CITY AND BOROUGH OF SITKA

Meeting Agenda
Sustainability Commission

Officers: Chair Katie Riley, Vice Chair Aurora Taylor, Secretary Erik de Jong
Members: Elizabeth Bagley, Gerry Hope
Staff Liaison: Bri Gabel, Sustainability Coordinator
Assembly Liaison: Thor Christianson

Monday, December 2, 2024	**6:00 PM**	**Harrigan Centennial Hall**

I. CALL TO ORDER AND ROLL CALL

II. CONSIDERATION OF THE AGENDA

III. CONSIDERATION OF THE MINUTES

Approve the November 4, 2024 minutes.

IV. PERSONS TO BE HEARD *(not to exceed 3 minutes on topics off the agenda)*

V. SPECIAL REPORTS

2024 Sitka Community Food Assessment

VI. UNFINISHED BUSINESS

A. Discussion on Sustainability Commission 2025-2026 Goals

VII. NEW BUSINESS

B. Discussion/Direction/Decision on Community Greenhouse Gas Emissions Inventory Final Draft

VIII. PERSONS TO BE HEARD *(not to exceed 3 minutes on topics on or off the agenda)*

IX. REPORTS *(Staff, Chair, Assembly, Commissioners)*

X. SET NEXT MEETING DATE AND AGENDA

XI. ADJOURNMENT

CITY AND BOROUGH OF SITKA

Meeting Minutes
Sustainability Commission

Officers: Chair Katie Riley, Vice Chair Aurora Taylor, Secretary Erik de Jong
Members: Elizabeth Bagley, Gerry Hope
Staff Liaison: Bri Gabel, Sustainability Coordinator
Assembly Liaison: Thor Christianson

Monday, November 4, 2024	**6:00 P.M.**	**University of Alaska Southeast Sitka Campus**

I. CALL TO ORDER AND ROLL CALL

Chair Riley called the meeting to order at approximately 6:11 P.M.

Present: Katie Riley (Chair), Elizabeth Bagley, Gerry Hope, Erik de Jong, Aurora Taylor (telephonic, left at 6:58), Thor Christianson (Assembly Liaison)
Absent: None
Staff: Bri Gabel (Sustainability Coordinator)
Public: None

II. CONSIDERATION OF THE AGENDA

No changes.

III. CONSIDERATION OF THE MINUTES

Approve the October 7, 2024 minutes.

Hope moved to approve October, 2024 minutes.
Motion PASSED 5-0 by roll call vote.

IV. PERSONS TO BE HEARD *(not to exceed 3 minutes on topics off the agenda)*

None.

V. SPECIAL REPORTS

None.

VI. UNFINISHED BUSINESS

A. Discussion on Sustainability Commission 2025-2026 Goals

Gabel explained the trend she had noticed Commission goals were either project-based or CBS operations-based, each with their own pros and cons. Commissioners discussed potential projects, such as energy efficiency pilot projects, municipal solid waste and composting, public EV charger challenges, potential studies and how they would benefit from either approach. Christianson suggested looking at building more resources for the CBS website, such as a heat pump page or other educational topics that could save residents money. Gabel discussed the workforce challenges that may be faced with the current vacancies in Public Works and how that could influence the Commission's work.

VII. NEW BUSINESS

B. Review of Assembly Joint Work Session Agenda and Materials

Commissioners reviewed the draft materials and agenda and discussed the logistics of running the work session. Bagley suggested reformatting the slides into a matrix. Commissioners suggested additional documents to include in the work session packet.

VIII. PERSONS TO BE HEARD *(not to exceed 3 minutes on topics on or off the agenda*

None.

IX. REPORTS *(Staff, Chair, Assembly, Commissioners)*

Staff: Gabel reported that 3rd Sitka Community Renewable Energy Strategy (SCRES) webinar on Energy Economics went well, 4th SCRES Webinar on Reliability and Resiliency with Ron Vinson, Utility Director with Amy Solana and Michael Brown from the Pacific Northwest National Lab (PNNL). She added that the radio series was wrapping up with a greenhouse gas emissions inventory introduction with the final report expected mind November.

Chair: Riley invited those in attendance to the Sitka Conservation Society's Wild Food's Potluck.

Assembly: Christianson spoke of his experience putting an EV on the Alaska Marine Highway System and mentioned the cost and limit of two EVs per sailing.

Commissioners: Hope reported on his trip to Tulalip Washington, and the work to extend an EV corridor from Washington State northward.

X. SET NEXT MEETING DATE AND AGENDA

The next meeting was scheduled for Monday, December 2, 2024 at Harrigan Centennial Hall.

XI. ADJOURNMENT

Chair Riley moved to adjourn the meeting.
Seeing no objection, the meeting ADJOURNED the meeting at approximately 7:50 P.M.

Minutes By: Bri Gabel, Staff Liaison

2024 Sitka Community Food Assessment

Photo Credit: Sitka Local Foods Network

Sitka Community Food Assesment

Compiled by Callie Simmons, MPH

Introduction:

The first Sitka Community Food Assessment was completed in 2013, a product of the Sitka Health Summit. Ten years have passed since the last assessment, so a local steering committee came together in 2023 to update the assessment, capture any changes, and document what our food system currently looks like. The committee agreed to use the U.S. Department of Agriculture (USDA) Community Food Security Assessment Toolkit as a framework to guide our process. The Toolkit includes six main parts:

- completion of a community characteristics summary,
- completion of a community demographics profile,
- completion of a community food resource profile,
- conducting focus group and interview research,
- surveying households on a variety of food security issues and
- collecting food cost data.

These main components are covered in the following sections of the assessment: Sitka Food Facts, Sitka Demographics, Hunt/Fish/Gather/Grow, Food Shopping, Food Assistance, School Food Environment, and Food Production.

Sitka specific harvest data for fish and game and information on local gardening/foraging was also captured in our research. Traditional and Customary food data was provided from the 2017 Tribal Needs Assessment and Sitka Tribe of Alaska's Traditional Foods Program. These additions were added to adapt this assessment to Sitka and follow what was completed in 2013.

Background:

Food insecurity is influenced by a variety of factors, including income, employment, race/ethnicity, neighborhood conditions, and disability (Healthy People 2030).

Studies have shown that adults who experience food insecurity are at an increased risk for a variety of negative health outcomes including weight issues and chronic disease (Healthy People 2030). Children who face food insecurity also have an increased risk of weight issues and may experience developmental problems and negative mental health outcomes (Healthy People 2030).

Healthy People 2030. *Office of Disease Prevention and Health Promotion*. https://health.gov/healthypeople

Helpful Definitions: what do we mean when we say food insecure?

Food security, as defined by the USDA, means having access **at all times** to ***affordable, safe, nutritious, and culturally preferred foods.***

Food insecurity is the limited or uncertain availability of nutritionally adequate and safe foods or the limited or uncertain ability to acquire acceptable foods in socially, culturally acceptable ways.

Hunger is the uneasy or painful sensation caused by a lack of food. Hunger in this context is the recurrent and involuntary lack of access to food.

Community Food Security concerns the underlying social, economic, and institutional factors within a community that affect the quantity and quality of available food. And its affordability compared to the financial resources available to acquire it.

Communities may be considered to be food insecure if:

- There are inadequate resources from which people can purchase food.
- The available food purchasing resources are not accessible to all community members.
- The food available through the resources are not sufficient in quantity or variety or culturally appropriate.
- The food available is not competitively priced and is thus not affordable to all households.
- There are inadequate food assistance resources to help low-income people purchase foods at retail markets.
- There are no local food production resources.
- Locally produced food is not available to community members.
- There is no support for local food production resources.
- There is any significant household food insecurity within the community.

Definitions adapted from the U.S. Department of Agriculture. https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/definitions-of-food-security/

Methodology (what we did and how we did it):

Household Food Security Survey

To capture all these different factors we used multiple tools. The Sitka Food Security Survey, an adaptation of Kenai's Peninsula Food Security Survey Tool, was launched in the Fall of 2023. The goal of this survey was to capture data on household food security. 422 Sitkans completed the survey, with 387 responses verified by their zip code. The verified responses were used to provide the summary statistics in this Community Food Assessment Report. The survey was available online and in-person at several community events including; the Sitka Tribe of Alaska's Coffee with Elders event, Sitka Farmers Market, and the Indigenous Peoples Day Celebration at Harrigan Centennial Hall.

Interviews

The steering committee interviewed a variety of food producers and key informants. Key informants were chosen based on the USDA framework and the steering committee's recommendations. Key informants are described in this type of research as people who know what is going on in the community or have a deeper understanding of the issue at hand. For this project, key informants included members serving on the Sheet'ká Kwáan Tribal Council, the City Assembly, clergy of local parishes, non-profit executive directors, and low-income community members. People who are growing, producing, and increasing the capacity of local foods were also interviewed. These food producer interviews helped us assess common barriers to growing, selling, and producing food in Southeast Alaska. Themes from these conversations and direct quotes from interviewees are included in this assessment.

Focus Groups

Six focus groups were also held. Topics included Food Assistance, Food Shopping Patterns, and Traditional and Customary Foods. Specific themes and quotes from focus groups are also included in this assessment. The steering committee worked hard to capture experiences from Sitkans who may be experiencing higher levels of financial hardship. Efforts to capture this demographic included running focus groups aimed at household food security with Sitkans Against Family Violence shelter residents, Sitka Homeless Coalition service recipients, UAS students, and seniors and elders living on a fixed or low income. Additionally, minority populations that were under sampled in the survey were heavily recruited for focus groups and interviews; specific effort was made to include Latinx and Filipino community members. Given Alaska Natives specific connection to traditional foods, the 2024 food assessment included a Traditional Foods focus group.

387

Sitkans took the Food Security Survey

26

Sitkans were interviewed

49

Sitkans participated in Focus Groups

Aatlein gunalchéesh!

Thank you very much.

Capturing

This community food assessment captured what is happening related to food in our community by listening to community concerns.

Summarizing

We heard your concerns and summarized them in this report. Each section contains three parts; What? (the summary) the So What? (why does this matter) and What's next? (recommended changes).

Advocating

Based on these findings and community suggestions, we share several recommended policy changes and programs to fill gaps and meet community needs identified in this report.

The Sitka Community Food Assessment Report will help to guide future food system planning and plant seeds for innovative responses that will strengthen Sitka's food system. The research presented in this report uncovered many challenges in our food system as well as many strengths. We live within a rich ecosystem filled with nutritious food from the land and sea, and our community has a generous spirit and commitment to sharing with our neighbors. This report provides a snapshot of the current foodscape in Sitka as well as recommendations for building a more resilient food system that can deeply nourish the entire community for generations to come.

Thank you for the opportunity to contribute to the development of a more resilient Sitka food system.

This work would not have been possible without Transition Sitka and the Sitka Local Foods Network- our supporting non-profit bodies. Additionally, our steering committee was instrumental in supporting this work and getting it off the ground. This includes Melonie Boord- Social Services Director at the Sitka Tribe of Alaska, Chandler O'Connell- Community Cataylst at the Sitka Conservation Society, Natalie Wojcik- Executive Director at Sitkans Against Family Violence, Margot O'Connell- Adult Services Librarian at Sitka Public Library and the Blessings in a Backpack Program Coordinator, Jasmine Shaw -UAF Cooperative Extension Agent, and Lisa Sadleir-Hart former Sitka Food Assessment Coordinator and retired public health nutritionist.

A special thank you to all the people who agreed to be interviewed or participated in a focus group- thank you for sharing your experiences.

Photo credit: Edible Alaska

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Photo credit: KCAW Raven Radio

In the News:

Much has happened in the world since the first assessment, in Alaska and across the globe. Many of those events have impacted our food landscape in Sitka. Here are a few events that were referenced repeatedly in our focus group and interviews.

COVID-19 Pandemic: food insecurity initially increased throughout the U.S. due to job or income loss, school closures, social isolation, and food supply chain disruptions during the pandemic. Many key informants interviewed for this project (8 of 10) felt that food resources were abundant during the pandemic, but observed resources dwindle and eligibility restrictions tightened back up once the state of emergency order was removed. In short, there were more food resources during the pandemic. This observation was also made in several scientific articles following the pandemic.

THE PANDEMIC TRANSFORMED ECONOMY

Ending Hunger: How COVID-19 Revealed a Path to Food Access for All

MELISSA G. BUBLITZ, KATHERINE M. DU, JONATHAN HANSEN, ELIZABETH G. MILLER, AND LAURA A. PERACCHIO

ABSTRACT This article explores how a devastating hunger crisis, which seemed destined to accompany the COVID-19 pandemic in the United States, was thwarted by historic federal emergency food policy interventions. We outline the vital public policy innovations in food access launched during the COVID-19 pandemic as well as the nonprofit emergency food network programs designed to implement and accompany these policies. In particular, we focus on innovations that addressed hunger for two vulnerable groups, children and the elderly, and we describe how these innovations increased food access. Finally, we advocate for the continuation of COVID-19 anti-hunger pandemic policies in the "next normal" because they reveal a path to end hunger that preserves people's dignity and provides healthy and affordable food access for all.

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Expanded SNAP Benefits Boosted Food Security During the COVID-19 Emergency, Study Finds

Households in the food assistance program made healthier food purchases in 2020, additional research shows

ary 6, 2024

At the height of the pandemic, households receiving SNAP benefits were more likely to be able to access sufficient and nutritious food, researchers from the University of Minnesota found.

As part of federal financial assistance during the COVID-19 emergency, U.S. lawmakers expanded SNAP, or the Supplemental Nutrition Assistance Program, formerly known as food stamps. Changes included streamlining the application process, opening eligibility to more groups (including students and other adults out of work), and increasing benefits for existing participants.

Inflation: while food insecurity increases following the pandemic are mostly attributed to the rolling back of pandemic-era programs, food insecurity can also be blamed on unprecedented rates of inflation seen in 2022. Food prices grew faster than anytime in the previous two decades in 2022. This likely strained budgets, especially for Alaskans where food prices are notably higher than in the lower 48 states.

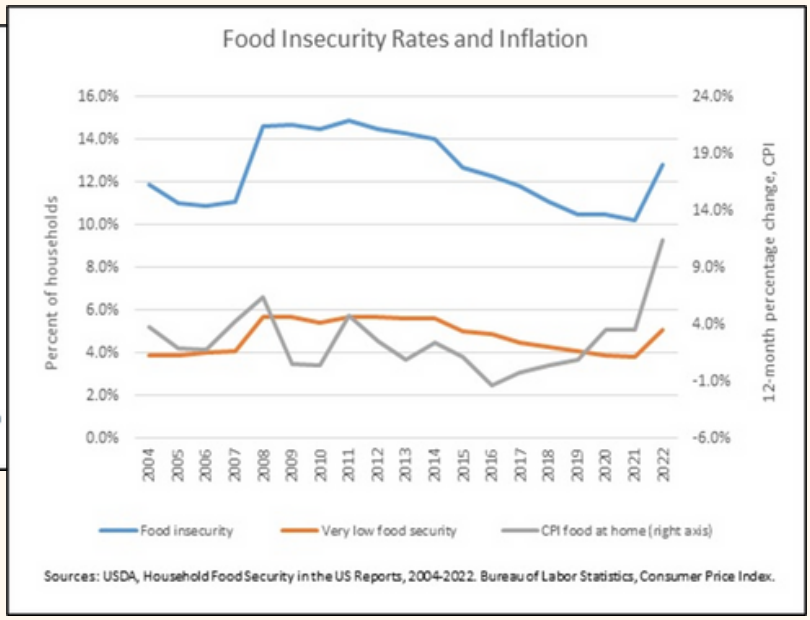
Food Insecurity in the US and Inflation

By Angela Rachidi

AEIdeas

October 27, 2023

The US Department of Agriculture (USDA) has released its annual report on household food security—a survey that measures whether US households have "access at all times to enough food for an active, healthy lifestyle." The report documented the largest yearly increase in food insecurity since the Great Recession—increasing from 10.2 to 12.8 percent of all US households from 2021 to 2022. Although Agriculture Secretary Tom Vilsack implied this increase is mostly attributable to the rolling back of pandemic-era programs, its causes are more complex. Although the discontinuation of certain pandemic-era supports and a methodological change in the food security survey are probable contributors, the primary cause of food insecurity increases likely stem from the unprecedented food inflation witnessed in 2022.



In the News:

Backlog of SNAP Benefits: beginning in 2022 over 15,000 Alaskans, many of which were families with children, were waiting months for food aid. Sitkans who participated in focus groups for this project expressed continued frustration in November of 2023 over SNAP benefits, many of them still waiting up to 6 months for food aid.

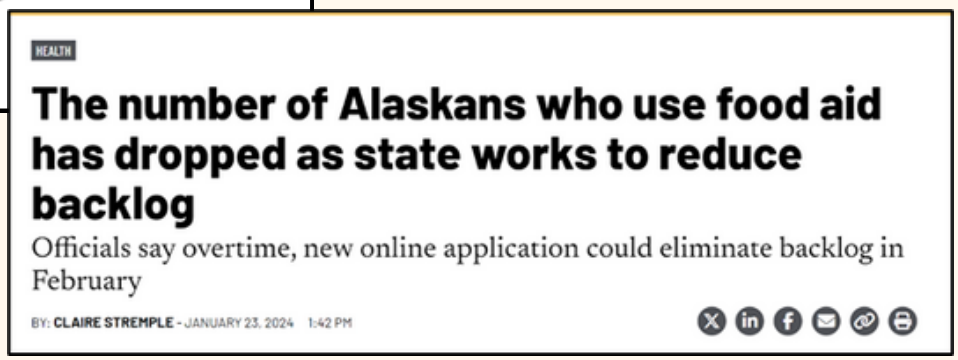
Alaska lawmaker says systemic changes to food stamps program will reduce backlog, save money

By Jeremy Hsieh, Alaska Public Media - Anchorage - February 22, 2024

Alaska News

'Ineffective and inefficient': Alaska gets another federal admonition as food stamp backlog drags on

By Annie Berman
Updated: February 2, 2024
Published: February 1, 2024



HEALTH

The number of Alaskans who use food aid has dropped as state works to reduce backlog

Officials say overtime, new online application could eliminate backlog in February

BY: CLAIRE STREMPLE - JANUARY 23, 2024 1:42 PM

Environmental changes: many subsistence harvesters and food growers interviewed for this assessment expressed concern over known and unknown environmental changes that may impact their ability to grow and harvest food.

FISH and FISHERIES

ORIGINAL ARTICLE | Open Access

Impact of the 2014–2016 marine heatwave on US and Canada West Coast fisheries: Surprises and lessons from key case studies

Correction(s) for this article

Christopher M. Free, Sean C. Anderson, Elizabeth A. Hellmers, Barbara A. Muhling, Michael O. Navarro, Kate Richerson, Lauren A. Rogers, William H. Satterthwaite, Andrew R. Thompson ... See all authors

First published: 20 April 2023 | https://doi.org/10.1111/faf.12753 | Citations: 5

Rampant heatwaves threaten food security of entire planet, scientists warn

After hottest day ever, researchers say global heating may mean future of crop failures on land and 'silent dying' in the oceans

A stag takes a drink at Dülmen wildlife reserve in Münsterland, Germany, on a sweltering day this summer. Photograph: Imageplotter/Alamy

Sitka Food Facts: Then vs. Now

2013 Survey	2023 Survey	So what?
22% of survey respondents had less than a week of food stored in case of an emergency.	**26%** of survey respondents had less than a week of food stored in case of an emergency.	The number of respondents that had less than a week of food on hand went up slightly in 2023.
77% of survey respondents **preserve or save food** for future use.	**80%** of survey respondents **preserve or save food** for future use.	Preserving and saving food is an important part of food security in Sitka.
415 out of 422 survey respondents report **shopping locally for food.**	**380 out of 387** survey respondents report **shopping locally for food.**	Sitkans get food in a multitude of ways, but local shopping remains necessary.
24% of survey respondents receive fish game and game from friends and family.	**49% of survey respondents receive fish game and game** from friends and family.	Survey respondents reported receiving more fish and game from friends and family in 2023. A question discrepancy in 2023 (exclusion of "harvest myself" as an answer) might have skewed harvest and sharing numbers in 2023.
6,409 king, 741 sockeye salmon, and 2,482 halibut were sport caught by Alaska residents in 2013.	**3,485 king, 309 sockeye salmon, and 1, 393 halibut** were sport caught by Alaska residents in 2022.	For unknown reasons, fewer fish were sport caught in 2022 (most recent year data was available) than in 2013. Further research is needed to understand why.
128,657 king and 341,388 sockeye salmon were subsistence harvested across Alaska in 2011.	**82,509 king and 272,335 sockeye salmon** were subsistence across Alaska harvested in 2020.	For unknown reasons, fewer fish were caught through subsistence methods in 2020 (most recent year data was available) than in 2013. Further research is needed to understand why.
132,748 est. lbs of deer meet was harvested in Sitka in 2011.	**89,816 est. lbs of deer meet** was harvested in Sitka in 2022.	For unknown reasons, fewer deer are being harvested than in 2013. Further research is needed to understand why.

2013 Survey	2023 Survey	So What?
60% of STA's Tribal Needs Assessment respondents reported **not being able** to **consume as much of their traditional and customary foods as they'd like.**	**More than 50% of all households surveyed** in STA's Tribal Needs Assessment would like to **eat more of each traditional food** listed with the exception of seal meat/oil & "other".	Tribal Citizens would eat more traditional foods if they could.
8% of survey respondents borrow money or food to feed their families each week.	**15%** of survey respondents borrow money or food to feed their families each week.	Sitkans are relaying more on support networks to make ends meet.
$1,645,702 Food Stamp dollars were **redeemed in Sitka** in 2012.	------	Data was not available from the Alaska Department of Health and Social Services (ADHSS) in 2023.
1,410 Sitkans and 766 households participated in the **Food Stamp Program** in 2013.	**769 Sitkans and 212 households** participated in the **Food Stamp Program** in 2023.	Fewer Sitkans received Food Stamp (SNAP) benefits in 2023.
299 individuals received food pantry assistance from **Salvation Army**. **7,243 meals were served in 2013.**	**70** individuals received food pantry assistance from **Salvation Army**. **8,750 meals were served between Aug.-Dec. 2023**	3x the amount of hot meals are being provided in 2023 as they were in 2013. While less individual Sitkans are receiving help.
56 children/week at Xoots & Keet Goshi Heen Elementary School participated in the **Blessings in a Backpack program**.	**80 children/week** at Xoots & Keet Goshi Heen Elementary School participated in the **Blessings in a Backpack program**.	Additional families are requiring weekly food assistance.
26% of Sitka School District students qualify for **free and reduced lunch**. **56% of Mt. Edgecumbe students qualify.**	**40%** of Sitka School District students qualify for **free and reduced lunch**. **74% of Mt. Edgecumbe students qualify.**	More students quality for free and reduced lunches at all school compared to 2013. All Mt.Edgecumbe students receive free breakfast and lunch.

Demographics:

What?

Food insecurity burdens are often not distributed equally across groups. For example, Alaska Natives, particularly those living in rural areas, experience some of the highest rates of food insecurity in Alaska (Nikolaus, 2022). Household income and age are other important indicators for understanding food insecurity and who in a community may be impacted.

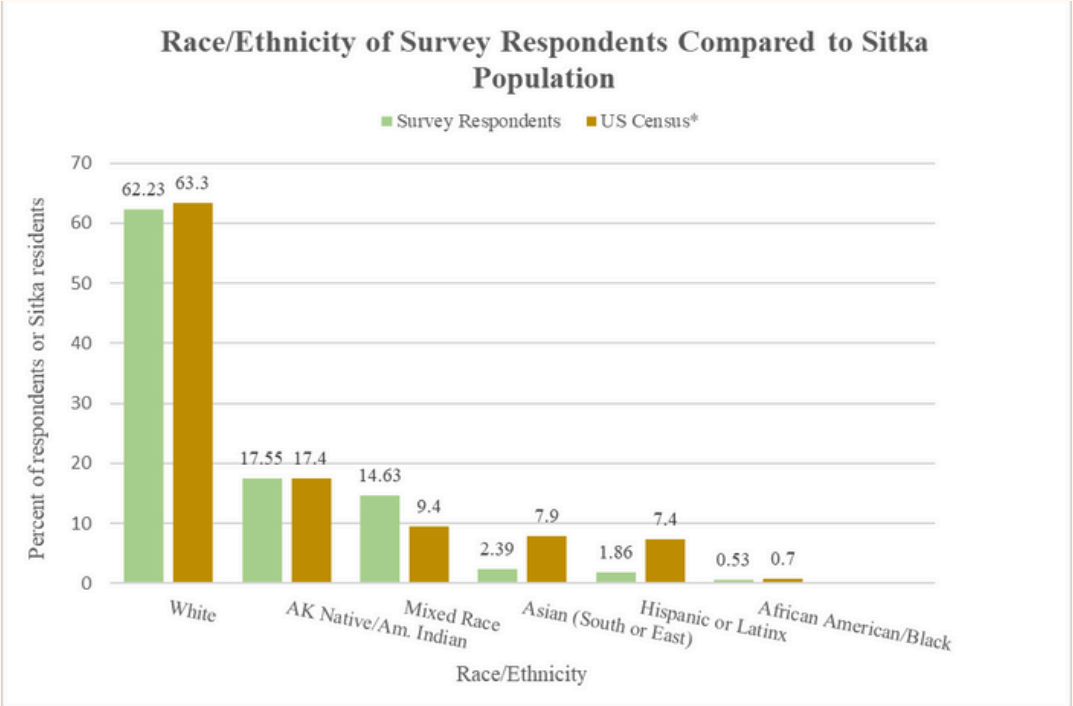
So What?

Based on a comparison of US Census data, the racial identities of survey respondents is relatively consistent with the racial composition of the general population of Sitka residents. Survey respondents were more likely to be white, however Alaska Native representation was consistent with Sitka's overall population profile (Graph 1). Asian and Latinx people were underrepresented in the survey conducted for the assessment. However, Asian identified participants made up 24% of focus group participants.

Survey participants' incomes in the lower and middle ranges (less than $50,000 and between $50,000-$100,000) were consistent with the incomes of Sitka's overall population, according to the US Census.

Higher incomes (over $100,000) were underrepresented in the survey (Graphs 2 &3).
Sitka's overall population is slightly declining, with a loss of 750 residents over a 10 year period. The median age is growing older, rising from a median age of 36 to a median age of 41 over a 10 year period (Graphs 4 & 5).
Overall, these results are representative of Sitka and can speak to what is happening in our community.

Graph 1: Race and Ethnicity



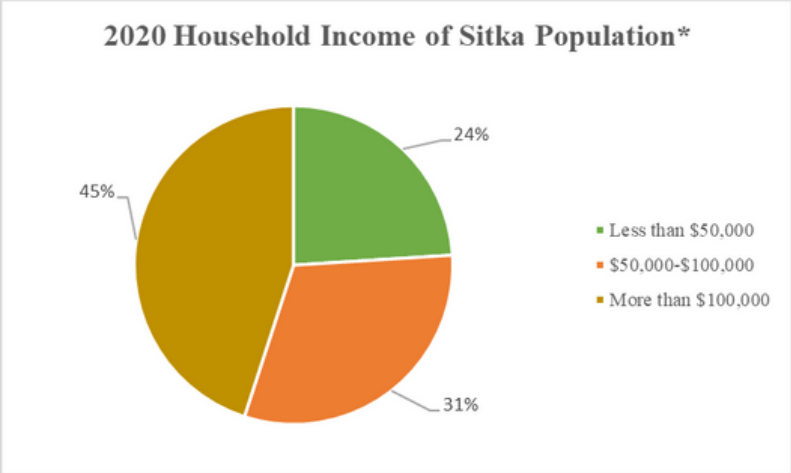
Graph 1 compares the racial identity of survey participants to the overall Sitka population via the *US Census.

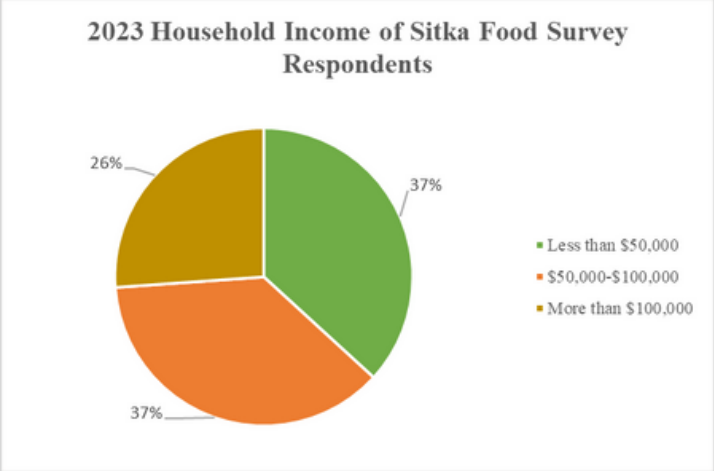
*Data Source: Alaska Workforce Development via US Census

Nikolaus CJ et al. 2022. Food Insecurity among American Indian and Alaska Native People: A Scoping Review to Inform Future Research and Policy Needs. *Adv Nutr.*

Demographics:

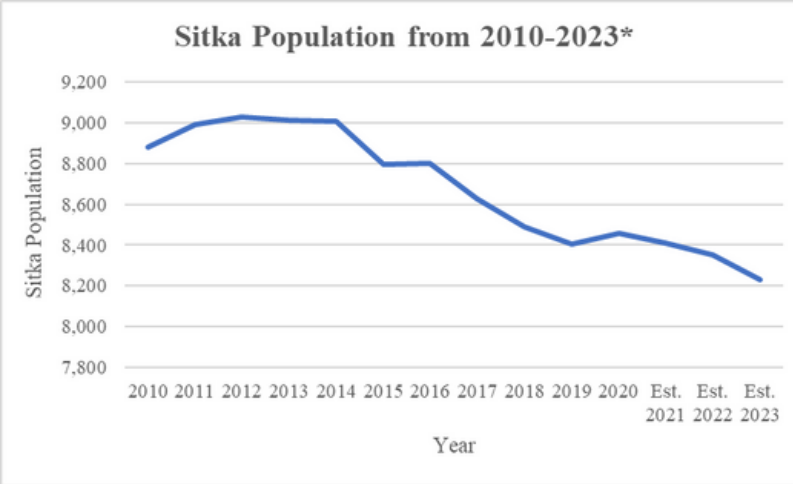
Graphs 2 & 3: Household Income

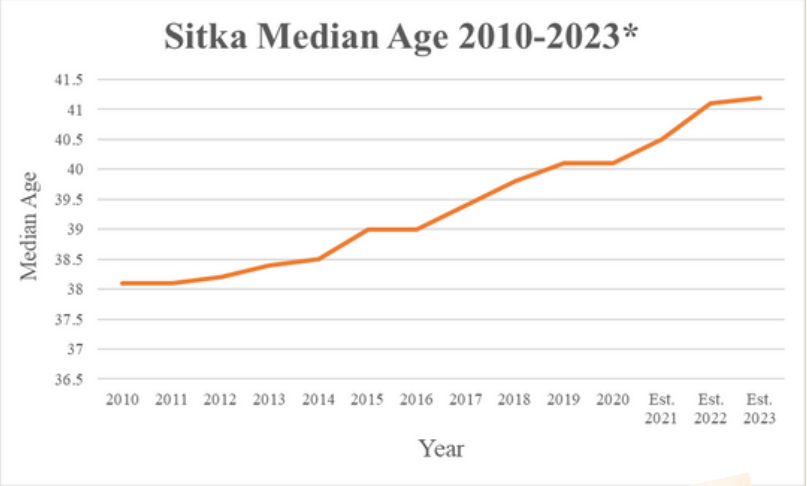




Graphs 2 & 3 compare the income of survey participants to *US Census data for the total population of Sitka residents.

Graphs 4 & 5: Population and Age Trends





Graphs 4 & 5 shows Sitka's population and age trends over the past 13 years.

*Data Source: Alaska Workforce Development via US Census

Hunt,Fish,Gather,Grow

Subsistence and Sport Harvest- Sitka's sharing economy

What?

Sitka has a strong tradition of subsistence harvesting and sharing food with those who do not have access or the ability to hunt, fish, and gather for themselves (Graph 1). The data also suggests that Sitkans are generous (Graph 2). Many Sitkans noted that this generosity enabled them to have wild, local, and traditional foods that would otherwise not be accessible to them. Sitka's rural status under federal subsistence regulations provides all Sitkans with access to traditional, wild, and local food.

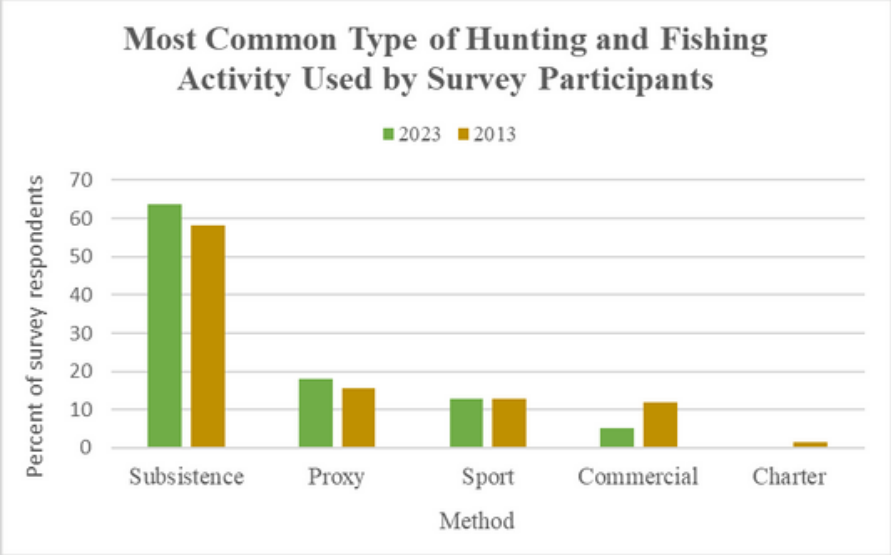
So What?

Lingít Aaní has provided sustenance for Tlingit and Haida people since time immemorial. The land and water around Sitka continues to nourish people spiritually, culturally, and nutritionally. This makes the informal economy of sharing and bartering important for different groups in the community. Sustaining the abundance of these resources and assuring community access in the future is vital for the health of the community.

What Next?

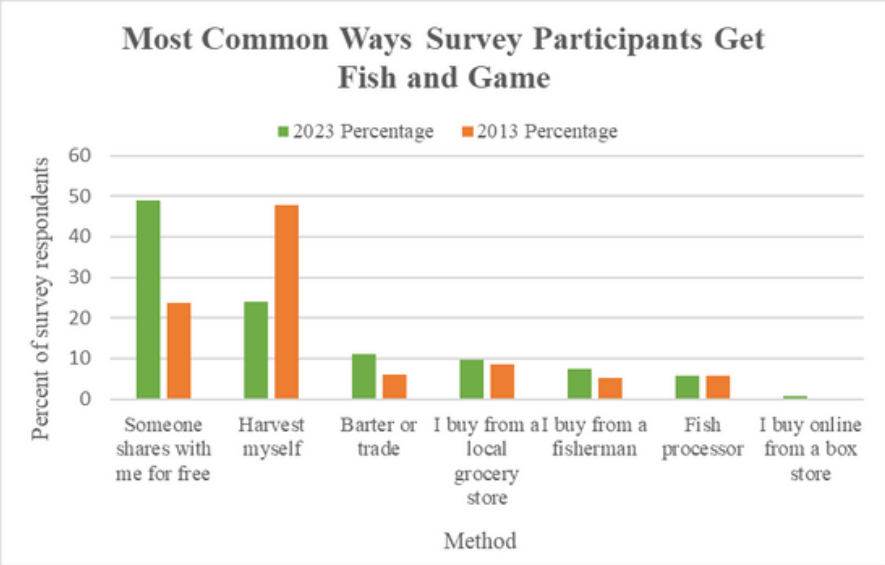
A federal rural designation is crucial to protect subsistence rights for the entire community. Moving forward, access to subsistence harvests may be negatively impacted by a loss of rural designation. Providing evidence for how critical the rural designation is for food security will be essential. Changes to proxy regulations would also make the culture of sharing easier and more expansive. This could include expanding beneficiaries to include low income community members, people receiving federal or state assistance, and/or single working parents.

Graph 1: Type of Harvesting Activity by Participants



Graph 1 compares the type of hunting and fishing activity from the SFSS in 2013 and 2023.

Graph 2: How Survey Participants Get Food



Graph 2 compares the most common ways* survey participants got fish and game in 2013 and 2023.

*A question discrepancy in 2023 (exclusion of "harvest myself" as an answer) might have skewed harest and sharing numbers in 2023.

Hunt,Fish,Gather,Grow

Subsistence and Sport Harvest - regulations hinder access

What?

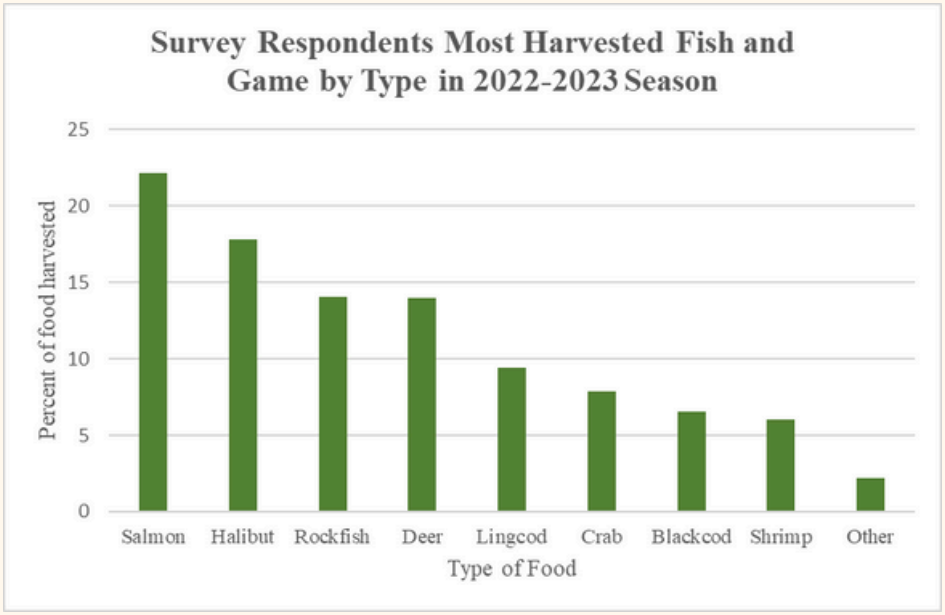
Historically, there has been an abundance of healthy food all around and within Sitka. Sitkans interviewed on resource management cited growing concerns about the longevity of resources, and land stewardship. Survey respondents indicated that salmon, halibut, rockfish, and deer were some of the most harvested species in 2023 (Graph 1).

Deer harvest data provided by the Alaska Department of Fish Game showed annual fluctuations but appears to be on a downward trend (Graph 2), with the 2023 harvest almost 89,000 pounds lower than in 2013. Similarly, subsistence salmon harvest is down from 1,170,446 fish in 1994 to 618,765 fish in 2020. A loss of 551,681 fish (Table 1).

So What?

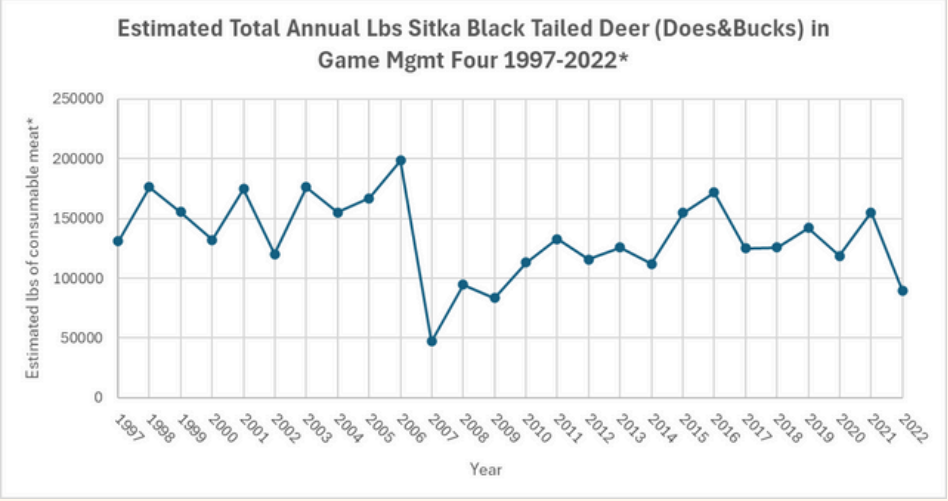
Respondents indicated that hunting and fishing are critical for food security in Sitka. Many people hunt and fish to fill their freezers, their stomachs, and their spirits. To access fish and game people have to understand complex rules and regulations that don't allow for a lot of flexibility. Changes to our environment, animal behavior, and population changes all impact a resident's ability to practice subsistence activities, and changes to hunting and fishing regulations can reflect that (Ristroph, 2021).

Graph 1 : Most Harvested Fish and Game



Graph 1 displays the proportions of the most harvested fish and game in 2022-2023 as reported by survey respondents. This data was not collected in 2013.

Graph 2: Estimated Total Annual Pounds of Deer



Graph 2 displays estimated lbs for deer harvested in the mgmt area that includes Sitka* (2).

*Data Source: Alaska Department of Fish and Game, Sitka Black Tailed Deer Harvest Statistics

1. Ristroph, Barrett (2021) Still Melting: How Climate Change and Subsistence Laws Contrain Alaska Native Village Adaptation. Colorado Natural Resource, Energy & Environmental Law Review. 30 (2).

2. Estimates calculated by taking the percent of population (males vs females) x est. number of individuals harvested*Usable Meat per Yearling or Adult= Estimated Total Pounds. Data provided by the Alaska Department of Fish and Game.

What Next?

More opportunities for meaningful co-management between Tribes and subsistence agencies that does not result in tokenization or mere consultation between groups is essential. The Alaska Eskimo Whaling Commission provides an example of what this could look like in Southeast Alaska.

Agencies could also make regulations more adaptable by adjusting regulations in response to environmental changes such as landslides or heavy snowfall.

Decision making bodies like the Board of Fish and the Board of Game have been criticized for being exclusionary. These agencies could start to remedy this by recognizing community knowledge, and increasing representation from Alaska Native communities. This could ensure responsiveness to local conditions and support long-standing local cultural practices for fostering resource abundance.

Table 1: Estimated Salmon Harvest 1994-2020

Table 2-2.–Historical Alaska subsistence salmon harvests, 1994–2020.

	Households or permits		Estimated salmon harvest					
Year	Total	Surveyed or returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1994	15,493	10,553	183,936	338,946	135,896	417,199	94,469	1,170,446
1995	15,596	10,328	180,805	291,539	120,048	499,992	54,908	1,147,292
1996	16,512	11,789	158,369	320,821	121,381	498,525	80,928	1,180,026
1997	17,668	12,863	176,703	376,397	98,883	347,808	41,543	1,041,335
1998	17,772	12,513	170,271	328,857	93,055	302,037	74,216	968,436
1999	17,290	12,763	155,088	358,866	89,627	338,351	32,402	974,334
2000	16,678	12,765	130,822	296,875	99,338	247,337	51,714	826,087
2001	18,693	13,061	161,632	340,411	98,517	240,581	42,435	883,576
2002	17,266	13,026	142,459	299,182	92,192	229,179	85,431	848,443
2003	18,131	13,211	164,555	324,539	106,488	238,582	66,794	900,958
2004	18,374	13,549	173,746	332,543	100,860	239,811	91,597	938,557
2005	16,256	11,013	153,431	323,218	97,993	257,200	76,071	907,912
2006	16,988	11,400	139,815	314,435	93,478	291,510	73,234	912,473
2007	17,068	10,374	154,974	319,885	78,704	273,802	33,513	860,877
2008	17,226	11,248	174,115	315,040	113,242	270,502	85,842	958,741
2009	16,989	11,607	141,302	296,104	86,363	213,835	38,038	775,642
2010	16,020	11,381	133,252	326,363	80,217	235,763	59,031	834,627
2011	17,181	12,155	128,657	341,388	77,180	257,032	35,646	839,903
2012	18,598	11,970	74,381	344,071	80,275	367,692	69,051	935,470
2013	18,676	13,190	83,729	347,834	81,295	360,920	29,963	903,741
2014	21,577	14,236	42,661	348,651	115,085	357,579	68,621	932,596
2015	21,501	13,847	61,567	351,339	95,756	315,973	48,512	860,809
2016	22,223	14,771	84,760	332,421	87,439	318,241	74,408	897,269
2017	21,876	14,044	82,198	308,421	92,359	325,446	54,506	862,930
2018	22,777	13,927	84,983	265,011	69,043	268,611	49,819	737,467
2019	22,889	14,490	114,594	303,314	75,281	233,610	48,877	775,677
2020	21,342	13,098	82,509	272,335	69,136	141,104	53,681	618,765
5-year average (2015–2019)	22,253	14,216	85,620	312,101	83,976	292,376	55,224	826,830
10-year average (2010–2019)	20,332	13,401	89,078	326,881	85,393	304,087	53,843	858,049
Historical average (1994–2019)	18,358	12,541	132,800	324,864	95,385	305,658	60,060	918,293

Source ADF&G Division of Subsistence, ASFDB 2020 (ADF&G 2023).

Note Included in this table are all harvest estimates based upon annual harvest monitoring programs.

Table displays estimated number of salmon harvest through subsistence means across Alaska*.

"[When asked about hunting and fishing regulations] sometimes you just want to become an outlaw, just to keep up with everything."

Participant of Traditional and Customary Foods Focus Group

Photo credit: KCAW Raven Radio

*Data Source: ADF&G Division of Subsistence, ASFDB 2020.

Hunt,Fish,Gather,Grow

Wild Game and Seafood - significant elements of Sitkans' diets

What?

Sitkans eat a lot of locally harvested wild game and seafood! 55.9% of survey respondents reported eating wild game and/or seafood several times a week (Graph 1). The steering committee also estimated what it would cost to replace some of these sources of protein with a similar food if Sitkans were to purchase them at local grocery stores.

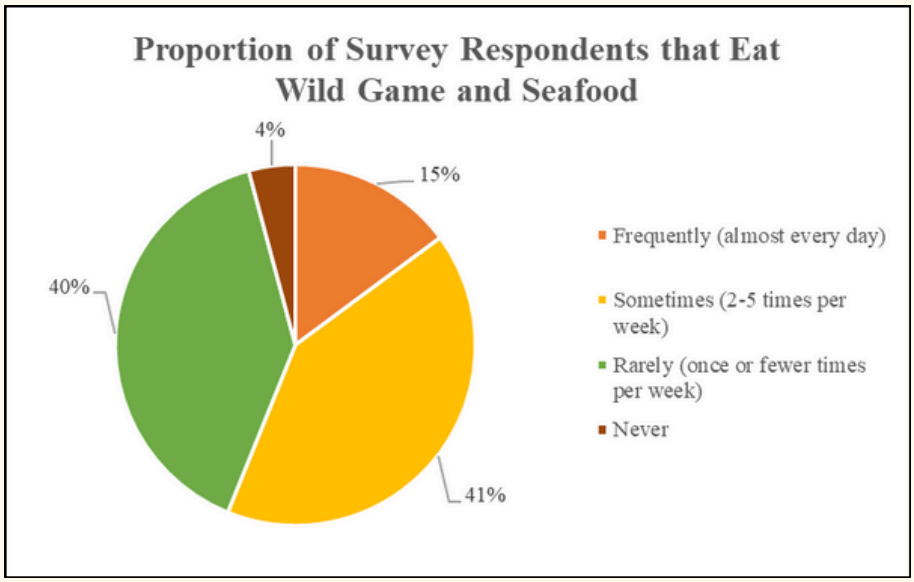
So What?

Eating wild and traditional foods provides access to healthy proteins, connection to cultural traditions, and a way to offset grocery store bills. Purchasing these foods at the store would be extremely cost prohibitive (Graph 2), but harvesting is also expensive. Sitkans interviewed spoke of the challenges associated with accessing traditional and wild foods including fuel and equipment costs, lack of knowledge or lack of equipment.

What Next?

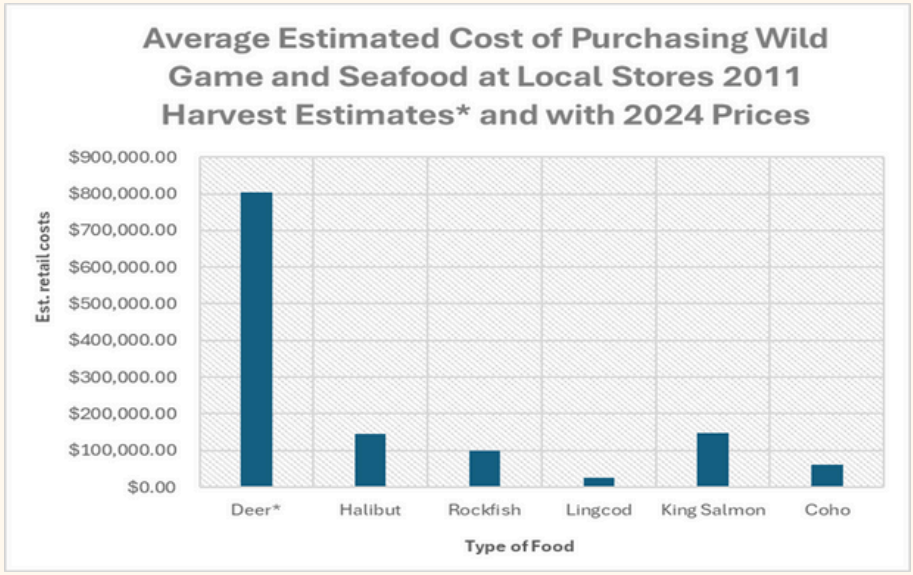
Sitkans want to harvest their own foods, but there are numerous barriers to doing so. Providing programs to offset the costs of eating wild game and seafood, like subsidies for fuel or equipment, were suggested as one way of helping Sitkans. Support for additional hands-on programs to teach traditional cultural knowledge and subsistence skills may also be a critical investment for ensuring local food security in the long run. A boat sharing program could also help to give Sitkans a safe and more affordable option for harvesting their own foods.

Graph 1 : Percent of Respondents that Eat Game and Fish



Graph 1 displays the proportions of how frequently survey respondents ate wild game and seafood.

Graph 2: Average Cost to Replace Game and Seafood



Graph 1 displays how much it would cost to replace certain game and fish species based on estimated pounds harvested and average retail costs.

"Culture is healing. When I think of deer meat I can taste it in my mouth. When I think of seal grease I can taste it without even having it in front of me. It is in our bodies. I feel like if we were to invest in the Tlingit culture and show [people how to harvest] and provide them the resources to get their own food, that's healthy."

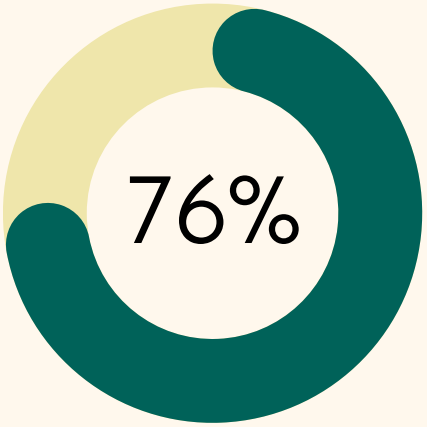
Melanie Boord, STA Social Services Director

Hunt,Fish,Gather,Grow

Key Informant Sitka Tribe of Alaska (STA)

What?

STA fought hard to be able to provide traditional foods to Elders and Tribal Citizens through their Traditional Foods Distribution Program. In 2017 STA conducted a Tribal Needs Assessment and asked tribal citizens to rank the **most important subsistence issue (bold)** and the ***most pressing climate change issue (italics)***.



76% of Tribal Citizens said they were very concerned about the future stock of Yaaw (Herring) in the 2017 Tribal Needs Assessment.

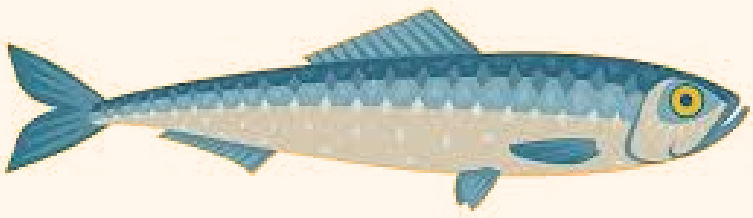
1. **Protection of tribal citizens' rights to access subsistence resources.**
   Decrease in ocean productivity.
2. **Protection of and access to herring.**
   Impact on freshwater systems.
3. **Heavy metal contamination of subsistence foods.**
   Monitoring and testing of Harmful Algal Blooms.
4. **Impacts of climate change on subsistence resources.**
   Effects on wild plants.

So What?

The Sitka Tribe of Alaska's Traditional Foods Program is the only way many Tribal Citizens can get traditional foods, without having to harvest or purchase it themselves. However this program faces hurdles, including staffing and boat maintenance issues, and is insufficient to meet community needs solely. From June 2023 to March 2024 largely no one was employed in the Traditional Foods Program

What Next?

Many focus group participants indicated that their families would benefit from learning traditional harvesting skills. Regular access to a boat would was also seen as a way to access traditional foods more frequently than is currently provided by the STA Traditional Foods Program .

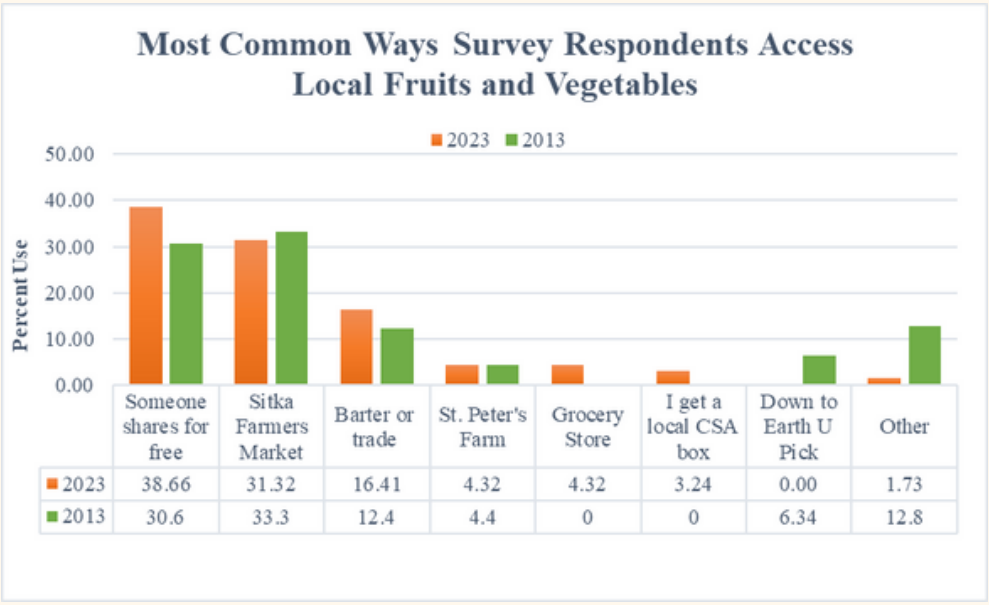


Data Source: 2017 Tribal Needs Assessment

Hunt,Fish,Gather,Grow

Growing and Eating Local Fruits and Vegetables

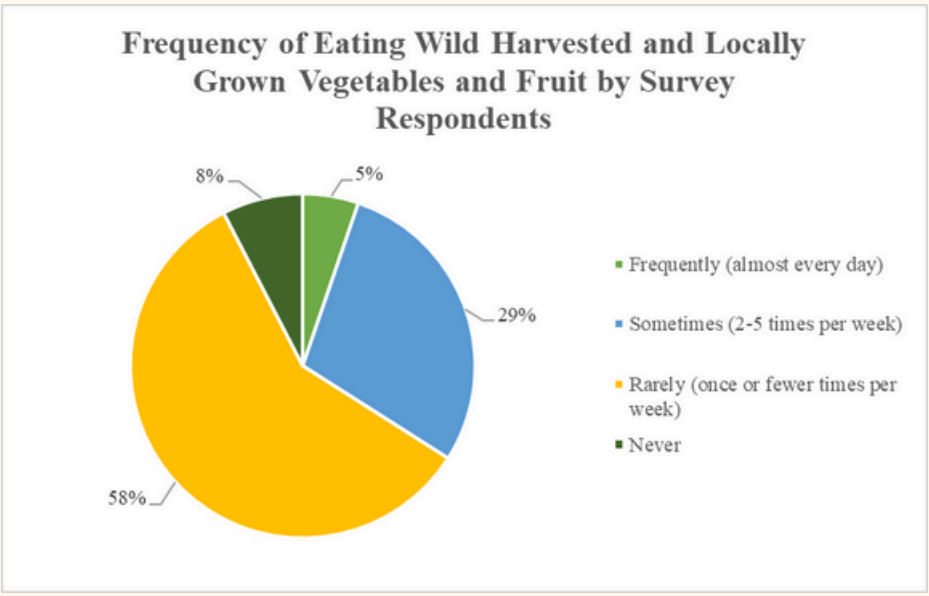
Graph 1 : Common Ways Respondents Access Local Fruits and Vegetables



	Someone shares for free	Sitka Farmers Market	Barter or trade	St. Peter's Farm	Grocery Store	I get a local CSA box	Down to Earth U Pick	Other
2023	38.66	31.32	16.41	4.32	4.32	3.24	0.00	1.73
2013	30.6	33.3	12.4	4.4	0	0	6.34	12.8

Graph 1 compares the proportions of the different methods survey respondents used to access local fruits and vegetables in 2013 vs 2023.

Graph 2: How Often Survey Participants are Eating Local Fruits and Vegetables



Graph 2 compares the proportions of the different methods survey respondents used to access local fruits and vegetables in 2023.

What?

Sitkans get their local fruits and vegetables mostly from the generosity of family and friends and from the Sitka Farmers Market (Graph 1). 34% of survey respondents reported eating locally produced or harvested vegetables and fruit a few times per week, which is almost 10% higher than in 2013 (Graph 2). Many participants cited cost as the biggest barrier to buying local produce. Survey respondents noted age, knowledge of local plants, and fear of bears also prevented wild harvesting.

So What?

Food security isn't just about access to food, it's about access to nutritionally dense food like fruits and vegetables. Local foods also have the added benefit of less carbon input and offer the added bonus of exercise when working to produce, gather or harvest these foods. Additionally, higher fruit and vegetable intakes have been cited as a protective factor against chronic diseases such as cancer and heart disease (Healthy People 2030).

What Next?

Sitka residents can redeem SNAP and WIC benefits at the Farmers Market, but yearly redemption rates are low. Outreach to get more Sitkans aware of this benefit and get them comfortable at the Farmers Market may help to raise redemption rates. Continuing to provide cooking classes will help more Sitkans use locally produced fresh food. Local, state, and federal subsidies provided to local farmers to provide them a living wage would also help to reduce costs at the farmer's market.

1. Healthy People 2030. *Office of Disease Prevention and Health Promotion*. https://health.gov/healthypeople

Hunt,Fish,Gather,Grow

Spotlight on Household Gardening

What?

The percentage of survey respondents who gardened in 2013 was similar to those who gardened in 2023: 52% in 2013 compared to 53% in 2023. The most common reasons for not gardening in the survey included a lack of space, a lack of knowledge, a lack of time, and cost. Since the closure of the Blatchley Community Garden site in 2016 many Sitka residents have not had access to low cost garden rental space for growing food. Additionally, a lack of affordable and stable housing limits the amount of gardening renters are able to do.

So What?

Growing food in Sitka is challenging, but not impossible. Families that grow their own food can reduce their overall food costs. Rhubarb, kale, potatoes, and snap peas are just a few examples of nutrient-rich plants that grow well in Sitka. As the cost of purchasing groceries continues to increase and outpace local incomes, gardening is becoming more necessary. Community gardens help eliminate some of the starter costs, space constraints, and lack of knowledge many renters and first time gardeners face.

Figure 1: Jarvis Street Community Garden

What Next?

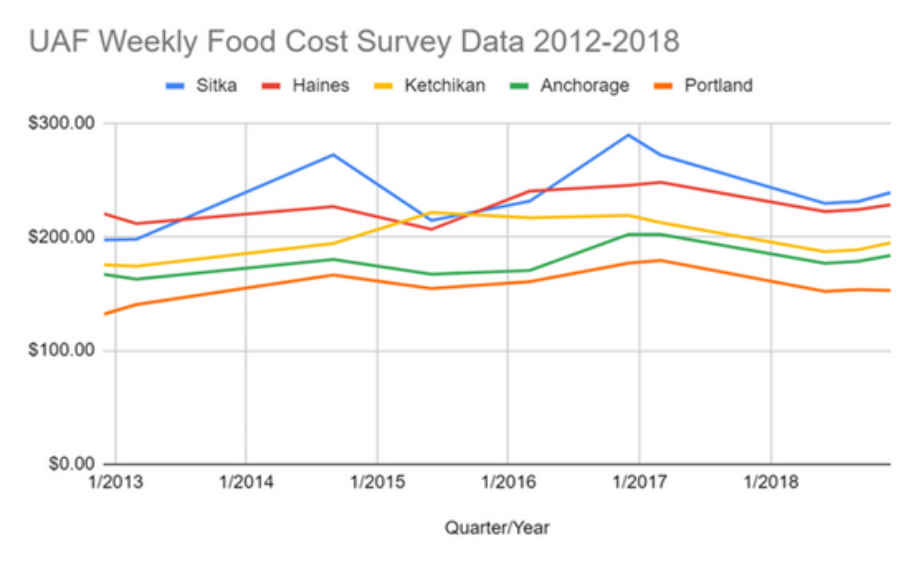
Design work has been completed on plans for a new ½-acre garden site at the end of Jarvis Street, coordinated by local non-profits (Figure 1) as has the City & Borough's lease application . The hope is to make this garden available for rent in Spring of 2026 with more than 40, ten-foot by twenty-foot garden plots. There continues to be a need for more community spaces in Sitka neighborhoods for gardens. There also is a need for more affordable housing. The City and Borough of Sitka is currently embarking on an effort to identify locations where new housing may be developed close to town. City planners should consider south-facing green spaces to be incorporated into the planning effort so that residents have the conditions necessary for growing food. Additionally, it is esstenial that Sitka Cooperative Extension Office continues to provide resources and training for growing food in Alaska.

Photo credit:Transition Sitka

Food Shopping

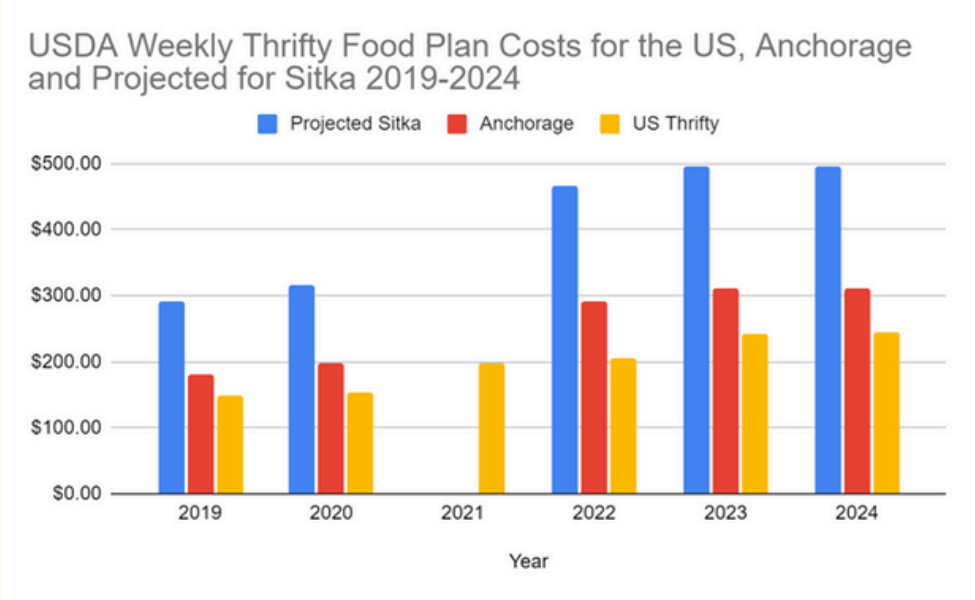
Price of Food

Graph 1: Comparison of the Weekly Cost of Food in Different Communities



Graph 1 displays the weekly cost of food between several communities in Alaska and the Lower 48. Data from UAF Cooperative Extension Service Food Cost Survey.

Graph 2: Weekly Thrifty Food Plan Costs for the US, Anchorage, and *Projected* Sitka Costs



Graph 2 displays the cost of the thrifty food plan in different locations between 2019 and 2024.

What?

According to the Food Cost Survey (1) food costs in Sitka showed a steady upward trend between 2012 and 2018 (the final year the Food Cost Survey was undertaken) rising by 21.3% over this period. Sitka food costs were 60% higher than Portland, Oregon; 30.1% higher than Anchorage; and 22.4% higher than Ketchikan (Graph 1). Without Sitka data provided by the UAF Food Cost Survey, the USDA's dataset on the cost of the Thrifty Food Plan (2) in Alaska (specifically Anchorage) and Hawaii was used. This dataset showed how food prices have changed between 2013 and 2023 (Graph 2). Sitka's cost for the Thrifty Food Plan was projected using the average difference between Anchorage and Sitka from 2012-2018 which was 31.6% and 57.6% higher than the US (3).

So What?

Food is expensive in Sitka, especially compared to Anchorage and the Lower 48. Rising food costs often require households to make hard choices about what foods they can afford. For households with fixed incomes, increasing food costs often mean making choices between paying for heat, medications or food. Many Sitkans are looking for ways to stretch their food buying power which may mean taking their food dollars online to get better deals or going without favorite or preferred foods.

What Next?

Participants at the April 2024 Food Summit confirmed the high cost of food in Sitka. They also posed important questions like why is food subject to municipal sales tax in Sitka? How can we reduce our food costs in Sitka? Grow more, support local farmers? How can we understand what's really contributing to higher food costs in Sitka - transportation costs? What about investing in hydro/aquaponics to grow greens in Sitka? Undertaking quarterly local surveys based on the various USDA plans in our local supermarkets could be a useful way to monitor this situation and inform planning.

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1. Survey conducted by the UAF Cooperative Extension Service
2. Note that the Consumer Price Index recorded an increase in food prices in the Lower 48 of 31.8% between 2019 and 2023.
3. USDA develops four food plans that estimate the cost of a nutritious diet across various price points—the Thrifty, Low-Cost, Moderate-Cost and Liberal Food Plans. The Thrifty Food Plan (TFP) is the lowest cost of the four. The TFP represents the cost to purchase groceries for a family of four – an adult male and female, ages 20-50, and two children, ages 6-8 and 9-11. The plan is designed to meet the nutritional needs of an average person consuming a healthy, cost-conscious diet at home. It serves as the basis for the Supplemental Nutrition Assistance Program (SNAP) maximum benefit allotments.

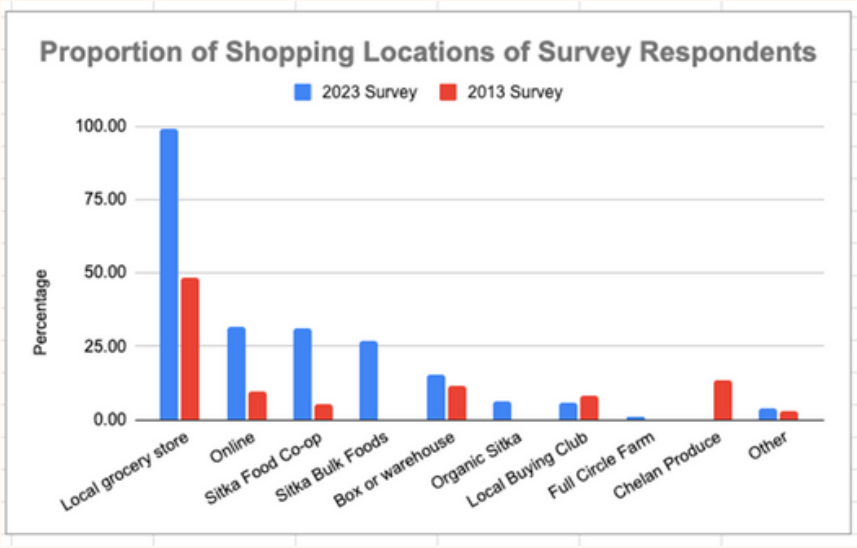
Food Shopping

Shopping Location

What?

Focus group findings and survey results show that Sitkans support local grocers with their food dollars. They are also using other grocery sources like the Sitka Food Co-op, Sitka Bulk Foods and online retailers to meet their food needs. While Chelan Produce closed during the COVID-19 epidemic in 2020, there has been an uptick in organic produce buying through both the Sitka Food Co-op and Organic Sitka, with a smaller percentage purchased through Full Circle Farm, based in Carnation, WA.

Graph 1: Where Sitka Food Survey Participants Shop



Graph 1 displays the proportion of survey respondents shopping locations and methods.

So What?

Sitkans have a desire to shop locally yet the alarming increase in food costs and the pressure it puts on household budgets is moving more Sitkans to enter into the online environment to secure better prices. The increase in Sitka Food Co-op memberships and the entry of Sitka Bulk Foods to the grocery landscape speak to the evolving need for additional choices focused on both price and quality. The food costs at the Sitka Food Co-op and Sitka Bulk Foods may also be cost prohibitive to Sitkans on tight budgets.

The Sitka Food Co-op emerged in 2011 and served 114 households with $74,020.37 in sales in 2012.

In 2023 there were 303 active households plus 219 non-paid members with $555,907 in gross sales plus another $165,118 in Blue Valley Meat and Azure Standard sales.*

What Next?

The City & Borough of Sitka, Sitka Economic Development Association and concerned Sitkans need to monitor rising food prices and explore what is contributing to higher prices in Sitka. Higher food prices add to the high cost of living in Sitka that can force people out or keep people from moving here for employment. Additionally, helping community members investigate lower cost ways to access food like establishing neighborhood buying clubs that use grocery options like Azure Standard or participating in the Sitka Food Co-op makes sense for motivated Sitkans who want to reduce their monthly grocery bill.

"PRICE!, PRICE!, PRICE!" - unanimously the primary driver as to where Food shopping focus group participants shop followed by "quality".

*Sitka Food Co-op 2023 Annual Report

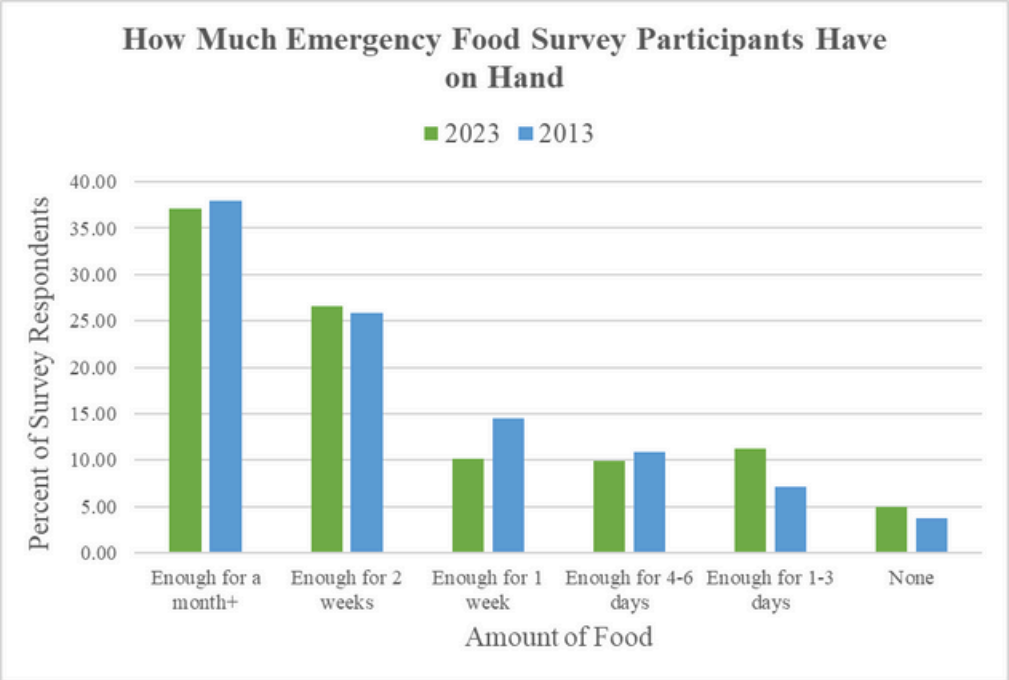
Food Shopping

Emergency Food and Planning

What?

While 63.7% of Sitkans reported having 2 weeks or more of emergency food stores on hand, close to a third don't have enough food to last even a week (Graph 1).This reflects no real change compared to the 2013 food assessment. However, people with lower incomes and those living in rental properties with limited storage are unlikely to have sufficient food if Sitka faced an emergency situation, especially if required to evacuate.

Graph 1: On Hand Food Reported by Survey Participants



Graph 1 displays how much food survey respondents reported having on hand in case of an emergency in 2013 vs. 2023.

So What?

While it's critical that every Sitka household has a 7-14 day supply of food and water in case of an emergency, including for pets, it's clear that a third of Sitka households are not prepared. This is due to either a shortage of space, a lack of financial resources, or both. Additionally, given that most Sitkans prefer freezing as their food preservation practice, stores of frozen fish, deer, berries and other foods are likely to be lost if the power is out for an extended period of time.

What Next?

The previous food assessment suggested that Sitka consider a community food caching system to safeguard food for emergency situations, similar to what was done in the City of Cannon Beach in Oregon. To date this idea has not gotten much traction. Now, with the increased understanding of the risks and impacts of landslides (and to a lesser extent earthquakes and tsunamis), it is important for the Local Emergency Planning Committee to direct attention to the creation of a community food caching system.

Food Assistance

Spotlight on Supplemental Nutrition Assistance Program (SNAP)

What?

In 2013 almost 800 households and 1,400 people were receiving SNAP benefits, while only 200 households and under 800 people were receiving the same benefits in 2023 (Graph 1). Participants in the food assistance focus group referenced long wait times, limited call hours, waiting up to 6 months for benefits to arrive, and/or receiving unhelpfully small amounts of assistance in 2023.

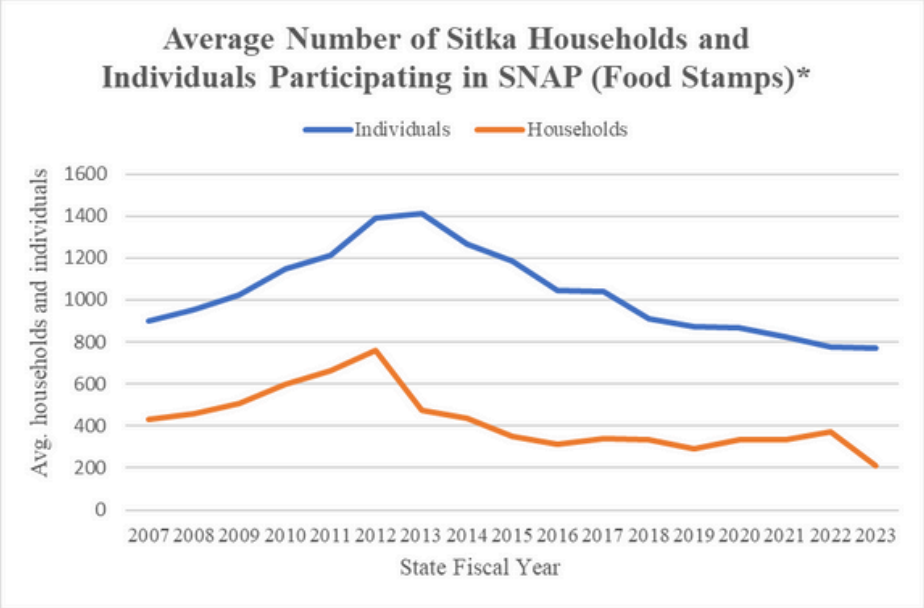
The percentage of survey respondents participating in SNAP decreased in 2023, while participation in other food assistance programs remained the same or increased (Graph 2).

Data from the Alaska Department of Health and Social Services shows wait times for benefits are getting shorter, but are still not back to previous 2022 levels (Graph 3).

So What?

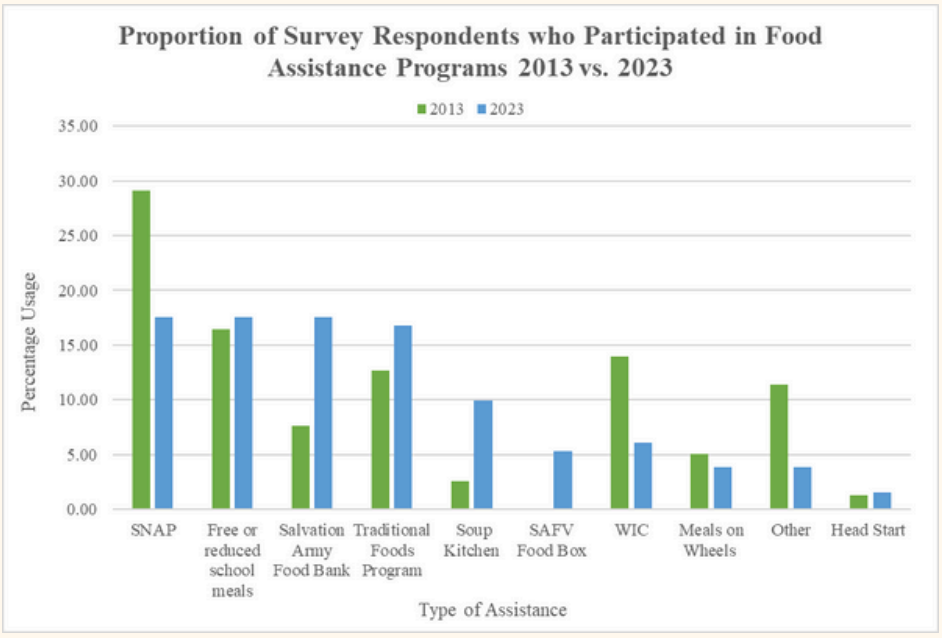
The steering committee feels this decline in SNAP participation is not necessarily due to a decrease in need, but rather a massive backlog of cases brought on by the COVID-19 pandemic, state staff shortages, and changes in eligibility requirements. Increased and continued participation in local food assistance programs indicates ongoing need.

Graph 1 : Average Participation of SNAP in Sitka*



Graph 1 shows the average number, for households and individuals, of participation of Sitka Residents in SNAP benefits*

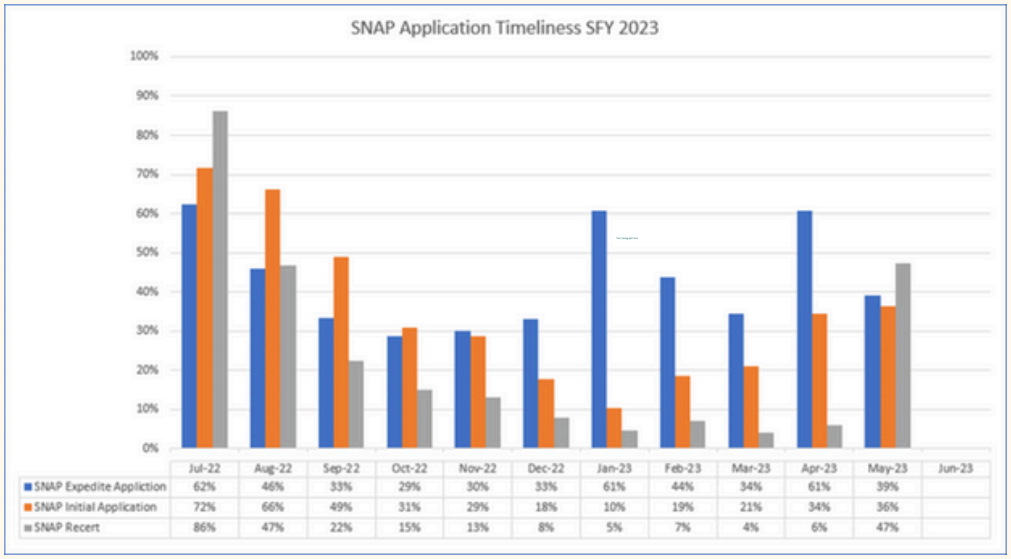
Graph 2: Proportion of Respondents Participating in SNAP in 2013 vs. 2023



Graph 2 compares the proportion of survey respondents utilizing different food assistance programs, including SNAP, in 2013 vs. 2023.

*Data Source: Alaska Department of Health and Social Services.

Graph 3: SNAP Application Timeliness State Fiscal Year 2023*



	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23
SNAP Expedite Appliction	62%	46%	33%	29%	30%	33%	61%	44%	34%	61%	39%	
SNAP Initial Application	72%	66%	49%	31%	29%	18%	10%	19%	21%	34%	36%	
SNAP Recert	86%	47%	22%	15%	13%	8%	5%	7%	4%	6%	47%	

Graph 3 displays the proportion of SNAP applications processed within a given month for SFY 2023 .

What Next?

Food Assistance is one method to increase food security. Though it isn't a perfect program, SNAP provides relief to many families and individuals. The USDA fined the state $11.9M for failing to ensure if SNAP recipients were eligible. Additionally, the state paused interviews to catch-up on the backlog and the USDA threatened to reduce funding for the program as a result. Currently the Division of Public Health is facing several lawsuits over its handling of SNAP and Medicaid applications. Some Alaskans are even being asked to repay benefits in the instances in which the State overestimated their need*.

How can the state prevent this from happening again? Lowering the "payment error rate", filling open staff positions, reducing staff onboarding times, and relaxing requirements for renewing applications could help. Additionally, federal agencies looking to reprimand negligent state agencies should not place the burden on people seeking services.

"[SNAP] Food stamps take a long time to process your application even if you are renewing your application. They have not reviewed it yet since August [it's December]. I have applied three or four times, and haven't even gotten a letter. It's just left in the dark. That is a big stresser. That is how I feed my kids. If it wasn't for SAFV and the Salvation Army my kids and I would be starving."

Food Assistance Focus Group Participant

*Information provided by the Alaska Public Media Article "USDA fines Alaska $11.9M for failing to ensure SNAP recipients are eligible".

Food Assistance

Spotlight on Sitkans Against Family Violence (SAFV)

What?

SAFV provides food boxes that are available to anyone in the community, no questions asked. SAFV gave away food boxes to 619 individuals between July 2023 and January 2024. Staff record the number of people in a household when someone requests a box and that number is then tallied. SAFV was not offering food boxes at this level in 2013, in part due to lack of community need.

So what?

Pandemic resources dwindled in Sitka and SNAP (food stamp) benefits were on hold. In response, SAFV began to see a higher number of calls from the community requesting food assistance in 2023. It soon became clear that the Salvation Army was the main resource to get food in Sitka. SAFV decided to more fully advertise food boxes to the community. All food that has been distributed to date has come through donations, food drives (sponsored by SAFV and the Coast Guard), and through grant donations that have allowed SAFV to buy food on a weekly basis.

Graph 1 : Community Participation in SAFV Boxes 2023-2024

Graph 1 shows the number of people utilizing SAFV food boxes between 2023 and 2024. Data does not distinguish households from individuals. As shown, the number of people accessing SAFV food boxes increases in 2024, with the highest month of need in January.

What next?

SAFV needs continued funding for food assistance and to host food drives. SAFV plans to continue to allocate staff hours to shopping and maintaining the food pantry, but there are concerns over state budget cuts to the Council on Domestic Violence and Sexual Assault. This highlights the importance of local, sustainable funding for programs.

"SAFV foodboxes have helped me tremendously. I can just call or text and I get my box that same day. It has saved me a lot. It has been a huge savior for me in the last couple months. Anytime I need it's available."

Food Assistance Focus Group Participant

Food Assistance

Spotlight on Salavation Army

What?

The Salvation Army provides a hot lunch Monday-Friday. They also have food commodities (food provided from the USDA) available once a month for up to 20 people. In addition, they reported giving out 1,000lbs of locally donated food each day between August 2023 and February 2024. In the last six months alone they have provided 3x the amount of meals served in all of 2013. Hot meals are made and distributed by volunteers each day. The Captains of the Salvation Army say volunteer shortages, lack of financial support from local government, and the need for food services in the community limits other work the organization would like to get done, such as building repairs and other community services.

1,750

Hot lunches per month since August of 2023.

1,000

Pounds of food being given out each day.

70+

Individuals receive assistance from the Salavation Army.

So What?

The Salvation Army fills a huge need for food and other assistance in our community. Some people receive their only hot meal of the day at the Salvation Army. Services like the food pantry at the Salvation Army are designed to provide temporary, emergency relief to people in need, but evidence from this assessment shows that more and more people are relying on these services on an everyday basis as opposed to an emergency need. This suggests that more people in our community are experiencing chronic food insecurity.

What next?

Support from the city in the form of rental assistance would help to take some of the burden off of families and non-profits. Utilities assistance is currently provided to low-income households, but better awareness of the Low Income Home Energy Assistance Program* and capacity to help households apply to this program would be beneficial. Other communities in Alaska have supported ordinances that remove taxes on food as one way to reduce the burden of food costs on residents.

"Everywhere [else] we've lived the city had an involvement in rental assistance and utility forgiveness. And often they were the ones that were coordinating that and passing [funds] out to the organizations. This is the only community I've ever been to that doesn't do that."

Captain Philip Mccutcheon, Salavation Army

*Low Income Home Energy Assistance Program (LIHEAP). https://www.acf.hhs.gov/ocs/programs/liheap.

Food Assistance

Other Food Assistance Services

What?

Many other organizations are spearheading efforts to fill gaps and provide services. The number and type of programs have changed since 2013 but organizations (often the same people and organizations) step-up to address needs.

So What?

Compassion fatigue is a real issue. If the same people and organizations are called to carry the burden time and time again, without broader community support, important services and resources for people in need may dwindle

What Next?

As Tribal Council Chairman Widmark stated "food is a community issue". It can't be solved by one entity or program. Having a wide diversity of funding available, program types, and eligibility requirements means a more resilient food system and more people accessing help.

SITKA PUBLIC LIBRARY

2022 Breakfast Program

Served breakfast to **225 children over 9 days.**

Sitka Seed Library

Provides seeds at no charge to community members.

No library card needed.

WHITE ELEPHANT

Provided $95,000 *in community grants in 2023. A large focus and portion of that funding went to community organizations conducting food security work.*

SITKA TRIBE OF ALASKA

Social Services

Distributed **633 grocery store cards** in 2023 for a cost of **$51, 010.** Transitional housing assisted **5 people** with groceries for a cost of **$2,800** in 2023**.** Emergency and General Assistance provided **15 people** with **$5794.50** in 2023.

Cultural Resources Education and Employment

Covered **73 school days of lunch** for families who did not qualify for reduced lunch. Lunches cost **$20,464.10 for 48 children in 2023.**

SITKA TRIBE OF ALASKA

Resource Protection- Traditional Foods Program

Gáax'w (herring eggs): Staff and volunteers harvested nearly 3,600 pounds of in 2024. More than 200 grocery bags of gáax'w and nearly 200 packages of roe on kelp were distrubuted. Nearly 600 pounds were frozen for future use.

Other resources harvested, processed, and delivered in the past year include **x̲'aakw (183 sockeye)**, **t'á (67 packages of king salmon and 102 heads)**, **coho salmon (62 packages**), **chum salmon eggs (5 packages)**, **cháatl (halibut) (140 packages of filets, 7 packages of cheeks), x̲'áax'w (ling cod) (three packages), léik̲'w (rockfish) (175 packages), saak (hooligan) (21 packages),g̲uwakaan (deer) (30 packages), tsaa (seal) (8 packages), jánwu (mountain goat) (16 packages), laak'ásk (black seaweed) (203 bags).**

SUNDAY MANNA MEALS

A rotating group of churches provided **1,032 meals** for **766 people** in 2023.

SITKA HOMELESS COALITION

Subway Meal Program

Served **157 meals to 37 unique individuals**

Lakeside Dinner Program

Supplied **2,564 meals to 201 adults and an estimated 12 children**.

In total, the program cost was $32,096.26.

In total, $13,321.43 was spent on meals programming in 2023. An estimated 1,091 meals were served to an estimated 114 individuals in 2023.

School Food Environment

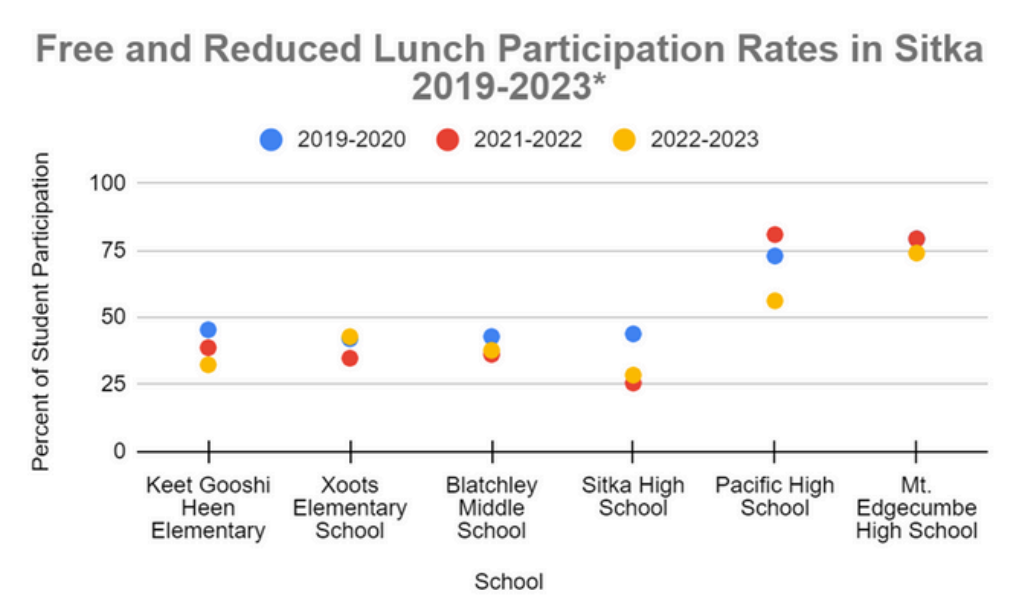
Free and Reduced Lunches

What?

Free and reduced lunch participation rates in Sitka, across all schools, has remained relatively constant since 2013 (Graph 1). Mt. Edgecumbe and Pacific High School have higher participation rates than other schools. Mt. Edgecumbe is considered a high poverty school, therefore all students receive free breakfast and lunch without having to fill out a household application. Pacific High has a garden program where students grow, harvest, and process local foods. Food that is grown in the garden is used in school lunches (see case studies).

The White Elephant non-profit paid off the debts of overdue lunch fees for the Sitka School district totaling approx. $5,000 in 2023. A Sitka Tribe of Alaska Program covered the bill of 48 students who did not qualify for free or reduced lunch totaling $20,464.10 in 2023.

Graph 1 : Community Participation in SAFV Boxes 2023-2024



Graph 1 shows the number of students who qualitfy and participate in Free and Reduced Lunches in Sitka from 2019 to 2023. Data before 2019 was not available.

Photo Credit: Alaska Department of Health

So What?

The free and reduced lunch program is an important piece of community food security, but it still does not capture all students. Budget cuts in the state are shrinking food budgets at schools while the price of food in schools shop by an astonishing 294% in 2023 (1). So the same amount of students qualify for free and reduced lunches, but debts remain and food costs more.

What Next?

Local schools are having to make tough budget decisions amongst budget cuts, rising costs, and staff cuts. Other concerns at the district level may lead to deprioritization of food issues. Participating in local school board meetings to advocate for more funding for school lunches and supporting local programs that increase food security in schools like the Sitka White Elephant, Sitka Tribe of Alaska Cultural Resources Education and Employment Program, the Pacific High Garden, Sitka 4-H, and Blessings in a Backpack remain critical.

*Data Source: Alaska Department of Education and Early Development

1. *Alaska schools struggling to keep up with the cost of food*,https://www.kfsk.org/2023/06/22/alaska-schools-cost-of-food/

Food Production

What?

The number and type of food producers in Sitka has changed since 2013. The fish and seafood industry is holding steady with three large producers, two local retailers, and an additional retail operation connecting consumers in the Midwest with Sitka sourced seafood. The number of produce growers remains steady, but they are aging and with that comes less available produce and Community Supported Agriculture shares. Food producer interviewees frequently commented on the lack of available land, difficulty making soil, and the significant challenges of growing food in Southeast Alaska. Mariculture is also an emerging area of food production for both shellfish and sea vegetables. Gardening in Sitka has held steady and it's unknown how many Sitkans are engaged in backyard animal husbandry.

Photo Credit: Outpost Agriculture

So What?

It's critical to point out that the cost of growing, harvesting, and adding value to products in Sitka is high due to both the input of raw materials and labor costs. This is seen as a key barrier to increasing production and adds an additional barrier to making local food available to Sitkans. Most of the producers interviewed spoke to incredible local consumer support for their products and increasing demand for local products and yet were unsure if it's financially feasible to expand to meet demand. Food production and local harvest at the household level becomes even more important given these barriers for consumers.

What Next?

Several of the growers talked about the potential of moving into hydroponic growing or controlled environment agriculture (CEA). This would address issues of land availability, lack of soil, and the challenges of the Southeast growing season. Outpost Agriculture, a non-profit hydroponic grower based in Ketchikan, is exploring moving their operation across Alaska using CEA technologies and Sitka is on the radar for a unit. Outpost Agriculture applied for a USDA Community Food Grant on behalf of Sitka but did not receive an award. Currently, the organization is exploring serious options for bringing a CEA to Sitka in the next several years.

An infusion of resources through the Mariculture Cluster Grant, part of the federal Build Back Better program, may prove promising. While there is quite a lot of testing, licensing, and permitting involved that adds to the start-up costs and time to get these mariculture operations "off the sea ground", this may offer a way to boost local food production. In order to increase availability to all income levels there needs to be not only public education around incorporating more sea vegetables and shellfish in one's diet, but also ways to bring the cost of these products down.

Increasing household food production requires a concentrated effort with coordination between UAF's Cooperative Extension Service, local non-profits, and tribal and city governments. An approach similar to the Victory Gardens grown during World War II might be impactful, as would looking into a local ordinance to make it easier for households to keep chickens and ducks.

Summary Findings and Policy Recommendations:

Summary Findings:

1. The Alaska SNAP Backlog is impacting local people.
2. Food in town is expensive and many people are struggling.
3. COVID-19 era programs and policies provided unique access to food-resources and support have diminished since the pandemic ended.
4. More Sitkans want to hunt, fish, and gather for food, but significant and multiple barriers to doing so exist.
5. Hydroponics and mariculture represent emerging sectors for local food production.

Top Solutions and Strategies:

1. Supporting a community-run food pantry to supplement other assistance services.
2. Additional educational programs on ethical harvesting techniques and providing more opportunities to learn how to fish/hunt, with access to equipment and knowledge.
3. Providing stipends and/or subsidies to support subsistence activities.
4. Encouraging stores and/or nonprofits to carry a larger section of Asian foods by providing a way to supplement costs to ship.
5. Supporting a city motion to remove the tax on food.

Thank you for your consideration and support!

Sitka Community Food Assesment

Sitka Rotary Club
Sitka White Elephant
AC Lakeside
Old Harbor Books
Sitka Sound Science Center
Sitka Tribe of Alaska
UAS Sitka Campus
Coffee with Elders
Sitka Homeless Coalition
Salvation Army
St. Gregory's Church
Sitka Lutheran Church
St. Peter's Episcopal Church
The United Method Church of Sitka
Sitka Pioneer's Home
Southeast Independent Living
Sitka Public Library
Sitka School District
Sitka Sentinel
SeaMart

KCAW Raven Radio
Sitka Farmers Market
Maybelle Fuller
Jackie DeBell
Mel Beadle
Elasah Quinn
Elizabeth Naz
Dr. Gabriel Garcia
Dr. Jenny Miller
Seamart
Barbara Bingham
Toby Campbell
Leah Mason
Kristina Tirman
John Lewis
Renee Trafton
Andrew Jylkka
Patric O'Donnell
Gretchen Steltzenmuller

Case Studies:

Sitka Conservation Society (SCS) and Fish to Schools Program

What?

SCS is a local nonprofit with the mission of protecting the natural environment of the Tongass National Forest, while supporting the development of socially, economically and environmentally sustainable communities across Southeast Alaska. Since 2011, SCS has coordinated the Fish to Schools donation drive, working with fishermen, seafood processors, the Sitka School District, Mt. Edgecumbe High School, and other schools to provide local, wild salmon and rockfish to local youth via school lunch programs. Fish to Schools typically distributes well **over 600 pounds of local seafood to schools each year**, but fish availability fluctuates year to year.

Photo credit: top photo Bon Appetite, bottom photo KCAW

So What?

The Fish to Schools program give Alaskan kids the opportunity to eat foods from their backyard, help offset rising lunch costs, and introduce omega 3 fatty acids, important for brain development. Recent statistics shared by USDA* show that **there is less food waste when students get local food for lunch.**

The food security initiatives that SCS supports improve access to food, builds local food knowledge, invests in Sitka's capacity to produce and harvest local foods, and increases community resilience by developing healthy relationships between local institutions. **Here are some of the other programs they currently support:**

SCS has partnered with Pacific High School to support their Farm to Table program, which teaches students to grow, harvest, and process local foods. The food that students grow from their garden is used in the students' school lunches. SCS has helped to fundraise, coordinate, host a School Garden Coordinator position, and expand the school's growing space.

4-H Alaska Way of Life program that helps youth learn about the lands and waters of the Tongass, learn conservation and harvesting knowledge and skills; and practice civic engagement. Youth projects include harvesting wild foods, deer tracking and processing, food preservation, and cooking and baking.

What's Next?

SCS is continuing to support the 4-H Alaska Way of Life program, the Fish to Schools program, the Sitka Public Library Summer Snack Program, and Pacific High School's Farm to Table program. SCS is looking for novel and sustainable funding sources to allow activity improvements, including compensating local fishermen to supply local schools, supporting consistent staffing at Pacific High School, and completing the Pacific High School farm site development.

*Data Source: U.S. Department of Agriculture, 2015

Case Studies:

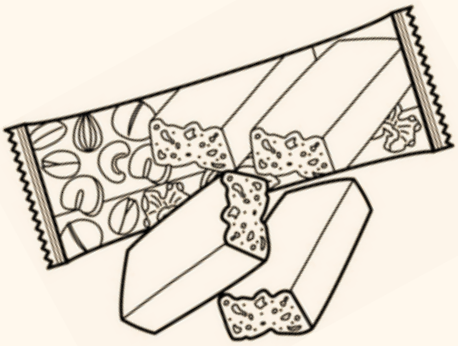
Blessings in a Backpack Program

What?

Sitka's Blessings in a Backpack program was launched during the 2012-2013 school year and has been feeding Sitka's children ever since. Part of a nationwide non-profit organization, the mission of Blessings in a Backpack is to mobilize communities, individuals, and resources to provide food on the weekends for school-aged children who might otherwise go hungry. In Sitka, this means each child enrolled in the program gets a bag of food every Friday to bring home and eat over the weekend.

The Sitka Blessings in a Backpack program is entirely volunteer-operated and funded through a combination of donations and grants. The Blessings Program Coordinator works closely with Sitka School District staff to ensure that students in need get connected with the program. There is no need for families to demonstrate financial need or state their income, which allows us to provide aid regardless of the details of a child's individual situation.

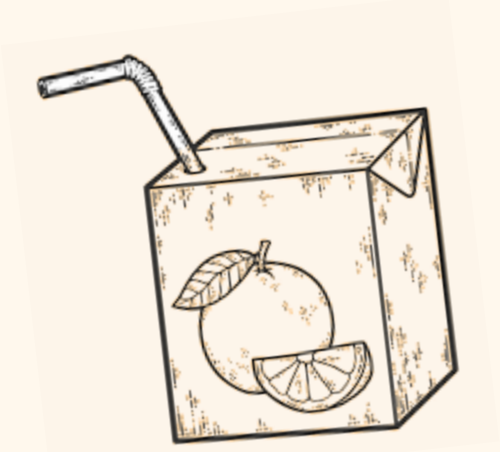
So What?



Rising food prices and supply chain issues pose serious challenges to the the program. Blessings in a Backpack national guidelines state that yearly spending should be limited to $175 per child per year, which is often impossible given food prices in Sitka. The guidelines also indicate which types of food should be provided, which can be challenging given Sitka's food prices and limited grocery options. Roadblocks to accessing SNAP benefits through the state of Alaska have put more and more families in a precarious situation in terms of food security, which has led more families to rely on programs like Blessings in a Backpack with minimal enrollment requirements.

What's Next?

The number of children enrolled in the Blessings in a Backpack program has steadily increased since its establishment in 2012, and that trend seems likely to continue in the coming years. How can we expand the program to meet the needs of all children dealing with food insecurity in Sitka? What structural changes can be made to ensure that all children have access to culturally appropriate food in sufficient quantities to fuel growing bodies and minds? How can we continue to assist Sitka's youth given the sharp rise in grocery prices in recent years? How can we better support siblings, parents, and guardians of program participants?



Case Studies:

4-H Gardening and Garden Chef Project

What?

Youth ages 5-18 are invited to participate in the entire process of farm to table. Starting seeds inside, planting in the garden, and harvesting and cooking with local ingredients. Youth also practice entrepreneurship skills by selling at one farmers market in the summer and preparing meals with ingredients on a quarterly basis at a Supper Club.

So What?

Youth are taught important life skills and are educated on where food comes from. Various gardening opportunities are offered in the schools but predominantly at Pacific High and during the off season of gardening (not in the summer).

What's Next?

Every year youth help plan and organize the garden. The program is excited to include more cut flowers which will be sold at the farmer's market. Youth will also work on developing their own product and processing, labeling, and marketing it in addition to selling fresh produce.

Photo Credit: Jasmine Shaw

CITY AND BOROUGH OF SITKA

A COAST GUARD CITY

MEMORANDUM

To: Sustainability Commission Members
From: Bri Gabel, Sustainability Coordinator
Date: November 27, 2024
Subject: **Discussion on Sustainability Commission 2025-2026 Goals**

Background

On March 26th, 2024, the Assembly unanimously approved the goals of the Sustainability Commission 2024-2025 Work Plan. These goals are:

1. Continue the development of the Sitka Community Renewable Energy Strategy (SCRES)
2. Collaborate with City staff on strategic management of municipal solid waste (MSW)
3. Support electrification of the municipal fleet

Over the past several regular meetings, the Commission has been discussing goals for the next work plan. On November 12th, the Sustainability Commission held a joint work session with the City Assembly to introduce new Assemblymembers to the Sustainability Commission and Commissioners, assess Assemblymembers interests and priorities in the Commission's duties and responsibilities, align skillset of Commissioners with Assemblymember interest and priorities to inform 2025-2026 work plan goals.

Analysis

Based on questions and comments from the Assemblymembers at the joint work session, utilizing the greenhouse gas emissions inventory to strategically inform recommendations to further public utilization of Sitka's renewable electricity. A major component of this was specifically more accessible information for the public via the CBS website.

Municipal solid waste was repeatedly flagged by Assemblymembers, with reducing the amount of material brought in as well as streamlining and exploring disposal methods locally and regionally.

Electric vehicle charging infrastructure for both the public and municipality was also of interest.

Other recommendations/requests were to explore the potential for tax solutions to support local resource production, ground source heat pumps, and better defining and outlining the "supply chain" to help clarify its purpose and better understand its fragility.

Overall, the Commission was thanked for their work and alignment with the CBS strategic plan.

Recommendation

Discuss individual perceptions of the joint work session and consider the feedback from the Assembly joint work session and use it to inform the discussion regarding the upcoming work plan.

It is recommended that projects/goals near finalization in January with a vote in February. This would allow for a draft work plan to be reviewed at the March meeting and presentation to the Assembly at their March 25th meeting.

CITY AND BOROUGH OF SITKA

A COAST GUARD CITY

MEMORANDUM

To: Sustainability Commission Members
From: Bri Gabel, Sustainability Coordinator
Date: November 29, 2024
Subject: **Discussion/Direction/Decision on Community Greenhouse Gas Emission Inventory Final Draft**

Background

As part of the Sitka Community Renewable Energy Strategy (SCRES), a community-wide greenhouse gas (GHG) emissions inventory is included. GHG inventories are often conducted by specific organizations and/or locations using aggregated, scaled, and/or modeled data to estimate the greenhouse gases emitted in a given timeframe, typically annually.

Throughout the process, the SCRES technical team has collaborated with the Sustainability Commission to create appropriate assumptions for a Sitka-specific inventory, which due to its islanded nature and renewable electricity generation, does not clearly fit standard methodologies.

Analysis

As the "energy baseline" that can be used to set goals, target efforts for emission reduction and increase electrification, the GHG emissions inventory should allow for a clear enough understanding of the emissions while remaining straightforward enough to easily update to track progress. Additionally, as a public document, it should be easy to understand and communicated by anyone.

Next Steps

The Community GHG Emissions Inventory will be open for public comment until December 22nd. A final report will be published early 2025.

Recommendation

Review and recommend ways to improve the report, focusing on clarity and accessibility. Provide any additional comment you may have to improve the report.

ENERGY TRANSITIONS INITIATIVE

U.S. Department of Energy

Sitka

Sitka GHG Inventory

November 2024

Sitka GHG Emissions Inventory

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1 Purpose

This Greenhouse Gas (GHG) inventory was prepared in close collaboration with the City and Borough of Sitka (CBS) under the Energy Transitions Initiative Partnership Project (ETIPP). ETIPP is a Department of Energy program focused on aiding remote and islanded communities in becoming more resilient. The goal of this inventory is to provide a GHG emissions baseline for the full community of Sitka. This can help the municipality track progress towards their decarbonization goals, as well as identify the policy mechanisms that could be implemented to reduce emissions.

The City and Borough of Sitka partnered with the Pacific Northwest National Laboratory through the ETIPP program. Pacific Northwest National Laboratory sought input from the Sitka Sustainability Commission to ensure they made acceptable assumptions and used the best data available.

2 Methodology

This section details the methodology used for calculating the GHG emissions for the full community of Sitka, following guidance from the GHG Protocol. The baseline year for this inventory is 2023, but many of the data sources are from previous years. We used the best available information at the time, and values can be updated as better data becomes available.

This report refers to the community in multiple ways. When referring to "Sitka", that generally means the full community. When CBS is mentioned, that refers to the local municipality, including the municipally owned utility. When referring to the "Sitka Sustainability Commission", that refers to the group of local community members appointed to a city board to advise CBS on matters of sustainability.

GHG inventories are classified by three scopes. Scope 1 emissions are emissions that occur within an organization's boundaries and within the power of the organization. Scope 2 emissions are indirect emissions that occur outside the organization's boundaries but consumed by the organization (most commonly through the purchase of electricity). Scope 3 are emissions that are indirect emissions (not included in scope 2) that occur in the value chain of the organization, including both upstream and downstream emissions. The city commission defined the purview of this inventory to be all scope 1 emissions (e.g. electricity generation, stationary fuel combustion, transportation, wastewater) as well as selected scope 3 emissions (e.g.. air travel, waste, shipping) that could be calculated and helpful for the municipality. Scope 2 emissions are not relevant to Sitka since their electricity is generated locally. An additional cruise ship analysis was completed and is detailed in the Additional Analyses Methodologies section.

Per direction from the Sitka Sustainability Commission, this inventory does not include carbon sequestration (the trees removing CO2 from the atmosphere) or nonanthropogenic emission from decomposition or natural processes. This inventory also does not include fugitive emissions from refrigerants. Since cooling is not needed frequently in Sitka, refrigerant emissions are estimated to be insignificant.

The source of combustion fuel data (fuel oil, kerosene, gasoline) comes from USACE's 2022 5 Year Cargo Report[1]. This report provides the amount of gasoline, diesel, and kerosene shipped to Sitka. This is the amount of fuel burned within Sitka, and therefore, the emissions associated with combustion from heating, driving, boating, and backup electricity generation. The following sections break down this total fuel consumption (and therefore,

[1] 5 Year Cargo Report, 2022: https://ndc.ops.usace.army.mil/wcsc/webpub/#/report-landing/year/2021/region/4/location/4808

emissions) into finer resolution categories. Breaking down this data into finer categories helps determine which policy levers can be pulled to best impact Sitka's emissions. Understanding the difference between heating, boating, driving, and cooking emissions can reveal which policy mechanisms has the highest impact on reducing emissions. Policy mechanisms can include incentivizing building energy efficiency measures and electrifying vehicles, building, or boats. Key assumptions and values used for calculating the categories below are summarized in the Appendix, along with classifications of which values should be updated.

Emissions are calculated by multiplying activity data (such as gallons of fuel consumed) by an emission factor (emissions per activity unit). Emission factors are taken from the EPA's GHG Factor Hub and converted to metric tons of CO2 equivalent (MTCO2e) [2]. This incorporates emissions from CO2, CH4, and N2O, using the global warming potential (GWP) of 100, as defined by the IPCC report[3].

2.1 Electricity Generation

Sitka's electricity is generated from hydropower, so there are no emissions associated with its primary electricity generation. It should be noted that Department of Energy recognizes that there's some uncertainty to the emissions associated with hydropower from decomposition of organic materials in the reservoir, so this assumption may need to be updated in a future iteration as new science becomes available.[4] Sitka occasionally uses diesel for backup power. In 2023, 9,975 gallons of diesel fuel were used as backup power, resulting in 102 MTCO2e. We assume that 2023 can be used as a representative year and given the small percentage of emissions related to this year, variations from year-to-year are insignificant. Any longer failures or outages of the dams resulting in diesel being burned for electricity, such as that experienced in late 2016, would lead to increased emissions from this source.

2.2 Buildings

Buildings have emissions associated with their electricity and fuel consumption. Since Sitka's electricity generation is supplied from hydropower which has no emissions associated with its generation, their building emissions are solely from the combustion onsite that occurs for space heating, domestic hot water (DHW), and cooking. Electric heat pumps are increasingly common in Sitka, helping to reduce heating emissions. Since we do not have energy data for every building's space heating, DHW, and cooking needs, we estimate their associated emissions based on square footage, electric utility bills, state level energy intensity estimates, and fuel source across buildings.

2.2.1 Residential Buildings

The 2017 Sitka Borough Housing Assessment[5] states that Sitka has 3,513 occupied houses with the average square footage of 1,689 SF/house, resulting in Sitka's total residential square footage of 5.9 million SF. The Energy Information Administration's (EIA's)'s Residential Energy Consumption Survey (RECS) Dashboard[6] estimates the average space heating and DHW consumption by state. We use the value of 74 mmBtu per household, which is an

[2] EPA Emission Factors: https://www.epa.gov/system/files/documents/2024-02/ghg-emission-factors-hub-2024.pdf
[3] GHG Protocol, Global Warming Potential values: https://ghgprotocol.org/sites/default/files/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_0.pdf
[4] Department of Energy, Tracking the Carbon Footprint of Hydropower: https://www.energy.gov/eere/water/tracking-carbon-footprint-hydropower
[5] Sitka Borough 2017 Alaska Housing Assessment: https://www.ahfc.us/application/files/1215/1510/4582/Final_-_Sitka_Borough_Summary.pdf
[6] Residential Energy Consumption Survey (RECS) Dashboard, 2020. https://experience.arcgis.com/experience/cbf6875974554a74823232f84f563253?src=%E2%80%B9%20Consumption%20%20%20%20%20%20Residential%20Energy%20Consumption%20Survey%20(RECS)-b1

average of the RECS's Alaska and Washington state average space heating and DHW load. We did this to avoid overestimating Sitka's residential heating since Sitka often shares similarities with northern Washington's climate. Using utility bills, we determined which residential building's heating systems were electric. We processed all the electric utility bills by residential and commercial buildings. If the average electricity consumption over the summer months (June, July, August) were 30% greater than the winter months (November, December, January), we conservatively determined the building was heated by electricity. If not, we assumed it's heated by fuel oil and a small percentage by wood. This resulted in 82% of residential buildings used electric heating, 16% used fuel oil, and2% used wood for heating. This results in 3,971 MTCO2e from residential space heating and domestic hot water per year.

2.2.2 Commercial Buildings

For commercial buildings, we used the Sitka's 2024 Commercial and Industrial Square Footage data, showing 2.3 MSF for Sitka's commercial and industrial buildings. We assume that 25% of these building's square footage is not space conditioned (heated or cooled), from either unoccupancy (especially seasonal), warehouses, or storage. The EIA estimates that commercial buildings use on average 25 kBtu/SF for space heating[7]. The Commercial Building Energy Survey (CBECS) places Sitka, Alaska in the "cold / very cold" region and can be used to estimate Sitka's commercial buildings fuel source[8]. Using Sitka's building utility bills, we determined which commercial building's heating systems were electric. This resulted in 25% of commercial buildings used electric heating, while 75% are dependent on fuel oil. We combine commercial and industrial buildings in this analysis since Sitka doesn't have a large industrial footprint. We assume domestic hot water heating is included in this assumption since it is predominately electric water heating. This results in total commercial building emissions of 2,361 MTCO2e per year.

2.3 Ground Transportation

Since Sitka is an island, on-road transportation emissions include the fuel combustion emissions that occur from vehicles within the CBS boundary. According to the Alaska Department of Motor Vehicles, Sitka currently has 14,689 registered vehicles in 2024. However, we assume that not all vehicles are in driven regularly and that some are electric. Electric vehicles produce zero emissions in Sitka because the electricity is supplied by hydropower. We assume that 8,000 vehicles are driven regularly at an average of 12 miles/day with an average fuel efficiency of 20 miles per gallon of gasoline. This results in total gas vehicle emissions of 14,750 MTCO2e in 2024. We also assume that there are 1,000 trucks or vans or recreational vehicles that rely on diesel, resulting in 1,793 MTCO2e. This results in a total vehicle emissions of 16,532 MTCO2e.

Sitka has 100 small passenger vans or buses with cruise ship load/unloading permits associated with tourism. Assuming the cruise ships are at full capacity (see Cruise Ship section, based on 2024 cruise ship schedule), 607,000 tourists spend a day in Sitka per year. Assuming each cruise ship tourist is transported via van or bus for an average of 15 miles per day, this results in 460 MTCO2e per year.

[7] U.S. Energy Information Administration (EIA), *Heating U.S. commercial buildings is most energy intensive in cold climates*, September 2023: https://www.eia.gov/todayinenergy/detail.php?id=60301#:~:text=U.S.%20commercial%20buildings%20in%20cold,heating%20in%20each%20climate%20zone.

[8] U.S. EIA, Commercial Buildings Energy Survey (CBECS): https://www.eia.gov/consumption/commercial/data/2012/bc/cfm/b29.php

2.4 Air Travel

Since Sitka is an island, air travel is a prominent mode of transportation. This inventory includes emissions from fuel combustion for aviation occurring with the city boundary and from portions of transboundary journeys outside the city boundary. Sitka has multiple types of flights: commercial, personal, general aviation (e.g. medical, coastguard, etc.), and cargo. FAA data shows there were 1,812 commercial flights, 9,860 seaplane flights, 1,325 military flights, and 10,342 general aviation flights, resulting in a total of 23,339 flights in 2023.

According to the 5 Year Cargo Report, Sitka imports 658,000 gallons of kerosene, which in its highly refined form is a form of jet-fuel. This jet-fuel is used for smaller air travel such as seaplanes, small personal planes, and helicopters used for coastguard or medical evacuation. Emissions from burning this jet fuel are 6,700 MTCO2e.

Sitka's Rocky Gutierrez airport does not refuel planes onsite. Therefore, these commercial and cargo air travel emissions are not captured as fuel shipped to Sitka in the 5-year Cargo report. This also means that we do not have airport data on the annual jet fuel used at the airport. According to the Bureau of Transportation Statistics T-100 Segment Data for 2023,[9] Sitka's Rocky Gutierrez airport had 40,586 passenger-miles (number of passengers and the distance they've flown in thousands) in 2023. From this, we can calculate the air travel emissions using the passenger-miles based method. We assume most of these flights are classified as "medium haul" (such as to Seattle - ~850 miles), and therefore we use EPA's "Air Travel – Medium Haul" Emission Factor for passenger-miles. This results in a total of 5,300 MTCO2e from commercial travel. Currently, cargo plane data is not reflected in this calculation. Sitka's total air travel emissions are estimated to be 11,980 MTCO2e per year.

2.5 Marine Activity

Marine activity includes commercial fishing, recreational fishing and boating, and charter boats. Shipping is discussed in more detail in the Shipping section under Additional Analyses.

We investigated fuel use in commercial fishing using the State of Alaska CFEC Public Search Application and the calculated averages of tracked fuel usage from Sitka fishermen and fuel usage estimates from the Kempy Energetics analysis tool[10,11]. Using active fishing permits and the fuel usage estimates, we determined that the commercial fishing fuel consumption is 1,805,600 gallons of diesel per year. The estimated emissions from Sitka's commercial fishing is 18,500 MTCO2e per year.

Recreational boats include all boats that are not for commercial fishing or charter boats. We assume there to be about 1,000 active recreational boats based on boating registrations, taking an average of 20 miles trips, 4 times per month, 6 months per year, with an average fuel efficiency of 5 miles per gallon (which is approximately the fuel efficiently of a 20-ft recreational aluminum Hewscraft). This results in an estimated emissions of 1,660 MTCO2e per year.

Charter boats are popular in Sitka, especially during tourist season. The charter boat logbook, provided by Sitka Area Management, documents 7,920 charter boat trips taken in 2023 from 142 active vessels. These are the number of trips that ended in Sitka, and do not include private fishing trips, which are included in "recreational boating" in the previous paragraph. Charter boats are assumed to primarily run on diesel based on input from the Sitkan boating industry. Since no further information is documented regarding charter boats (such as size of boat and how

[9] Bureau of Transportation Statistics: https://www.transtats.bts.gov/Data_Elements.aspx?Qn6n=H
[10] CFEC, https://www.cfec.state.ak.us/plook/#permits
[11] https://kempyenergetics.com/white-paper/white-paper-example-1/

long the trip), we assumed that each trip goes 25 miles, with an average conservative fuel efficiency of 5 miles per gallon, consuming a total of 39,600 gallons of diesel. This results in 407 MTCO2e per year from charter boats.

2.6 Solid Waste Disposal and Wastewater Treatment

Solid waste disposal and wastewater account for 8% of Sitka's GHG emissions. Municipal solid waste from Sitka is shipped to Washington. According to Republic Services 2023 Summary, Sitka shipped 7,618 tons of waste to Seattle in 2023. Using EPA's average mixed MSW emission factor, this produces 4,418 MTCO2e. Since this waste is generated within the city boundary but disposed in landfills outside the city, these are considered Scope 3 emissions. The city commission determined it is important to include since it reflects Sitka's operations.

Sitka also ships 240 tons of recycling, which does not include glass or metals, which produces 22 MTCO2e. Glass and metals recycling occurs onsite, but results in a minuscule amount of emissions. While recycling produces a minimal amount of emissions, we include it in "Solid Waste Disposal".

Wastewater treatment emissions can be calculated based on the total population served and type of treatment, using the federal GHG wastewater reporting methodology[12]. Based on a population of 8,380 people, and a wastewater treatment plant without nitrification or denitrification process, wastewater treatment results in a total of 8 MTCO2e.

3 Results

Based on our analysis, Sitka produced approximately **60,459 MTCO2e** in 2023. The sectors analyzed include vehicles, recreational and charter boats, commercial fishing, residential and commercial heating, waste and wastewater, and air travel. These calculations were validated against the Cargo Report which provide the total amount of fuel shipped to Sitka in a given year. Figure 1 and Table 1 show Sitka's GHG emissions by end use, revealing that the largest end uses of emissions are commercial fishing (31%), ground-based vehicles (27%), and small aircraft (seaplanes, small planes, helicopters) (11%).

[12] Federal Greenhouse Gas Accounting and Reporting Guidance, Council on Environmental Quality, 2016: https://www.sustainability.gov/pdfs/federal_ghg%20accounting_reporting-guidance.pdf

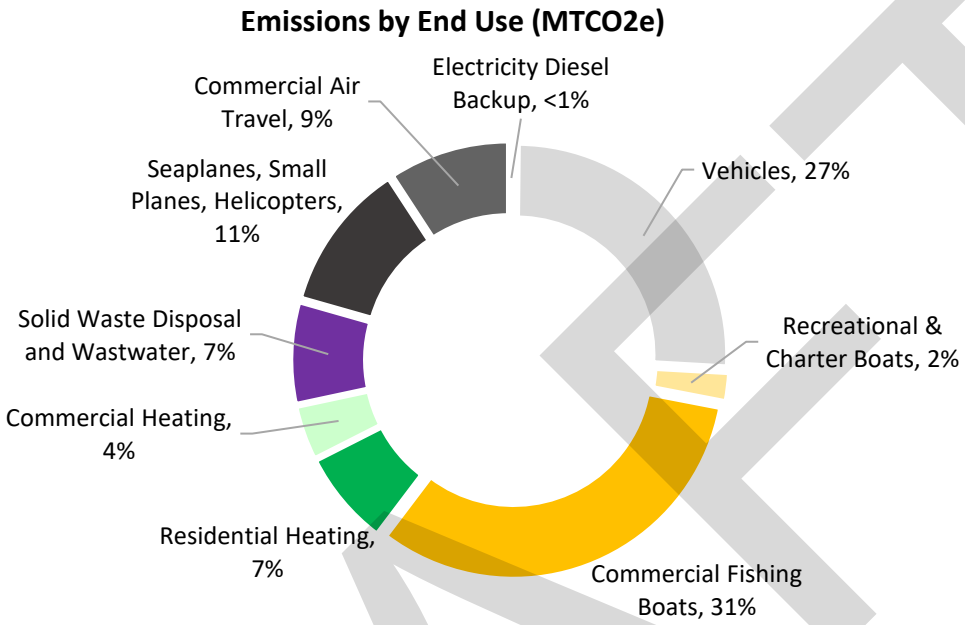

Figure 1. Sitka's GHG Emissions by End Use (MTCO2e)

Table 1. Emissions by End Use

End Use	Emissions (MTCO2e)	% Total Sitka Emissions
Commercial Heating	2,361	4%
Residential Heating	3,971	7%
Commercial Fishing Boats	18,507	32%
Recreational & Charter Boats	2,548	4%
Vehicles	16,543	27%
Seaplanes, Small Planes, Helicopters	6,699	11%
Commercial Air Travel	5,280	9%
Solid Waste Disposal & Wastewater Treatment	4,448	7%
Electricity Diesel Backup	102	<1%
Total Emissions	**60,459**	

Transportation is the largest emissions sector, accounting for 81% of Sitka's emissions, as shown in Figure 2. This consists of ground-based, marine, and air travel, including seaplanes, commerical planes, small planes, recreational

and commercial boats, cars, and buses. It is unsuprising that transportation is such a large component of Sitka's emisisons since people are required to fly or boat to arrive in or leave Sitka, since this inventory includes scope 3 emissions. Waste accounts for 7% of Sitka's emissions., which includes the emissions assoicated with solid waste disposal, wastewater, and recyling.

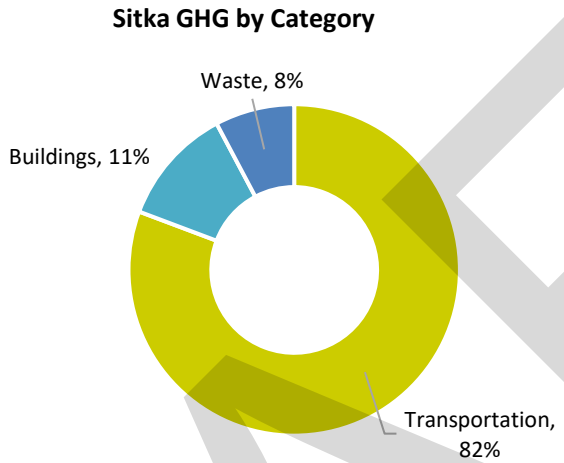

Figure 2. Sitka's GHG Emissions by Category (MTCO2e)

Figure 3 displays Sitka's emissions by source. Distillate fuel oil (also known as diesel) is the largest portion at 44%, and figure 4 separates these emissions by end use. The largest portion of distillate fuel oil comes from commercial fishing, followed by residential and commercial buildings. Gasoline is the second highest source of emissions at 29%. This reveals that promoting electrification is an impactful policy driver to reducing Sitka's emissions from vehicles, buildings, and boats. Air travel (from jet fuel, or a highly refined version of kerosene) account for 20%.

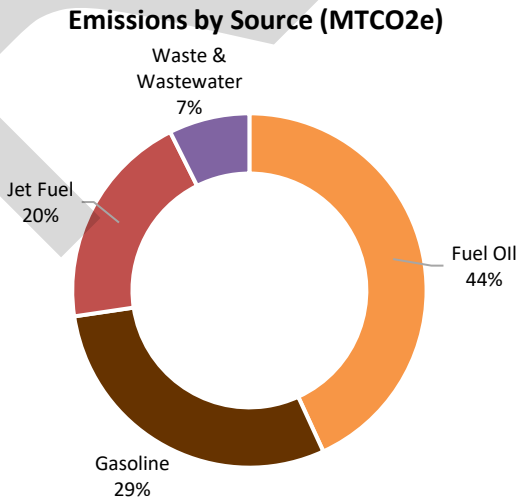

Figure 3. Sitka's GHG Emissions by Source (MTCO2e)

Figure 4 helps visualize the correlation of emissions source and end use, showing the interconnection of emission source to end use to general category.

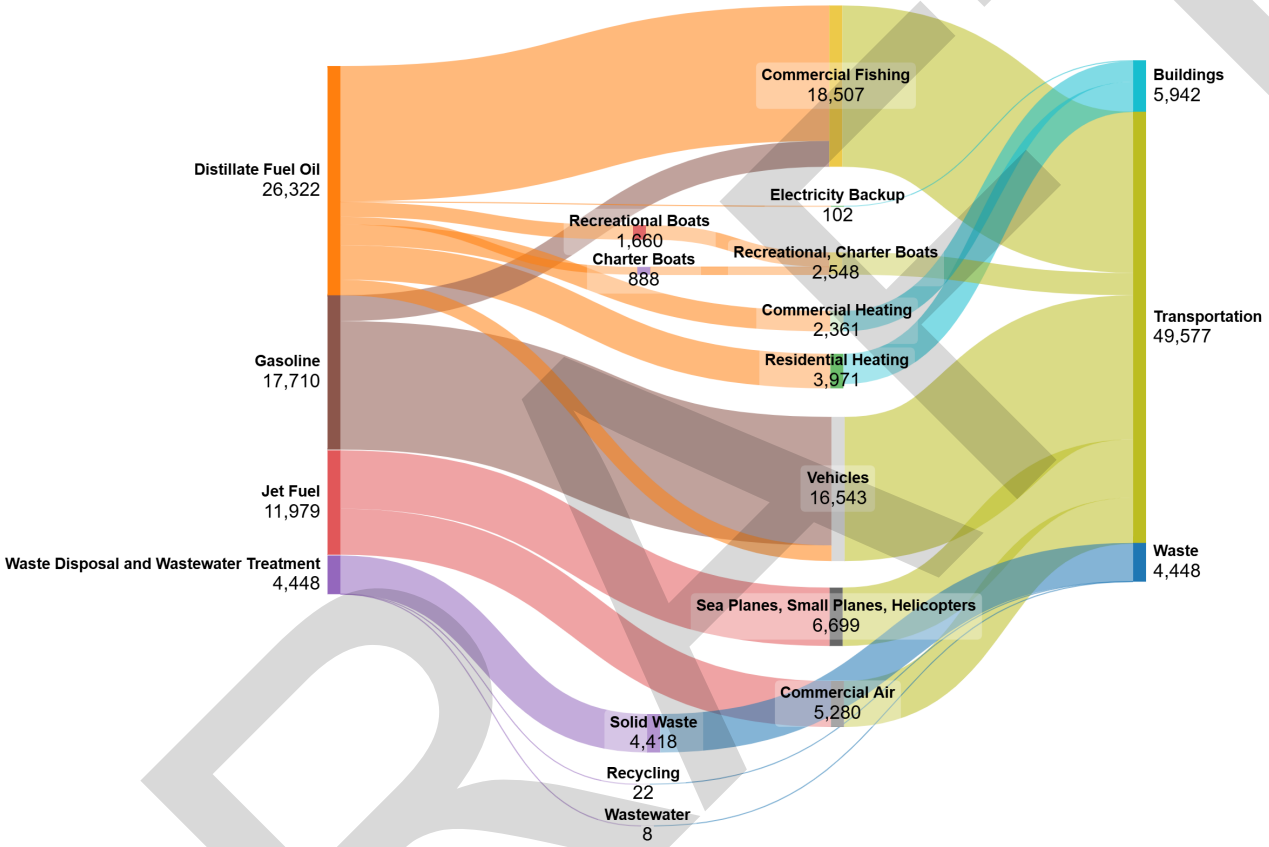

Figure 4. Sankey Diagram of Sitka's GHG Emissions by source, end use, and category (MTCO2e)

4 Additional Analyses

The following sections can either be included or omitted from Sitka's GHG inventory, depending on what policy levers Sitka would like to consider. GHG Inventories typically include measures that are within the jurisdiction's control and occurring within the jurisdiction's boundaries.

4.1 Shipping

Sitka is very dependent on marine shipping, which are considered scope 3 emissions and not always included in GHG inventories. Defining boundaries is important for estimating shipping emissions. According to the 2022 Cargo Report, Sitka ships and receives 235,316 tons of material via barges. A barge can carry one ton about 650

miles with one gallon of fuel, according to one study[13]. Assuming that a barge travels to and from Seattle, including stops in Ketchikan and Petersburg, the distance traveled is approximately 1,000 miles. Actual shipping distances may be greater. This results in approximately 362,000 gallons of diesel fuel consumed by the barges, or 3,700 MTCO2e. To improve estimates of shipping emissions, data from official records, manifests, or surveys can be used to determine the apportionment of emissions to Sitka from the overall shipping companies. It should be noted that barge transport is per gallon more efficient than other forms of shipping, such as trains, trucks, or barges.

4.2 Cruise Ships

Revenue from cruise ships and their passengers account for a large portion of Sitka's economic activity, although there are contentious divisions within the community about whether or not they should welcome them. Cruise ships do not draw power from Sitka's port, and they do not refuel in Sitka. This means that Sitka has little power to control cruise ship emissions (such as electrifying power), other than reducing the number of cruise ships that enter and leave Sitka. Because they are not being controlled by policy mechanisms within Sitka, cruise ships are not included in this GHG inventory, as is common practice in this situation. However, understanding the impact of cruise ship emissions on Sitka is still important. The community of Sitka has to deal with the pollution and local impacts of the emissions from the cruise ships, even though they cannot control those emissions.

We used the 2024 cruise ship schedule to determine the number of cruise ships visiting Sitka annually. There are 38 cruise ships with a scheduled 332 trips to Sitka. We define the scope of cruise ship emissions to include just the number of emissions they produce while within Sitka's boundary: transiting to and from the port and while docked. We have the number of people each boat carries as well. We assume a 3-hour maneuver time, which is the time to approach Sitka, tie to the dock, and leave. We assume the average stay in Sitka is 8 hours. We assume the docking load to be ~50% of the total power to power lights, heating, swimming pools, etc. We assume the fraction load of the generation to be 60%. This results in a calculated emissions value of 23,000 MTCO2e per year.

Cruise ships increase other emissions in Sitka, that are captured in other parts of this inventory. For example, increased people may result in increased building energy and transportation emissions. There are 100 small passenger vans or buses with cruise ship load/unloading permits associated with tourism in Sitka. Assuming the cruise ships are full, this results in 607,000 tourists per year. Assuming these vehicles travel an average of 15 miles per day, this results in an associated emissions of 460 MTCO2e per year. (Note: these emissions from tourist buses are already captured in the vehicle data from the inventory. This analysis is just to separate out the emissions impact from cruises.)

If cruise ships are included in the inventory, cruise ships while within Sitka's waters produce 80,600 MTCO2e. Figure 5 shows an infographic communicating the impact of cruise ships on Sitka's GHG emission inventory.

[13] Texas A&M Transportation Institute, *A modal Comparison of Domestic Freight Transportation Effects on the General Public: 2001-2014.* 2017. https://nationalwaterwaysfoundation.org/file/31/final%20tti%20report%202001-2014%20approved.pdf

Figure 5. Infographic displaying cruise ship impacts on Sitka.

4.3 Additional Analyses Results

Including estimated shipping and cruise ship emissions in the inventory results in 84,000 MTCO2e. Adding these increase the inventory's GHG emissions by 31%, as shown in Figure 6. This emphasizes the impact cruise ships have on the community's emissions, even when just transiting and idling within their boundary.

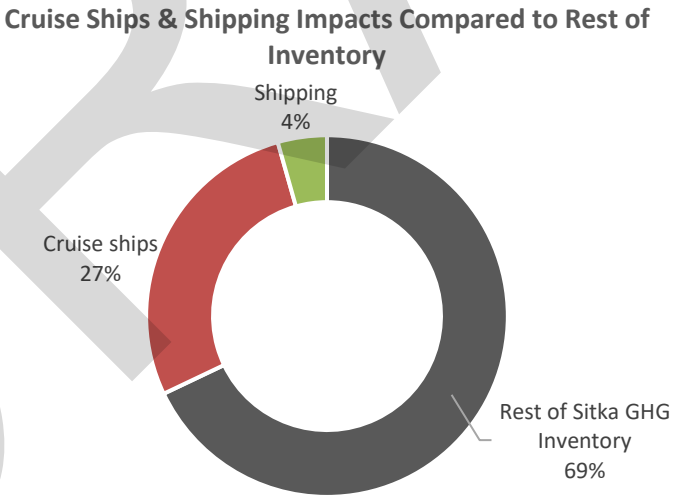

Figure 6. Impact of cruise ships and shipping impacts

5 Next Steps

Now that the GHG inventory baseline has been created, it can be used for multiple purposes. For example, comparing GHG inventories across municipalities can be useful to begin to answer questions like "How much is Sitka contributing to global GHG emissions?" However, comparing inventories can be challenging because different inventories include different scopes. For example, not all inventories include air travel. GHG inventories can be used to highlight the impact various policy levers can be pulled, emphasizing which mechanisms have highest impact and which (while still useful) may have smaller impacts.

A baseline inventory is useful when updated at a regular interval to track progress towards decarbonization targets. We will conduct a training for CBS to update the inventory in the future, either for new years to compare to this baseline, or update values as better data comes available.

6 Appendix

Table 2: Main assumptions

Calculation	Building Heating- Commercial		Ground Transportation- Personal				Ground Transportation- Vans and Buses		
Input assumption	Commercial buildings average 25 kBtu/SF for space heating	75% of commercial buildings use fuel oil	14,689 registered vehicles	8,000 vehicles driven regularly	Vehicles average 12 miles/day	Average fuel efficiency of 20 miles per gallon	100 vans or buses permitted for tourists	607,000 tourists per year	Each tourist is transported 15 miles
Calculation	Air Travel								
Input assumption	1,812 commercial flights	9,860 sea plane flights	1,325 military flights	10,342 general aviation flights	658,000 gallons kerosene	40,586 passenger-miles at airport	Most commercial flights are "medium-haul"	EPA's "Air Travel – Medium Haul" Emission Factor	Cargo plane data is not reflected in this calculation
Calculation	Marine Activity- Commercial		Marine Activity- Recreational			Marine Activity- Charter			
Input assumption	Commercial fishing fuel consumption is 1,805,600 gallons per year, using Kempy Energetics analysis tool		1,000 active recreational boats	Recreational boats average of 20 miles trips, 3 times per month, 6 months per year	Average fuel efficiency of 5 miles per gallon	7,920 charter boat trips taken in 2023 from 142 active vessels	Charter boats are assumed to primarily run on diesel	Each trip goes an average of 25 miles	Average fuel efficiency of 5 miles per gallon
Calculation	Waste		Wastewater						
Input assumption	Sitka shipped 7,618 tons of waste to Seattle in 2023	240 tons of recycling	Population of 8,380 people	Wastewater treatment plant without nitrification or denitrification process	Federal GHG wastewater reporting methodology				

Color Key:

Confident in values and unlikely to need to adjust in the future except in response to major projects or new scientific understanding
Confident in estimate, but numbers will need to be updated in future iterations of the inventory.
Additional, better, or more local data could improve estimate, but the overall impact would likely be small. Estimate is still technically justified with general understanding.
More or better data could improve estimate and the overall impact could be meaningful

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