Goal 6: Sustains attention to tasks and persists when facing challenges	49%	50%	27%
Cognition and General Knowledge			
Goal 7: Demonstrates knowledge of numbers and counting	57%	48%	71%
Goal 8: Sorts, classifies, and organizes objects	51%	39%	29%
Communication, Language and Literacy			
Goal 9: Uses receptive communication skills	59%	59%	43%
Goal 10: Uses expressive communication skills	55%	49%	31%
Goal 11: Demonstrates phonological awareness	41%	30%	25%
Goal 12: Demonstrates awareness of print concepts	47%	26%	37%
Goal 13: Demonstrates knowledge of letters and symbols (alphabet knowledge)	49%	41%	73%

Source: Alaska Department of Education and Early Development.

Table 49. Student Assessment Scores by Proficiency Level, Kawerak Service Area School Districts and Statewide, All Grades, 2017-2018

	Statewide	Bering School District	Nome Public Schools
English Language Arts			
Advanced	10%	0.2%	4%
Proficient	32%	7%	17%
Below proficient	28%	18%	29%
Far below proficient	30%	75%	50%
Math			
Advanced	6%	0.5%	2%
Proficient	31%	8%	17%
Below proficient	46%	48%	54%
Far below proficient	17%	43%	26%
Science			
Advanced	17%	3%	9%
Proficient	30%	7%	27%
Below proficient	26%	24%	28%
Far below proficient	27%	66%	37%

Source: Alaska Department of Education and Early Development.
 Note: Performance Evaluation for Alaska's Schools (PEAKS) English Language Arts and Math PEAKS test scores are reported for all grades (3rd through 9th). Alaska Science Assessment scores are reported for all grades (4th, 8th, and 10th).

K-12 School Infrastructure

- Twenty K-12 schools operate in the Kawerak service area: 15 in the Bering Strait School District and five in the Nome School District, including the youth facility and correspondence school.
- The following table lists capital projects for the schools submitted for the next six years to the legislature.

Table 50. Anticipated K-12 School Capital Projects, FY21 – FY25

Category	Count
Bering Strait School District	
Districtwide LED Upgrades	\$750,000
District Office HVAC & Controls Replacement & Upgrades	\$125,000
Gambell K-12 School Commons & Corridors Flooring Replacement	\$180,000
Wales K-12 School Roof Replacement	\$470,000
Unalakleet K-MS Window Replacement	\$105,000
Gambell K-12 School Window Replacement	\$245,000
Brevig Mission K-12 School Addition	\$19,000,000
Stebbins K-12 School Addition	\$19,500,000
Nome School District	
Nome Elementary School Exterior Envelope Replacement	\$6,000,000
Building A Primary Electrical Service	\$250,000
Nome Beltz Jr/Sr High School Exterior/Interior Renovations	\$500,000
Beltz High School HVAC Control Systems	\$200,000
Districtwide Exterior Lighting Upgrades	\$120,000
Nome Beltz Jr/Sr High School Boiler Replacement & Mechanical Upgrades	\$TBD
Maintenance Building Siding & Roof Replacement	\$120,000
Quonset Hut Siding Replacement	\$TBD
Building D Mechanical Update & Control Automation for Air Handlers	\$120,000
Districtwide Carpet Replacement	\$375,000

Source: Alaska Department of Education and Early Development Reports to Legislature, Six-Year Plans.

K-12 School Assessments

- The State Systems for School Success assessment measures school success by a number of indicators and categorizes schools, based on the results, by level of support needed:
 - **Comprehensive (CSI):** schools within the lowest 5% of overall index values for Title I schools, with graduation rates below two-thirds of the twelfth grade, and/or schools with TSI designation for a subgroup of students for three consecutive years.
 - **Targeted (TSI):** schools with one or more subgroup below the targeted annual performance threshold for overall index value.
 - **Universal:** schools that perform above criteria for CSI or TSI designation.
- Five out of the 20 schools (including the youth facility and correspondence schools in Nome) in the Kawerak Service Area are designated as needing Comprehensive Support and Improvement, three because of low graduate rates and two that scored in the lowest 5% for overall index values in the assessment.

- Two of 20 schools are designated as needing Targeted Support and Improvement, one for English Learner progress towards growth targets, and one for economically disadvantaged and AIAN students.

Table 51. 2017-2018 System for School Success Report Results

School Name	Location	Enrollment	Index Value	Designation
Bering Strait School District				
Unalakleet School	Unalakleet	165	52.45	Universal Support
White Mountain School	White Mountain	56	34.87	Universal Support
Koyuk-Malimiut School	Koyuk	96	32.15	Universal Support
Shishmaref School	Shishmaref	177	29.76	Universal Support
James C. Isabell School	Teller	73	29.71	Universal Support
Aniguiin School	Elim	110	28.45	Comprehensive Support and Improvement based graduation rate
Martin L. Olson School	Golovin	45	25.38	Universal Support
Tukurngailnguq School	Stebbins	196	22.84	Comprehensive Support and Improvement based graduation rate
Gambell School	Gambell	174	22.36	Targeted Support and Improvement (12.77 for English Learners)
Brevig Mission School	Brevig Mission	141	22.35	Universal Support
Anthony A. Andrews	St. Michael	141	21.45	Universal Support
Hogarth Kingeekuk Sr. Memorial School	Savoonga	252	21.21	Comprehensive Support and Improvement based graduation rate
Shaktoolik School	Shaktoolik	83	20.07	Targeted Support and Improvement. (Economically Disadvantaged 14.09; AIAN 13.92)
Diomedea School	Diomedea	23	16.67	Universal Support
Wales School	Wales	42	1.24	Comprehensive Support and Improvement based on school index value at lowest 5% of all Title I schools
Nome School District				
Anvil Science Academy	Nome	60	61.96	Universal Support
Extensions Correspondence	Nome	13	n/a	Universal Support (Small School Review)
Nome Elementary	Nome	386	14.33	Comprehensive Support and Improvement based on school index value at lowest 5% of all Title I schools
Nome Youth Facility	Nome	4	n/a	Universal Support (Small School Review)
Nome Beltz Jr/Sr High School	Nome	232	41.13	Universal Support

Source: Alaska Department of Education and Early Development.

TEACHER QUALITY INDICATORS

- In the Bering Strait School District, 5.4% of teachers in 2017-18 were inexperienced, lower than the statewide rate of 4.4%. The rate of teachers teaching out-of-field (10.8%) was also lower than the statewide rate (13.1%).
- Data is not available for the Nome School District for 2017-2018 for this metric.

Post-Secondary Education Infrastructure

University of Alaska Fairbanks Northwest Campus

The University of Alaska Fairbanks Northwest Campus operates out of Nome. Courses are offered in traditional classroom settings and online. Enrollment in Fall 2018 totaled 283 students. In addition to offering associate degrees, applied business (AAS) degrees, certificates and associates in information technology, and bachelor's degrees in elementary education, rural development (also MA available), and social work, the campus coordinates with partners to meet regional training needs. Currently, the campus provides certificates, occupational endorsements, and AAS degrees in a variety of health and education fields, in addition to high latitude range management.

Career and Technical Education

Arctic Access

Arctic Access Inc. supports youth eligible for DVR services, an IEP, or 504. Youth participants need to be between the ages of 14 and 21 and can get the opportunity to earn income and obtain skills through a summer job.

Northwestern Alaska Career and Technical Center (NACTEC)

NACTEC offers regional vocational training designed to provide skills for independent living, employment, and postsecondary opportunities. Intensive residential sessions help students gain skills, certification, and college credit. NACTEC also engages in outreach activities in Nome and all Kawerak communities. In FY2018, NACTEC residential enrollment totaled 384, 43% of whom were junior high school students and 57% from high school.

Table 52. NACTEC Residential Enrollment, by Community, FY18

	Junior High	High School
Brevig Mission	10	18
Diomedes	1	1
Elim	-	10
Gambell	18	23
Golovin	4	2
Koyuk	10	15
Nome	9	17
Savoonga	15	22
Shaktoolik	7	10
Shishmaref	21	19
St. Michael	33	29
Stebbins	11	22
Teller	1	10
Unalakleet	14	16
Wales	6	1
White Mountain	6	3
Total	166	218

Source: NACTEC.

Kawerak Training and Employment Assistance

Kawerak provides supplemental financial assistance to tribal members pursuing a certificate or degree from a vocational training or trade school program. Kawerak provides short-term regional occupation skills trainings in a variety of topics. Through the Native Employment Work Services program, Kawerak works with local entities in Kawerak communities to provide volunteer work opportunities to help individuals refine their work skills and gain experience. Kawerak also runs a vocational rehabilitation program for individuals with disabilities.

University of Alaska Fairbanks Cooperative Extension (CES) – Nome Outreach Center

The CES office provides the public with publications and workshops on a wide variety of subjects: food safety, nutrition, health, gardening, arctic construction, child development, and family finance.

Norton Sound Health Corporation Health Aide Training Center

The Community Health Aide training center in Nome provides classroom and hands-on training to regional residents. Aides are trained to work within the guidelines of the Alaska Community Health Aide/Practitioner Manual (CHAM). The CHAM outlines assessment and treatment protocols.

Anvil Mountain Correctional Center

The correctional center provides a variety of education programs, life skills courses, and assistance with re-entry.

Nome Eskimo Community

Nome Eskimo Community prioritizes education of members through skills training to promote self-sufficiency, and for youth to assist with positive life choices. Programs at NEC include Guys Read, Summer Teen Reading, Outdoors Blub, Subsistence Science Xplorers, LEGO Robotics Club, and Nome Native Youth Leadership Organization (NNYLO) in partnership with Nome Public Schools. .

Alaska Department of Community and Regional Affairs

The Nome office of DCRA offers utility and local government mentorship and training to local governments in the region

Chapter 5: Kawerak Head Start Program in Focus

Two Early Head Start/Head Start (EHS/HS) programs operate in the Kawerak Service Area. One is operated by Kawerak and the other by Rural CAP. Kawerak serves eleven communities: Brevig Mission, Elim, Gambell, Golovin, Koyuk, Nome, St. Michael, Shaktoolik, Shishmaref, Teller, and White Mountain. The Head Starts cover 15 tribes, including Nome Eskimo Community, Native Village of Council, and Village of Solomon in Nome, and Teller Traditional Council and Native Village of Mary's Igloo in Teller. Kawerak Early Head Start programs operate in Brevig Mission, Elim, and Nome. Rural CAP serves Savoonga and Stebbins. Together, all communities aside from Diomedea, Unalakleet, and Wales are served by EHS/HS programs.

Kawerak Head Start Program Overview

Since 1979, Kawerak Head Start/Early Head Start has served families in the Bering Strait Region, with Early Head Start services added in 2010 and Early Head Start/Child Care Partnership services in 2015. The EHS and HS programs promote school readiness for children from birth to five years of age.

Enrollment

In FY19, 190 children were enrolled in Kawerak Head Start programs, an increase of 15 children over FY18. Thirty-nine children were enrolled in Early Head Start in FY19, a decrease from 47 in FY18. (All HS enrolled children are between three and five years of age, and EHS children are under three years of age.)

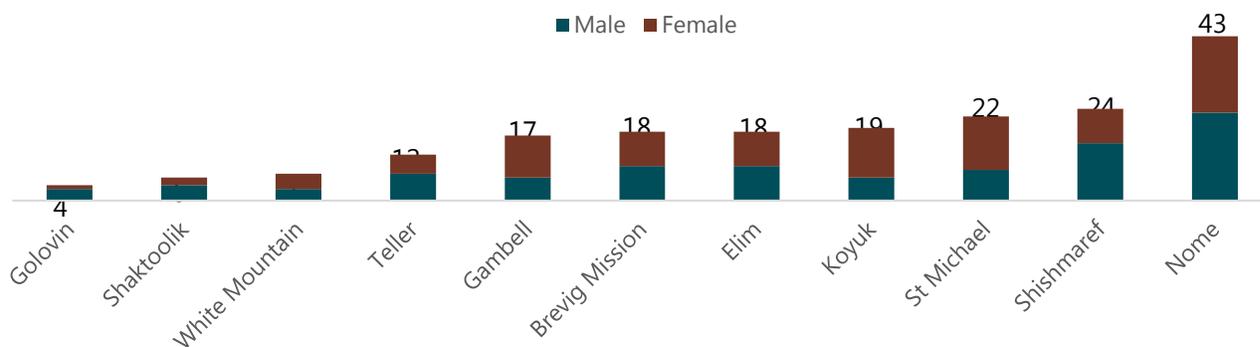
Head Start

- FY19 enrollees were evenly split between male (49%) and female (51%).
- Almost one-quarter (23%) of enrollees are located in Nome, 13% in Shishmaref, 12% in St. Michael, and 10% in Koyuk. All other communities have less than 10% of enrollment each.
- Almost all HS enrollees in the area (95%) are Alaska Native or American Indian (AIAN), with 4% White, and 2% being multiple races.
- All enrollees are AIAN in Brevig Mission, Elim, Golovin, St. Michael, Shishmaref, Teller, and White Mountain.
- Most locations did not have waitlists in FY19, aside from Koyuk (2) and Nome (18).
- Eight children throughout Kawerak HS programs were in foster care in FY19, and ten were homeless.

Early Head Start

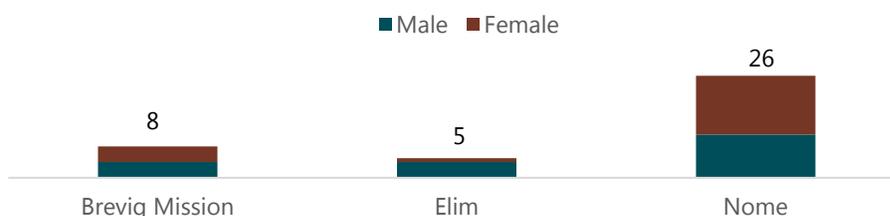
- Half of all FY19 EHS enrollees were male (49%) and the other half female (51%).
- Two-thirds (67%) of enrollment was in Nome, with 21% in Brevig Mission, and 13% in Elim.
- Ninety-nine percent of EHS enrollees are AIAN, with the rest being multi-race.
- Four children in Kawerak EHS programs were in foster care in FY19, and two were homeless.

Figure 27. Kawerak Head Start Enrollment, by Community, FY19



Source: Kawerak Head Start.

Figure 28. Kawerak Early Head Start Enrollment, by Community, FY19



Source: Kawerak Head Start.

Households

HEAD START

- Sixty-one percent of children in Kawerak Head Start in FY19 live in a two-parent household, while 33% live in single-parent households.
- In EHS, 54% of enrollees live in two-parent households, 38% in single parent households, and 8% in an unknown or unreported housing situation.
- Over one-third (36%) of enrollees lived in households with six or more people in FY19, 17% live in five-person, 20% in four-person, 14 in three-person, and nine in two-person households.
- Thirty-one percent of EHS children live in households with six or more people, with 59% in three to five person households, and 8% in two-person households.

HOUSEHOLD INCOMES

- Two-thirds (65%) of households with an enrollee in the Kawerak Head Start program are at or below HHS poverty guidelines: 43% have incomes at 50% or less of the HHS poverty guidelines, another 12% are at 51% to 75% of guidelines, and 10% are between 76% and 100%.
- Eighteen percent of Head Start households are between 100% and 200% of HHS poverty guidelines, and 16% are above 200% of HHS guidelines.
- One-third (33%) of EHS enrollees live in households with incomes at or below 50% of HHS poverty guidelines, 15% at or below the 100% guideline, 30% between 100 and 200%, and 21% above 200%.

Table 53. Kawerak Head Start and Early Head Start Household Type and Size, Count by Community, FY19

	Household Type			Household Size			
	Two-Parent	Single Parent	Unknown/Not Reported	Two	Three to Five	Six or More	Unknown/Not Reported
Head Start							
Brevig Mission	10	6	2	0	5	11	2
Elim	11	6	1	1	12	4	1
Gambell	12	4	1	1	10	5	1
Golovin	3	1	0	0	2	2	0
Koyuk	10	9	0	3	9	5	2
Nome	21	17	5	7	25	11	0
St Michael	16	6	0	2	11	8	1
Shaktoolik	5	1	0	0	3	3	0
Shishmaref	14	8	2	3	9	12	0
Teller	9	3	0	0	9	3	0
White Mountain	4	2	1	0	2	4	1
Early Head Start							
Brevig Mission	7	1	0	0	4	4	0
Elim	3	2	0	0	4	1	0
Nome	11	12	3	3	15	7	1

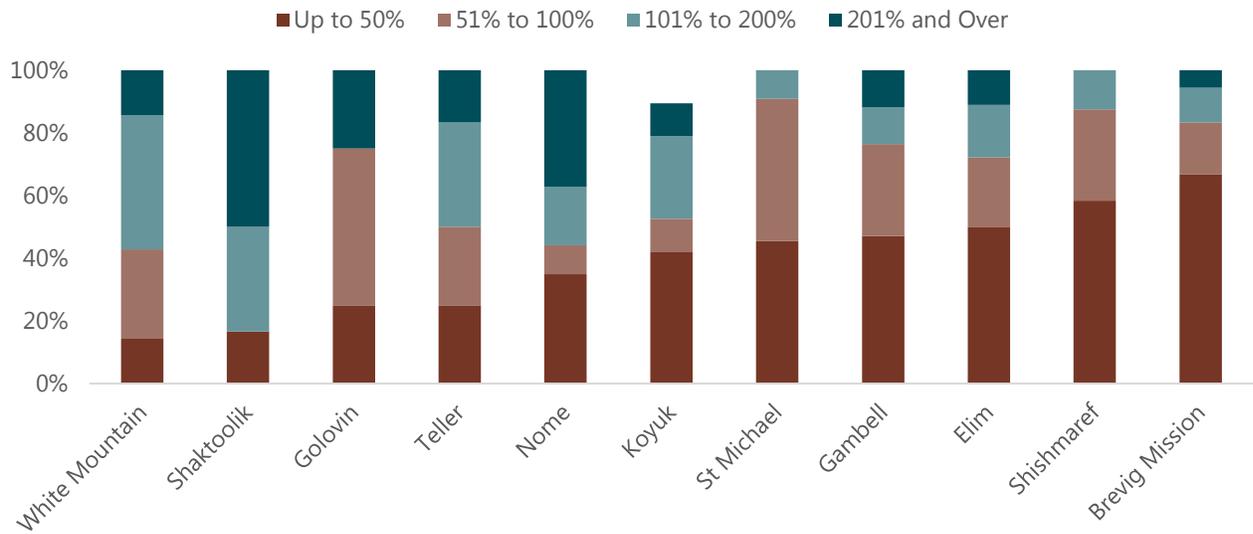
Source: Kawerak Head Start.

Table 54. Kawerak Head Start and Early Head Start Household Income Relative to HSS Poverty Guidelines, Count by Community, FY19

	Up to 50%	51% to 100%	101% to 200%	201% and Over	Unknown/Not Reported
Head Start					
Brevig Mission	12	3	2	1	0
Elim	9	4	3	2	0
Gambell	8	5	2	2	0
Golovin	1	2	0	1	0
Koyuk	8	2	5	2	2
Nome	15	4	8	16	0
St Michael	10	10	2	0	0
Shaktoolik	1	0	2	3	0
Shishmaref	14	7	3	0	0
Teller	3	3	4	2	0
White Mountain	1	2	3	1	0
Early Head Start					
Brevig Mission	3	2	3	0	0
Elim	0	3	1	1	0
Nome	10	1	8	7	0

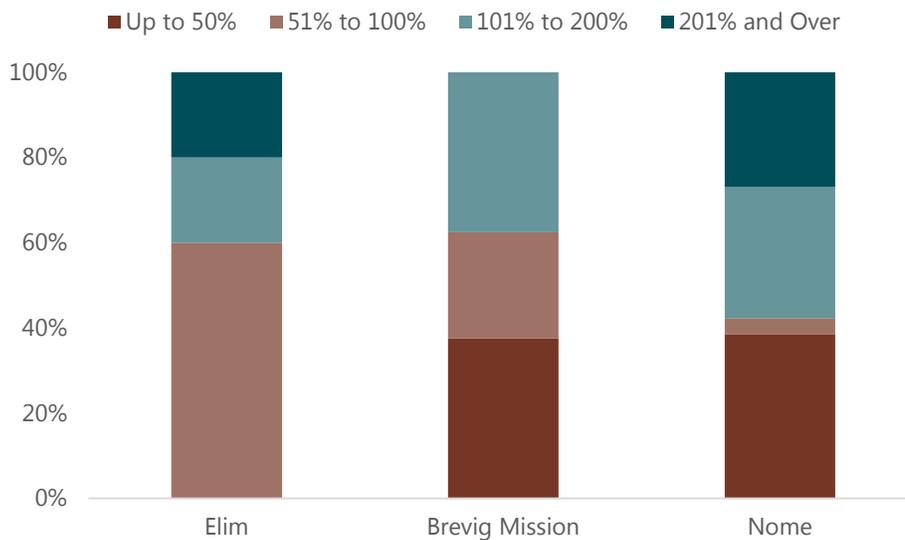
Source: Kawerak Head Start.

Figure 29. Kawerak Head Start Household Income Relative to HSS Poverty Guidelines, Percent by Community FY19



Source: Kawerak Head Start.

Figure 30. Kawerak Early Head Start Household Income Relative to HSS Poverty Guidelines, Percent by Community FY19

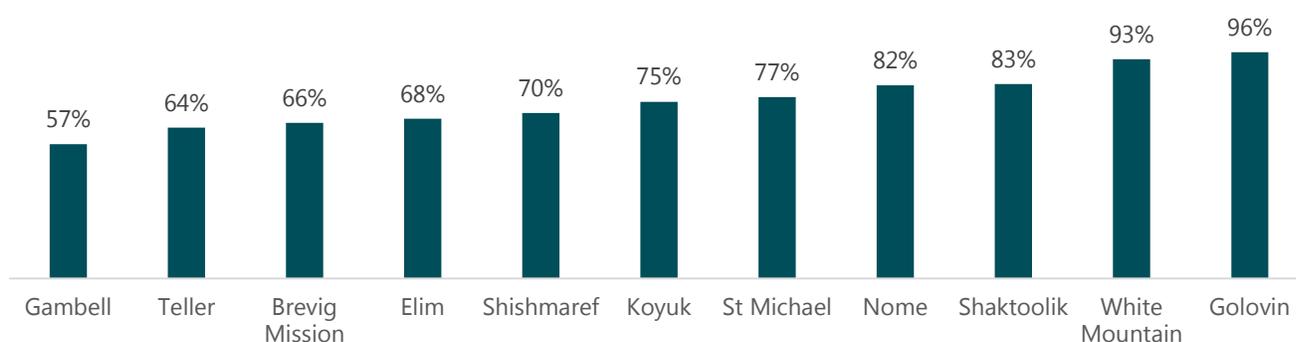


Source: Kawerak Head Start.

Attendance

- Average attendance at Head Start varied by community in FY19. Golovin reported the highest attendance, at 96%, while Gambell reported the lowest, at 57%.
- Average EHS attendance in Nome in FY19 was 79%, 82% in Elim, and 65% in Brevig Mission.

Figure 31. Kawerak Head Start Average Attendance, by Community, FY19



Source: Kawerak Head Start.

Health of Enrollees

Health Insurance

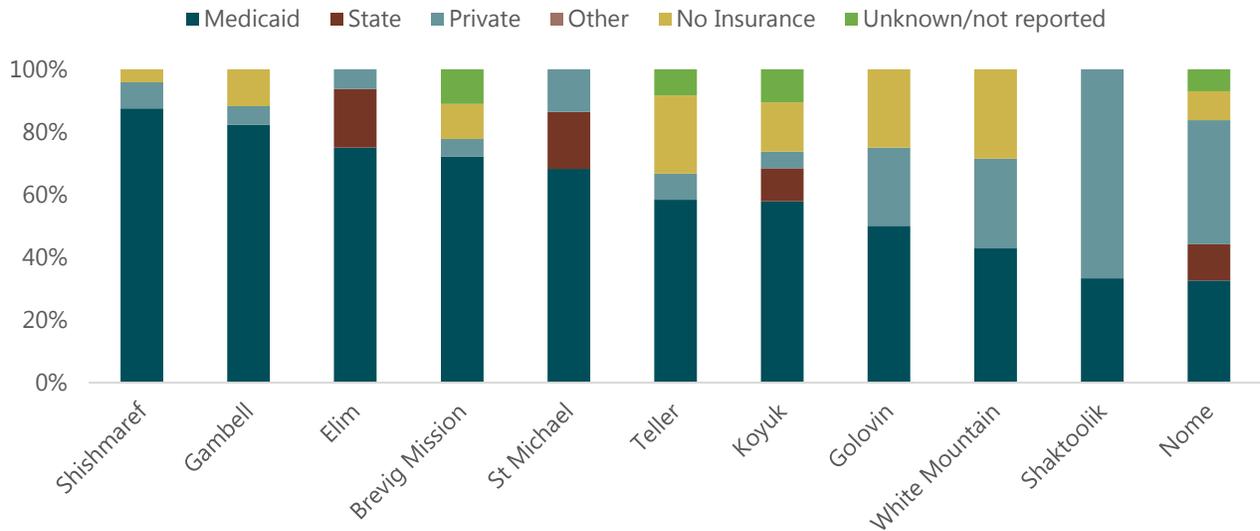
- Medicaid is the primary form of health insurance for a majority of enrollees in most Kawerak communities, with the highest proportion in Shishmaref, at 88%. Half or more enrollees are insured through Medicaid in all but White Mountain, Shaktoolik, and Nome.
- In Nome, one-third of enrollees are covered by Medicaid, 40% have private insurance, 12% have State insurance, and 9% are uninsured.
- One-quarter (25%) of enrollees are uninsured in Teller and Golovin, and 29% in White Mountain.
- Early Head Start insurance methods are not reported due to small numbers of data points.

Table 55. Type of Head Start and Early Head Start Enrollee Health Insurance, Count by Community, FY19

	Medicaid	State	Private	No Insurance	Unknown/Not Reported
Head Start					
Shishmaref	21	0	2	1	0
St Michael	15	4	3	0	0
Gambell	14	0	1	2	0
Nome	14	5	17	4	3
Brevig Mission	13	0	1	2	2
Elim	12	3	1	0	0
Koyuk	11	2	1	3	2
Teller	7	0	1	3	1
White Mountain	3	0	2	2	0
Golovin	2	0	1	1	0
Shaktoolik	2	0	4	0	0
Early Head Start					
Nome	10	1	7	7	1
Brevig Mission	6	0	2	0	0
Elim	1	0	2	1	1

Source: Kawerak Head Start.

Figure 32. Kawerak Head Start Enrollee Health Insurance, by Community, FY19



Source: Kawerak Head Start.

Disabilities

- Identification of enrolled children with disabilities by diagnostic category or community is not possible due to low numbers. However, a total of nine children in the Kawerak Head Start program had an Individualized Education Program (IEP) in FY19, indicating eligibility for special education, or an Individualized Family Service Plan (IFSP) for young children with developmental delays.
- No children in the EHS program were reported with disabilities in either year.

Assistance and Services

- Indian Health Service benefits are the most prevalent among EHS and HS households, with between 58% and 100% of households in each community receiving IHS benefits in FY19.
- The Women, Infants, and Children (WIC) supplemental nutrition program benefits is the next most prevalent, with the percentage of Head Start households receiving WIC ranging from 33% in Nome to 88% in Shishmaref. Forty-six percent of Nome EHS households receive WIC benefits, along with 60% in Elim, and 75% in Brevig Mission.
- Less than half of Head Start households in each community receive Supplemental Nutrition Assistance Program (SNAP) benefits, ranging from 9% in Nome to 44% in Brevig Mission. One-quarter of EHS households in Brevig Mission receive SNAP benefits, as do 4% of Nome EHS households.
- Approximately one-quarter of Head Start households receive Temporary Assistance for Needy Families benefits in Golovin (25%), Gambell (24%), and St. Michael (23%). Other communities in which Head Start households receive TANF are Shishmaref (17%), Koyuk (11%), Nome (7%), and Brevig Mission (6%). Twenty percent of Elim EHS households receive TANF.
- Benefits from the Supplemental Security Income (SSI) program for disabled adults and children who have limited income and resources are received by Head Start households in five communities: St. Michael (9%), Brevig Mission and Elim (6% each), Koyuk (5%), and Nome (2%). No EHS households receive this service.

Table 56. Type of Services Head Start and Early Head Start Households Receive, by Community, FY19

	SNAP	WIC	TANF	SSI	IHS
Head Start					
Golovin	25%	50%	25%	0%	100%
Shishmaref	42%	88%	17%	0%	88%
White Mountain	14%	57%	0%	0%	86%
Elim	33%	83%	0%	6%	83%
Shaktoolik	33%	50%	0%	0%	83%
Nome	9%	33%	7%	2%	79%
Gambell	24%	35%	24%	0%	76%
Teller	33%	83%	0%	0%	75%
St Michael	27%	68%	23%	9%	73%
Brevig Mission	44%	61%	6%	6%	72%
Koyuk	21%	47%	11%	5%	58%
Early Head Start					
Brevig Mission	25%	75%	0%	0%	100%
Nome	4%	46%	0%	0%	81%
Elim	0%	60%	20%	0%	80%

Source: Kawerak Head Start.

Note: One household may receive multiple services.

Head Start Staff

- There are 52 Head Start staff working in the Kawerak service area, along with 12 EHS staff.
- Nome has the largest number of staff members, at 17 HS and six EHS, with at least two HS and two EHS staff in every community that has a program.
- Head Start staff have a variety of education certificates and degrees ranging from high school diplomas (38%), to childhood development associates (15%), associate degrees (21%), bachelor's degrees (10%), and master's degrees (6%).

Table 57. Number of Kawerak Head Start and Early Head Start Staff and Educational Attainment, Count by Community, FY19

	Number of Staff	Level of Educational Attainment					Unknown/Not Reported
		High School Diploma	Child Dev. Associate	AA	BA	MA	
Head Start							
Nome	17	9	2	3	2	1	0
Brevig Mission	5	2	1	1	0	0	1
St Michael	5	1	0	3	0	1	0
Shishmaref	5	2	2	0	0	0	1
Elim	4	1	1	1	0	1	0
Koyuk	4	2	0	1	0	0	1
Gambell	3	1	0	0	1	0	1
White Mountain	3	1	1	0	0	0	1
Golovin	2	0	1	1	0	0	0
Shaktoolik	2	0	0	1	1	0	0
Teller	2	1	0	0	1	0	0
Early Head Start							
Nome	6	4	1	1	0	0	0
Brevig Mission	4	2	1	1	0	0	0
Elim	2	0	1	1	0	0	0

Source: Kawerak Head Start.

Languages Spoken

- The majority of Kawerak EHS and HS staff speak English only, with the exceptions of staff in Gambell, where two staff members speak Siberian Yupik, and in Shaktoolik, where one employee speaks both English and Spanish.

Racial and Ethnic Composition

- A majority of Head Start staff (79%) and 100% of Early Head Start staff are reported as AI/AN, with 21% of HS staff identified as White, and the rest as bi-racial or multi-racial.

Table 58. Racial and Ethnic Composition of Head Start and Early Head Start Staff, Count by Community, FY19

	AI/AN	White	Biracial/ Multi-Racial
Head Start			
Brevig Mission	4	1	--
Elim	3	1	--
Gambell	2	1	--
Golovin	2	--	--
Koyuk	3	1	--
Nome	10	4	3
St Michael	4	1	--
Shaktoolik	1	--	1
Shishmaref	4	--	--
Teller	1	1	--
White Mountain	2	1	--
Early Head Start			
Brevig Mission	4	--	--
Elim	2	--	--
Nome	6	--	--

Source: Kawerak Head Start.

Chapter 6: Community Health and Safety

Community Safety Profile

- For law enforcement, the City of Nome operates a Police Department, and Village Police Officers (VPOs) operate in many Kawerak Service Area communities.
- Only five villages in the Kawerak Service Area are currently staffed with Village Public Safety Officers (VPSOs). In addition to law enforcement, VPSOs may provide other community safety services, including search and rescue, fire prevention and protection, emergency medical services, probation and parole, and the Drug Abuse Resistance Education (DARE) program.
- Alaska State Troopers are present in Unalakleet and Nome, with troopers traveling intermittently to other communities in the region.
- The number of criminal arrests fell slightly, from 223 in 2015 to 199 in 2017.
- A recent recidivism survey, completed in June 2019, top needs for people returning from jail/prison include education, job skills and training, employment, housing, attention to cultural needs, and support programs and services.
- Fire protection and search and rescue operations are conducted by volunteer teams in most communities. Stebbins is the exception with no trained firefighting volunteers.
- Disaster, hazardous materials, and other emergency planning is coordinated in Alaska through Local Emergency Planning Committees (LEPCs) within 21 Local Emergency Planning Districts (LEPDs). The Bering Straits LEPD covers the Kawerak Service Area.
- Nome is home to the LEPC in the Bering Strait Local Emergency Planning District (LEPD), and reports to the State Emergency Response Commission (SERC).
- Four Kawerak communities currently have a Small Community Emergency Response Plan (SCERP): Golovin, Shaktoolik, Wales, and White Mountain. Unalakleet has a Local Hazards Mitigation Plan.
- Typically, emergency medical response is coordinated by village community health aides with assistance from police and other volunteers as available and necessary.
- Communities operate with a mix of volunteer and community fire departments. The only community without a fire response crew is St. Michael. Five fire departments in the Kawerak Service Area are currently registered with the State: Brevig Mission, Elim, Golovin, Nome, and Unalakleet.

Table 59. Nome Census Area Reported Criminal Arrests, 2015-2017

Incident	2015	2016	2017
Crime against person	137	139	143
Assaults	132	134	136
Harassment	-	2	-
Homicide	1	-	1
Offense against minors	-	-	1
Robbery	-	-	-
Sexual assaults	2	1	3
Sexual assaults of minor	2	2	2
Crime against property	24	12	9
Burglary	5	3	5
Criminal mischief*	16	7	2
Theft-auto	-	1	-
Theft-larceny	3	1	2
Other crime	52	35	36
Alcohol	2	2	1
Other criminal	30	17	23
Public administrative order	14	13	12
Weapons	6	3	-
Traffic	10	14	9
Driving under the influence	10	14	9
Unspecified	-	1	2
Total	223	201	199

Source: Alaska State Troopers, C detachment.

*Vandalism

Table 60. Importance of Specific Programs or Services for Individuals Re-Entering Communities After Incarceration, 2019

	Very Important	Somewhat Important	Not Important
Substance abuse treatment	98	2	-
Employment/job skills and training	96	4	-
Housing assistance	92	8	-
Mental health services	85	13	-
Support for families	83	15	-
Education support	68	32	-
Transportation assistance	42	50	6

Source: Nome Community Reentry Coalition, Community Assessment Report, June 2019. Clover Educational Consulting Group.

Note: The assessment is based on a non-representative sample of 49 Nome residents contacted through surveys and focus groups.

Table 61. Fires and Rescue Calls, by Community 2015-2017

	Currently Registered?	Total Fires 2015-2017	Rescue Calls
Brevig Mission FD	Y	5	0
Diomedea VFD	N (2014)	-	-
Elim VFD	Y	3	0
Gambell VFD	N (2014)	2	23
Golovin VFD	Y	0	2
Koyuk VFD	N (2009)	-	-
Nome Area VFD	Y	46	99
Savoonga VFD	N (2010)	2	-
Shaktolik VFD	N (2010)	-	-
Shishmaref FD	N (2018)	4	0
St. Michael	N/A	3	0
Stebbins VFD	N (2006)	3	0
Unalakleet VFD	Y	2	0
Wales FD	N (2009)	-	-
White Mountain VFD	N (2014)	3	0

Source: Alaska Department of Public Safety, Fire Department Registration Status and Reports of Fire Department Experiences.

Note: Teller is served by the Nome VFD.

Village Public Safety Officers

In the first part of 2018, the statewide VPSO program conducted a survey of community expectations for VPSO officers across the state. There were 84 responses from Kawerak area villages, with about two-thirds of respondents (64%) from villages with VPSOs. Five villages, Brevig Mission, Golovin, Shishmaref, Unalakleet, and White Mountain currently have VPSOs. Respondents from Elim noted they have not had a VPSO for more than six years. Gambell, Koyuk, and Teller respondents gave a wide range of responses regarding the last time their village had a VPSO.

The Community Expectation Survey asked people to indicate the public safety services they have seen VPSOs perform on duty. Respondents indicate they have seen VPSOs carry out law enforcement activities (43%), search and rescue (37%), fire suppression/prevention (27%) and emergency medical services (19%).

Expectations for VPSOs on duty fall into character expectations and service expectations. The greatest overall expectation of public safety officers among the Kawerak region respondents is answering calls (83%). Three quarters of respondents also noted the importance of service expectations including aiding community members in need (77%), providing public safety services (75%), and responsiveness (74%). Character traits expected of officers by more than three-quarters of community members include treating everyone fairly (79%), being dependable and responsible (77%) and being honest and trustworthy (77%).

Table 62. Expectations of VPSOs on Duty

	Percent
Available to answer calls	83
Treat everyone fairly	79
Dependable/responsible	77
Honest/trustworthy	77
Provide assistance to community members in need	77
To be part of the community	76
Provide public safety services	75
Responsive	74
Well trained	71
Professional	70
Patrol	68
Provide instruction on public safety topics	65
Organized	64
To be active in the school	61
Other	13
Refused	13

Source: Alaska Department of Public Safety, VPSO Community Expectation Report for the Nome Census Area; multiple responses allowed.

The most important qualities that respondents look for in their VPSOs overall are patrolling, honesty/trustworthiness, responsiveness, and dependability. Survey participants shared that the stress of dealing with family and friends was the biggest barrier to becoming a VPSO (64%). Half of respondents said that past criminal history was a barrier (51%) and alcohol or drug use was selected by 45% of respondents. Water and sewer availability is also a barrier in many communities.

Table 63. Barriers to Community Members Becoming a VPSO

	Percent
Stress of dealing with family members and friends	64
Past criminal history	51
Alcohol and or drug use	45
Lack of housing	43
Lack of community support	43
Lack of interest	39
Length of training /academy	37
Physical fitness test	21
Inadequate pay	21
Lack of office space	18
Other (please list)	10
Refused	12

Source: Alaska Department of Public Safety, VPSO Community Expectation Report for the Nome Census Area; multiple responses allowed.

Community Health Profile

Healthcare Infrastructure Overview

NORTON SOUND HEALTH CORPORATION

Norton Sound Health Corporation (NSHC) provides the primary infrastructure health services within the Kawerak Service Area, delivering services through the Norton Sound Regional Hospital (NSRH) in Nome and 15 village clinics which it manages. NSHC's multiple services and programs are offered through its organizational divisions which include: Community Health Services, Hospital Services, Human Resources, Finance, and Engineering and Environmental Health.

Community Health Services

These services include Village Health Services, Behavioral Health Services, and Health Aide Training. Village Health Services manages village clinic staff, including Community Health Aides and Clinic Travel Clerks. Behavioral Health Services includes Nome staff and Village-Based Counseling.

Community clinics operate in all Kawerak communities aside from St. Michael. The clinics are staffed by local community health aides and provide basic health services. Larger clinics in Brevig Mission, Savoonga, Gambell, Shishmaref, Elim, Saint Michael, and Unalakleet also employ a physician assistant or nurse practitioner and may provide limited laboratory, pharmacy and radiology services. Provider teams travel to villages on rotating schedules to provide ancillary services, such as optometry, physical therapy, and audiology. Dental health aides are employed at the Shishmaref and Savoonga clinics.

NSHC's Liitfik Wellness Center is under construction in Nome, with the anticipated completion being the Fall of 2020. The Center will house behavioral health, chemical dependency detox, and substance abuse day treatment services.

Hospital Services

NSRH is an 18-bed Critical Access Hospital, which also includes outpatient and ancillary services. Hospital Services includes Laboratory, Medical Staff, Dental, Audiology, Physical Therapy, Emergency Medical Services, Radiology, Respiratory Therapy, Pharmacy, Infant Learning Program, Eye Care, Nutritional Services, Security, Environmental Services, Social Services, Nursing, and the Wellness Division. Individuals requiring more advanced level of care (i.e. including the need for advanced diagnostics, surgery, and/or intensive care) are transported to Anchorage.

Social Services operates the Patient Hostel/Pre-Maternal Home in Nome and manages the Patient Advocate program, as well as Developmental Disabilities programs. The Wellness Division includes Tribal Healers, Women, Infant, and Children program, and Chronic Care Active Management and Prevention (CAMP). A Chief Nursing Officer oversees the Emergency Department, SART, Infection Control/Employee Health, Quyanna Care Center, Acute Care, and Primary Care (which includes Maternal Child Health and Sterile Processing).

The Quyanna Care Center, a long-term care facility located adjacent to NSRH, can accommodate 18 elders, allowing them to stay in the region. It was the first tribal nursing home in the state of Alaska and one of only 14 tribal nursing homes in the nation.

FINANCE AND HUMAN RESOURCES

Finance is comprised of Patient Financial Services, Health Information Management (Medical Records), Information Systems, Materials Management, and Accounting. Human Resources includes Benefits Administration, Recruitment, Employee Relations, Education and Training, and Corporate Housing.

Engineering and Environmental Health

The Engineering and Environmental Health division includes Plant Operations, the Office of Environmental Health (OEH), Village Improvement Program, and Fleet Management. OEH works with the people and organizations of the Bering Strait Region to identify, evaluate, control, and ultimately prevent environmental health concerns, including those related to drinking water and waste water, environmental planning, rabies control and prevention, integrated pest management, outbreak investigations, and emerging environmental health threats.

NOME PUBLIC HEALTH CENTER

Nome Public Health Center is staffed by public health nurses and an office assistant. Multiple services are provided in the region's villages, including but not limited to infectious disease surveillance, tuberculosis screening and treatment, health education, school screening, emergency preparedness, etc.

PRIVATE HEALTH SERVICES

Private health services are limited throughout the region. Chiropractic services are available in Nome through Arctic Chiropractic. Nome Dental Offices Inc. offers general dentistry.

Community Health Information

Community health data descriptions and terminology may be found in table notations throughout this section.

BIRTHS

- During 2015-2017, teen birth estimated rates were significantly higher in the Bering Strait region than in the rest of Alaska (72.2 and 25.0, respectively).
- Among those communities with uncensored data, Teller had the highest teen birth rate at 185.0 per 1,000 live births.
- Births with pre-term gestation periods (under 37 weeks) are slightly more frequent than found in the rest of Alaska (12.3% and 10.5%, respectively).
- The percentage of babies born in the Nome Census Area with low or very low birthweight is slightly less than the rest of Alaska (5.4% versus 6.0%, respectively).
- Overall, the percentage of babies born overweight is slightly higher (14.8%) compared to the rest of Alaska (12.7%).
- Most babies born in the region are of normal weight (79.8%).

**Table 64. Teen Birth and Fertility, Rate and Count,
Nome Census Area^a Community and Rest of Alaska, 2015-2017**

Community	Teen Birth (Ages 15-19)		Fertility	
	Rate ^b (CI) ^{de}	Count	Rate ^c (CI) ^{de}	Count
Brevig Mission	*	*	173.0 (128.0-225.0)	43
Diomede	*	*	125.0 (51.8-241.0)	7
Elim	*	*	135.0 (91.4-189.0)	28
Gambell	*	*	71.3 (48.6-100.0)	30
Golovin	*	*	103.0 (52.4-177.0)	11
Koyuk	*	*	142.0 (96.6-199.0)	28
Nome	52.4 (32.7-78.9)	21	92.5 (80.7-105.0)	206
Savoonga	88.6 (36.4-174.0)	7 ^f	119.0 (90.0-153.0)	52
Shaktoolik	*	*	66.7 (33.7-116.0)	11
Shishmaref	98.4 (37.0-202.0)	6 ^f	103.0 (72.8-140.0)	35
St. Michael	*	*	168.0 (123.0-221.0)	41
Stebbins	149.0 (74.0-257.0)	10 ^f	193.0 (154.0-236.0)	72
Teller	*	*	92.1 (51.3-150.0)	14
Unalakleet	*	*	108.0 (80.6-140.0)	48
Wales	*	*	118.0 (62.3-196.0)	12
White Mountain	*	*	108.0 (59.0-178.0)	13
Total Nome Census Area	72.2 (57.3-89.5)	76	111.0 (103.0-120.0)	651
Rest of Alaska	25.0 (23.9-26.2)	1,654	74.4 (73.6-75.2)	32,308

Source: Alaska Department of Health and Social Services Health Analytics and Vital Records Section (HAVRS) Vital Records.

Notes:

- a. Excludes Council, Mary's Igloo, King Island, Solomon and Port Clarence; these villages without permanent residence since 2012.
- b. Teen Birth Rate is the number of births to girls 15 to 19 years of age per 1000 females in this age group in the population per year.
- c. The general fertility rate is calculated by dividing the total number of live births in a population by the number of women aged 15-44 years of age per 1,000 females in this age group.
- d. Calculated by Peter Holck.
- e. CI indicates 95% Confidence Interval.
- f. Rates with fewer than 20 counts should be used with caution.
- * Denotes data censored because fewer than six births recorded.

Table 65. Preterm Birth and Normal Gestation, Percent and Count, by Nome Census Area Community and Rest of Alaska, 2015-2017

	Less than 37 weeks		37 or more weeks	
	Percent ^a	Count ^a	Percent ^a	Count ^a
Rest of Alaska	10.5%	3,383	89.5	32,275
Nome Census Area	12.3%	80	87.7	649
Brevig Mission	14.0	6	86.0	37
Diomedea	*	*	‡	‡
Elim	*	*	‡	‡
Gambell	*	*	‡	‡
Golovin	*	*	‡	‡
Koyuk	*	*	‡	‡
Nome	11.7	24	88.3	182
Savoonga	11.8	6	88.2	45
Shaktoolik	*	*	‡	‡
Shishmaref	17.1	6	82.9	29
St. Michael	*	*	‡	‡
Stebbins	19.4	14	80.6	58
Teller	*	*	‡	‡
Unalakleet	*	*	‡	‡
Wales	*	*	‡	‡
White Mountain	*	*	‡	‡

Source: HAVRS Vital Records.

Notes: a. Calculated by Peter Holck. *Denotes data censored, fewer than six counts recorded.; ‡ Data suppressed to protect confidentiality.

Table 66. Birthweight, Percent and Count, by Nome Census Area Community and Rest of Alaska, 2015-2017

Community	Low or Very Low (<2,500 grams)		Normal (2,500 grams - 4,000 grams)		Overweight (>4,000 grams)	
	Percent ^a	Count ^a	Percent ^a	Count ^a	Percent ^a	Count ^a
Rest of Alaska	6.0	1,931	81.3	26,243	12.7	4,116
Nome Census Area	5.4	35	79.8	518	14.8	96
Brevig Mission	*	*	93.0	40	*	*
Diomedea	*	*	100.0	7	*	*
Elim	*	*	89.3	25	*	*
Gambell	*	*	‡	‡	‡	‡
Golovin	*	*	81.8	9	*	*
Koyuk	*	*	‡	‡	‡	‡
Nome	5.3	11	80.6	166	14.1	29
Savoonga	*	*	‡	‡	‡	‡
Shaktoolik	*	*	81.8	9	*	*
Shishmaref	*	*	80.0	28	*	*
St. Michael	*	*	‡	‡	‡	‡
Stebbins	11.1	8	75.0	54	13.9	10
Teller	*	*	85.7	12	*	*
Unalakleet	*	*	‡	‡	‡	‡
Wales	*	*	75.0	9	*	*
White Mountain	*	*	76.9	10	*	*

Source: HAVRS Vital Records.

Notes: a. Calculated by Peter Holck. *Data censored because fewer than six counts recorded; ‡Data suppressed to protect confidentiality.

PRENATAL CARE

- Overall, the percentage of women receiving inadequate, intermediate, and adequate prenatal care in Nome Census Area is slightly less than the rest of Alaska.
- The proportion of women receiving adequate plus prenatal care (45.8%) is markedly higher than the rest of Alaska (24.1%).
- Six women did not receive any prenatal care across the Nome Census Area; twenty-four women were missing birth certificate data regarding prenatal care.

Table 67. Adequacy of Prenatal Care, Percent and Count, by Nome Census Area Community and Rest of Alaska, 2015-2017

Community	Inadequate ^{ab}		Intermediate ^{ab}		Adequate ^{ab}		Adequate Plus ^{ab}	
	Percent	Count ^c	Percent ^c	Count ^c	Percent ^c	Count ^c	Percent ^c	Count ^c
Brevig Mission	*	*	*	*	26.2	11	61.9	26
Diomedes	*	*	*	*	*	*	*	*
Elim	*	*	*	*	26.9	7	46.2	12
Gambell	20.0	6	*	*	30.0	9	36.7	11
Golovin	*	*	*	*	*	*	*	*
Koyuk	*	*	*	*	*	*	53.9	14
Nome	13.8	27	19.4	38	31.1	61	33.7	66
Savoonga	17.7	9	11.8	6	*	*	58.8	30
Shaktoolik	*	*	*	*	*	*	81.8	9
Shishmaref	*	*	*	*	17.1	6	60.0	21
St. Michael	*	*	15.8	6	23.7	9	47.4	18
Stebbins	11.6	8	14.5	10	17.4	12	55.1	38
Teller	*	*	*	*	*	*	*	*
Unalakleet	*	*	23.4	11	25.5	12	40.4	19
Wales	*	*	*	*	*	*	*	*
White Mountain	*	*	*	*	*	*	53.9	7
Total Nome Census Area	13.6	85	15.6	98	24.1	151	45.8	287
Rest of Alaska	14.9	4,627	20.7	6,433	39.3	12,203	24.1	7,481

Source: HAVRS Vital Records.

Notes:

- To classify the adequacy of received services, the number of prenatal visits is compared to the expected number of visits for the period between when care began and the delivery date. The expected number of visits is based on the American College of Obstetricians and Gynecologists prenatal care standards for uncomplicated pregnancies and is adjusted for the gestational age when care began and for the gestational age at delivery. A ratio of observed to expected visits is calculated and grouped into four categories: Inadequate (received less than 50% of expected visits), Intermediate (50%-79%), Adequate (80%-109%), Adequate Plus (110% or more).
 - The percentages across the table do not add to 100 percent for two reasons: 1.) Some birth certificates did not contain prenatal care data and they are not presented. It is unknown if the missing data indicates no prenatal care or a data reporting issue. 2.) Six women did not receive any prenatal care across the Nome Census Area. These numbers were too small to meet reporting guidelines of fewer than six per cell so the table excludes this information.
 - Calculated by Peter Holck.
- * Denotes data censored because fewer than six counts recorded.

General Health Status

ADULT DISABILITY

- The percentage of adults in the NSHC service area with a disability is somewhat less than the rest of Alaska (15.1% and 21.7%, respectively).
- Rates of adults in the service region requiring special equipment (5.6%) are slightly less than the rest of Alaska (7.1%).

Table 68. Disability Status, by Percent, NSHC Service Area and Rest of Alaska, 2012-2016

Indicator	NSHC Service Area	Rest of Alaska
	% Adults (95% Confidence Interval)	% Adults (95% Confidence Interval)
Disabled	15.1 (11.1-19.0)	21.7 (20.8-22.6)
Require special equipment	5.6 (3.0-8.2)	7.1 (6.6-7.7)

Source: BRFSS.

CHRONIC DISEASE

- Among measured chronic diseases, arthritis is the most prevalent among NSHC service area adults at 22%, a rate which is similar to the rest of Alaska (23%).
- Area prevalence rates for asthma (9%) and cardiovascular disease (3%) are lower than the rest of Alaska (14% and 4%, respectively). The percentage of adults in NSHC area with chronic obstructive pulmonary disease (9%) is higher than adults elsewhere in Alaska (5%).
- The area's prevalence of diabetes (5%) is less than the rest of Alaska (8%). Prevalence rates of coronary artery disease, heart attack and stroke are similar to those of the rest of Alaska's population.

Table 69. Chronic Diseases, NSHC Service Area, by Percent, 2013-2017

Indicator	Norton Sound	Rest of Alaska
Arthritis	22.3 (16.4-28.1)	22.6 (21.7-23.5)
Asthma	8.7 (5.0-12.4)	13.8 (12.9-14.6)
Cardiovascular disease	3.3 (1.0-5.5)	4.3 (3.9-4.7)
Chronic obstructive pulmonary disease	8.5 (3.1-13.8)	5.2 (4.7-5.7)
Coronary heart disease	2.4 (1.8-2.9)	2.7 (2.4-2.9)
Diabetes	4.8 (2.6-7.0)	7.6 (7.2-8.0)
Heart attack	3.5 (0.8-6.2)	3.1 (2.8-3.4)
Stroke	2.6 (0.9-4.2)	2.1 (1.9-2.4)

Source: BRFSS.

HOSPITALIZATIONS AND OUTPATIENT VISITS

- In 2018, the top five causes for hospitalization at the Norton Sound Regional Hospital include hypertension, depression (including suicidal ideation), anemia, alcohol abuse/dependence/withdrawal and pneumonia.
- The three leading causes of injury-related hospitalization include motor vehicle (including ATV and snow machine), self-inflicted and falls-related injuries.
- Data indicates the most common causes of emergency department visits are alcohol intoxication or withdrawal, hypertension, depression, acute upper respiratory and urinary tract infections.
- People most commonly visit the outpatient clinic for well-child exams, immunizations, acute upper respiratory infections, hypertension, and acute pharyngitis.

Table 70. Leading Causes: NSHC Hospitalization and Outpatient Visits, 2018

Leading causes of inpatient hospitalization
Hypertension
Depression (including suicidal ideation)
Anemia
Alcohol abuse/dependence/withdrawal
Pneumonia
Leading causes of injury related hospitalization
Motor vehicle/ATV/snow machine
Self-inflicted injury
Fall
Leading causes of emergency department visits
Alcohol intoxication or withdrawal
Hypertension
Depression
Acute upper respiratory infections
Urinary tract infections
Leading causes of outpatient visits (all NSHC primary care sites)
Immunizations
Well child exams
Acute upper respiratory infections
Hypertension
Acute pharyngitis

Source: Norton Sound Health Corporation, 2018 data reports.

Note: Causation is based on "final diagnoses". Any given patient may have multiple final diagnoses and thus be counted in multiple categories.

RELATIONSHIP BETWEEN HEALTH AND BASIC INFRASTRUCTURE

- In communities without water, Diomedea, Koyuk, Shishmaref, Stebbins, and Teller, acute illness account for almost 60% of NSHC visits (within the top ten diagnoses), with the two top diagnoses being acute pharyngitis (sore throats) and acute upper respiratory infections.

- This compares to villages with water systems, in which only 36% of visits were for acute illnesses and the top diagnoses were immunizations, hypertension, and well child visits. This analysis includes all Kawerak communities aside from Nome.

COMMUNICABLE DISEASE

Tuberculosis

- The highest rates of tuberculosis (TB) in Alaska are found in the Southwest and Northern regions of the state. The Northern Region includes the North Slope Borough, Nome Census Area, and Northwest Arctic Borough.
- Rates in the Northern Region range from 25 to 29 incidents of TB per 100,000 people for 2015 to 2017.

Table 71. TB Incident Rate and Count, Alaska Region, 2015-2017

Region	2015		2016		2017	
	Rate Per 100,000	Actual Count	Rate Per 100,000	Actual Count	Rate Per 100,000	Actual Count
Southwest	80	34	64	27	55	23
Northern	25	7	25	7	29	8
Anchorage	6	19	6	18	6	18
Southeast	0	0	3	2	3	2
Gulf Coast	3	2	1	1	3	2
Interior	5	6	3	3	0	0
Mat-Su	0	0	1	1	0	0
Alaska	9	68	8	57	7	53

Source: DHSS: Division of Public Health, Section of Epidemiology.

Note: Incidence rate is calculated based on the number of TB new cases per 100,000 population.

Chlamydia and Gonorrhea

- Rates for chlamydia and gonorrhea are markedly higher within the NSHC service region compared to Alaska statewide and the U.S. overall.
- In 2017, Alaska ranked first in the United States in reported cases and rates of chlamydia. The NSHC service region had the second highest regional rate within Alaska in 2015, 2016, and 2017.
- In 2017, Alaska ranked second in the United States in reported cases and rates of gonorrhea. The NSHC service region had the highest regional rate within Alaska in 2015 and 2017 and third highest in 2016.
- Rates for both chlamydia and gonorrhea decreased slightly over the three-year period in the Northern Region.

**Table 72. Chlamydia and Gonorrhea Rate and Count,
NSHC Service Region Compared to Alaska and U.S., 2015-2017**

	2015		2016		2017	
	Rate	Count	Rate	Count	Rate	Count
Chlamydia						
NSHC	2,573	238	1,953	218	2,244	285
Statewide	764	5,648	771	5,696	803	5938
U.S.	475	1,526,658	495	1,598,354	529	1,708,569
Gonorrhea						
NSHC	845	87	339	38	699	77
Statewide	151	1,114	197	1,454	296	2190
U.S.	123	395,216	145	468,514	172	555,608

Source: State of Alaska Section of Epidemiology, CDCP: Division of STD Prevention.
Note: Age-adjusted rate calculated per 100,000 population.

WEIGHT

- The percentage of adults in NSHC service region with healthy weight (34.8%) is similar to the rest of Alaska (32.5%).
- Regional rates for overweight or obese are similar to the rest of Alaska (63.7% and 66.3%, respectively), as are rates for underweight (NSHC service area 1.5%; rest of Alaska 1.4%).

**Table 73. Weight Status, by Percent,
NSHC Service Region and Rest of Alaska, 2013-2017**

Weight Status (BMI Categories ^a)	NSHC Service Region (95% Confidence Interval)	Rest of Alaska (95% Confidence Interval)
Healthy weight (18.5 to less than 25 BMI)	3 (28.7-40.8)	32.5 (31.7-33.3)
Neither overweight nor obese (less than 25 BMI)	36.3 (30.2-42.4)	33.7 (32.9-34.6)
Overweight (25-29.9 BMI)	28.1 (22.8-33.3)	35.7 (34.9-36.6)
Obesity (30+ BMI)	35.6 (29.5-41.7)	30.5 (29.7-31.3)
Overweight or obese (25+ BMI)	63.7 (57.6-69.8)	66.3 (65.4-67.1)
Severe obesity (40+ or 35+ w/risk BMI)	12.6 (7.5-17.7)	9.9 (9.1-10.6)
Severely obese (40+ BMI)	*	4.8 (4.4-5.2)
Underweight (less than 18.5 BMI)	1.5 (0.2-2.8)	1.3 (1.0-1.5)

Source: BRFSS.

Notes:

a. Body Mass Index (BMI) categories: World Health Organization and National Institutes of Health

* The rate and confidence interval have been suppressed in accordance with the surveillance system's data dissemination policy.

SUBSTANCE USE

Tobacco

- NSHC service area adults are more likely to use Iq'mik or Blackbull (8%) and tobacco leaf or e-cigarette products (43%) than adults elsewhere in Alaska (0.7 % and 25%, respectively).
- Among NSHC service area high school students, over half (60%) have ever tried smoking; 22% smoked a whole cigarette before age 13; and 22% smoked cigarettes one or more days in the previous month. These rates are all significantly higher than those in the rest of Alaska, where just 32% have ever tried smoking; 8% smoked a whole cigarette before age 13; and 10% smoked cigarettes one or more days in the previous month.
- Other usage rates such as currently vaping and smoking cigars, cigarillos, or little cigars in the last month are lower than the rest of Alaska. For example, 9% of NSHC area high school students currently vape, as compared to 19% for the rest of Alaska.
- 5% of NSHC area high school students smoked cigars, cigarillos, or little cigars in the last month, as compared to 8% for the rest of Alaska high school students.

Table 74. Adult Tobacco Use, Percent, NSHC Service Area and Rest of Alaska, 2013-2017

Indicator	NSHC Service Area	Rest of Alaska
	% Adults (95% Confidence Interval)	% Adults (95% Confidence Interval)
Cigarette Smoking		
Current Smoker	41.6 (35.5-47.7)	*
Current Use Iq'mik or Blackbull	8.4 (4.2-12.6)	0.7 (0.6-0.8)
Current User Smokeless Tobacco	11.8 (6.1-17.5)	*
Current Use of Tobacco Leaf or E-Cigarette products	42.8 (34.6-51.1)	24.8 (23.8-25.9)

Source: BRFSS.

Notes: * Data for smoking status for the Rest of Alaska is unable to be queried due to a limitation in the query module. The query module does not allow for creating an overall prevalence for multiple regions over multiple years for indicators where there are multiple response categories.

Table 75. High School Student Cigarette Smoking, Tobacco, and Nicotine Products, by Percent, NSHC Service Area and Rest of Alaska, 2013-2017

Indicator	NSHC Service Area High School Students	Rest of Alaska High School Students
	% Students (95% Confidence Interval)	% Students (95% Confidence Interval)
Cigarette Smoking		
Ever Tried Smoking	60.1 (55.3 - 64.7)	32.2 (31 - 33.4)
Smoked First Whole Cigarette Before Age 13	21.8 (18.4 - 25.6)	8.4 (7.8 - 9)
Current Cigarette Use, 1+ Day(s) in Past Month	21.7 (18.5 - 25.3)	9.6 (9 - 10.3)
Smoked Cigarettes on 20+ Days in Past Month	9.8 (7.5 - 12.8)	3.3 (2.9 - 3.6)
Smoked Cigarettes Every Day in Past Month	7.2 (5.0 - 10.2)	2.2 (1.9 - 2.5)
In the Same Room with Someone Who Was Smoking	34.9 (30.7 - 39.2)	31.0 (30.0 - 32.0)
Past Month Tobacco Use		
Smoked Tobacco or Used Smokeless Tobacco in Past Month or Used E-Cigarettes in Past Month	46.4 (40.6 - 52.4)	27.1 (25.8 - 28.5)
Smoked Tobacco or Used Smokeless Tobacco (excluding Iq'mik) in Past Month	38.6 (33.4 - 44.1)	16.4 (15.5 - 17.3)
Smoked Tobacco in Past Month	23.5 (20.1 - 27.2)	13.5 (12.7 - 14.3)
Currently Using Vaping Products	8.9 (6.4 - 12.2)	19.2 (18 - 20.3)
Current Smokeless Tobacco User	28.5 (23.3 - 34.4)	7.9 (7.3 - 8.5)
Smoked Cigars, Cigarillos, or Little Cigars in Past Month	4.8 (3.3 - 7.0)	7.7 (7.1 - 8.3)
Current Smokeless Tobacco User on School Property	17.5 (13.8 - 21.9)	4.7 (4.2 - 5.1)
Used Iq'mik or Blackbull in the Past Month	8.3 (5.9 - 11.5)	2.7 (2.4 - 3.1)

Source: YRBS.

Alcohol

- Over one-third (38%) of adults residing in the NSHC service area report current alcohol use, lower than the rate in the rest of Alaska of 57%.
- NSHC area adults report similar rates of excessive drinking (22%), slightly higher rates of binge drinking (23%), and lower rates of heavy drinking (5%) than adults in the rest of Alaska.
- Over half of NSHC area high school students (51%) have ever had one or more alcoholic drinks, while 18% have had one or more drinks in the last month, and 9% had their first drink before age 13. These rates are lower than rates in the rest of Alaska of 60%, 25%, and 16%, respectively.

Table 76. Adult Alcohol Use, NSHC Service Area, by Percent, 2013-2017

Indicator	NSHC Service Area	Rest of Alaska
	% Adults (95% Confidence Interval)	% Adults (95% Confidence Interval)
Current Alcohol Use	37.7 (31.0 - 44.4)	56.7 (55.8 - 57.7)
Excessive Drinking	21.5 (15.7 - 27.2)	20.3 (19.6 - 21.1)
Binge Drinking	22.8 (16.8 - 28.7)	19.2 (18.4 - 19.9)
Heavy Drinking	4.8 (3.1 - 6.5)	8.2 (7.7 - 8.7)

Source: BRFSS.

Table 77. High School Student Alcohol Use, NSHC Service Area, by Percent, 2013-2017

Indicator	NSHC Service Area High School Students	Rest of Alaska High School Students
	% Students (95% Confidence Interval)	% Students (95% Confidence Interval)
Ever Had 1+ Drink(s) of Alcohol	51.4 (46.9 - 55.9)	60.3 (59.1 - 61.5)
Current Alcohol Use, 1+ Drink(s) of Alcohol in Past Month	18.0 (14.5 - 22.2)	25.2 (24.2 - 26.3)
First Drink of Alcohol Before Age 13	9.2 (7.4 - 11.5)	15.7 (14.9 - 16.5)

Source: YRBS.

Other Drug Use

- Twenty-eight percent of adults living in the NSHC serve area currently use marijuana, as compared to 16% in the rest of Alaska.
- NSHC service area high school students are more likely to have ever used marijuana (61%) and used marijuana before age 13 (22%) than high school students elsewhere in Alaska (39% and 10%, respectively).
- Regional prevalence is lower than other high school students in the state in sniffing glue, paint, or aerosols, and ever using cocaine, ecstasy, and methamphetamines.
- Area rates for high school students ever using heroin are similar to high school students elsewhere in Alaska.

Table 78. Adult Marijuana Use, by Percent, NSHC Service Area and Rest of Alaska, 2015-2017

Indicator	NSHC Service Area	Rest of Alaska
	% Adults (95% Confidence Interval)	% Adults (95% Confidence Interval)
Current Marijuana Use	28.1 (20.0-36.3)	16.4 (15.5-17.4)

Source: BRFSS.

Table 79. High School Student Marijuana and Illicit Drug Use, by Percent, NSHC Service Area and Rest of Alaska, 2013-2017

Indicator	NSHC Service Area High School Students	Rest of Alaska High School Students
	% Students (95% Confidence Interval)	% Students (95% Confidence Interval)
Marijuana Use		
Ever Used Marijuana	61.2 (55.9 - 66.2)	39.0 (37.7 - 40.3)
Current Marijuana Use, 1+ Time(s) in Past Month	31.7 (27.6 - 36.2)	20.2 (19.3 - 21.2)
Used Marijuana for First Time Before Age 13	21.8 (18.4 - 25.8)	9.8 (9.2 - 10.5)
Illicit Drug Use		
Ever Sniffed Glue, Contents of Aerosol Spray Cans, Paints or Sprays to Get High	4.9 (3.4 - 7.0)	7.4 (6.8 - 7.9)
Ever Used Any Form of Cocaine	4.8 (3.4 - 6.6)	6 (5.5 - 6.5)
Ever Used Ecstasy	3.5 (2.2 - 5.3)	6.3 (5.8 - 6.8)
Ever Used Methamphetamines	2.1 (1.2 - 3.6)	3.6 (3.3 - 4.1)
Ever Used Heroin	3.1 (2.0 - 4.6)	2.7 (2.4 - 3.2)

Source: YRBS.

PRENATAL SUBSTANCE USE

- Pregnant women in the Nome Census Area are much more likely to smoke than pregnant women elsewhere in Alaska (45% versus 16%).
- During June 2017- June 2018, the highest neonatal abstinence syndrome rates in Alaska occurred between July 2017 and February 2018, the highest occurring October 2017 – December 2017 (23 per 1,000 live births).
- Considering race, the White population in Alaska has the highest rate of neonatal syndrome births, followed by Alaska Native/American Indian (49% and 35%, respectively).
- Other races have markedly lower rates during this time period 2017-2018.

Table 80. Self-Reported Tobacco Use During Pregnancy, Percent and Count, by Nome Census Area Community and Rest of Alaska, 2015-2017

Community	Used Tobacco ^a	
	Percent	Count
Rest of Alaska	16.2	5,176
Total Nome Census Area	44.6	289
Brevig Mission	58.1	25
Diomedede	*	*
Elim	50.0	14
Gambell	80.0	24
Golovin	*	*
Koyuk	50.0	14
Nome	33.0	68
Savoonga	58.8	30
Shaktoolik	72.7	8
Shishmaref	60.0	21
St. Michael	42.5	17
Stebbins	31.0	22
Teller	57.1	8
Unalakleet	29.2	14
Wales	75.0	9
White Mountain	*	*

Source: HAVRS Vital Records.

Notes: a. Tobacco use only refers to smoking and does not include other methods of tobacco use such as chewing.

* Denotes data censored because fewer than six counts recorded.

Table 81. Neonatal Abstinence Syndrome, Alaska Overall, by Rate, 2017-2018

Month Range	Rate ^a
06/17-08/17	16.1
08/17-09/17	13.2
07/17-09/17	19.5
09/17-11/17	18.1
10/17-12/17	22.9
11/17-01/18	17.4
12/17-02/18	18.5
01/18-03/18	14.5
02/18-04/18	14.0
03/18-05/18	14.5
04/18-06/18	15.1

Source: Alaska Department of Health and Social Services, Office of Substance Misuse and Addiction Prevention.

Notes: Neonatal abstinence syndrome (NAS): neonatal withdrawal symptoms for maternal use of drugs of addiction, as per ICD-10-CM code. Health Facilities Reporting Data (HFRD) under 7 AAC 27.660. HFRD does not include military hospitals.

a. Rate is newborns diagnosed with NAS per 1,000 neonatal inpatient discharges, calculated as rolling 3-month averages.

Table 82. Neonatal Abstinence Syndrome, Alaska Overall, by Race, 2017-2018

Race	Rate ^a
Asian/Pacific Islander	4.2
Alaska Native/American Indian	34.5
Black	1.4
White	48.6
Other/Unknown	11.3

Source: Alaska Department of Health and Social Services, Office of Substance Misuse and Addiction Prevention.

Notes: Neonatal abstinence syndrome (NAS): neonatal withdrawal symptoms for maternal use of drugs of addiction, as per ICD-10-CM code. Health Facilities Reporting Data (HFRD) under 7 AAC 27.660. HFRD does not include military hospitals.

a. Rate is newborns diagnosed with NAS per 1,000 neonatal inpatient discharges, calculated as rolling 3-month averages.

ADVERSE CHILDHOOD EXPERIENCES

- Approximately two-thirds of adults in the NSHC service area experienced at least one adverse childhood experience (ACE) before 18 years of age (67.2%), which is similar to the rest of Alaska (65.7%).
- The percentage of adults in the NSHC service area with parents separated or divorced (before age 18 years) is markedly lower than the rest of Alaska (23.1% and 31.7%, respectively).
- Among several ACE indicators, regional rates are notably higher than the rest of Alaska.

Table 83. Adverse Childhood Experiences, by Percent, NSHC Service Area and Rest of Alaska, 2013-2015

ACE ^a Indicator	NSHC Service Area (95% Confidence Interval)	Rest of Alaska (95% Confidence Interval)
Before 18, 1+ adverse childhood experiences	67.2 (57.8-76.5)	65.7 (64.4-67.1)
Before 18, did anyone at least 5 years older or adult ever make you have sex	5.8 (1.4-10.1)	6.2 (5.6-6.9)
Before 18, did anyone at least 5 years older or adult ever make you touch them sexually	12.1** (6.4-17.9)	9.9 (9.1-10.8)
Before 18, did anyone at least 5 years older or adult Ever Touch You Sexually	12.9 (5.2-20.7)	13.6 (12.6-14.5)
Before 18, ever a victim of sexual abuse (any)	15.3 (8.2-22.4)	13.6 (12.7-14.5)
Before 18, lived with anyone who served time in prison, jail, or correctional facility	17.7** (10.5-24.9)	11.2 (10.2-12.2)
Before 18, lived with anyone who used illegal street drugs or abused prescription medications	16.7 (9.3-24.1)	14.9 (13.8-16.1)
Before 18, lived with anyone who was a problem drinker or used illegal street drugs or abused prescription medications (either)	31.3 (23.7-38.8)	29.7 (28.4-31.0)
Before 18, lived with anyone who was depressed, mentally ill, or suicidal	20.5 (14.0-27.0)	21.4 (20.2-22.7)
Before 18, lived with anyone who was problem drinker or alcoholic	32.9 (24.5-41.2)	29.3 (28.0-30.7)
Before 18, parents or adults in your home ever hit each other	27.5** (18.2-36.7)	18.4 (17.3-19.6)
Before 18, parents or adults in your home ever physically hurt you	27.4** (18.6-36.2)	18.5 (17.3-19.6)
Before 18, parents or adults in your home ever swear, insult, or put you down more than once	34.9 (25.4-44.5)	32.0 (30.6-33.4)
Before 18, parents were separated or divorced	23.1 (15.0-31.2)	31.7 (30.3-33.1)

Source: BRFSS.

Notes: * ACEs are traumatic events occurring before age 18. **Rate notably higher than rest of Alaska.

MORTALITY

- During 2013-2017, the most frequent cause of mortality in the Nome Census Area was malignant neoplasms (cancerous tumors), followed by heart disease, unintentional injuries, chronic lower respiratory disease and intentional self-harm.
- Mortality rates, by cause, vary among regional communities. Considering all causes of mortality, Diomedes has the highest rate and Stebbins the lowest (0.189 and 0.062 per 100,000 persons, respectively).
- The three leading types of cancer deaths for the Nome Census Area 2013-2017 are cancer of the trachea, bronchus, and lung, followed by breast cancer (female only) and cancer of the colon, rectum and anus.
- Each of these types of cancer deaths occurred at rates higher than the rest of Alaska. Each of other specific cancers had fewer than 5 deaths during 2013-2017.
- Regional infant mortality rate is slightly higher than the rest of Alaska (6.8 and 6.0 per 1,000 infants, respectively).
- The mortality rate for children under age 5 is also higher in the Nome Census Area compared to the rest of Alaska (2.4 versus 1.6 per 1,000 children).

Table 84. Leading Five Causes of Mortality, Nome Census Area and Rest of Alaska, 2013-2017

Cause of Death	Nome Census Area ^a		Rest of Alaska	
	Rate ^b (CI) ^{cd}	Count	Rate ^b (CI) ^{cd}	Count
Malignant neoplasms	233 (179-300)	75	157 (152-162)	4,757
Diseases of the heart	228 (173-298)	67	141 (137-146)	3,870
Unintentional injuries	90 (61-132)	38	57 (55-60)	1,940
Intentional self-harm (suicide)	70 (48-104)	20	24 (22-26)	888
Chronic lower respiratory disease	82 (49-131)	34	38 (36-41)	1,013
All deaths	1,093 (970-1,230)	346	735 (724-745)	21,055

Sources: HAVRS Vital Records; Alaska Department of Labor and Workforce Development (ADOLWD).

Notes:

- Excludes Council, Mary's Igloo, King Island, and Solomon as these villages have been without permanent residence since 2012.
- Age-adjusted annual rate per 100,000 persons. Rate adjusted to US 2000 standard population distribution.
- Calculated by Peter Holck.
- CI indicates 95% Confidence Interval.

Table 85. Rates for the Leading Five Causes of Mortality, by Nome Census Area Community, 2013-2017

Community	Malignant Neoplasms	Diseases of the Heart	Unintentional Injuries	Intentional Self-Harm (Suicide)	Chronic Lower Respiratory Diseases	All Causes of Mortality
	Rate ^a (CI) ^{bc}					
Brevig Mission	*	*	*	*	*	772 (334-1,580)
Diomedea	*	*	*	*	*	1,890 (646-4,819)
Elim	*	*	*	*	*	1,116 (527-2,145)
Gambell	295 (121-678)	*	*	*	*	1,040 (630-1,640)
Golovin	*	*	*	*	*	1,032 (327-2,649)
Koyuk	*	*	*	*	*	1,091 (496-2,137)
Nome	204 (126-321)	232 (144-361)	45 (20-109)	57 (26-124)	67 (22-159)	1,097 (896-1,335)
Savoonga	319 (117-736)	167 (52-491)	182 (51-527)	*	*	1,145 (731-1,747)
Shaktoolik	*	*	*	*	*	1,322 (6.52-2,512)
Shishmaref	*	*	*	*	*	851 (439-1,532)
St. Michael	*	*	*	*	*	725 (336-1,461)
Stebbins	*	*	*	*	*	615 (318-1,138)
Teller	*	*	*	*	*	945 (374-2,136)
Unalakleet	421 (184-864)	487 (204-994)	327 (146-703)	*	*	1,765 (1,222-2,499)
Wales	*	*	*	*	*	1,591 (659-3,403)
White Mountain	*	*	*	*	*	1,354 (539-2,925)

Sources: HAVRS Vital Records; ADOLWD.

Notes:

a. Age-adjusted annual rate per 100,000 persons. Rate adjusted to US 2000 standard population distribution.

b. Calculated by Peter Holck.

c. CI indicates 95% Confidence Interval.

* Denotes data censored because fewer than six deaths recorded.

Table 86. Mortality Rate by Malignant Neoplasm Type, Nome Census Area and Rest of Alaska, 2013-2017

Malignant Neoplasm Type	Nome Census Area ^a		Rest of Alaska	
	Rate ^{bc} (CI) ^{cd}		Rate ^{bc} (CI) ^{cd}	
Trachea, bronchus, and lung	56 (32-93)		39 (37-42)	
Breast cancer (female only)	45 (17-102)		19 (17-21)	
Colon, rectum, and anus	43 (21-80)		15 (14-17)	

Sources: HAVRS Vital Records; ADOLWD.

Notes:

- Excludes Council, Mary's Igloo, King Island, and Solomon as these villages have been without permanent residence since 2012.
- Age-adjusted annual rate per 100,000 persons.
- Calculated by Peter Holck.
- CI indicates 95% Confidence Interval.

Table 87. Infant and Under Age 5 Mortality, Nome Census Area and Rest of Alaska, 2013-2017

	Nome Census Area		Rest of Alaska	
	Rate ^{ac} (CI) ^{cd}	Count	Rate ^{bc} (CI) ^{cd}	Count
Infant mortality	6.8 (3.3-14.0)	7	6.0 (5.4-6.7)	328
Under 5 mortality	2.4 (1.4-4.2)	13	1.6 (1.4-1.7)	424

Sources: HAVRS Vital Records; ADOLWD.

Notes:

- Infant mortality rate is deaths per 1,000 infants born in the same calendar year.
- Child mortality rate is per 1,000 children born in the 5-year period (current year and each prior 4 years).
- Calculated by Peter Holck.
- CI indicates 95% Confidence Interval.

Child Health and Safety

NUTRITION AND FOOD SECURITY

- Overall participation in the Women Infant Child (WIC) program in the NSHC service region (which closely aligns with the Kawerak Service Region) has fallen over the past four years, from 696 children in 2016 to 521 in 2019.
- All but three communities (Diomedea, Golovin, and Savoonga) have WIC-approved stores.

Table 88. WIC Child Participation, NSHC Service Region, 2016-2019

Year	Participation*
2016	696
2017	635
2018	590
2019	521

Source: Norton Sound Health Corporation WIC program data.

* 3rd quarter values (January through March).

Table 89. WIC Stores, NSHC Service Region, 2019

Store	Community Served
Brevig Muit Store	Brevig Mission
Elim Native Store	Elim
Gambell Native Store	Gambell
Koyuk Native Store	Koyuk
Alaska Commercial Co. #185	Nome
Hanson's Trading Co. #1835	Nome
Shaktoolik Native Store	Shaktoolik
Nayokpuk General Store LLC	Shishmaref
Shishmaref Native Store	Shishmaref
Alaska Commercial Co. #255	St Michael
Stebbins Native Store	Stebbins
Teller Native Store	Teller
Alaska Commercial Co. #215	Unalakleet
Wales Native Store	Wales
White Mountain Native Store	White Mountain

Source: Norton Sound Health Corporation WIC program data.

IMMUNIZATIONS

- The percentage of Alaska children enrolled in kindergarten with MMR, DTaP and Varicella vaccine coverage remains below the nationwide percentage. Alaska consistently ranks in the lower third each year and for each vaccine.
- The NSHC service region has slightly lower rates of childhood immunizations than Alaska federally qualified health centers (FQHC) as a whole and U.S. FQHCs.

Table 90. Estimated Vaccination Coverage, Children Enrolled in Kindergarten, Percent and National Ranking, by School Year

Vaccine Coverage	School Year 2015-2016			School Year 2016-2017			School Year 2017-2018		
	Alaska Percent	U.S. Percent	National Ranking	Alaska Percent	Alaska Percent	U.S. Percent	National Ranking	U.S. Percent	Alaska Percent
MMR (2 doses)	94%	95%	34	89%	94%	47	93%	94%	44
DTaP (4 or 5 doses)	93%	94%	39	89%	95%	47	92%	95%	45
Varicella (2 doses)	93%	94%	35	88%	94%	46	91%	94%	43

Source: Center for Disease Control and Prevention (CDCP): National Center for Immunization and Respiratory Diseases, National Immunization Survey three-year trend data.

Notes:

- Alaska estimates do not include some types of schools, such as online schools or those located on military bases or in correctional facilities. Kindergarten vaccination coverage data were collected from a sample.
- Estimated percentage of vaccine coverage statewide.
- Estimated median percentage of U.S. national vaccine coverage.

**Table 91. FQHC Childhood Immunization Percentages
NSHC Service Region, Compared to Alaska and U.S. 2016-2018**

	2016	2017	2018
NSHC Service Region	29	30	31
Alaska	30	32	*
Nationwide	43	40	*

Source: Resources & Services Administration (HRSA) Uniform Data System (UDS) Community Health Center data.

Note: Percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio (IPV), one measles, mumps and rubella (MMR); three H influenza type B (HiB); three Hepatitis B (Hep B); one chicken pox (VZV); four pneumococcal conjugate (PCV); one Hepatitis A (Hep A); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday.

*Alaska and U.S. FQHC data currently unavailable.

CHILD SAFETY

- Kawerak Children and Family Services works with children at risk and their families. Tribal Family Coordinators in each community provide support and help them navigate the State system.
- The Kawerak Child Advocacy Center (CAC) supports children and families coping with sexual abuse, severe physical abuse, and exposure to violence with the goal of reducing trauma for children.
- The CAC advocates for and supports children through a variety of methods and conducts forensic exams on-site. A multi-disciplinary team works together and meets monthly to provide regional perspectives. The team includes the Nome Police Department, Alaska State Troopers, Behavioral Health, a member of the Sexual Assault Response Team (SART), Norton Sound Health Corporation, attorneys, Office of Child Services (OCS), and Department of Juvenile Justice.
- The number of protective service reports in the region has decreased in the last few years from 116 in 2016 to 78 in 2018.
- In 2018, 118 Alaska Native/American Indian children in the Nome Census Area were placed out of their home by OCS. This is nearly 15% increase from the 103 cases in 2016.
- Foster care capacity is limited in the region, with room for only 22 children in 2018 in Indian Child Welfare Act (ICWA) and non-ICWA homes combined.
- Most foster care capacity is in Nome, with eight spaces; there are a few spaces in Shaktoolik, St. Michael, Stebbins, and Unalakleet, and no capacity in the other Kawerak communities.

Table 92. Alaska Office of Children’s Services Definitions

Term	Definition
OCS	Office of Child Services – A division of Alaska’s Department of Health and Social Services.
Case	A household unit included in one or more initial assessments
Screened in/screened out	A decision as to whether the reporter’s concerns within a PSR constitute a potential threat to child safety. If so, the PSR is screened in and an initial assessment is completed. If not, the PSR is screened out and the case is closed with no further action.
Protective service report	A report of child maltreatment. A PSR may contain multiple allegations, each of which consists of one alleged victim/alleged perpetrator/maltreatment combination.
Initial assessment	An evaluation of child safety completed for each screened in PSR. The IA process consists of gathering sufficient information (via face-to-face interviews with the alleged victim, family members and collateral contacts) to determine if a child is safe or unsafe and determining the finding for each allegation (substantiated or not substantiated). A determination is also made as to whether the children and/or other persons involved in the report of alleged maltreatment need services. An IA may include multiple PSRs.
Substantiated	A type of Initial Assessment disposition which concludes that the allegation of maltreatment or risk of maltreatment was supported or founded by State law or policy. This is the highest level of finding by OCS.
Not substantiated	Initial Assessment disposition that determines there is not sufficient evidence under Alaska law or policy to conclude that the child has been maltreated or is at risk of being maltreated. Includes Closed without a Finding, which is a disposition that does not conclude with a specific finding because the Initial Assessment could not be completed for such reasons as: the family moved out of the jurisdiction or the family could not be located.
Alleged perpetrator	An initial assessment participant alleged of maltreating an alleged victim.
Alleged victim	Child about whom a report regarding maltreatment has been made.
Maltreatment	An act or omission that results in circumstances in which there is reasonable cause to suspect that a child may need aid, as described in Alaska Statute 47.10.011; an injury and/or damage to a child’s physical or mental well-being. Alaska divides maltreatment into four types: Mental Injury, Neglect, Physical, or Sexual.
ICWA	Provider has been documented as meeting requirements of the federal Indian Child Welfare Act (ICWA), a law that seeks to keep American Indian children with American Indian families. This is extended to include non-Indian Native children.

Source: Alaska Department of Health and Social Services: Office of Children’s Services, Web Report Field Definitions.

Table 93. Initial Assessments Completed and Substantiated by OCS, Nome Census Area, 2016-2018

Year	Number of Cases	Number of Initial Assessments	Number of Protective Service Reports	Number of Alleged Perpetrators	Number of Alleged Victims
2016	91	114	116	141	208
2017	61	71	74	101	150
2018	56	67	78	85	112

Source: ADHSS: OCS. Nome office assignments for Nome Census Area villages.

Table 94. OCS Alaska Native/American Indian Children Out-of-Home, Nome Census Area, 2016-2018

Year	Children
2016	103
2017	121
2018	118

Source: ADHSS, OCS. Nome office assignments for Nome Census Area.

Table 95. OCS-Licensed Non-Child Specific Foster and Group Homes, Nome Census Area, 2016-2018

Year	ICWA		Not ICWA	
	Providers	Capacity	Providers	Capacity
2016	2	4	5	17
2017	2	4	7	16
2018	4	9	6	13

Source: ADHSS: OCS. Nome office assignments for Nome Census Area villages.

Table 96. OCS-Licensed Non-Child Specific Foster and Group Homes, by Community, 2016-2018

Year	ICWA		Not ICWA	
	Providers	Capacity	Providers	Capacity
Nome				
2016	2	4	3	8
2017	2	4	5	12
2018	2	4	3	8
Shaktoolik				
2017	-	-	1	2
2018	-	-	1	2
St. Michael				
2016	-	-	1	7
2018	1	2	1	1
Stebbins				
2018	1	3	-	-
Unalakleet				
2016	-	-	1	2
2017	-	-	1	2
2018	-	-	1	2

Source: ADHSS: OCS. Nome office assignments for Nome Census Area villages.

Chapter 7: Community Engagement - Household Questionnaire Results

Kawerak distributed a questionnaire throughout the region as part of the CNA community engagement process. The instrument, designed in collaboration with McDowell Group, focused on families with children, though included questions for all community members. Respondents were asked for their thoughts on community needs, strengths, and challenges. Respondents with children were asked about child services in their community, a variety of family experiences, and opinions on child and family health and well-being.

The questionnaire was available in paper format as well as online for the month of May 2019. Kawerak distributed paper copies, primarily through the Head Start program. Distribution and advertising for the online version was coordinated through Kawerak's Outreach Director. A chance to win 20,000 Alaska Airline miles was provided to each respondent who completed the questionnaire as an incentive for completion.

In total, 659 questionnaires were completed, including 608 (92 percent) by individuals currently residing in the Kawerak Service Area. While responses were not associated with individual names, results for some smaller communities are reported only in aggregate due to privacy concerns. It is also important to note that the results reflect responses by community in the Kawerak Service Area, not by tribe.

This section presents results based on Kawerak Service Area residents only; results from those living outside the area are provided in in Appendix E.

Limitations of Findings

While the questionnaire received a significant number of responses, because the survey was not a random sample of respondents, results are not necessarily representative of the regional population as a whole. Thus, information gleaned from the questionnaire may be used as one of several important tools to gather public input about regional needs and strengths. Questionnaire results were incorporated into the needs and strengths analysis and development of subsequent recommendations for Kawerak.

Kawerak Service Area Results

- One-third (34%) of questionnaire respondents are from Nome, 13% from Unalakleet, 11% from Savoonga, and less than 10% from each of the other communities. At least one questionnaire was completed in each community, with the exception of Council.

Table 97. Community of Residence

Community (n=608)	Count	Percent
Nome	205	34%
Unalakleet	78	13%
Savoonga	66	11%
Shaktoolik	54	9%
Shishmaref	41	7%
Brevig Mission	30	5%
Koyuk	26	4%
Elim	23	4%
Golovin	23	4%
White Mountain	19	3%
Gambell	17	3%
St. Michael	9	1%
Wales	7	1%
Teller	4	1%
Diomede	2	<1%
Stebbins	1	<1%
Council	-	-
Refused	3	<1%

Community Strengths

Respondents were asked to identify their community's greatest strengths. Multiple responses were allowed.

- Over three-quarters (78%) identify subsistence opportunities as a strength.
- Over one-third of respondents identify the following as a strength in their community: schools, (41%), outdoor recreation (38%), Elders (37%), strong families (36%), community involvement (36%), and natural setting (35%).

Table 98. Greatest Community Strengths, Kawerak Service Area

Strength (n=608)	Count	Percent
Subsistence opportunities	472	78%
Schools	252	41%
Outdoor recreation	228	38%
Elders	226	37%
Strong families	219	36%
Community involvement	218	36%
Natural setting	214	35%
Cultural activities	193	32%
Health care resources	173	28%
Public safety	131	22%
Economic opportunities	130	21%
Transportation	85	14%
Other	20	3%
Don't know/Refused	13	2%

Note: Multiple responses allowed.

STRENGTHS IN INDIVIDUAL COMMUNITIES

- Subsistence opportunities were identified as a strength by the largest proportion of respondents in each location.
- Over half of respondents identified the following strengths in their community:
 - Gambell: Elders (59%), strong families (59%), cultural activities (71%)
 - Nome: Outdoor recreation (55%)
 - Savoonga: Elders (61%)
 - Shaktoolik: Elders (54%)
 - Shishmaref: Cultural activities (59%)
 - Unalakleet: Schools (63%), Elders (55%)
 - White Mountain: Schools (74%), Elders (63%), strong families (68%), community involvement (79%), natural setting (68%), health care resources (58%)

Table 99. Greatest Community Strengths, by Community (%)

Strength (n=608)	Brevig Mission n=30	Elim n=23	Gambell n=17	Golovin n=23	Koyuk n=26	Nome n=205	Savoonga n=66	Shaktoolik n=54	Shishmaref n=41	Unalakleet n=78	White Mountain n=19
Subsistence opportunities	80	96	82	91	92	67	80	89	76	83	89
Schools	50	48	35	48	23	29	38	48	46	63	74
Outdoor recreation	20	22	35	26	38	55	17	22	32	40	47
Elders	17	13	59	26	8	24	61	54	46	55	63
Strong families	30	26	59	43	31	27	42	48	34	45	68
Community involvement	7	22	29	39	19	42	33	37	27	36	79
Natural setting	23	30	47	39	35	38	24	22	12	47	68
Cultural activities	17	9	71	26	15	33	36	24	59	19	42
Health care resources	13	13	41	30	12	28	26	28	10	49	58
Public safety	3	9	29	43	12	17	24	17	20	38	37
Economic opportunities	-	13	24	9	4	24	20	20	10	41	16
Transportation	3	-	29	9	4	18	15	11	12	18	16
Other	-	-	-	9	4	4	8	-	5	1	-
Don't know/Refused	3	-	12	-	-	3	-	2	2	1	-

Note: Results from St. Michael, Wales, Teller, Diomedea, and Stebbins are not reported by individual community due to low sample sizes.

Challenges in Kawerak Communities

- Nearly three-quarters of respondents (73%) identify the high cost of living as one of the greatest challenges facing their community, and two-thirds (65%) identify inadequate housing.
- Half of respondents (52%) note substance abuse is a challenge for their community, and 41% note a lack of cultural-based activities.

Table 100. Greatest Community Challenges, Kawerak Service Area

Challenge (n=608)	Count	Percent of Respondents
High cost of living (fuel, housing, transportation, etc.)	444	73%
Inadequate housing	395	65%
Substance abuse	314	52%
Lack of cultural-based activities	250	41%
Lack of treatment for mental illness	228	38%
Limited economic opportunities	215	35%
Inadequate public safety	180	30%
Education system	166	27%
Access to healthy foods	151	25%
Lack of proper sanitation and waste disposal	133	22%
Limited health care	131	22%
Isolation (includes lack of transportation)	117	19%
Lack of access to clean water	93	15%
Other	50	8%
Don't know/Refused	10	2%

Note: Multiple responses allowed.

CHALLENGES IN INDIVIDUAL COMMUNITIES

- Over two-thirds of respondents identify the following challenges in their community:
 - Elim: inadequate housing (78%) and inadequate public safety (70%)
 - Gambell: high cost of living (94%), lack of proper sanitation and waste disposal (82%), and inadequate housing (71%)
 - Golovin: high cost of living (74%)
 - Koyuk: high cost of living (81%)
 - Nome: high cost of living (80%), inadequate housing and substance abuse (72% each)
 - Savoonga: high cost of living (82%)
 - Shishmaref: lack of access to clean water (68%)
 - Unalakleet: high cost of living (69%)
 - White Mountain: high cost of living (79%), inadequate housing (74%) and limited economic opportunities (68%)

Table 101. Greatest Challenges Facing Kawerak Communities, by Community (%)

Challenge	Brevig Mission n=30	Elim n=23	Gambell n=17	Golovin n=23	Koyuk n=26	Nome n=205	Savoonga n=66	Shaktoolik n=54	Shishmaref n=41	Unalakleet n=78	White Mountain n=19
High cost of living	53	52	94	74	81	80	82	63	56	69	79
Inadequate housing	53	78	71	65	65	72	61	63	51	56	74
Substance abuse	20	43	59	43	62	72	35	44	24	47	21
Lack of cultural-based activities	53	65	41	52	50	29	44	39	37	53	58
Lack of treatment for mental illness	20	22	47	22	31	51	32	28	29	31	47
Limited economic opportunities	33	43	29	65	31	26	39	41	34	29	68
Inadequate public safety	20	70	41	9	38	32	36	30	15	15	5
Education system	23	4	29	22	23	41	33	20	20	10	11
Access to healthy foods	43	17	47	39	15	26	21	17	32	13	42
Lack of proper sanitation and waste disposal	20	17	82	4	35	8	35	9	71	17	11
Limited health care	20	22	41	13	19	26	27	9	27	8	16
Isolation	7	17	47	22	-	20	32	13	32	5	11
Lack of access to clean water	-	4	12	4	15	3	26	7	68	27	11
Other	7	9	6	13	15	8	14	2	5	6	5
Don't know/Refused	7	4	-	-	-	1	2	4	-	3	-

Note: Results from St. Michael, Wales, Teller, Diomedea, and Stebbins are not reported by individual community due to low sample sizes.

Kawerak Households with Children

- As a result of the questionnaire distribution being targeted to households with children, 69% of respondents live in households with children under 18 years of age.
- In total, 1,125 children live in the households that responded.
- The average number of children per respondent household is 2.7.
- One-quarter (23%) of households have one child, 29% have two children, 23% have three, 12% have four, and 13% have five or more.
- The average age of children in respondent households is 8.6 years of age.
- Fourteen percent of children in respondent households are two years of age or younger, while 17% are three to five years of age, 44% are six to 12 years of age, and 25% are 13 to 17 years of age.

Table 102. Number of Children per Household, Kawerak Service Area*Base: Children in Household*

Number of Children	Number of Respondents	Percent
1	95	23%
2	121	29%
3	94	23%
4	48	12%
5 +	53	14%
Average	2.7 children	

Note: columns may not sum due to rounding.

Table 103. Ages of Children in Households, Kawerak Service Area*Base: Children in Household*

Age	Count	Percent
0-2	152	14%
3-5	180	17%
6-12	460	44%
13-17	263	25%
Average age	8.6 years	

Quality of Family and Child Services

Respondents with children were asked to rate the quality of family and child services in their community on a scale of 1 to 4, with 1 being "Very Good" and 4 being "Very Poor."

- On average, respondents with children rate the quality of family and child services in their community as "Good," averaging 2.3.
- Over half (57%) rate the quality of services as "Good" or "Very Good"; One-quarter (24%) rated the quality of services as "Poor" or "Very Poor."

Table 104. Quality of Family and Child Services in Communities, Kawerak Service Area*Base: Children in Household*

Rating (n=421)	Number of Respondents	Percent
1-Very Good	35	8%
2-Good	203	48%
3-Poor	77	18%
4-Very Poor	23	5%
Don't know/Refused	67	16%
No services in community	16	4%
Average Rating	2.3	-

Note: Due to rounding, columns may not sum to 100.

SERVICE QUALITY IN INDIVIDUAL COMMUNITIES

- Golovin respondents most commonly rate the quality of family and child services in their community as “Very Good,” with no respondents from Golovin selecting “Poor” or “Very Poor.”
- All other respondents most commonly rate the quality of services as “Good”.
 - No respondents in Koyuk or Gambell rate services as “Very Good.”

Table 105. Quality of Family and Child Services, by Community

Base: Children in Household

Community	Average Rating	1-Very Good	2-Good	3-Poor	4-Very Poor	Don't Know/Refused	No Services
Brevig Mission (n=25)	2.2	12%	40%	12%	8%	28%	0%
Elim (n=20)	2.2	5%	45%	15%	0%	20%	15%
Gambell (n=13)	2.4	0%	62%	15%	8%	15%	0%
Golovin (n=14)	1.8	14%	79%	0%	0%	7%	0%
Koyuk (n=20)	2.5	0%	55%	10%	15%	15%	5%
Nome (n=138)	2.4	6%	51%	26%	6%	12%	0%
Savoonga (n=51)	2.3	10%	37%	16%	8%	16%	14%
Shaktoolik (n=38)	2.2	8%	53%	21%	3%	11%	5%
Shishmaref (n=31)	2.3	6%	35%	26%	0%	32%	0%
Unalakleet (n=43)	2.0	14%	58%	9%	2%	12%	5%
White Mountain (n=14)	2.1	14%	57%	7%	7%	14%	0%

Notes: Communities with fewer than 10 responses are not included in this table. Due to rounding, rows may not sum to 100.

Experiences of Households with Children

- Sixty-one percent (61%) of respondent households with children experienced a lack of activities for teenagers outside of school, other than sports activities. One-third (33%) report a lack of activities for children.
- A lack of child care impacted work activities for 30% of respondents with children in the past year, and impacted subsistence activities for 23%.
- Half of respondents with children (49%) experienced opportunities for their children to learn about traditional ways of life and culture in the past year.

Table 106. Households with Children: Experiences in Past Year, Kawerak Service Area (%)
Base: Children in Household

Experience (n=421)	Yes	No	Don't Know/ Refused
Lack of activities for teens outside of school other than sports or recreation	61	27	12
Opportunities for children to learn about traditional ways of life and culture.	49	38	13
Unstable or overcrowded housing impacted the safety, health, or education of children	43	44	13
Not enough healthy food for children	34	52	14
Lack of children's sports or recreation opportunities	33	55	13
A household member was not able to work or look for work because child care was not available	30	60	10
A household member was not able to engage in subsistence activities because child care was not available	23	67	10
A child struggling with schoolwork could not get the help they needed	22	62	16
Lack of disability services for children	22	52	27
Unable to access mental health services for children when needed	19	54	27
Could not access programs to assist children experiencing violence or abuse	18	55	27

Note: Multiple responses possible; due to rounding, rows may not add to 100.

RECREATION OPPORTUNITIES IN INDIVIDUAL COMMUNITIES

- Half of respondents with children in Savoonga (49%) report experiencing a lack of recreation opportunities for children in the last year, as did at least one-third of respondents in Gambell (38%), Shaktoolik (37%), Golovin (36%), Shishmaref (35%) and Nome (33%).
- More than three-quarters of respondents with children in Elim (85%) and Savoonga (78%) report a lack of activities for teens.
- Brevig Mission has less than half (40%) of respondents experiencing a lack of activities for teens outside.

Table 107. Recreation Opportunities for Children and Teens, by Community (%)
Base: Children in Household

Community	Lack of children's sports or recreation opportunities			Lack of activities for teens outside of school other than sports or recreation		
	Yes	No	Don't Know/ Refused	Yes	No	Don't Know/ Refused
Brevig Mission (n=25)	24	68	8	40	48	12
Elim (n=20)	15	60	25	85	10	5
Gambell (n=13)	38	31	31	69	8	23
Golovin (n=14)	36	50	14	64	29	7
Koyuk (n=20)	30	55	15	65	25	10
Nome (n=138)	33	57	10	54	30	17
Savoonga (n=51)	49	41	10	78	16	6
Shaktoolik (n=38)	37	58	5	58	34	8
Shishmaref (n=31)	35	39	26	71	16	13
Unalakleet (n=43)	19	72	9	58	35	7
White Mountain (n=14)	29	57	14	50	29	21

Note: Due to rounding, rows may not sum to 100.

HEALTH AND OVERCROWDING IN INDIVIDUAL COMMUNITIES

- More than one-quarter of respondents with children in each community report not having enough healthy food for their children in the past year.
- More than 40% of respondents with children from four communities experienced a lack of healthy food in the past year: Brevig Mission (48%), Golovin (43%), Shishmaref (42%), and Koyuk (40%).
- Housing instability and overcrowding affected children in half or more of respondent households with children in Savoonga (75%), Elim (60%), Koyuk (55%), Shishmaref (52%), and Unalakleet (49%).
- Fewer than one-third of respondents with children in Nome and White Mountain report overcrowded housing and instability impacted their children in the last year, at 27% and 29% respectively.

Table 108. Experiences Impacting Children’s Health, by Community (%)

Base: Children in Household

Community	Not enough healthy food for children			Unstable or overcrowded housing impacted the safety, health, or education of children		
	Yes	No	Don't Know/ Refused	Yes	No	Don't Know/ Refused
Brevig Mission (n=25)	48	40	12	40	48	12
Elim (n=20)	30	55	15	60	40	-
Gambell (n=13)	31	54	15	38	46	15
Golovin (n=14)	43	43	14	43	50	7
Koyuk (n=20)	40	50	10	55	35	10
Nome (n=138)	30	59	12	27	57	16
Savoonga (n=51)	37	51	12	75	22	4
Shaktoolik (n=38)	24	61	16	39	45	16
Shishmaref (n=31)	42	32	26	52	26	23
Unalakleet (n=43)	28	60	12	49	44	7
White Mountain (n=14)	36	29	36	29	50	21

Note: Due to rounding, rows may not add to 100.

CHILD CARE IN INDIVIDUAL COMMUNITIES

- Lack of child care impacted work or ability to find work for at least 20% of respondent households with children in each community in the past year.
- More than one-third of respondent households with children in Gambell (38%), Koyuk (35%), Nome (35%), and White Mountain (36%) experienced work impacts due to a lack of child care.
 - Over one-quarter of respondents with children from these same communities report an inability to engage in subsistence activities in the past year as a result of no child care.

Table 109. Experiences Resulting from a Lack of Child Care, by Community (%)*Base: Children in Household*

Community	A household member was not able to work or look for work because child care was not available			A household member was not able to engage in subsistence activities because child care was not available		
	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused
Brevig Mission (n=25)	20	68	12	24	72	4
Elim (n=20)	25	60	15	20	70	10
Gambell (n=13)	38	46	15	8	69	23
Golovin (n=14)	29	71	-	29	71	-
Koyuk (n=20)	35	65	-	35	55	10
Nome (n=138)	35	57	8	28	64	7
Savoonga (n=51)	31	55	14	22	63	16
Shaktoolik (n=38)	21	71	8	13	76	11
Shishmaref (n=31)	29	55	16	19	65	16
Unalakleet (n=43)	28	65	7	16	79	5
White Mountain (n=14)	36	50	14	29	57	14

Note: Due to rounding, rows may not sum to 100.

SUPPORT FOR CHILDREN AND DISABILITY SERVICES IN INDIVIDUAL COMMUNITIES

- One-quarter of respondents with children in Nome (25%) and Koyuk (25%), and one-third of respondents in Savoonga (31%), report experiences with children struggling with school work and unable to get needed help.
- One-third of respondents with children in Savoonga (33%) and Gambell (31%) note experiencing a lack of disability services for children in the past year; roughly one-quarter of residents in Unalakleet (28%) and Koyuk (25%) reported the same issue.

Table 110. Children Struggling with Schoolwork and Lack of Disability Services, by Community (%)*Base: Children in Household*

Community	A child struggling with school work could not get the help they needed			Lack of disability services for children		
	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused
Brevig Mission (n=25)	12	72	16	24	56	20
Elim (n=20)	15	50	35	15	65	20
Gambell (n=13)	15	62	23	31	31	38
Golovin (n=14)	7	64	29	21	36	43
Koyuk (n=20)	25	65	10	25	35	40
Nome (n=138)	25	62	13	15	57	28
Savoonga (n=51)	31	55	14	33	43	24
Shaktoolik (n=38)	21	61	18	16	71	13
Shishmaref (n=31)	23	58	19	23	35	42
Unalakleet (n=43)	12	74	14	28	49	23
White Mountain (n=14)	7	79	14	7	64	29

Note: Due to rounding, rows may not sum to 100.

CHILD SAFETY AND MENTAL HEALTH SERVICES IN INDIVIDUAL COMMUNITIES

- One-quarter or more of respondents with children in Brevig Mission (24%), Elim (29%), Koyuk (25%), and Savoonga (29%) report being unable to access mental health services for children in the past year.
- One-quarter or more of respondents with children in Elim (30%), Koyuk (25%), and Savoonga (25%) report being unable to access programs for children experiencing violence or abuse in the past year.

Table 111. Mental Health Services and Child Assistance Programs, by Community (%)

Base: Children in Household

Community	Unable to access mental health services for children when needed			Could not access programs to assist children experiencing violence or abuse		
	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused
Brevig Mission (n=25)	24	52	24	4	68	28
Elim (n=20)	10	65	25	30	45	25
Gambell (n=13)	8	46	46	23	38	38
Golovin (n=14)	29	29	43	14	57	29
Koyuk (n=20)	25	50	25	25	40	35
Nome (n=138)	17	59	25	14	62	24
Savoonga (n=51)	29	47	24	25	49	25
Shaktoolik (n=38)	21	61	18	16	63	21
Shishmaref (n=31)	16	42	42	13	45	42
Unalakleet (n=43)	19	56	26	21	53	26
White Mountain (n=14)	7	57	36	14	57	29

Note: due to rounding, rows may not add to 100.

EDUCATION ON TRADITIONAL WAYS OF LIFE AND CULTURE IN INDIVIDUAL COMMUNITIES

- More than 40% of respondents with children report traditional ways of life and culture learning opportunities for children in the past year.
- Nearly three-quarters of respondents with children in Koyuk (70%) report experiencing such learning opportunities, as do 63% of respondents from Savoonga.

Table 112. Opportunities for Children to Learn About Traditional Ways of Life and Culture, by Community (%)

Base: Children in Household

Community	Yes	No	Don't Know/Refused
Koyuk (n=20)	70	25	5
Savoonga (n=51)	63	27	10
Elim (n=20)	55	40	5
Brevig Mission (n=25)	52	48	-
Golovin (n=14)	50	29	21
Nome (n=138)	46	41	14
Shaktoolik (n=38)	45	47	8
White Mountain (n=14)	43	43	14
Unalakleet (n=43)	42	44	14
Shishmaref (n=31)	39	42	19
Gambell (n=13)	38	23	38

Note: due to rounding, rows may not add to 100.

Gaps in Education

- Ten percent of respondent households with children report their children being out of school for more than 30 days in the past three years.
- Difficulty with staff and teachers was the top reason for this gap in education, with 39% of respondents indicating this as a reason.
- Illness (25%) and poor mental health (23%) are reasons for one-quarter of respondents.
- Nearly one-third of respondents (30%) do not know why their children missed school.
- Bullying was a frequently noted reason provided in the other responses to this question.
- Other responses include travel, no updated vaccinations, teen pregnancy, and wait lists.

Table 113. Reasons Children Missed a Month or More of School in Last Three Years, Kawerak Service Area

Base: Children in Household

Reason (n=44)	Count	Percent
Difficulty with school staff or teachers	17	39%
Illness	11	25%
Poor mental health (depression, anxiety, suicidal thoughts, etc.)	10	23%
To engage in subsistence activities	9	20%
Decided to homeschool	7	16%
Difficulty getting to school	7	16%
To work	6	14%
Alcohol or drug abuse	5	11%
Other (please specify)	17	39%
Don't know	13	30%

Experiences of all Households

- One-third of respondents (33%) indicate that someone in their household experienced a lack of employment or reliable income.
- More than one-quarter of respondents (28%) consistently experienced overcrowding in their household in the past year.
- Lack of sewer affected 15% of respondents, lack of water 12%, and lack of electricity 9%.

Table 114. Household Experiences in Past Year, Kawerak Service Area (%)

Experience (n=608)	Yes	No	Don't Know/ Refused
Lack of employment or reliable income	33	57	10
Consistent overcrowding in the house	28	61	11
Lack of public safety services (police, VPSO, fire, emergency) when needed	22	65	13
Not enough food	21	68	11
Lack of adequate heat	19	72	10
Not able to get transportation to work, school or needed services	16	74	11
Lack of sewer	15	75	10
Not able to access needed health care	15	72	13
Lack of water	12	78	10
Not knowing where to get help for substance abuse treatment	11	72	16
Homelessness	9	82	8
Lack of electricity	9	80	11
Lack of reliable telephone service*	9	39	52
Violence, or threats of violence, between household members*	4	45	51

Note: due to rounding, rows may not sum to 100. *Indicates error in online survey, resulting in high numbers of refusals.

LACK OF UTILITIES IN INDIVIDUAL COMMUNITIES

- In Koyuk, lack of water affected nearly half of respondents in the last year (46%), and 39% of respondent households in Elim.
- Over half (51%) of respondents from Shishmaref experienced lack of sewer in the last year, as did over one-third from Elim (35%), Gambell (35%), and Koyuk (38%).
- One-quarter (25%) of Elim respondents experienced a lack of electricity in the past year.

Table 115. Lack of Utilities, By Community (%)

Community	Lack of Water			Lack of Sewer			Lack of Electricity		
	Yes	No	Don't Know/ Refused	Yes	No	Don't Know/ Refused	Yes	No	Don't Know/ Refused
Brevig Mission (n=30)	7	93	-	10	90	-	10	90	-
Elim (n=23)	39	61	-	35	61	4	26	70	4
Gambell (n=17)	12	53	35	35	35	29	6	59	35
Golovin (n=23)	4	83	13	13	78	9	13	83	4
Koyuk (n=26)	46	50	4	38	58	4	8	88	4
Nome (n=205)	2	86	11	6	83	11	4	84	12
Savoonga (n=66)	11	82	8	12	77	11	5	73	12
Shaktoolik (n=54)	2	91	7	2	93	6	9	83	7
Shishmaref (n=41)	27	59	15	51	37	12	12	71	17
Unalakleet (n=78)	21	74	5	10	83	6	6	88	5
White Mountain (n=19)	5	84	11	5	79	16	16	74	11

Note: Due to rounding, rows may not sum to 100.

OVERCROWDING AND UTILITY ISSUES IN INDIVIDUAL COMMUNITIES

- Consistent overcrowding in the home affected more than half of Savoonga respondents in the last year (55%). Savoonga has the highest rate (38%) of households experiencing lack of adequate heat.
- Overcrowding was experienced by more than one-third of respondents from Elim (43%), Gambell (41%), Brevig Mission (33%), and Shaktoolik (33%).
- Lack of reliable telephone service affects one-quarter of respondents from Savoonga (23%) and Gambell (24%).

Table 116. Housing Issues, by Community (%)

Community	Consistent Overcrowding in the House			Lack of Adequate Heat			Lack of Reliable Telephone Service		
	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused
Brevig Mission (n=30)	33	67	-	17	83	-	13	70	17
Elim (n=23)	43	57	-	30	65	4	4	65	30
Gambell (n=17)	41	29	29	24	47	29	24	24	53
Golovin (n=23)	26	57	17	22	70	9	9	52	39
Koyuk (n=26)	31	65	4	27	69	4	8	73	19
Nome (n=205)	16	72	12	11	79	10	<1	9	90
Savoonga (n=66)	55	33	12	38	56	6	23	53	24
Shaktoolik (n=54)	33	61	6	13	80	7	9	76	15
Shishmaref (n=41)	29	51	20	22	56	22	15	41	44
Unalakleet (n=78)	22	71	8	14	82	4	12	64	24
White Mountain (n=19)	21	74	5	26	68	5	5	0	95

Note: Due to rounding, rows may not sum to 100.

FOOD SECURITY, HOMELESSNESS, AND HEALTH CARE IN INDIVIDUAL COMMUNITIES

- Homelessness affected 21% of respondent households from Savoonga and 17% from Elim in the past year.
- One-quarter of respondents from Gambell (24%) and 22% from Shishmaref experienced problems accessing necessary health care in the past year.
- Thirty percent (30%) of respondents from Elim and Shaktoolik had problems getting enough food in the past year, and 41% from Savoonga could not get enough food at some point in the past year.

Table 117. Food Security, Homelessness, and Health Care Issues, by Community (%)

Community	Not Enough Food			Not Able to Access Needed Health Care			Homelessness		
	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused
Brevig Mission (n=30)	10	87	3	13	87	-	3	97	-
Elim (n=23)	30	65	4	17	74	9	17	78	4
Gambell (n=17)	18	53	29	24	41	35	6	65	29
Golovin (n=23)	17	74	9	13	78	9	9	87	4
Koyuk (n=26)	23	69	8	4	77	19	8	88	4
Nome (n=205)	17	73	10	17	71	12	6	84	10
Savoonga (n=66)	41	50	9	17	68	15	21	73	6
Shaktoolik (n=54)	30	63	7	4	85	11	7	89	4
Shishmaref (n=41)	12	71	17	22	56	22	2	85	12
Unalakleet (n=78)	13	81	6	10	83	6	12	82	6
White Mountain (n=19)	11	63	26	11	74	16	16	79	5

Note: Due to rounding, rows may not sum to 100.

SAFETY AND SUBSTANCE ABUSE TREATMENT IN INDIVIDUAL COMMUNITIES

- Nearly half (48%) of respondents from Elim report a lack of public safety services in the past year; as did 40% of respondents from Brevig Mission and 42% from Savoonga.
- Violence or threats of violence between household members were a reality for 9% of respondent households from Elim and 12% in Gambell and Unalakleet.
- Nineteen percent (19%) of respondents from Koyuk and 17% from Shaktoolik noted that in the past year someone in their household did not know where to get help for a substance abuse problem.

Table 118. Safety and Substance Abuse Treatment, by Community (%)

Community	Lack of public safety services (police, VPSO, fire, emergency)			Violence, or threats of violence, between household members			Not knowing where to get help for substance abuse treatment		
	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused
Brevig Mission (n=30)	40	60	0	0	87	13	13	80	7
Elim (n=23)	48	43	9	9	61	30	4	74	22
Gambell (n=17)	35	24	41	12	35	53	6	59	35
Golovin (n=23)	13	78	9	4	57	39	9	70	22
Koyuk (n=26)	31	54	15	0	81	19	19	58	23
Nome (n=205)	9	77	14	0	10	90	10	75	16
Savoonga (n=66)	42	42	15	6	70	24	15	67	18
Shaktoolik (n=54)	26	69	6	6	78	17	17	74	9
Shishmaref (n=41)	17	63	20	2	56	41	5	68	27
Unalakleet (n=78)	17	76	8	12	64	24	10	81	9
White Mountain (n=19)	5	84	11	5	16	79	11	74	16

Note: Due to rounding, rows may not sum to 100.

EMPLOYMENT AND TRANSPORTATION ISSUES IN INDIVIDUAL COMMUNITIES

- Lack of employment affected more than half of respondent households in Savoonga (53%) and Shaktoolik (57%).
- About one-third of respondents from Brevig Mission (33%), Golovin (30%), Koyuk (38%), Shishmaref (34%), and Unalakleet (32%) experienced a lack of employment or reliable income in the past year.
- Transportation for work, school, or needed services affected 29% of respondent households in Gambell, 27% in Savoonga, 22% in Golovin), and 20% in Nome.

Table 119. Employment and Transportation Issues, by Community (%)

Community	Lack of Employment or Reliable Income			Not Able to Get Transportation to Work, School or Needed Services		
	Yes	No	Don't Know/Refused	Yes	No	Don't Know/Refused
Brevig Mission (n=30)	33	67	-	7	93	-
Elim (n=23)	26	70	4	13	83	4
Gambell (n=17)	29	24	47	29	35	35
Golovin (n=23)	30	61	9	22	70	9
Koyuk (n=26)	38	58	4	8	88	4
Nome (n=205)	22	67	11	20	70	11
Savoonga (n=66)	53	41	6	27	62	11
Shaktoolik (n=54)	57	37	6	4	83	13
Shishmaref (n=41)	34	49	17	15	76	10
Unalakleet (n=78)	32	62	6	6	86	8
White Mountain (n=19)	11	79	11	5	79	16

Note: Due to rounding, rows may not add to 100.

Improvements to Household Health

Respondents were asked what one change they would make to improve the overall health of their household in the next year.

- One-third (36%) of respondents indicate that better living conditions would improve the overall health of their household in the next year.
- About one-quarter of households report that more exercise and recreation opportunities (23%) or and eating healthier food (22%) would have the greatest impact on their household health.

Table 120. Household Health Improvement, Kawerak Service Area

Improvement	Count	Percent
Better living conditions in the home (overcrowding, water/sewer, air quality)	216	36%
More exercise/recreation opportunities	141	23%
Eat healthier food	134	22%
Improved education opportunities	68	11%
Better access to medical services	57	9%
Better access to child care	48	8%
Better access to mental health services	36	6%
Better access to substance abuse treatment services	33	5%
Other (please specify)	19	3%
Don't know/Refused	68	11%

Note: multiple responses occurred infrequently.

- Other responses include need for housing, community involvement and activities, less alcohol and drug use, higher pay to match the high cost of living, LGBT and minority integration training, Elder care, and quitting smoking.

IMPROVEMENTS FOR HOUSEHOLD HEALTH IN INDIVIDUAL COMMUNITIES

- Most respondents from Shishmaref (83%) report that better living conditions in the home would be the one change they would make for their household health in the next year; 65% of respondents from Savoonga, 53% from Gambell, and 52% from Elim identify the same change.
- Two-thirds (68%) of White Mountain respondents indicate that eating healthier food in the next year would be the change they could make.

Table 121. Changes to Improve Household Health, by Community (%)

Change	Brevig Mission n=30	Elim n=23	Gambell n=17	Golovin n=23	Koyuk n=26	Nome n=205	Savoonga n=66	Shaktoolik n=54	Shishmaref n=41	Unalakleet n=78	White Mountain n=19
Better living conditions in the home	33	52	53	30	35	14	65	46	83	33	5
More exercise/recreation opportunities	27	26	35	22	19	23	23	17	17	29	26
Eat healthier food	40	22	24	26	19	21	17	19	12	21	68
Improved education opportunities	13	9	24	26	15	8	20	7	10	8	11
Better access to medical services	13	-	18	13	4	6	21	13	7	8	11
Better access to child care	3	-	-	4	12	9	12	-	5	12	16
Better access to mental health services	10	-	6	4	8	3	14	6	7	9	0
Better access to substance abuse treatment	-	-	12	9	4	5	6	9	5	6	5
Other	-	9	-	4	-	2	8	2	5	3	5
Don't know/refused	17	-	29	17	12	12	8	13	5	8	5

Unmet Needs in the Community

Respondents were asked what they feel are the most important unmet needs in their community for children, young adults (18 to 25 years of age), and Elders.

CHILDREN

- Forty-four percent (44%) of respondents report children’s needs for cultural and education opportunities are not being met.
- According to one-third of respondents, stable housing (36%) and nutrition (32%) needs for children are not being met.
- Twenty-nine percent (29%) identify child care, and 25% socialization opportunities as outstanding needs for children.
- Other responses include community activities, afterschool programs, child safety, adult/parent and youth involvement, disability services, addressing bullying, indoor and outdoor recreation facilities, stable family lives, and lack of exposure to substance abuse.

Unmet Needs for Children in Individual Communities

- Roughly two-thirds of respondents in Elim (65%), Golovin (61%), and White Mountain (63%) report cultural and language opportunities as an unmet need.
- Forty-seven percent (47%) of Gambell respondents report that adequate education is an unmet need.
- Stable housing is an unmet need for children in about half of responses from Elim (52%), Koyuk (46%), and Savoonga (58%).

Table 122. Unmet Needs of Children, Kawerak Service Area

	Count	Percent
Cultural and language education opportunities	268	44%
Stable and health housing	224	36%
Nutrition	192	32%
Child care, including after school programs	180	29%
Opportunities to socialize	151	25%
Adequate education	105	17%
Mental health services	96	16%
Health care	73	12%
Transportation services	74	12%
Medical services	47	8%
Other	42	7%
Don't know	72	12%

Table 123. Unmet Needs of Children, by Community (%)

Change	Brevig Mission n=30	Elim n=23	Gambell n=17	Golovin n=23	Koyuk n=26	Nome n=205	Savoonga n=66	Shaktoolik n=54	Shishmaref n=41	Unalakleet n=78	White Mountain n=19
Cultural and language education opportunities	60	65	-	61	42	36	58	31	44	40	63
Stable housing	40	52	35	22	46	36	47	26	34	38	16
Nutrition	43	26	18	43	42	32	32	39	46	12	37
Child care	10	22	18	26	27	41	18	17	29	33	21
Opportunities to socialize	13	30	6	35	42	18	30	30	22	29	16
Adequate education	7	13	47	17	8	29	14	15	7	8	11
Mental health services	13	9	6	13	15	21	12	13	7	14	11
Health care	30	13	6	9	-	8	18	20	20	6	5
Transportation services	3	4	18	13	4	9	24	11	10	10	21
Medical services	13	-	41	4	-	7	8	9	12	8	11
Other	7	9	-	22	8	6	8	4	2	9	11
Don't know/refused	7	13	24	9	12	12	9	13	12	9	16

YOUNG ADULTS

- Half of respondents (48%) report that local employment opportunities are needed for young adults.
- Education after high school is an unmet need for 46% of respondents.
- Other responses include recreation opportunities, air quality, financial education, parental involvement, unplanned pregnancy prevention, small business development, and safety practices.

Unmet Needs for Young Adults in Individual Communities

- Respondents cite local employment opportunities as the most important unmet need for young adults in White Mountain (70%), Elim (70%), and Golovin (65%).
- Stable housing for Elim young adults is reported as an unmet need by 70% of respondents.

Table 124. Unmet Needs of Young Adults, Kawerak Service Area

	Count	Percent
Local employment opportunities	293	48%
Education after high school	285	46%
Stable or affordable housing	229	37%
Place to socialize	206	34%
Substance abuse prevention	186	31%
Opportunities for community involvement	154	25%
Substance abuse treatment	152	25%
Cultural connection	147	24%
High school graduation or equivalent	134	22%
Mental health services	71	12%
Transportation	42	7%
Other	22	4%
Don't know	61	10%

Table 125. Unmet Needs of Young Adults, by Community (%)

Change	Brevig Mission n=30	Elim n=23	Gambell n=17	Golovin n=23	Koyuk n=26	Nome n=205	Savoonga n=66	Shaktoolik n=54	Shishmaref n=41	Unalakleet n=78	White Mountain n=19
Local employment opportunities	50	70	35	65	58	38	53	56	41	51	74
Education after high school	53	61	59	48	54	35	44	61	56	47	58
Stable housing	30	70	35	26	31	40	42	37	27	33	21
Place to socialize	30	48	41	30	23	36	41	26	34	32	32
Substance abuse prevention	10	17	29	22	27	44	26	20	17	32	21
Opportunities for community involvement	30	30	35	22	15	21	35	28	24	22	26
Substance abuse treatment	13	9	29	13	35	35	18	20	12	23	16
Cultural connection	30	17	24	17	12	21	24	17	22	24	47
High school graduation or equivalent	47	17	41	9	27	16	36	17	27	17	16
Mental health services	10	4	6	4	8	18	11	7	7	10	-
Transportation	-	4	6	13	8	9	9	4	7	1	11
Other	3	-	-	13	4	5	5	2	2	3	-
Don't know/refused	10	9	18	9	12	12	8	6	10	8	11

ELDERS

- Half (52%) of respondents report that in-home personal care and help with cleaning, cooking, or shopping (46%) are the most important unmet needs of elders in their communities.
- Thirty percent (30%) indicate that transportation services are an unmet need for elders.
- Other responses include family support, need for lack of access to substance abuse, assistance with medical appointments, and assistance with errands.

Unmet Needs for Elders in Individual Communities

- The majority of Elim respondents (91%) report that in-home personal care for elders is the most important unmet need, as do 70% of Brevig Mission respondents.
- More than half of respondents in Golovin (53%) and Gambell (61%) report nutrition services for elders are the most important unmet need.

Table 126. Unmet Needs of Elders, Kawerak Service Area

	Count	Percent
In-home personal care	317	52%
Help with cleaning, cooking or shopping	277	46%
Transportation services	185	30%
Housing options	165	27%
Place to socialize	153	25%
Home health care	152	25%
Help signing up for benefits	147	24%
Nutrition services	142	23%
Exercise programs	126	21%
Help finding information or services	109	18%
Other (please specify)	17	3%
Don't know	42	7%

Table 127. Unmet Needs of Elders in Kawerak Communities, by Community (%)

Change	Brevig Mission n=30	Elim n=23	Gambell n=17	Golovin n=23	Koyuk n=26	Nome n=205	Savoonga n=66	Shaktoolik n=54	Shishmaref n=41	Unalakleet n=78	White Mountain n=19
In-home personal care	70	91	53	43	50	52	55	48	51	45	32
Help with cleaning, cooking or shopping	40	74	53	48	38	42	44	52	49	36	68
Transportation services	23	30	65	35	42	21	47	37	39	9	58
Housing options	20	52	41	4	23	34	33	13	12	23	26
Place to socialize	23	22	35	17	27	19	39	31	24	26	26
Home health care	33	22	35	13	19	27	33	28	27	17	16
Help signing up for benefits	13	17	35	35	23	23	23	30	27	24	21
Nutrition services	27	30	53	61	15	20	24	26	24	13	26
Exercise programs	13	9	24	22	19	23	20	11	15	28	37
Help finding information or services	17	9	12	35	15	16	23	11	12	22	26
Other	-	-	-	-	4	4	2	-	-	4	11
Don't know	13	4	18	4	8	18	9	7	12	12	11

Household Demographics

- The average household size for all respondents is 4.5 people.
- Sixty-seven percent live in two to six person households and 11% eight or more person households.

Table 128. Size of Household, Kawerak Service Area

Number of Members	Count	Percent
1	39	6%
2	81	13%
3	82	13%
4	103	17%
5	87	14%
6	55	9%
7	31	5%
8	25	4%
9	17	3%
10+	25	3%
Refused	63	10%
Average	4.5 people	

Note: Due to rounding, columns may not sum to 100.

- Savoonga, with an average of 6.4 people per household, and Elim, with 6.0 people per household on average have the largest average household size among Kawerak Service Area communities.
- Brevig Mission (5.6), Gambell (5.8), Koyuk (5.1), Shaktoolik (6.4), Shishmaref (4.9) and Wales (5.2) average household sizes are also larger than the overall average.

Table 129. Average Household Size by Community

Community	Average # of People
Savoonga	6.4
Elim	6.0
Gambell	5.8
Brevig Mission	5.6
Wales	5.2
Koyuk	5.1
Shishmaref	4.9
Shaktoolik	4.6
Golovin	4.0
Nome	3.9
White Mountain	3.8
Unalakleet	3.6
St. Michael	3.4

- One-quarter (23%) of respondents are employed full time year-round.
- Seasonal workers (full and part-time) make up 10% of respondents.
- Of the 14% of household members who are unemployed, well over half are looking for work.

Table 130. Respondent Employment Status

Employment Status	Number of People	Percent of Responses
Employed full-time year-round	562	23%
Employed part-time year-round	229	9%
Employed full-time seasonally	131	5%
Employed part-time seasonally	117	5%
Unemployed, not looking for work	155	6%
Unemployed, looking for work	208	8%
Student/in training	132	5%
Stay-at-home parent	124	5%
Retired	117	5%
Disabled, unable to work	63	3%
Refused	63	3%

AGE AND GENDER OF RESPONDENTS

- The average age of respondents to the questionnaire is 45.
- Female respondents made up about two-thirds (64%) of total responses.

Table 131. Age of Respondents, Kawerak Service Area

Age	Number of Respondents	Percent
Under 25	35	6%
25-34	149	23%
35-44	124	20%
45-54	109	19%
55-64	116	20%
65-74	43	7%
75+	12	2%
Refused	20	3%
Average age	45 years	

RACE/ETHNIC PROFILE

- The majority of respondents (81%) identify as Alaska Native, and white respondents make up 16% of responses. No other race or ethnicity makes up more than ten total responses.

Table 127. Race/Ethnic Profile of Respondents

	Number of People	Percent of Responses
Alaska Native	495	81%
White	96	16%
American Indian	9	1%
Black/African American	7	1%
Hispanic or Latino	6	1%
Asian	3	<1%
Other (please specify)	5	<1%
Refused	35	6%

Chapter 8: Community Engagement – Community Discussion Group Results

Parent Discussion Groups

McDowell Group coordinated with Kawerak Head Start staff to hold a series of parent discussion groups in late April and early May 2019. Discussion groups included parents of children who live in the Bering Strait region, with some focused on parents of Pre-K-age children and some on school age children. Parents of children of any age were welcome to attend any of the events, however. Events dates, locations, and number of parent attendees follow:

- April 29 and 30 parent discussion groups in Nome, 25 participants
- April 30 parent discussion group, Gambell, 8 participants
- May 1 parent discussion group, Shishmaref, 8 participants
- Early Head Start/Head Start Programs Policy Council Meeting, May 2, 7 participants

Kawerak Head Start also facilitated a Kawerak Parent Committee meeting in White Mountain on May 6 using the same discussion group protocol as McDowell Group did in the other discussion groups. Results from the White Mountain meeting are included in this analysis.

Focus group attendees had children in a variety of educational programs in the areas, including Head Start, and elementary and junior/high school. Some parents had very young children who were not yet in the formal education system.

The discussions, facilitated by McDowell Group staff, focused on questions about family and community strengths, challenges, and needs. A summary of trends and findings from all events combined follows, organized by each question asked of participants.

What do you like about raising your children in your community?

- **Closely-connected, family-like nature of communities** in the Kawerak Service Area and the benefits the small-town environments provide, including:
 - Each child is watched over by the community, providing opportunities to wander and explore, and a sense of safety.
 - Communities support parents as well, with community members always available to ask for advice on parenting.
 - A smaller pool of children and small class sizes offer opportunities to stand out and excel.
 - Community team work is strong during emergencies.
- **Lifestyle:** summer camps, subsistence and resource sharing opportunities, landscape, non-Native children welcomed and included. Lots of cultural activities, arts, theatre.

What are the hardest things for kids growing up in your community?

- **Trauma** in many forms arose as a common theme in focus group discussions. Many sources for trauma were named, including people passing away (prevalent), alcohol and drug abuse, crime, missing persons, and generational trauma.
 - Participants noted in Nome that the community is working to address trauma through constructive conversations and willingness to learn and listen. They also noted that behavioral health services in Nome are easy to access, though there is a lot of turnover.
- **Housing availability and overcrowding** issues that lead to health concerns and family stress.
- **Outdoor and indoor activities** and associated infrastructure for children are plentiful in some communities and needed in others.
- **Transitions from home community** for students that leave to pursue further education or economic opportunities can be difficult.
- **Health and safety issues:** dusty roads, fecal material when snow melts, unsafe driving, domestic violence, water and sewer availability in some communities.

What's missing in your community for children?

- **Child care** for working families, especially affordable care, is scarce. Programs for young children, through grade 2, are especially needed. While there is demand for care, participants also note difficulty starting a viable child care business, as it is difficult to match people's schedules and other needs (part-time care, odd schedules, need their kids together, etc.). This results in high provider turnover and lack of consistency for children as well.
- Another private day center that's affordable for infant, toddler, and preschool. Challenges with this are a lack of space, facility expenses, too hard, lack of expertise, licensing, process. Ideal would be a corporate sponsor to take over it. Can't make a living without the going rate.
- **Opportunities for parents to learn and connect.** Parenting classes/workshops, opportunities for parents to socialize and exchange information together.
- **More organized activities for youth**, particularly children in kindergarten through 2nd grade and children 14-18 years of age who are not working or in sports. This includes cultural activities. Places to just "hang out" are also needed.
- **More housing**
- **Fresh produce**

What community programs or services have the most positive impact on your children?

- The **Head Start/Early Head Start program** for young children teaches socialization skills, positive benefits of routine, independence from parents, respect for each other/everyone, healthy food choices. Home-based services are appreciated as well.
- **Support for college students**, including summer programs that allow kids to come back to their home town or region and work. A lot of these opportunities are unfilled, thus more communication is needed. Also, scholarship organizations meet with college students, try and build relationships between them before they go – send care packages, host dinners.
- **Volunteers and coaches.**
- **Out of school activities**, particularly in Nome, such as Nome Eskimo Community programs, the Boys and Girls Club, summer youth programs through Kawerak, the hospital, and Nome Eskimo Community.
- **Foster parents.**
- **Job opportunities in Nome.**
- **Subsistence activities.**
- **Festivals and special events.**

What do you like most about your child's education?

- **Close-knit communities** make for cohorts of children with shared values, morals, who are growing up together.
- **UA NW Campus** courses on budgeting, on the job training, job applications, and other life skills.
- **Culture in the classroom.**
- **NACTEC**, especially for children from villages outside of Nome, helps children learn how to be independent and make friends.

What most concerns you about your child's education?

- **Lack of consistency in caregivers and educators.** Participants report few teachers and other school staff are part of the community, connected with families, and few stay for the long-term.
 - There is a perception that some teachers come in to get loans paid and then leave.
 - Turnover is especially an issue with special education teachers regionwide.
 - Participants appreciate Kawerak efforts to develop teachers from within the region.
 - It is also difficult for teachers to get substitutes, especially in villages.

- Pay and benefits are not high enough to attract or retain education professionals and caregivers. For EHS/HS instructors for example, once employees find higher paying job they often move on.
- There is a need for **life skills and real world experience** in the education system, including personal finance courses in high school, resume building, and mock interviews.
- Some children leave the region to pursue high school education in other areas, including Mt. Edgecumbe.
- **IT capacity** in Kawerak Service Area communities is important, as much of the elementary through high school instructional programming is moving online. Communities need improved internet capacity to keep up with this trend.

What can be done in the community to further support your child's education?

- **School counselors.** Counselor positions are frequently not filled or do not exist. Counselors are viewed as an important support for children of all ages in the communities, providing children a place to go to for help.
- **Out of school programming and infrastructure** needs to be expanded and enhanced. While some programs do occur in Nome particularly, it is hard to find activities, especially for younger children. Some ideas provided by participants include:
 - An afterschool or other support group for younger girls and boys (tweens) to help them navigate how to treat one another and talk with each other.
 - Summer subsistence classes.
 - Constructive activities at night.
 - Parents of K & 1st grade students are in a bind because their children are not old enough to be left alone, too old for day care, cannot do sports yet, and are too young for most other activities. Programs need to be developed for this age group.
 - In many smaller communities, such as Shishmaref, Golovin, and Shaktoolik, children need a place to hang out in the summer. This includes a need for infrastructure such as playgrounds outside schools, outdoor basketball courts, and indoor gyms.
- **More foster care** is needed. Host families need to be able to find child care in order to take care of foster children as well.
- **Community/family support for and involvement in education** should be encouraged.
 - In some communities, parental involvement in Head Start is declining, and thus, child participation in the program is not as high as it could be. Declining home-based services for Head Start are also an issue.
- **Culture** is important to incorporate in education in and out of the classroom. Some participants note a loss of culture, including fewer elders who speak Native languages. Summertime and school year

programs to teach language and experience culture would be helpful, as would be a youth gathering specific to Kawerak Service Area cultures.

When you think about raising a family, are there other things that are important to you we haven't discussed?

- **Behavioral and health support**
 - With tight knit community comes no privacy – when struggling, need support, role models but it can be embarrassing to ask. Children need somewhere to go and someone to go to when “feeling down” – doesn't have to be formal necessarily.
 - Substance abuse prevention and treatment. Drugs are increasing and children are exposed at young ages more than in the past.
 - Participants report teen pregnancy rising and a need for sex education as well as support for teen moms
 - Turnover at hospital among providers means health care is not always consistent.
- **Better, more consistent law enforcement** is needed in some communities. Including experienced enforcement officers. to protect families/community. Consistent law enforcement helps community stability.
- **Isolation** in communities is occurring as community connectedness and subsistence activities and use of technology is increasing.
- **Employment opportunities** in some communities make it difficult to make a living.

Appendix A: List of Interviewees and Contacts

Deanna Stang, Nome Public Health Center

Tiffany Martinson and Cathy Lyon, Nome Eskimo Community

Meghan MacKiernan, Norton Sound Health Corporation

Hillary Fello, Norton Sound Health Corporation WIC Program

Kelley Zweifel, Norton Sound Health Corporation Dietary Team/CAMP Program

Rachael Lee, Norton Sound Health Corporation Environmental Health Program

Christine Shultz, Norton Sound Health Corporation Patient Support Services, Regional Social Work

Tribal Family Coordinator, Gambell

Business owner, Gambell

Carmel Konahok, Gambell

Dorothy (Dottie) Harris, Shishmaref School Principal

Percy Nayokpuk, Nayokpuk General Store

Chris Kolerok, Bering Strait Regional Housing Authority

Doug Walrath, NACTEC

Richard Benneville, Mayor, City of Nome

Rhonda Schneider, Nome Community Center

Tim Steward and Lena Mathlaw, Department of Community and Regional Affairs Nome Office

Barb Cromwell, Bering Straits Women's Group

Veronica Alviso, Nome Children's Home

Patricia Ward, Senior Center

Jennie Diggs, Food Bank

Coleen Turner, Office of Children's Services

Jamie Burgess, Nome School District

Human Resources, Bering School District

Kawerak Staff

Luisa Machuca, Education, Employment, Supportive Services Vice President

Donna James, Senior Planner

Mary David, Executive Vice President

Carol Piscoya, Community Services Division

Deborah Trowbridge, Head Start Director

Rebecca Callahan, Child Development Service Manager

Krystal Hensley, Child Development Program Manager

Sean McKnight and Cynthia Cabrera, Transportation Program

Lori Hughes, Child Care Services

Reatha Bahnke, Human Resources

Housing

Subsistence

Heather Payenna and Traci McGarry, Children and Family Services

Danielle Slingsby, Outreach Director

Alice Bioff, Business Planning Specialist

Gina Appolloni, VPSO Director

Appendix B: Water, Sewer & Solid Waste System Needs by Community

Data source: Indian Health Service Sanitation Tracking and Reporting System (STARS) and Indian Health Service (IHS) Sanitation Deficiency System (SDS).

SDS Health Impact Tiers and Scoring Framework

Table 128. Health Impact Tiers

Health Impact Tier	
A	First service
B	Regulatory compliance
C	Essential upgrades
D	Beneficial upgrades
E	Desired upgrades

Source: Current SDS scoring criteria.

Table 129. Health Impact Scoring Framework

Score	Water	Sewer	Solid Waste
30	Documented acute disease outbreak attributable to a documented drinking water facility deficiency.	Documented acute disease outbreak attributable to a documented wastewater facility deficiency.	Documented acute disease outbreak attributable to a documented solid waste facility deficiency.
24	Likely adverse health impact; e.g. documented evidence of water contamination that would result in non-compliance with EPA's Safe Drinking Water Act (SDWA) rules, requiring a Tier 1 Public Notification ¹ by the primacy agency (e.g. Fecal coliform, E.coli, Nitrate); -or- no piped water present in home -or- available water quantity less than 5 gallon/day/person.	Likely adverse health impact; e.g. untreated sewage routinely surfacing or ponding and accessible to human contact; -or- no piped sewer in home.	Likely adverse health impact; e.g. burning open dump with unrestricted access; documented drinking water aquifer contamination linked to a solid waste landfill.
18	High potential adverse health impact, e.g. documented evidence of water contamination that would result in non-compliance with maximum contaminant level, maximum residual disinfection level and treatment technique violation requiring a Tier 2 Public Notification ¹ by the primacy agency (e.g. arsenic, synthetic organic chemicals, radioactive contaminants) per the SDWA.	High potential adverse health impact; e.g. violations of National Pollutant Discharge Elimination System (NPDES) permit requirements or applicable health-based code requirements where substantial human contact/impact is likely.	High potential adverse health impact; e.g. open dump with a High health threat score (401+) ² .
12	Potential adverse health impact; e.g. regularly occurring water outages potentially creating back siphonage in the system, source well does not meet separation requirements from drain field.	Potential adverse health impact; e.g. violations of NPDES permit requirements or applicable health-based code requirements with limited impact or exposure pathways to human contact.	Potential adverse health impact; e.g. open dump with a Moderate health threat score (251-400) ² , or an improperly lined/ covered solid waste landfill with limited exposure pathways to human contact.
6	Minimal health hazard; e.g. storage volume is less than design standard, operational problems limiting effectiveness of system operation (low pressures or excessive pump run times).	Minimal health hazard; e.g. manhole spacing is less than design standard, operational problems limiting effectiveness of system operation (ex. clogging lift station).	Minimal health hazard; e.g. open dump with a Low health threat score (0-250) ² , solid waste transfer station lacks adequate equipment or fencing, landfill operations create significant windblown debris or other problems.
0	No known hazard or impact.	No known hazard or impact.	No known hazard or impact.

Source: Current SDS scoring criteria.

Water System Needs

Brevig Mission

Water Transmission Main: The water transmission main is almost 40 years old, is not buried and experiences freezing at least twice per winter. Operators reported during September 2018 trip the transmission line connection to the wellhead was needing improvements and parts were needed to complete the work. There are deteriorated water mains that are not correctable by routine maintenance (DL-2).

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Water to Nine Homes: The residents of the nine homes currently haul water to their homes (DL4; HI category A) because the houses do not have piped water. The existing water main does not extend far enough along the beach to allow service lines to be installed. Also, the homes need indoor plumbing (DL-5).

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 5

New W&S Service Connections due to Differential Settlement: 25 homes have problems with the water service connections. 23 homes were observed to have experienced severe to extreme differential movement resulting in either immediate need for replacement or modifications to service boxes to continue service. Two homes were noted as experiencing water service freeze-up issues not related to differential movement.

Health Impact Tier: D, Health Impact Score: 15, Deficiency Level: 3

(H1 Homes) New W&S Service Connections due to Differential Settlements: 25 homes have problems with the water service connections. 23 homes were observed to have experienced severe to extreme differential movement resulting in either immediate need for replacement or modifications to service boxes to continue service. Two homes were noted as experiencing water service freeze-up issues not related to differential movement.

Health Impact Tier: C

Water System Heat Recovery Project: The existing water treatment plant relies on imported heating fuel to keep the facility in operation and prevent system freeze-ups. The high cost of energy coupled with the energy intensive nature of public water infrastructure in Brevig Mission creates a significant financial burden for the community's residents due to these high costs. The existing water system in the community does not take advantage of lower cost local energy sources like the proposed system. In addition, there is currently no available alternative heating source, and the loss of heat to the system would cause catastrophic damage. This is not correctable by routine maintenance. (D.L. 2).

Health Impact Tier: D, Deficiency Level: 2

Elim

High Demand Pump Installation: Currently the community lacks the ability to flush the water mains. Facilities do not meet current design standards: water mains shall be disinfected and flushed in accordance with current AWWA procedures per Ten States Standards, 2012 Ed., 2.15 (DL-2).

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Water Source Relocation: The current water source for the community is a surface water intake located below the flood line. Seasonal storm surges push the seawater level up the Elim Creek basin, thereby inundating the water intake. The resulting flood frees tree and other debris, which then accumulate at the sole drain point, the culvert under the bridge on BIA Road. Due to the damming of the culvert, the community's water source remains contaminated for one to weeks. During this time the community rations water as the existing water storage tank--at full capacity--provides only 9 days of water. With the water storage tank leaking as severely as currently observed, the maximum height allowed is around 10 to 11 feet. This only provides a maximum of 4 days of water without rationing. However, even with a WST at full capacity, the new storage tank would provide less than nine days of water based upon usage data. With some storm surges inundating the water source for reportedly up to two weeks at times, water needs to be rationed to ensure continuity of service. Further, a sewer main which is suspended from a foot bridge crossing the creek just upstream of the noted culvert is leaking raw sewage into the creek. Thus, when seasonal flooding occurs raw sewage mixed with the storm surge may inundate the water source. "Facilities that cause infrequent problems related to Public Health Standards" (DL-2).

Health Impact Tier: C, Health Impact Score: 15, Deficiency Level: 2

Water Treatment Intake/Imp.: Upgrades are required for aging (20+ years old) process piping within the water treatment plant; however, the process piping has not yet failed (HI-D). A polymer injection system is necessary to efficiently meet LT1SWTR standards (HI-D). A back up energy supply is needed for the water intake (HI-D). The extent of the deteriorating process piping, the need for a polymer injection system, and lack of a backup energy supply are not correctable by routine maintenance (DL-2). The process piping in the water treatment plant continues to exhibit more and more leaks. The water treatment plant operators are perpetually repairing leaking pipes. A Water Treatment Study prepared in February 2010 recommends the installation of pre-filtration polymer injection to meet the requirements of the LT1SWTR without the use of bag filters. Currently, there is no back-up power supply for the pumps at the infiltration gallery. Although Elim does have a fairly reliable electrical grid, power outages do occur. Since Elim is a remote community, it may take several hours or days to ship spare parts for the generators.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

East Loop Water: Portions of the east water distribution loop are aged, but not failed (HI-D). The water main size does not meet current standards and is causing operational problems (DL-2). Portions of the east water distribution loop were constructed with 4-inch PVC pipe. The PVC pipe is brittle and perpetually develop leaks needing repair. Service lines were also constructed with PVC pipe and the artic service boxes are deteriorated beyond repair.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Gambell

Horizontal Well and Line: Gambell currently has only 1 well in a shallow aquifer with limited recharge. Ground water studies recommended that the well be restricted to 14 to 16 gpm (20,000 to 23,000 gallon per day) to

avoid over pumping the aquifer and drawing saltwater from below the freshwater aquifer. At 14 to 16 gpm the system cannot consistently supply 35 gallons per person per day and remain within the recommended aquifer pumping rates, although community has large water tanks that assist with the supply problem. Since there is only 1 well, the community is vulnerable and the Deficiency Level is 2, health impact C.

Health Impact Tier: C, Health Impact Score: 15, Deficiency Level: 2

Extend Water and Sewer to Old Village: 43 homes in the Old Village have no running water and use honey buckets (DL 5). House count based on site visit.

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 5

Water Plant – Boilers, Pumps. Fuel System, Piping: Water plant pumps, boilers, and controls have exceeded their useful life and need to be replaced. Many valves are inoperable. Pumps and boilers are obsolete and have been repaired and rebuilt many times already. The fuel tank and fuel piping are highly corroded, due to the marine environment, and need to be replaced before they fail. This problem is a Deficiency Level 2 because the deficiency is not correctable by routine maintenance; health impact D. Although Gambell has relatively new treatment equipment, the distribution pumps, boilers, and systems that operate the water distribution system are extremely antiquated, in poor repair, and need to be replaced.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Golovin

Raw Water Intake Rehabilitation: Major deficient facilities that require replacement because of physical condition." DL-2 Water intake facility is 20 years old and in poor but operable condition. Building foundation has settled about 6 inches on one side, and the building is visibly leaning towards the creek. Some of the building foundation structural members are beginning to crack. The raw water transmission line has reportedly split and/or cracked due to freezing multiple times since it was constructed, and regularly requires repair each year before it can be used for summer water fill activities. The access road for the raw water transmission line has settled considerably in several areas and is need of repair and/or re-grading. These repairs are recommended to ensure that the intake site remains accessible to the fuel truck and/or other vehicles used to bring in materials for maintaining the intake. The concrete foundation for the crane system that is used to support the raw water pump has failed due to settlement, and the crane is haphazardly prevented from tipping into the creek by a guywire tied to the generator building. This crane poses a safety hazard for the operator. Several feet of silt have accumulated in the 36-inch diameter CMP since it was brought online. Currently, the raw water pump's motor is partially submerged in the silt when it is installed. This operating condition will cause the motor to overheat and fail prematurely. The operator reported that the pump has recently failed and was replaced, possibly caused by overheating. There is no procedure or equipment in place for removing the silt, which is a basic maintenance requirement. Additionally, it is not possible to remove the silt using hand tools because the silt is about 5 feet below the static water level in the gallery and there is no way to prevent water from flowing into the infiltration gallery.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Water Service to One Home: "No piped water in home". (DL-4) One home in Golovin has a water service connection in unknown condition and lacks interior plumbing. A central watering point is available.

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 5

Koyuk

Laundromat Replacement: The existing facility is being demolished with the construction of their new WTP. Nearly one third (26) of the households in Koyuk currently lack functioning washing machines and 37% (30) lack dryers. Nearly one quarter (20) of households lack running water altogether. This indicates a remaining and urgent need for access to a public laundry/bathroom facility. (DL-2)

Health Impact Tier: E, Health Impact Score: 15, Deficiency Level: 2

New Water Storage Tank: There is water storage tank infiltration not associated with piping connections, fittings, controls, etc. (DL-3). The community's 212,000-gallon water storage tank (WST) is over 30 years old and has suffered extensive roof damage due to either a buildup of pressure or a vacuum condition most likely caused by icing in the tank. As a result, the metal roof is buckled which has caused separation from the interior support members and tank wall. The roof has a 6-inch diameter hole located at a low point formed by the deformation. This hole allows untreated water and other foreign materials to enter into the treated water stored in the tank. The deformed roof has also caused the insulation shell covering the top of the tank to crack and separate from the roof. Some sections of the roof insulation are missing. The separation has allowed water to saturate the wall insulation as well. There is also severe corrosion of the WST interior floor and sidewall and the WST foundation has experienced differential settlement.

Health Impact Tier: C, Health Impact Score: 15, Deficiency Level: 3

Water Source Improvements: During the spring and summer months the well houses are difficult to access due to wet ground and the lack of a developed trail or road. Current summer access is performed by foot because all-terrain vehicles (ATV) tend to damage the existing ground and become stuck. The raw water transmission main is above ground arctic pipe that runs from the two wells to the WTP. It is supported by treated timber mudsills located approximately 8-foot on-center. Some supports have been blocked up in excess of two feet due to differential settlement from freeze/thaw cycles and unstable soil conditions which exist under the timber mudsill supports. There are deteriorated water source and transmission facilities that are not correctable by routine maintenance (DL-2).

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Little Diomed

Water Source Development and Treatment: This community has one individual water source and a central watering facility from which residents carry water to their homes. The source water quality violates MCL's for arsenic (16 - 57 ppb) and nitrate (12000 - 15000 ppb) (HI category B, see attached) and the water treatment facilities are not capable of producing treated water that meets primary drinking water standards (DL3). The water source is a surface water collection system designed to collect rain and snow melt during the summer. The source is a nesting area for approximately 700,000 birds each year. A 420,000-gallon water storage tank is

used to store the winter water supply (the water source is only available after thaw and before freezing up). The storage capacity is insufficient to provide 25 gpcd to the 115 residents (2010 census) over the 5-6 months between freeze up and thaw.

Health Impact Tier: B/D, Health Impact Score: 25, Deficiency Level: 3

Comprehensive Piped System: The community has no piped water distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Water Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped water service to previously unserved homes.

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 5

Water Delivery Satellite Stations 1 & 3: The community has no piped water distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Water Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped water service to previously unserved homes.

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 4

Water Delivery Satellite Stations 2: The community has no piped water distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Water Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped water service to previously unserved homes. DL-4

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 4

Water Storage Tank: Water storage tank interior is severely corroded. On-site personnel cleaning the tank questioned the ability to remove the rust and corrosion without causing complete failure. Need corrosion control repairs and/or project and the system does not meet the Lead and Copper Rule. DL-4

Health Impact Tier: C, Health Impact Score: 15, Deficiency Level: 4

Nome

Water system needs information not included among Indian Health Service Sanitation Deficiency System public information.

Savoonga

Replace Failed Air Vac Toilet Valves: Savoonga is a vacuum sewer community and the toilets in the homes are non-standard with air vacuum valves. Ten homes have air vac valves which have failed resulting in air leaks on the entire vacuum system. Vacuum leaks erode the entire system's performance leading to premature failure of utility components and increased maintenance costs. DL-2

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Utilidor Releveling Savoonga's water distribution system is above ground in a utilidor. The utilidor is in disrepair and needs to be relevelled to protect the integrity of the water distribution system. DL-2

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Arctic Box Replacement: Significant movement due to frost heaving has resulted in many arctic boxes failing. Movement by the pipe results in the arctic box being torn from the home, thereby exposing the piping and connections to thermal leaks. Freezing components and piping results in inoperable water service.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Back-Up Well: The community currently uses only one well for its water source. An additional well exists but its condition is unknown, and it is not connected to the water system. Facilities do not meet current design standards (DL-2).

Health Impact Tier: E, Health Impact Score: 7, Deficiency Level: 2

Raw Water Main Releveling: Raw water transmission main (above ground) has experienced significant movement and is leaking in some areas. In many areas the sleepers are no longer touching the ground leading to sagging lines. DL-2

Health Impact Tier: D, Deficiency Level: 2

Shaktoolik

WST Replacement: The existing 790,000-gallon WST interior is severely corroding and requires replacement. The tank is a welded steel tank 35+ years old (Constructed in 1985 or 86). The skin of the tank is progressively being blown away during large winter storms. Where the roof meets the top of the wall, severe corrosion has occurred, and daylight can be seen from inside the tank. The tank has a new insulation package installed in 2015, however is severely corroded and in danger of failure within 2 to 4 years. The tank was designed as a fill and draw system, however, only has enough capacity to get them through freeze up and breakup. Photos from 2000, 2002, 2004, and later indicate the severity of the corrosion in the tank (see attached). DL 3, HI C It is recommended that a PER be written for this project to document the deficiencies with the tank.

Health Impact Tier: C, Deficiency Level: 3

Shishmaref

Reservoir, RWTL & WST Improvements: The raw water reservoir liner has holes and needs patching. Also, there is approximately 12-18 inches of sludge (wind-blown silt and sand) in the bottom of the reservoir that limits the volume of raw water the reservoir is able to correct. The raw water transmission line (RWTL) consists of arctic pipe, mainly above ground. Several sections of the RWTL have developed leaks over time and have been repaired. Insulation is missing at some places. There is electrical heat trace in the arctic pipe that does not work. The primary water storage tank in Shishmaref (1.3 MG) has interior staining and rust pitting at the tank's structural connections and corrosion at the access hatches where corrosion control coatings are chipped. These conditions are not correctable by routine maintenance (DL-2).

Health Impact Tier: D, Deficiency Level: 2

Flush and Haul: Shishmaref is a honey bucket community and only 26 homes have flush and haul service. The homes that utilize honey buckets also lack interior plumbing. No piped water in home (DL-4). The community's location on a barrier island will not accommodate the necessary infrastructure for piped water and sewer due to a lack of space.

Health Impact Tier: A, Deficiency Level: 4

Existing FTH Upgrades: 26 homes in the community have flush and haul systems that were installed in 1996 and are now over 20 years old. The systems have experienced differential settlement due to freeze/thaw cycles and have become unusable. Major deficient facilities that require replacement because of physical condition (DL-2). A 200-gallon water haul tank and trailer provided in 1996 are no longer operable. (DL-2)

Health Impact Tier: C, Deficiency Level: 2

St. Michael

WST Rehabilitation: The water storage facility needs corrosion control repairs, studies, or projects, and the system meets the lead and copper rules (DL-3) -- 1. The 1.2M Gallon raw WST has severe interior corrosion that is affecting its structural integrity and water tightness. See the attached condition report for a detailed condition survey. 2. The insulation on the outside of the WST is unprotected blown urethane and is therefore subject to water saturation and cyclic freeze and thaw damage. As a result, the thermal integrity of this insulation has been compromised.

Health Impact Tier: D, Deficiency Level: 3

Water System Improvements: The raw water for the community of St. Michael comes from a surface water source five miles from town. It is transported via an insulated, above ground HDPE arctic water main. The water main does not have heat trace, but raw water is pumped continually, and flow is modulated to fit the demand and heat is added at the water source to prevent freezing. During the winter of 2016/2017 the raw water transmission line froze due to a complicated control strategy and local resources do not have the capacity to interact with the components. The system was designed to be fully automated allowing for limited interaction. Unfamiliarity with the integrated programming system results in a lack of confidence and the system being operated manually rather than under automatic controls. The water distribution system in St. Michael consists of above-ground utilidor combined with the vacuum sewer collection system. These utilidors are susceptible to movement during freeze/thaw cycles and melting permafrost and are damaged where the utilidors are buried under roads. Movement from unstable soil conditions and damage from the increased loads during road construction introduce separation of the main and insulation and exacerbate heat losses. During the winter of 2016/2017, the entire water system froze due to the numerous thermal leaks and inadequate heat-add systems leaving the city without any water service. After 14 days, water service was restored to only a few public buildings for residents to shower and do laundry. Even though St. Michael is a member of ARUC with \$175,000 in reserves at the time of the freeze-up, this was not enough to perform a full recovery of the system. Arctic boxes on service lines also see significant movement due to freeze/thaw cycles and melting permafrost and opening a large gap for sub-zero arctic air leading to frozen service lines. 15 arctic boxes have been identified as failed and utilidor drops are missing insulation barriers at pipe joints. If these deficiencies are not corrected, the community will realize an annual freeze-up causing the community to be without piped water for months each

year. Community water system without water routinely for more than 10 days/year due to inadequate facilities, not O&M problems (DL-4).

Health Impact Tier: D, Deficiency Level: 4

Stebbins

Water Storage Tank: There is water storage tank leakage not associated with piping connections, fittings, controls, etc. (DL-3). The existing 500,000-gallon water storage tank was constructed 1976. The tank walls and floor have suffered extensive corrosion and now leak so severely that the storage tank cannot hold water for more than four weeks. The water system in Stebbins is a seasonal fill-and-draw type in which water is intended to pump in the summer and fill the storage tanks for winter distribution. This leaves the city and the school with a combined water storage capacity of 1,250,000 gallons for approximately 9 months of the year. The current water storage capacity demand is 1,650,000 gallons. This forces the city to ration water or conduct an expensive water haul operation by truck during times when the raw water transmission line is frozen.

Health Impact Tier: C, Deficiency Level: 3

Washeteria Rehabilitation: The community has a central watering point and/or washeteria only. The community washeteria is the only facility in the village which provides washers, dryers, and showers to the residents. It has 2 operational washers and 3 operational dryers. It has two showering facilities for men and two for women. Residents report long waiting lines and waiting times for washers, dryers, and showers. According to the Cold Regions Utilities Monograph (ASCE, Third Edition), under the Central Facilities (12.0) section, a community Stebbins' size (greater than 500 residents) should have 8 washers, 6 dryers, and 4 shower units each for men and women. In 2010, repairs to the washeteria foundation and flooring were completed to fix water damage sustained due to heavy use and unaddressed plumbing leaks. As of January 2017, the existing washeteria is in general poor condition due to heavy use although the primary structural members (roof, walls, and sub-floor SIP framing) are in satisfactory condition. However, the entire crawl space cripple framing must be removed and replaced in the immediate future due to the high level of decay. Other deficiencies noted during a January 2017 site visit were broken and missing floor tiles, broken bathroom fixtures, broken/inoperable windows, broken/inoperable exhaust fans with evidence of significant mold growth within the bathrooms, and excessive corrosion of metal fittings.

Health Impact Tier: D

Comprehensive Piped System: The community has no piped water distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Water Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped water service to previously unserved homes.

Health Impact Tier: A, Deficiency Level: 4

Teller

Washeteria Rehabilitation: Presently there are no functioning toilets or showers in the facility. The floors of the existing bathrooms are rotted out to the point that they are hazardous to walk on. The washing machine

platform is such that it is difficult for elders to use the washers. The community needs an additional washer as there are only two functioning and three dryers. (DL 3)

Health Impact Tier: C, Deficiency Level: 3

Comprehensive Piped System: The community has no piped water distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Water Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped water service to previously unserved homes.

Health Impact Tier: A, Deficiency Level: 4

Unalakleet

Water system needs information not included among SDS public information.

Wales

Water Storage Tank: Wales has seasonal fill and draw system. The system is offline from October through July. During offline phase in winter the community depends on existing 500,000 gallons water storage tank built in 1979. This allows for the water source and water treatment plant to be off-line for approximately 4 months before the community supply is exhausted. The tank has extensive progressive corrosion. (DL-3 need corrosion control repair and the system meets the lead and copper rule). The coating is failing resulting in water damaging the foam insulation and tank coating at the ladder, access hatch, safety cage, railings, and metal decking (DAR Page 19). Inadequate insulation results in higher energy cost. Note: Design analysis report May 2013 (CRW)

Health Impact Tier: D, Deficiency Level: 3

Water System Heat Recovery Project The planned new washeteria for the community of Wales will rely on imported heating fuel to keep the facility in operation and prevent system freeze-ups. The high cost of energy coupled with the energy intensive nature of public water infrastructure in Wales creates a significant financial burden for the community's residents due to these high costs. The existing water system in the community does not take advantage of lower cost local energy sources like the proposed system. In addition, there is currently no available alternative heating source, and the loss of heat to the system would cause catastrophic damage. This is not correctable by routine maintenance. (DL-2).

Health Impact Tier: D, Deficiency Level: 2

Comprehensive Piped Systems: The community has no piped water distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Water Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped water service to previously unserved homes.

Health Impact Tier: A, Deficiency Level: 4

White Mountain

Water system needs information not included among SDS public information.

Sewer System

Brevig Mission

Water to Nine Homes: The nine houses do not have piped sewer. The residents currently use self-haul honey buckets (DL4; HI category A). The existing sewer main does not extend far enough along the beach to allow service lines to be installed and the homes need indoor plumbing (DL-5).

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 5

New W&S Service Connections due to Differential Settlement: 34 homes have problems with the water service connections. 32 homes were observed to have experienced severe to extreme differential movement resulting in either immediate need for replacement or modifications to service boxes to continue service. Two homes were noted as experiencing water service freeze-up issues not related to differential movement.

Health Impact Tier: D, Health Impact Score: 15, Deficiency Level: 3

(H1 Homes) New W&S Service Connections due to Differential Settlements: 34 homes have problems with the water service connections. 32 homes were observed to have experienced severe to extreme differential movement resulting in either immediate need for replacement or modifications to service boxes to continue service. Two homes were noted as experiencing water service freeze-up issues not related to differential movement.

Health Impact Tier: C

Drainfield Improvements: The existing community drain field was designed to consist of two drainfields and use would alternate between the two cells. The drainfields were constructed during the 2001/2002 construction session. In addition, the community has since grown in size and the existing drainfields does not have capacity to accept additional effluent. This issue is mainly caused by the age of the fields. The fields are almost 20 years old and due to be replaced. On the September 12-13, 2018 Trip Report, it was reported that "The team found several areas where the waste overflowed onto the surface. There is unrestricted access to sewage discharged into the environment within 500 feet of occupied homes (DL-4.)

Health Impact Tier: B, Health Impact Score: 25, Deficiency Level: 4

Elim

Sewer Main Replacement: Sewage main crossing Elim Creek is leaking raw sewage into creek. More than three sewer main breaks per year caused by deteriorating pipes. (DL-3)

Health Impact Tier: C, Health Impact Score: 15, Deficiency Level: 3

East Loop Sewer: Portions of the east wastewater collection system are aged, but not failed (HI-D). The sewer collection line size does not meet current standards and has deteriorated to the point of causing operational problems (DL-2). Portions of the east wastewater collection line were constructed with 6-inch PVC pipe. The PVC pipe shatters when it freezes, making this line susceptible to disruptions in service. Also, portions of this collection line are exposed to the ambient air and the section that suspends from the bridge is sagging. Service

lines were also constructed with PVC pipe and the artic service boxes are deteriorated beyond repair. Line is leaking under bridge into creek.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Sewer Treatment Improvements: The West Side septic tanks have experienced premature failure and need upgrades (HI-D). The West Side septic tanks exhibit overflow problems (DL-2) There are potential problems with the ocean outfall (DL-2) The West Side septic tanks are subject to damage from storm events due to erosion of the beachfront and storm surges that have removed the lids and filled the tanks with seawater. Raw sewage was spilled along the beach during these events, creating a public health hazard. The marine outfall has been repaired numerous times at the toe of the beach. Raw sewage has leaked from this break in the outfall pipe, creating a public health hazard. The condition of the remaining outfall pipe is unknown. Reportedly, there is damage offshore from a barge or grounded ice.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Gambell

Extend Water and Sewer to Old Village: 43 homes in the Old Village have no running water and use honey buckets (DL 5). House count based on site visit.

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 5

Golovin

Sewage Lagoon Rehabilitation: Existing sewage lagoon accepts honey bucket waste and septage pumped from the community septic tanks. Portions of the fencing encompassing the sewage lagoon are in very poor condition and/or partially collapsed, and likely to fail in the near future. Access to the entire southern side of the lagoon is completely unrestricted. These deficiencies encourage unauthorized access into the site, possibly resulting in an accident or contact with untreated sewage. Additionally, portions of the western lagoon dike have settled significantly, and evidence of recent earth movement suggests that the problem may be indicative of an ongoing failure. The sewage lagoon should be rehabilitated and brought into compliance with current lagoon construction and operation guidelines. Deteriorated sewage disposal facilities not correctable by routine maintenance (DL-2).

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Koyuk

Laundromat Replacement: The existing facility is being demolished with the construction of their new WTP. Nearly one third (26) of the households in Koyuk currently lack functioning washing machines and 37% (30) lack dryers. Nearly one quarter (20) of household's lack running water altogether. This indicates a remaining and urgent need for access to a public laundry/bathroom facility. (DL-2)

Health Impact Tier: E, Health Impact Score: 15, Deficiency Level: 2

Sewer Collection Improvements: The community has identified two areas which have experienced freeze-ups in the winter. The first area is East of Willow Street between Third Avenue and Lake Avenue, and the second area is a section to the east of the lift station on Second Avenue. Also, Infiltration is observed in the spring, at the manholes on Willow Street between Third Avenue and Fourth Avenue, and at the corner of Cottonwood Street and Second Avenue. The infiltration results in high flows entering the lift station and gravel build-up in the interceptor tank. These deteriorated sewer mains are causing operational problems (DL-2) The Lift station building, and force main pump have suffered damage. The pump guide rails and pump lift system are deteriorated due to corrosion within the wet well room. HVAC metal surfaces within the wet well room are extremely corroded. Additionally, painted sheetrock walls in the wet well room show mild water damage from humidity. The electric heating system within the wet well room is only providing minimal heat as the fin tubes within the radiator cabinet are completely corroded off. Wet well rooms are typically heated to insure wet well access is possible year-round. If heating is not performed the wet well room doors may ice-up and prevent access in case of an emergency. These issues with the lift station create a deteriorated condition that is causing operational problems (DL-2).

Health Impact Tier: D, Health Impact Score: 15, Deficiency Level: 2

Little Diomedea

Comprehensive Piped System: The community has no piped wastewater distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Wastewater Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped wastewater service to previously unserved homes.

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 5

Sewer Delivery Satellite Stations 1 & 3: The community has no piped wastewater distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Wastewater Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped wastewater service to previously unserved homes.

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 4

Sewer Delivery Satellite Stations 2: And Miscellaneous Wastewater Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped wastewater service to previously unserved homes. DL-4

Health Impact Tier: A, Health Impact Score: 30, Deficiency Level: 5

Nome

Sewer system needs information not included among Indian Health Service Sanitation Deficiency System public information.

Savoonga

Utilidor Releveling: Savoonga has vacuum sewer collection, the line is above ground in a utilidor. The utilidor is in disrepair throughout and jeopardizes the vacuum system integrity. If a leak were to occur due to a utilidor failure, sewage would leak onto the ground. DL-2

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Arctic Box Replacement: Significant movement due to frost heaving has resulted in many arctic boxes failing. Movement by the pipe results in the arctic box being torn from the home, thereby exposing the piping and connections to thermal leaks. Freezing components and piping results in inoperable sewer service.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Shaktoolik

Sewer system needs information not included among Indian Health Service Sanitation Deficiency System public information.

Shishmaref

Honey Bucket Lagoon: The sewage lagoon accepting honey bucket waste, located on the south end of Sarichef Island, does not have adequate free board to prevent erosion and potential overflow according to the 2001 ADEC inspection report attached. There are operational problems with the single cell lagoon (DL-2). Due to improper operation and trash transported from the adjacent landfill the surface of the lagoon is mostly covered with debris interfering with aeration of the lagoon. Community master planning determined the need for a new lagoon. Furthermore, the required 5,000-foot setback from the airport is not maintained.

Health Impact Tier: D, Deficiency Level: 2

Flush and Haul: Shishmaref is a honey bucket community and only 26 homes have flush and haul service. The homes that utilize honey buckets also lack interior plumbing. No piped wastewater in home (DL-4). The community's location on a barrier island will not accommodate the necessary infrastructure for piped water and sewer due to a lack of space.

Health Impact Tier: A, Deficiency Level: 4

Existing FTH Upgrades: 26 homes in the community have flush and haul systems that were installed in 1996 and are now over 20 years old. The systems have experienced differential settlement due to freeze/thaw cycles and have become unusable. Utility sewage haul systems with household plumbing and on-site storage (piped sewage not feasible) (DL-2). A 200-gallon sewage haul tank and trailer provided in 1996 are no longer operable. (DL-2)

Health Impact Tier: C, Deficiency Level: 2

St. Michael

Sewer System Improvements: Arctic boxes on service lines see significant movement due to freeze/thaw cycles and melting permafrost and opening a large gap for sub-zero arctic air leading to frozen service lines and mains during winter months. Subsequent vacuum leaks cause diminished service throughout the year. 15 arctic boxes have been identified as failed and utilidor drops are missing insulation barriers at pipe joints. If these deficiencies are not corrected, the community will realize an annual freeze-up causing the community to be without piped sewer for months each year. Deteriorated sewer facilities not correctable by routine maintenance which will create DL4 conditions within 2 years (DL-4).

Health Impact Tier: D, Deficiency Level: 4

Stebbins

Honey Bucket Lagoon: Stebbins has huge pile of frozen poop bags at our honey bucket lagoon that when they melt will surely fill the present lagoon to over full. There is no piped wastewater system (DL-4).

Health Impact Tier: D, Deficiency Level: 4

Washeteria Rehabilitation: The community has a central watering point and/or washeteria only. The community washeteria is the only facility in the village which provides washers, dryers, and showers to the residents. It has 2 operational washers and 3 operational dryers. It has two showering facilities for men and two for women. Residents report long waiting lines and waiting times for washers, dryers, and showers. According to the Cold Regions Utilities Monograph (ASCE, Third Edition), under the Central Facilities (12.0) section, a community Stebbins' size (greater than 500 residents) should have 8 washers, 6 dryers, and 4 shower units each for men and women. In 2010, repairs to the washeteria foundation and flooring were completed to fix water damage sustained due to heavy use and unaddressed plumbing leaks. As of January 2017, the existing washeteria is in general poor condition due to heavy use although the primary structural members (roof, walls, and sub-floor SIP framing) are in satisfactory condition. However, the entire crawl space cripple framing must be removed and replaced in the immediate future due to the high level of decay. Other deficiencies noted during a January 2017 site visit were broken and missing floor tiles, broken bathroom fixtures, broken/inoperable windows, broken/inoperable exhaust fans with evidence of significant mold growth within the bathrooms, and excessive corrosion of metal fittings.

Health Impact Tier: D

Comprehensive Piped System: The community has no piped wastewater distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Wastewater Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped wastewater service to previously unserved homes.

Health Impact Tier: A, Deficiency Level: 4

Teller

Washeteria Rehabilitation: The existing waste system that was connected to the school's lagoon has been recently disallowed because the school lagoon is over capacity. There is no way to dispose of blackwater in the washeteria, so the community does not have any toilets except for those in the clinic and school. (DL 3)

Health Impact Tier: C, Deficiency Level: 3

Comprehensive Piped System: The community has no piped wastewater distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Wastewater Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped wastewater service to previously unserved homes.

Health Impact Tier: A, Deficiency Level: 4

Unalakleet

Sewer Manhole Upgrades: Unalakleet's piped water and sewer system was constructed between 1959 and 1976 and is far older than its 20-year design life. The sewer manholes were framed in, below the lids, with plywood so that foam insulation could be positioned on top. The wood is now saturated and rotten, and when it fails, the insulation collapses, sometimes breaking into pieces, which, along with pieces of rotten wood, are washed downstream in the sewer mains. Sometimes pieces have gotten into lift stations, where they have plugged pumps, causing them to fail. Failed manholes are vulnerable to freezing. So far, the wood and insulation in 12 of 40 manholes has collapsed, a trend that is likely to continue. (DL 2: There are deteriorated sewer mains that are causing operational problems.)

Health Impact Tier: D, Deficiency Level: 2

Wales

New Disposal Facility and Diverting Toilets: The existing disposal site is at capacity with current volume of honey bucket bags and waste and needs to be closed. The existing site does not meet ADEC requirements for disposal of honey bucket waste. ADEC requires disposal in dedicated trenches and application of lime and cover material to the waste to reduce pathogens and vector attraction. (DL 4 Sludge disposal facility).

Health Impact Tier: A/B, Deficiency Level: 4

Comprehensive Piped Systems: The community has no piped wastewater distribution system. This lack of service meets the definition of deficiency level 4 (18 pts), General and Miscellaneous Wastewater Information table within the SDS Guidelines. Health Impact A (30 pts) provision of piped wastewater service to previously unserved homes.

Health Impact Tier: A, Deficiency Level: 4

White Mountain

Lift Station Improvements: This project proposes to replace a lift station which currently compromises the health benefits of the system (HI-C). The concrete floor, rails, hoist, and ladders have deteriorated and need to be replaced. The concrete floor has experienced differential movement causing portions of the floor to deteriorate to the point where there are holes in the floor and large sections are unsafe to walk on. Also, the heating, ventilation, and water supply systems are no longer functional and need to be replaced. Lift station rail mounting system is deteriorated to a point that the pump cannot be mounted correctly without draining the wet well. This became an issue when the power went out burning out one lift station pump while the alternate pump was out of the wet well for maintenance. This event caused lift station to overflow before operators could drain the well with a trash pump.

Health Impact Tier: C

Remove Seepage Pits and Outhouses: Old outhouses and seepage cribs are a health and safety issue. There are old, unused sewage treatment facilities not properly abandoned.

Health Impact Tier: D, Deficiency Level: 2

Solid Waste Systems

Brevig Mission

Solid Waste Improvements: The current landfill is experiencing severe subsidence. The north portion of the landfill is filled with water and will likely start generating leachate if the waste is exposed to the water. In addition, the berms all have aggressive longitudinal sloughing revealing severe sinking of the landfill. The landfill is operating with groundwater contamination problems (DL-3).

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 3

Elim

Solid Waste Improvements: Homemade burn unit is unable to be emptied or moved. Community burns in trench as burn unit unusable. DL-2 (lack of adequately maintained or repaired equipment). Existing cells met capacity so a new cell lacking fencing was opened.

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 2

Gambell

Solid Waste Improvements: The current landfill is unpermitted and unfenced. Open burning is conducted at the landfill due to a lack of a burn unit. (DL-3)

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 3

New Landfill: Unpermitted illegal dumpsite located on gravel beach of the Bering Sea. Storm surges reported by community to reach the waste in the site. Surges move both the waste & gravel around the site & in the ocean. Honey bucket (raw sewage) waste disposed in this open waste site causing human health hazard. It is less than 5000 feet from the runway, less than 1000 feet from homes, & open burning on the ground. Site is not operated to prevent bird hazard & open burning are both violations of ADEC regs.

Golovin

Solid waste system needs information not included among Indian Health Service Sanitation Deficiency System public information.

Koyuk

Solid Waste Improvements: The landfill does not have fencing around the perimeter to restrict access and prevent windblown litter. The landfill has been unable to operate fully due to lack of heavy equipment (skid steer and dozer) to move material within the landfill site. (DL-3)

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 3

Little Diomed

Solid waste system needs information not included among Indian Health Service Sanitation Deficiency System public information.

Nome

Solid waste system needs information not included among Indian Health Service Sanitation Deficiency System public information.

Savoonga

Solid Waste: The current solid waste site is unpermitted, has been in operation for over 20 years, and is operated by the City of Savoonga. The site has high groundwater and needs reconstruction to bring site up to regulations. Ongoing capital projects in the community has disposed a great amount of inert waste. (DL-3)

Health Impact Tier: D, Health Impact Score: 7, Deficiency Level: 3

Shaktoolik

Solid waste system needs information not included among Indian Health Service Sanitation Deficiency System public information.

Shishmaref

Solid Waste Site Upgrades: Current dump site is adjacent to old dump site 1.5 miles southwest of the community located on edge of coastline of Chuckchi Sea and is subject to erosion. Waste is currently pushed into very large, unstable piles higher than fencing. Additionally, the site is not completely fenced and has unrestricted access; "Landfill with unrestricted access" (DL-3).

Health Impact Tier: D, Deficiency Level: 3

St. Michael

Solid Waste: Existing landfill is unfenced and accumulates volume at an accelerated rate as the community does not have a burn unit. (DL-3)

Health Impact Tier: D, Deficiency Level: 3

Stebbins

Solid Waste Site Improvements: This is a landfill with unrestricted access (DL-3). The majority of the community's waste is brought to the landfill by self-haulers, where open burning is conducted. There is inadequate waste separation or diversion and limited recycling/backhaul in Stebbins. The existing solid waste facility does not have an access control feature such as a berm or a fence. Without a physical access control structure, a community is unable to establish set hours of operation in order to manage the type of waste entering into the facility and to provide the opportunity to segregate waste. The need for access control for all

solid waste facilities is a recognized deficiency and the construction of an access control feature is eligible for funding from the Indian Health Service.

Health Impact Tier: D, Deficiency Level: 3

Teller

Solid waste system needs information not included among Indian Health Service Sanitation Deficiency System public information.

Unalakleet

Solid Waste Baler & Building: Baler has failed. Baler building located in town; roof has hole in it – unable to heat.

Health Impact Tier: D

Wales

Solid Waste Burn Unit: Need enclosed burn unit to reduce waste volume. SWS located off the ocean. Sand is only cover material available & it is eroded by winds off the ocean.

Health Impact Tier: D, Deficiency Level: 2

White Mountain

New Landfill and Close Out of Old Landfill: White Mountains landfill has reached capacity and is not well contained. Additionally, the landfill is uphill approximately 1/2 a mile from the community's school. The existing landfill needs to be closed and relocated.

Health Impact Tier: D

Appendix C: CNA Questionnaire

Bering Strait Community Needs Assessment Questionnaire 2019

1. What year were you born?

2. Which community do you live in for most of the year?

- | | | |
|--|--|--|
| 01 <input type="checkbox"/> Brevig Mission | 08 <input type="checkbox"/> Koyuk | 15 <input type="checkbox"/> St. Michael |
| 02 <input type="checkbox"/> Council | 09 <input type="checkbox"/> Mary's Igloo | 16 <input type="checkbox"/> Stebbins |
| 03 <input type="checkbox"/> Diomedede | 10 <input type="checkbox"/> Nome | 17 <input type="checkbox"/> Teller |
| 04 <input type="checkbox"/> Elim | 11 <input type="checkbox"/> Savoonga | 18 <input type="checkbox"/> Unalakleet |
| 05 <input type="checkbox"/> Gambell | 12 <input type="checkbox"/> Shaktoolik | 19 <input type="checkbox"/> Wales |
| 06 <input type="checkbox"/> Golovin | 13 <input type="checkbox"/> Shishmaref | 20 <input type="checkbox"/> White Mountain |
| 07 <input type="checkbox"/> King Island | 14 <input type="checkbox"/> Solomon | 21 <input type="checkbox"/> Other _____ |

3. What do you see as your community's greatest strengths? (check all that apply)

- | | |
|---|--|
| 01 <input type="checkbox"/> Subsistence opportunities | 08 <input type="checkbox"/> Economic opportunities |
| 02 <input type="checkbox"/> Schools | 09 <input type="checkbox"/> Community involvement |
| 03 <input type="checkbox"/> Cultural activities | 10 <input type="checkbox"/> Outdoor recreation opportunities |
| 04 <input type="checkbox"/> Natural setting | 11 <input type="checkbox"/> Public safety |
| 05 <input type="checkbox"/> Health care resources | 12 <input type="checkbox"/> Transportation |
| 06 <input type="checkbox"/> Elders | 13 <input type="checkbox"/> Other _____ |
| 07 <input type="checkbox"/> Strong families | 14 <input type="checkbox"/> Don't know |

4. What do you see as your community's greatest challenges? (check all that apply)

- | | |
|--|---|
| 01 <input type="checkbox"/> Lack of access to clean water | 09 <input type="checkbox"/> Limited economic opportunities |
| 02 <input type="checkbox"/> Education system | 10 <input type="checkbox"/> Inadequate housing |
| 03 <input type="checkbox"/> Lack of cultural-based activities | 11 <input type="checkbox"/> Substance abuse |
| 04 <input type="checkbox"/> Lack of treatment for mental illness | 12 <input type="checkbox"/> High cost of living (fuel, housing, transportation, etc.) |
| 05 <input type="checkbox"/> Lack of proper sanitation and waste disposal | 13 <input type="checkbox"/> Limited health care |
| 06 <input type="checkbox"/> Isolation | 14 <input type="checkbox"/> Other _____ |
| 07 <input type="checkbox"/> Inadequate public safety | 15 <input type="checkbox"/> Don't know |
| 08 <input type="checkbox"/> Access to healthy foods | |

5. How many children under 18 live in your household for most of the year? _____

If no children live in your household, please skip to Question 9

5a. Please list the ages of all children under 18 in your household:

6. How would you rate the overall quality of family and child services in your community?

1 Very good 2 Good 3 Poor 4 Very poor 5 Don't know 6 There are no services in my community

7. In the past year, did your household experience the following?

	Yes	No	Don't know
a. A household member was not able to work or look for work because child care was not available	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
b. A household member was not able to engage in subsistence activities because child care was not available	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
c. A child struggling with school work could not get the help they needed	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
d. Lack of children's sports or recreation opportunities	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
e. Lack of activities for teens outside of school other than sports or recreation	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
f. Unable to access mental health services for children when needed	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
g. Could not access programs to assist children experiencing violence or abuse	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
h. Lack of disability services for children	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
i. Not enough healthy food for children	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
j. Unstable or overcrowded housing impacted the safety, health, or education of children	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
k. Opportunities for children to learn about traditional ways of life and culture.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>

8. In the past three years, have any school-age children in your household stopped going to school for a month or more?

1 Yes 2 No 3 Don't know

8a. If yes, why did the child stop going to school? (Check all that apply)

- | | |
|---|--|
| 01 <input type="checkbox"/> To engage in subsistence activities | 06 <input type="checkbox"/> To work |
| 02 <input type="checkbox"/> Poor mental health (depression, anxiety, suicidal thoughts, etc.) | 07 <input type="checkbox"/> Difficulty getting to school |
| 03 <input type="checkbox"/> Alcohol or drug abuse | 08 <input type="checkbox"/> Illness |
| 04 <input type="checkbox"/> Difficulty with school staff or teachers | 09 <input type="checkbox"/> Other _____ |
| 05 <input type="checkbox"/> Decided to homeschool | 10 <input type="checkbox"/> Don't know |

9. At any time in the past year, did any members of your household experience any of the following?

	Yes	No	Don't know

a. Homelessness	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
b. Lack of adequate heat	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
c. Not enough food	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
d. Lack of water	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
e. Lack of sewer	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
f. Lack of electricity	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
e. Lack of reliable telephone service	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
f. Violence, or threats of violence, between household members	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
g. Lack of employment or reliable income	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
h. Not able to get transportation to work, school, or needed services	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
i. Not able to access needed health care	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
j. Lack of public safety services (police, VPSO, fire, emergency) when needed	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
k. Not knowing where to get help for substance abuse treatment	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
l. Consistent overcrowding in the house	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>

10. If you could make just one change to improve the overall health of your household in the next year, what would that be? (**Check only one.**)

- 01 Better living conditions in the home (overcrowding, water/sewer, air quality)
- 02 Eat healthier food
- 03 More exercise/recreation opportunities
- 04 Improved education opportunities
- 05 Better access to medical services
- 06 Better access to mental health services
- 07 Better access to substance abuse treatment services
- 08 Better access to child care
- 09 Other _____
- 10 Don't know

11. What do you feel are the most important unmet needs of children in your community? (Select up to 3)

- 01 Nutrition
- 02 Health care
- 03 Transportation services
- 04 Stable housing
- 05 Child care
- 06 Medical services
- 07 Opportunities to socialize
- 08 Mental health services
- 09 Adequate education
- 10 Cultural and language education opportunities
- 11 Other _____
- 12 Don't know

12. What do you feel are most important unmet needs of young adults (age 18 to 25) in your community? (Select up to 3)

- 01 High school graduation or
- 05 Opportunities for community
- 09 Mental health services

- | | | |
|---|--|---|
| equivalent | involvement | 10 <input type="checkbox"/> Cultural connection |
| 02 <input type="checkbox"/> Education after high school | 06 <input type="checkbox"/> Substance abuse prevention | 11 <input type="checkbox"/> Place to socialize |
| 03 <input type="checkbox"/> Transportation | 07 <input type="checkbox"/> Substance abuse treatment | 12 <input type="checkbox"/> |
| Other _____ | | |
| 04 <input type="checkbox"/> Stable housing | 08 <input type="checkbox"/> Local employment opportunities | 13 <input type="checkbox"/> Don't know |

13. *What do you feel are the most important unmet needs of elders in your community? (Select up to 3)*

- | | | |
|--|---|--|
| 1 <input type="checkbox"/> Nutrition services | 5 <input type="checkbox"/> Help signing up for benefits | 09 <input type="checkbox"/> Help finding information or services |
| 2 <input type="checkbox"/> In-home personal care | 6 <input type="checkbox"/> Home health care | 10 <input type="checkbox"/> Exercise programs |
| 3 <input type="checkbox"/> Transportation services | 7 <input type="checkbox"/> Place to socialize | 11 <input type="checkbox"/> Don't know |
| 4 <input type="checkbox"/> Housing options | 8 <input type="checkbox"/> Help with cleaning, cooking, | 12 <input type="checkbox"/> Other _____ |
| _____ | | |
- or shopping

14. *Including yourself, how many people live in your household for at least 6 months of the year? _____*

15. *Including yourself, how many members of your household age 18 years or older are:*

- | | | | |
|-------------------------------------|---------|---------------------------------|---------|
| a. Employed full-time year-round | # _____ | f. Unemployed, looking for work | # _____ |
| b. Employed part-time year-round | # _____ | g. Student/in training | # _____ |
| c. Employed full-time seasonally | # _____ | h. Stay at home parent | # _____ |
| d. Employed part-time seasonally | # _____ | i. Retired | # _____ |
| e. Unemployed, not looking for work | # _____ | j. Disabled, unable to work | # _____ |

16. *Which racial or ethnic group do you most closely identify yourself with?*

- | | | | |
|--|---|---|---|
| 1 <input type="checkbox"/> Alaska Native | 3 <input type="checkbox"/> White | 5 <input type="checkbox"/> Asian | 7 <input type="checkbox"/> Native Hawaiian/Pacific Islander |
| 2 <input type="checkbox"/> American Indian | 4 <input type="checkbox"/> Black/African American | 6 <input type="checkbox"/> Hispanic or Latino | 8 <input type="checkbox"/> Other _____ |

17. *What gender do you identify as?*

- | | | |
|---------------------------------|-----------------------------------|----------------------------------|
| 1 <input type="checkbox"/> Male | 2 <input type="checkbox"/> Female | 3 <input type="checkbox"/> Other |
|---------------------------------|-----------------------------------|----------------------------------|

Appendix D: CNA Questionnaire Comments

Additional comments from survey respondents are presented here; a total of 303 comments were made. Single topic comments are organized by theme.

- The need for more/better housing was mentioned 76 times.
- Employment or jobs were mentioned 116 times
- Elders were mentioned 53 times.
- Cultural needs were mentioned 41 times.
- Child care was mentioned 26 times.

COMMUNITY

- A community building for activities all year
- A place to socialize.
- A resource place; somewhere with a computer, phone, and a person to talk to.
- A strong community foundation. The need to make a difference that lasts a lifetime. A central purpose to serve the needs of the community as a whole and philanthropic aims of donors who wish to better their communities now and in the future. Cultural awareness, respect for elders, involvement with the youth creates a strong community that ensures the wellness within the community for generations to come. The future is now. Speak up, let your voice be heard.
- Adult socializing opportunities are needed as well. Singles mixers. Speed dating mixer. Dances.
- Community center, teen center, a place to gather for all ages for everyday activities.
- Community involvement, culture involvement
- Educational opportunities/classes for adults to learn all new craft and to socialize. Kuspuk making, ulu making, jig stick making, Eskimo yo-yo making, carving and beading.
- Having access to recreation is only one tiny piece to our communities needs but all of our programs would benefit from having spaces designated for activity. Our community play grounds are limited and most are in disrepair. Areas behind the Rec Center could be easily shaped into rhythm parks for bikes. Skate rink should have a metal building over it and able to close it off to wind and weather for year around use. Bike trails with mileage markers could be easily placed around town to encourage kids to ride and roll for healthier living. Community bike shop ran by volunteers to assist adults and youth in fixing or creating things to encourage movement. Established Beach parks, turf fields to play soccer and football, etc... all of this would encourage our youth, adults and elders to be outside and more active and would give grandparents, parents, teens, care givers places to go around our city. Our city has undeveloped "Park lots" on the map designated already with nothing on them. With your help and vision and possible funding they could develop or remodel one major area a year and in 10 years we would have a wealth of active areas to point folks into for healthier living at no cost to them but a great investment into them.
- I do appreciate the tight-knit connection amongst our community. We come together in times of good and in times of need.
- I think our leaders in our community need to be able to work together for the sake of the entire community.
- I think quality daycare services are needed to allow for employment opportunities for all folks. I am excited for the assisted living facility to be completed so elders can remain in the community.
- I think that the community of Shaktoolik need more job opportunities and I think that we need a basketball court for our young high school students.
- I would love to see more public spaces for the community to gather that doesn't involve alcohol.
- More of Inupiak language - when kids are young they are easier to teach. Respect to others, feed them subsistence food so to have a strong and healthy body. For any season, teach them to prepare or watch

taking care of subsistence food, greens, berries, fish, meat, or explain healthy food sources. Teach them to respect themselves, elders, schoolmates, teachers. Have them watch picking greens, berries, cut fish, seal, moose, etc. They will remember.

- Need a hangout for children's-teens-adults. Need a cement ball court for whole community. Community clean-up twice a year.
- Need a rec center for all community members for gathering/working out, study hall, a place for interaction between youth and elders, a sewing room/arts and crafts room, a quiet study area, a library, a music room, a productive place to go instead of just "hanging out."
- Need more community events. Helpful events like AA programs, suicide prevention programs, and events for younger kids.
- Need to revive Eskimo dancing
- Our community needs more cultural activities and elder services.
- Recreation activities for everyone like a bowling alley or games.
- Stop focusing on the past and work on making our community better.
- The community in my opinion needs more opportunity to learn to work. The community needs activities for children and youth.
- There is no cultural dance. Lack of potlucks during first catch.
- There needs to be trust between the native community and law enforcement. The schools here need more culturally relevant components added to all subject areas; especially to the true history of the indigenous people. Also ALL teachers should have cultural orientation before the school year begins.
- They need to have more activities for everyone to get together and do.
- Volunteer work for community.
- We as a community need a place to socialize, not counting bars.
- We have a lot of community interest and involvement at events, not sure what we can do to create more events for people to show up to.
- We need more mentors, for both adults and youth.
- We need to have a pool hall, a place to hang out for kids. Don't really have a hangout for kids except the playground.
- We need to maintain our cultural heritage. Our Inupiaq language and values are slowly diminishing, elders are passing. Drugs and alcohol have taken its toll on rural communities and we need to take control of it, for our future generations, knowledge of our local areas, (Inupiaq place names are being forgotten). Respect is playing a huge impact on each other, elders in particular, religion is very sparse! We need a townsite (lots) and new homes! Thank you for giving me this opportunity to take part in the survey!
- Yupik games.

EMPLOYMENT

- A lot of people are on assistance and are content. Wish non employed members would look for/make jobs
- Full-time jobs.
- More employment opportunities
- More jobs. (x2)
- Need job opportunities for 18 on up
- The city council needs to adopt ordinances that pertain to their actions toward employees. There are personal attacks and wrongful dismissals in employment.
- We need more job opportunities in our community. (x2)

HEALTH AND WELLNESS

- A need for a workout facility i.e. weight room, yoga studio, (not a gym).

- Alcohol treatment. Drug treatment. Healthier food. Fresh veggies. Lower prices in groceries. Kids running the streets at night. New camp.
- Alcoholism and Homelessness
- Better healthcare providers
- Drugs and alcohol make their way into Koyuk and although the "good" people know, they won't say anything due to (them) being family. It's pretty sad, actually, that we are allowing drugs and alcohol to take over the safety and well-being of our children.
- Eating our own land foods.
- Fair Medical Treatment for all
- Full blown detox center that beds at least 25 of either sex. That they must stay 9 months to a year in to start healing process and must work in the community as part of treatment payment
- Health care access.
- I think that families need help around their houses. Keeping clean so that they won't get sick. People need a washeteria or laundry services.
- If alcohol abuse treatment is available in Nome then it needs to be publicized. AA is not enough. Nome needs live-in treatment and ongoing support for those who have quit drinking.
- Inter-agency case management for MH & SA
- It's help to go for doctor's appointments to help with sick to get better after surgery & other
- Nome is in desperate need of alcohol prevention alcohol abuse programs.
- Nome needs a place where substance abuse needs to be prevented. If this was prevented, more children would feel connected and well taken care of by families.
- Outcome based result services; how to best get community organizations involved to help combat chronic issues
- Substance abuse programs and placement would be a great addition to Nome.
- There is a great need for substance abuse and counseling for all ages. And more youth activities year round.
- We need a place for addicts here in Nome to get the help they need.

CHILDREN AND YOUTH

- A place for youth to hangout and do activities.
- After school activities.
- As a community we need to reach out to our youth to become interested in all the organizations, to make them realize that they will become our leaders. To build a better future for their children. We as leaders need to pave a better road for them to take fourth. Connect the youth with the elders to explain to them about our culture and ways of life on our island.
- Boys and Girls Club would be nice like in bigger cities; our kids matter too! Kids need a place to hang out, they could use projects also.
- Child care (private pay)
- Children need more school activities - family night, game nights, art activities.
- Children need to continue going to school, to stop talking back to parents, students and staff, and need to go to bed early.
- Community child care.
- Educating parents on the challenges that come with troubled kids. School district partnership with Kawerak to develop a program for kids that have had problems with drug/alcohol addiction and domestic violence. Those young kids who show these same problems often start using drugs at a younger age, following the example of their parents.
- Having a safe environment for youngsters to be at. Possible drug education, more dangerous drugs are coming into the region.

- Having early education for your young 3 year-5 year olds is important. It helps in socialization, finding their identity, spreading their wings away from grandparents/parents, learning social norms, rules, rewards, and play.
- In need of more youth activities, including subsistence learning, or a place to gather for kids and young adults
- I see a lot if parent/ child disconnect. Children seem to be "on there own" because parents have so many local issues to deal with like finding a decent job, available housing, stressful or abusive living environment.
- I think many children get ill/sick due to unclean housing and sanitary needs with low income families. It would be nice to have a program that can help these people be able to get their needs met at a low cost.
- I think providing more opportunities in our small school, such as distance learning to provide more challenging classes and other options in general. Also providing classes such as home economics and small engines in high school. I would love to see more cultural driven opportunities for kids; camping, learning to cut fish or seal dancing, etc. especially in the summer months (even if it was 1-2 weeks long).
- I think we need more things for kids to do.
- It would be nice if they had a place to socialize after school for children, something like a Boys and Girls Club. More housing too.
- It would be nice to see a teen center made and put public computer services so the ones that already graduated can seek employment opportunities.
- Kids can't do much. There's no place for them to have to themselves. Our youth (teens and children) need to have a place to hangout besides the open gym.
- Koyuk needs a teen center.
- Language immersion in Head Start. My son comes home so excited to tell me things he learned at school that are culturally relevant to us.
- More activities and places for teens.
- More child care for kids so both parents can work.
- More child care services and more education for 3/4 year olds
- More culture activities and housing for young people.
- More opportunities to have community activities for both children and adults.
- More young people should help those that need help.
- Need a big playground for children and a music class would be awesome.
- Need a place for kids and teens to hang out during the summer, like boys and girls club with some activities they can play, like pool, ping pong, board games, activities for the younger ones
- Need more hangouts for the kids... not all kids play basketball
- Need to become more involved with the youth.
- Our children need to be taught to hunt, gather, harvest and prepare food. Our school should excuse or use as extra credit when captains get their crew from school to go out hunting. Not all kids who graduate get jobs, they stay at home in front of a screen all day, not helping out with chores at home. Too much westernization.
- Our community needs more private pay daycare, either in-home or center. It is a struggle to find good childcare.
- Playground for ECE.
- Private pay childcare
- Some children need transportation to and from school.
- Teen center or a place for children to go to play/hang out
- The most important one for me right now is being bullied at school. Makes children not want to go to school anymore. There also isn't any dedicated space for the youth to socialize. There's also a lack of job opportunities.

- They need welfare checks on kids not attending school or causing problems in school to see what is happening in the home. Resources for those that are in need. Public advertising to those that need. Maybe school rallies that community services can attend?
- Travel to the villages to actually help high school seniors complete college and vocational training activities.
- We sure need Early Head Start here and more opportunities for the teenagers during the summer time. I see a lot of young adults wanting to do subsistence and finding summer jobs.
- Would be nice to have some place for our children to go and hangout. A teen center with arcade games and activities to play.
- Young people need adequate building to do recreational activities and do other fun activities.

ELDERS

- Elder meals and youth activities.
- Elders lunch and more activities for young adults as well as more employment opportunities.
- Elders should have first priority when they get ill or sick to be able to get the best medical help ASAP - be it to get medevacked ASAP if needed. I think sometimes they should be medevacked before they get too sick or ill.
- We really need enough housing for people. Help for elders to clean their homes for at least a couple hours a week.

HOUSING

- Access to adequate housing is an ongoing issue
- Adequate housing and homes with two doors.
- Better housing opportunities. Decent rental prices.
- Brevig needs more houses. There's a lot of homes with multiple families and severe overcrowding.
- Homes need help with bed bug removal, cleanliness. Could use more housing available.
- Housing is needed in this community.
- Housing renovation needs are No. 1.
- Housing! We need so much more housing availabilities.
- Housing, housing, housing, housing.
- I think that families need help around their houses. Keeping clean so that they won't get sick. People need a washeteria or washers and dryers.
- More housing (x9)
- More housing for families.
- Resolve the housing shortage and get monies for relocation.
- The greatest need is housing.

INFRASTRUCTURE

- Air transportation has gone down. The current situation is not appropriate. So many times people are stuck because inadequate passengers that are able to get on. The fair is extremely costly to be able to get into Anchorage for medical care or shopping due to the fact prices are outrageous here in Unalakleet.
- Apparently right now we need to have our fuel tank farm problems resolved.
- Cheaper utilities
- Clean trash free area
- Clean water, running water, sewer is all we need. Thank you :)
- Community trash bins

- Compliance with hazard mitigation. Plans in existence ins an issue that needs to be addressed, particularly in the area of capital projects development. Also, we need to move on constructing and planning the in-place evacuation shelter and evacuation road. Soil testing for proposed relocation site.
- Effective snow removal/upkeep of roads/reliable garbage disposal p/u
- Evacuation road from the threat of ocean storms and floods.
- How to file out paperwork for sewer and water and window and doors
- Lift station sewer.
- More house and water and sewer
- More stable water supply and an updated sewer system.
- Need a sports field or basketball court, need a paved road
- Needs running water and toilet facilities to mainly improve health status.
- Road to evacuation for safety when high water.
- Road work
- Running Water (x3)
- Sewer is close to being back to honey buckets. The system needs to be fixed before its gone! Frequent blackouts are also an issue - It will go in and out for hours sometimes.
- The community of St. Michael is in dire need of municipal services, or grants, for infrastructure such as: community center, storage unit for heavy equipment and/or vehicles, a reliable police department, a full functioning dock for barges that is well managed, and a local job learning program.
- Transportation for elders and students when it is bad weather conditions!
- Transportation needs
- Unhealthy community with sewer boxes and bins in town and no running water in most homes.
- Upgrade water and sewer systems.
- Water/sewer
- We always seem to have water problems every year. Either lack of good water, or problems with old water pipes breaking when it gets cold outside. They should try and get water from North River, where there is plenty of water and it doesn't freeze. We need another airline coming into Unalakleet. A lot of people fly through Nome to get to Anchorage, because Raven is always booked. We need more jobs and housing for our younger people.
- We need our local water pipes system changed. Every winter when one breaks, our water turns yellow because of the old 1952 iron pipe rusty system we have.
- We really do need running water and sewer. More housing. More training in welding, heavy equipment, electrical,
- We sure need running water in each household to be healthy and clean. We need flush toilets for every household.
- We need running water to sustain healthier lives. A place for children to play and hangout.

SAFETY

- Better budget for police officers to hire more. One officer per shift does not cut it. Also there should be 2 Community Service Officers on duty at all times just as there should be 2 dispatches at all times.
- Get a public safety officer for help in community during dangerous times.
- House numbers and street names for improved emergency response.
- I think the drug lords need to be driven out.
- Law enforcement personnel (x2)
- Need better police. Nicer city workers
- Need more apartment options. Better road working during spring, fall and winter.
- Our community suffers without public safety officers. There is nobody to call to respond to emergency situations. We have to wait for troopers to show up (which they rarely do). There's a lot of unreported crime.

- Public safety has been an absolute failure.
- Public Safety Officer VSPO.
- Rapes go unreported because of family retaliation. Unspeakable crimes are not prosecuted like they should be. Our magistrate is related to everyone, so doesn't prosecute anyone.
- Safety practices. People need to know how important it is to report violence.
- We need flood prevention, safe burning area and increased airline service providers.
- We need public safety officer.
- We need to clean up front street!!! The alcoholics are out of control and it's not safe! It also deters tourists and newcomers!!
- We need to combat this bootlegging; an elder said "if we do away with the bootlegging here, there wouldn't need to be AA.
- We need to establish a way to help people off the streets to show our children how a healthy community should function.

KAWERAK AND SURVEY

- Kawerak and NSHC staff in the fields of education and BHS need to invest their highly paid time in the villages instead of one day at a time yet their salary get paid through funds that are for the villages tribal members as well.
- Kawerak is a good resource to do more
- Kawerak needs to help their tribes set up more services to help the communities.
- Need to look into people wanting work for Kawerak but can't get the job due to low charge on back ground check, or some people in human resources are just so picky who to higher. How long due people have to suffer to get a good job and have good benefits. Some people are changing, and they do need second chances
- Please have a copy of this survey available to the public
- Thank you for this survey! (x2)
- Thanks for Subway!
- There needs to be a clear assessment of the tribal coordinator and how angry she behaves toward many community members. This is a position with huge influence on how the community functions.

OTHER/MULTIPLE SUBJECTS

- A recreational center for children and anyone else. More funds/applicants for elders who need help 24/7. Also some aren't qualified "over-income" (elders). We need more housing for small and big families. We need more jobs that include people committed to their job. A transportation van/Honda for elders and children in school.
- Add more "other" tabs to the survey include more than one Additional other response.
 - 1. Multifamily housing options most 3 bedroom homes are expensive and hard to afford and plan for.
 - 2. Homebuyer classes training programs services. I want to buy a home and I have no idea where to start. Or want to rent but I have no idea what I need to do to start
 - 3. Teach 18 to 25 year old young adults how to properly write a resume, cover letter, search 3 references, apply for jobs.
 - 4. Teach young adults 18 to 25 how to manage finances. How to open an account, what is a debit card and how is it different from a credit card, what does it mean to get a loan and how do I get one.
 - 5. Offer youth opportunities to engage in the board. Teach them how these governing bodies work and if you have issues to raise these are the avenues. If you want to make change this is what you can do and this is how to do it.
- Affordable and consistent child care- not just child care that only available to the few. Affordable housing that is not just available to the few. These would assist with building strong independent families.

- Aging water and sewer system. Port; channel at mouth, I always hit bottom when low-tide. Home economics; needed again in class. City of Unalakleet in debt. Need fiber optic here for faster internet. Alcohol tax? Bike shop to help put together used bikes for kids that cannot afford new ones. Increased suicide prevention. Vape education for the youth.
- Alcohol prevention, elder housing, economic development, activities for children (after school), community base, teen/children's center, safe water (new sewer and water), culture camps, home economics in the schools, parenting classes, having children after marriage, goals for teens, home/house renovations, new housing for small families, logging, hydro energy, local hires, boat harbor, community building, snow removal away from the roads and drive ways, and public safety.
- Anything would help.
- As in any community in bush Alaska, there is a growing realization of the divide, not only rural vs. urban but also between the regional hubs and the outlying villages. A lot of the resources readily available to the hubs realistically will never reach the villages. Also our regional non-profits must release their stranglehold on our village's ability to run the programs that they are capable of. For years we have watched ours grow and the payroll for the regional non-profit based in Nome is probably equal to at the very least one village. Also people need to say thank you a lot more. We need our old principal and teachers back and a more focused local leader that follows the oath of office. You really should provide more space for comments on community needs. This fact only shows everyone's ignorance on village needs. You must realize our ways of life differ vastly.
- Beautiful place to live, if you are willing to go without fresh vegetables, fruits, or eggs at times. Must be able to deal with being isolated at times, when weather prevents being able to travel to appointments or other reasons. Lack of gym use time for all ages due to size of population. Limited jobs, limited resources for our youth. Also too much bingo & PT's.
- Better drainage, dust control. More graduates going out to go further their education. More housing.
- Better funding for different resources
- Better transportation, more healthier foods and meat in stores
- Change of mindsets. There's too much negativity and not enough encouragement for every person, instead of only encouraging people they choose to encourage and talk-down others they do not like.
- Changes in our community that I would like to see are transportation services for elders. Our elders are always in need of a ride to get to places. I would also love to see our community get together, start our own dance (Eskimo dance) group. Be able to be more into our culture, etc.
- Communication and trust.
- Community need would have to be more housing, jobs, and more cultural related programs.
- Community needs more jobs, also water & sewer
- Community wellness, sense of self respect, respect for others, ability to work together as a community to fix social/economic problems, improve community safety, all around everything.
- Continue to work toward becoming a modern 1st class community.
- Culture awareness, school transportation, language in our native tongue.
- Dust the paved road. Our kids play in the street; we'd like to see a flat grass field and basketball courts and a bigger playground.
- Equal opportunities for any other youths. Too much families in IRA and city employment status. Diplomas and degrees don't seem to matter.
- Everything is good for me.
- Everywhere in this region is a tough place to live. We battle with storms, dust, isolation and alcoholism. The hub town of Nome needs more healthy activities for families to do with their children and more ways to get to exercise when weather is foul. Dance and exercise classes, family events, workshops on healthy and cultural topics like gathering beach greens,
- Families in Brevig are extremely overcrowded. Most housing situations included at least two families with multiple children living in each house - often more than that. Children come to school tired and hungry because they have no designated space or room to sleep in. More housing options are desperately needed in Brevig, along with employment opportunities for families to be able to afford housing on their own.

- Feel like people have given up in helping this community. Structures are rotting & fall down & should be removed. People seem to lack the desire to keep a clean housing location. We also need to send the drunks back to the villages they come from. They should not be allowed to hang on Front Street, especially when visitors are in. Nome also needs a can of paint on all of the buildings on Front Street. If we start there with cleaning up the community, perhaps it will spread. More of an effort to clean this place up. Barge out the scrap metal now, not years from now. Better support for those that want to start businesses. Heard the person that bought Twin Dragon and is trying to open a laundromat is being pushed back by the City instead of being supported.
- For leaders to set aside personal problems and work together and get along to move forward. There should be requirements or even drug screening for sound, good leaders who are not just there to benefit their own pockets. Kawerak, or anyone who as extra funding should support our communities for a drug free workplace, especially in the school. We are fortunate to have a VPSO in our community. Thank you for funding this. Thanks for coming to Golovin.
- Fresh fruits and vegetables. Housing and better sanitation for the honey buckets.
- Funds for road repair/snow removal. Programs for kids after school to engage learning and exercise especially during the winter months in need of funding the ski team(which raises their own monies to travel and for equipment) *The ski team is NOT recognized as a part of any school activities*
- Gas Prices are high
- Hard to believe that the Native community as a whole allows for the amount of segregation to occur in our schools. Why do they not oppose the Anvil City Science Academy?
- Help other with garbage to the dump. Water/Sewer. Further Education after high school- applying for colleges/training, scholarships, etc.
- HELP, whenever someone need help, GIVE, whatever you have, even if it's your last, you'll receive more in the future.
- High utility costs. High cost for food. Med people should go to all elders and see what needs are
- Honest people at the court house, like the judge, DA, crooked people who work for law enforcement, court house:, better service at the hospital
- Hope and a future with many blessings.
- How do we help those that can't work because of their background?
- I believe Nome could use more housing for sure. Also more adequate mental health services to cover a lot more conditions such as having someone who is aba certified and can treat children who have ADHD, bipolar to autism.
- I hope Kawerak follows through on all students who did not get a high school diploma or GED. Young people who have a criminal record need jobs and training in order to become self-sustaining. A regional alcohol and drug abuse treatment center is needed. A regional training center is needed for those unable to make it into other training centers due to homesickness.
- I live at my sister's house and it's so overcrowded. There is also a lack of employment opportunities.
- I think elders should be watched more and environmental awareness. Cleanup around town, trash on ground, metal on beach.
- I think that the community of Shaktoolik need more job opportunities and I think that we need a basketball court for our young high school students.
- I would like to see more projects in our village like housing, roads, water and sewer improvements and elder care programs, a completed Head Start program, VSP and services for youth and adults promoting healthy and cultural lifestyles. We also need qualified teachers in our education system that promote children's learning opportunities, and not just catering to the teachers, focus first!
- If there are assistance in providing such services needed it surely would help alleviate difficulties in this community.
- It would be nice to help our older kids to have a place to sew or carve. Right now they have nothing to do. Would appreciate to have water in our homes and take away the honey bucket. They don't ever do anything at our community meetings. We need to fight to have a better life to live.
- It would be nice to try get housing for our community. There also needs to be more Job opportunities to help young graduates do something after high school. Substance abuse classes would be nice since there are a lot of young adults doing drugs and alcohol.

- Jobs and a VPSO program.
- Lack of activities for young people. Substance abuse and the effects on family life, mostly alcohol. We need more activities other than an open gym.
- Lack of jobs. Child care is a huge thing in our community. It's hard to find sitters.
- Leadership Training in House, Employer Training in house, Nepotism and conflict of interest
- Many services and activities are not adequately promoted
- More broad elder care opportunities, more young adult and teen opportunities (especially for those who have graduated to 25 years of age - providing them more of a place to socialize that is not athletic in terms of the Nome Rec center, or the local bars, or churches - need a variety or a poll taken to see what needs are unmet for that age group), younger kids - do they know of the checkpoint, how do you reach out to them to have it made known that that is a safe and comfortable place to utilize, as well as the boys and girls club.
- More help with the homeless, and more activities for the youth 18 and under. More people helping elders with substance foods and other needs. Also more help with behavior health assisting the people that are reaching out for help.
- More housing and activities for our children and a hangout place.
- More housing and job opportunities. (x9)
- More housing especially for elders, substitute workers at Head Start, cultural-based activities, Eskimo dancing back into the village, a new teacher (for BSSD).
- More housing, more activities to do with little kids
- More housing, more jobs, need restaurants, a bank, and need a washeteria.
- More parent involvement
- More parent involvement with school needs with all students, not only with younger students but also the bigger school as well.
- More parenting support and abuse/neglect education.
- More specialized health care services, affordable housing
- More voters who can elect the most qualified leaders. More leaders who are qualified for these positions, representing the community. More activities, less state permitted activities such as fundraising.
- Need a minister (x2)
- Need a workshop for all our entities to be reminded they are here for their year round residents, need better care for our elderly, health aides are not doctors, more job opportunities for our young adults, maybe more training opportunities available with scholarship monies available, programs that are available for the elderly for them all to know where to get help from, substance abuse wide range of help levels, water and sewer availabilities for our elderly, any other need for our community that can help everyone as a whole.
- Need for a new water system and appropriately trained law enforcement.
- Need more housing and housing improvements, especially electrical work. Need more jobs created. Much needed running water! Taikun
- Need more housing, jobs, and places for kids and adults to hangout without getting into trouble.
- Need to address the homeless problem
- Needs child care services other than school. Need more job opportunities. More housing.
- Needs more houses our kids having kids
- No/none (x3)
- Nome has many good services and opportunities, but it lacks affordable housing and a path to wellness as opposed to substance abuse.
- Not enough communication from agencies - intertribal organizations. Too much nepotism in Golovin. People are unqualified for their jobs and there's too much gossip.
- Our community is in dire need of housing. There are so many homes over crowded. There also needs to be more job opportunity for young people.

- Parental involvement, substance abuse, curfew, and more housing.
- Parents need assistance on how to be the best parent that they can be. Substance abuse prevention is also a need.
- Recreational building for children and young adults, working together as one. Governing bodies working together as one!
- Relocation of Community
- Right now there is a big alcohol issue in the spring time. Should slow down as the snow melts the trail to Nome. Lack of jobs for high school graduates. Places for young adults to start living on their own.
- Running water & sewer would be great! Elders need more assistance and transportation as well as ramps o access going in and out of their homes.
- Shaktoolik rocks!
- Social gatherings for young people and more job opportunities.
- Stop importation of Alcohol and Drugs. Create some job opportunities for the Community and not only hire family members but to hire who needs job.
- Stores open after 930 for over the counter needs
- Substance Abuse, Cultural Connection
- The community needs a reliable vbc who can help those in need and keep all information confidential.
- The community needs housing, needs a youth center for children to stay out of trouble, having positive attitudes with others, a subsistence camp to learn how to put away subsistence food.
- There are so many
- To come together and have activities together. Student activities at a dedicated space. Help with heat and transportation.
- Too much garbage created by hospital, schools, bars. Need better organization to lessen the wastes. Also people should bring their own eating utensils to potlucks instead of disposing 1 time use. Broadcast our traditional values of not stealing! Subsistent camps being broken into and hard work of making winter meals stolen.
- Unalakleet is a strong community that has access to decent medical care. Our people have limited access to work. Our law enforcement consists of two VPOs and two AK State Troopers. We need improvements in youth care, education, culture, but first we need to be able to obtain people to do so.
- Under the tribal venue, way too much money has been allocated (budgeted) for travel. In the last two annual meetings it was disseminated to the tribal members that over 30% of the tribal budget was for tribal council members because of "how it was done in the past". This leads to lack of tribal program funds. In the City of Wales venue, there was three, I state again three different City Council elections starting in November and ending in February. The City Ordinances seem to be non-existent when certain officials are charged with running the municipal election. As for the Corporation, that is a for-profit corporation and corporate Directors are voted in to run the Corporation. As a for-profit they are concerned with the corporate land issues and doesn't seem to fit the community leader roles.
- Veterinary services
- Volunteer firefighter with training and increased housing.
- Water and sewer and help with getting my car fixed
- We are very blessed with what Kawerak provides for our village. Thank you. My disabled son recently moved to a group home in Anchorage. I wasn't sure to include him in the questionnaire. Also, we need more competition with airline services to and from Anchorage.
- We need a reliable water source. We also need another passenger airline to Anchorage. We also need more children-oriented activities for these with no parental guidance. Lastly, we need a drug and alcohol abuse. This needs to be more readily available to all who qualifies.
- We need competent leaders who are accountable to the members here. Who are not in it for family only first? Need honest individuals to set clear goals and objectives and by a certain timeline to meet the most basic human needs, such as new homes from BIA the hell with BSRHA and their corrupt operations.
- We need more housing and activities for the youth.

- We need more housing and more job openings. Don't forget about a hangout sport for kids other than an open gym.
- We need more housing units for our young adults. We need law enforcement, there are too many drug dealers and more and more young people are abusing drugs.
- We need more outdoor activities for our youth. We need more jobs within the community
- We need more VPSO's, new housing, many households are overcrowded, 3+ families living in 1 household
- We need new tribal/city/members who will be fair when selecting a new job employment available, for example. These are people selected for a job opening who already have a job in the community, only because that person is related to council members and get hired. Unfair!
- We need running water to eliminate lots of health care issues. We need more housing-BSRHA don't help much when it comes to obtaining your own housing, plus its very expensive. Our VPSO don't do much always brag he sits & makes money- he doesn't answer his phone
- Weatherization and leveling of our houses - fixing up our old 1976 HUD houses with some of the floors are rotting away with poor doors and windows - Culture teaching from our elders about food preparation and surviving icy conditions and dealing with other weather issues. We need to do this before we lose our elders' knowledge.
- Wish we had opportunity to shop for healthier foods. Child care year round. More job opportunities.
- Young adults mainly men need to learn and help to access subsistence and full-time employment and childcare

Appendix E: Questionnaire – Responses from Communities Outside of the Region

This section provides responses from those who completed the questionnaire but do not currently live in Kawerak communities.

- Two respondents did not primarily live in Alaska.
- Almost half of all other respondents (45% of other respondents) live in Anchorage, while about one quarter live primarily in Fairbanks (22%).

Table 130. Community

n=51	Count	Percent
Anchorage	23	45%
Fairbanks	11	22%
Eagle River	2	4%
Aniak	1	2%
Buckland	1	2%
Chignik Lake	1	2%
Juneau	1	2%
Kaltag	1	2%
Kanakanak	1	2%
Kenai Peninsula	1	2%
Kiana	1	2%
Noatak	1	2%
Petersburg	1	2%
Unalaska	1	2%
Wasilla	1	2%
Canada	1	2%
Kentucky	1	2%
Refused	1	2%

Due to rounding, columns may not add to 100.

- The average age of respondents outside of Kawerak communities is 48.3, higher than respondents from Kawerak communities. The median age of 51 is also higher than that of Kawerak communities alone.
- More than half of all respondents outside of Kawerak communities are between 45 and 64 years of age.

Table 131. Age of Respondents

Age	Count	Percent
19-24	4	8%
25-34	5	10%
35-44	8	16%
45-54	14	27%
55-64	15	29%
65+	5	10%

Due to rounding, columns may not add to 100.

- Of those who live in other communities, outdoor recreation was the greatest strength of their community for 55% of respondents. Schools were the second greatest strength, at 45% of respondents, followed closely by cultural activities (43%).

Table 132. Greatest Strengths of Communities

Strength	Count	Percent of Respondents
Outdoor recreation	28	55%
Schools	23	45%
Cultural activities	22	43%
Community involvement	19	37%
Subsistence opportunities	19	37%
Health care resources	18	35%
Public safety	18	35%
Elders	16	31%
Strong families	15	29%
Transportation	15	29%
Natural setting	13	25%
Economic opportunities	10	20%
Other	1	2%
Don't know/Refused	3	6%

Note: more than one selection possible

- The greatest challenge for non-Kawerak community responses, with 76% of respondents selecting it, is the high cost of living.
- About half (55%) of respondents from other communities noted the challenge of substance abuse facing their community.

Table 133. Greatest Challenges Facing Communities

Challenge	Count	Percent of Respondents
High cost of living (fuel, housing, transportation, etc.)	39	76%
Substance abuse	28	55%
Inadequate housing	22	43%
Lack of treatment for mental illness	20	39%
Inadequate public safety	18	35%
Lack of cultural-based activities	15	29%
Limited health care	12	24%
Education system	10	20%
Access to healthy foods	9	18%
Limited economic opportunities	8	16%
Isolation	7	14%
Lack of proper sanitation and waste disposal	4	8%
Lack of access to clean water	3	6%
Other	3	6%
Don't know/Refused	1	2%

Note: Multiple responses possible

- The majority of respondents from other communities (59%) have children under 18 living in their homes.

Table 134. Households with Children Under 18 Years of Age

	Count	Percent
Yes	30	59%
No	21	41%

- The majority of respondents from other communities (59%) have children under 18 living in their homes. The total number of children from respondents in households outside Kawerak communities is 63.

Table 135. Number of Children per Household Under 18 Years of Age

Number of Children	Number of Respondents	Percent
0	2	7%
1	12	40%
2	7	23%
3	4	13%
4	2	7%
5	2	7%
6	0	-
7	1	3%
Total	63	-

Due to rounding, columns may not sum to 100.

- About a quarter of other respondents have teenagers in their households (27%), and about a third have children five years old and under (30%).
- The average age of children in other communities is 8.9, slightly older than for Kawerak communities.

Table 136. Ages of Children in Households

Age	Count	Percent
0-2	9	14%
3-5	10	16%
6-12	27	43%
13-17	17	27%

Due to rounding, columns may not add to 100.

- The average rating for other respondents with children was 2.1, or "Good"
- Two thirds (67%) of respondents rated the quality of services as "Good" or "Very Good"; One third (30%) rated the quality of services as "Poor" or "Very Poor"
 - No respondents from other communities indicated there were no services for children.

Table 137. Quality of Family and Child Services in Communities

Rating	Number of Respondents	Percent
1-Very Good	8	27%
2-Good	12	40%
3-Poor	8	27%
4-Very Poor	1	3%
Don't know/Refused	1	3%
No services in community	0	-
Average Rating	2.1	-

Due to rounding, columns may not sum to 100.

- Half of other respondents with children noted their experience in the past year of a lack of activities for teens and unstable or overcrowded houses (50% each).

Table 138. Other Households with Children: Experiences in Past Year

n=30	Yes (%)	No (%)	Don't Know/Refused (%)
Lack of activities for teens outside of school other than sports or recreation	50	43	7
Unstable or overcrowded housing impacted the safety, health, or education of children	50	47	3
A child struggling with schoolwork could not get the help they needed	37	57	7
Unable to access mental health services for children when needed	33	63	3
A household member was not able to engage in subsistence activities because child care was not available	30	67	3
Not enough healthy food for children	30	53	17
Opportunities for children to learn about traditional ways of life and culture.	27	60	13
Lack of disability services for children	23	63	13
Lack of children's sports or recreation opportunities	20	67	13
Could not access programs to assist children experiencing violence or abuse	17	77	7
A household member was not able to work or look for work because child care was not available	13	80	7

Note: Multiple responses possible. Due to rounding, rows may not add to 100.

- Of households with children, 13% reported their children being out of school for more than 30 days in the past three years.
- Reasons for missing school are not broken out due to the number of "yes" responses (fewer than 10).

Table 139. Children Missed a Month or More of School in Last 3 Years (Of Other Households with Children)

n=30	Percent
Yes	13
No	83
Don't Know/Refused	3

Due to rounding, columns may not add to 100.

- One third of respondents (33%) from other communities reported experiencing a lack of adequate heat in the past year.
- Most respondents (82%) did not experience a lack of employment or reliable employment in the last year.

Table 140. Other Households Experiences in Past Year

n=51	Yes (%)	No (%)	Don't Know/Refused (%)
Lack of adequate heat	33	53	14
Not able to access needed health care	22	63	16
Not able to get transportation to work, school or needed services	22	65	14
Homelessness	20	65	16
Not enough food	18	69	14
Violence, or threats of violence, between household members.	18	67	16
Consistent overcrowding in the house	16	71	14
Not knowing where to get help for substance abuse treatment	16	71	14
Lack of public safety services (police, VPSO, fire, emergency) when needed	8	78	14
Lack of electricity	6	80	14
Lack of employment or reliable income	4	82	14
Lack of sewer	2	4	94
Lack of water*	16	69	16
Lack of reliable telephone service*	-	6	94

Note: Multiple responses possible; due to rounding, rows may not add to 100. *Error in online entry resulted in high number of refusals.

- About one third of respondents from other communities said that eating healthier in the next year would improve their household's health (31%).

Table 141. Other Changes for Health

n=51	Count	Percent
Eat healthier food	16	31%
More exercise/recreation opportunities	8	15%
Better living conditions in the home (overcrowding, water/sewer, air quality)	7	14%
Better access to medical services	5	10%
Improved education opportunities	2	4%
Better access to mental health services	2	4%
Better access to substance abuse treatment services	2	4%
Better access to child care	-	-
Don't know/Refused	8	16%
Other (please specify)	-	-

Note: multiple responses occurred infrequently.

- About 60% of respondents thought that nutrition needs (60%) and cultural and language education opportunities (57%) were going unmet in their communities.

Table 142. Unmet Needs of Children in Other Communities

n=51	Count	Percent
Nutrition	18	60%
Cultural and language education opportunities	17	57%
Stable housing	16	53%
Child care	12	40%
Mental health services	12	40%
Health care	11	37%
Opportunities to socialize	10	33%
Medical services	9	30%
Transportation services	8	27%
Adequate education	5	17%
Other (please specify)	1	3%
Don't know/Refused	10	33%

- Local employment opportunities (43%) and substance abuse prevention (39%) were the most frequent issues selected as unmet needs of young adults by those who live outside of Kawerak communities.

Table 143. Unmet Needs of Young Adults in Communities

n=51	Count	Percent
Local employment opportunities	22	43%
Substance abuse prevention	20	39%
Stable housing	17	33%
Substance abuse treatment	17	33%
Place to socialize	15	29%
Education after high school	13	25%
Opportunities for community involvement	13	25%
High school graduation or equivalent	12	24%
Mental health services	9	18%
Transportation	9	18%
Cultural connection	7	14%
Other (please specify)	-	-
Don't know	9	18%

- Nearly half of respondents said that in-home personal care and help with cleaning, cooking, or shopping (both at 47%) are the most important unmet needs in their communities (outside of Kawerak communities).

Table 144. Unmet Needs of Elders in Kawerak Communities

n=608	Count	Percent
Help with cleaning, cooking or shopping	24	47%
In-home personal care	24	47%
Housing options	21	41%
Transportation services	18	35%
Home health care	16	31%
Nutrition services	16	31%
Help finding information or services	12	24%
Help signing up for benefits	12	24%
Exercise programs	11	22%
Place to socialize	9	18%
Other (please specify)	-	-
Don't know	10	20%

- Nearly two-thirds of all respondents outside of Kawerak communities (63%) live in households made up of two to four people.
- The average size of household of respondents in other communities is 3.5 people.

Table 145. Size of Household

n=51	Count	Percent
One person	4	8%
2	13	25%
3	9	18%
4	10	20%
5	2	4%
6	3	6%
7	2	4%
8	1	2%
9	1	2%
Refused	6	12%

Note: due to rounding, columns may not add to 100.

- One third (32%) of respondents in other communities are employed year-round; 10% of respondents' household members are unemployed and looking for work.

Table 146. Household Member Status

Status	Number of People	Percent of Responses
Employed full-time year-round	43	24%
Employed part-time year-round	14	8%
Employed full-time seasonally	9	5%
Employed part-time seasonally	8	5%
Unemployed, not looking for work	21	12%
Unemployed, looking for work	17	10%
Student/in training	10	6%
Stay-at-home parent	17	10%
Retired	14	8%
Disabled, unable to work	17	10%
Refused	6	3%

- Over half of respondents from outside of Kawerak communities (53%) are Alaska Native, and one-third of respondents are American (35%). No other race or ethnicities had more than ten total responses.

Table 147. Race/Ethnic Profile of Respondents

	Number of People	Percent of Responses
Alaska Native	27	53%
White	5	10%
American Indian	18	35%
Black/African American	2	4%
Hispanic or Latino	1	2%
Asian	1	2%
Native Hawaiian/Pacific Islander	1	2%
Other (please specify)	1	2%
Refused	6	12%

Note: multiple responses selected.

- Female respondents made up about three quarters (73%) of total responses from other communities.

Table 148. Gender Profile of Respondents

	Count	Percent
Male	7	14%
Female	37	73%
Refused	7	14%

Note: due to rounding, columns may not add to 100.

Other Comments

- Ages 12-26 need more attention and the runners for alcohol or other mind-altering substances for the underage need to be punished
- Greatest needs would be housing.

- Having a grant writer training session would help in a slot that's empty. It would help create jobs in the village. Also helping the IRA's city school in what I think should be priority number one in becoming self-sustaining.
- Homelessness in Anchorage extremely severe
- Hospital
- Lack of traumatic brain injury resources
- More housing rent opportunities low in come
- More job opportunity and more living quarters
- More law enforcement
- More places for activities
- My community need more places for kids to hangout and keep them busy with sports
- Need more cooperation in community
- No comment
- Our community lacks safety, compassion, affordable housing, and job opportunities.
- Parents need to be parents and raise their kids with manners and respect. Substance abuse in the household results in the kids abusing substances.
- People go hungry.
- Safety
- Sports for all kids
- The village I am from lacks running water and sewer
- To see more activity for our younger generation
- We need more mental health providers who accept Medicaid and understand trauma
- We need transportation for elders n everybody. A shuttle bus.
- We really need more work availability. help getting students to continue education after high school. get substance abuser help
- We're ok

Appendix F: Kawerak Parent Discussion Group Protocol

Discussion groups will include parents of children who live in the Bering Strait region. Invites for discussion groups in Nome will be focused on parents of children from certain age groups, though parents of children of any age may attend. Discussion groups in Shishmaref and Gambell are open to parent with children of any age.

Facilitator Introduction

"Good afternoon/evening. Thank you for taking the time to join our discussion on community strengths, challenges, and needs for your community and family.

My name is _____ and I work at the McDowell Group. We are an Alaska research firm helping Kawerak gather information in development of the Bering Strait Community Needs Assessment.

The information you provide is important in this process, it will be used to help Kawerak plan a strategy on how to best serve this region and support families in your community into the future.

During this hour, I will ask you questions, and I will listen to what you have to say. There are no right or wrong answers. Please, feel free to respond to each other and to speak directly to others in the group. We want to hear from all of you. We're interested in all viewpoints, as well as common and uncommon experiences. With this goal in mind, I may sometimes encourage someone who has been quiet to talk or ask someone to hold off for a few minutes so we can hear another voice as well. We will incorporate the information we receive today as a whole, though no reports will link what you say to your name, family, or place of work.

If there is something we do not address in this discussion that you would like to, you are welcome to stay afterward when this first hour is over and talk with us. We also will invite you to complete a questionnaire in which you can provide further feedback.

Do any of you have questions about how this discussion will go before we get started?

Participant Introductions

1. First will you please introduce yourselves. As we go around the table, please tell us your first name, the age of your child or children and how long you have lived here.
2. Show of hands: who has a child in head start or early head start or other pre-school program, elementary school, high school.

Values/Beliefs/Experience

What do you like about raising your children in _____?

What are the hardest things for kids growing up in _____?

Probe for causes of hardship

What's missing in your community for children?

What community programs or services have the most positive impact on your children?

Education-Specific

When you think of your child's education, what's most important?

Probe: do you feel you have an impact on your child's education

What do you like most about your child's education in _____?

What most concerns you about your child's education in _____?

Probe: when yes, where turn, what resources have?

What can be done in the community to further support your child's education?

Do you feel your culture and language is a part of your child's education at school?

Probe for perception of importance and if happening now

Other

When you think about raising a family, are there other things that are important to you we haven't discussed?