Food in Alaska

food systems, security, and policy in the 49th state

by the Alaska Food Policy Council

Introduction: Everybody eats

It is said that to survive, one must eat, but to live, one must dine. Before either, one must have access to food. This is the essence of food security: secure access to healthy, affordable, and appropriate foods. Alaska does not have this basic security.

Despite food's enormous importance, there is no one federal, state, or local organization that deals with "food," no Department of Food or Secretary of Food, no holistic treatment of all aspects of food. It is too complicated and the subject requires many different skill sets. Many agencies and organizations approach different aspects of food. With multiple agencies and groups carrying unique missions related to food, nutrition, and agriculture, there is no forum to bring the disciplines together and solve problems of joint concern. The Alaska Food Policy Council aims to provide this venue for the state of Alaska.

Food policy is, like economic, health, or environmental policy, a complex and far-reaching topic. These four policy areas are deeply entwined with each other. Policy issues involving food in Alaska are integral to community planning and risk management, and they are connected to the idea that a stable and sustainable food system is a public good. The resurgence of interest in food in the state is—unlike in the past—coinciding with a worldwide awareness of the importance of sustainable food production.

This document explores what a food system is, and in particular what Alaska's food system looks like, its vulnerabilities and strengths, and the unique issues that affect it. Using the model of the food cycle, we will explore different aspects of Alaska food and food security, and how food policy can affect the system for good or ill, using examples from Alaska's food industry and traditions. Last, we will discuss food policy councils, and how the Alaska Food Policy Council can provide pragmatic guidance to the state's food stakeholders and decision makers.

Food is politically charged.

—from *Food Policy: Integrating Health, Environment, and Society,* by Tim Lang, David Barling, and Martin Caraher

The Alaska Food Policy Council works to strengthen Alaska's food systems to spur local economic development, increase food security, and improve nutrition and health. The Council serves as a resource for information on local and state food systems, and works to identify and propose policy and environmental changes that can improve the production, processing, distribution, health, security, and safety of our food. The long-term goals of the Council are to identify barriers to building a viable Alaska food system, create a strategic plan to address these barriers, and make the necessary recommendations to decision makers to implement this plan.

Food systems and food cycles

Food is one of the few things on this earth that affects everybody. Food-related subjects—production, safety, supply, marketing, nutrition, availability, consumption, research—are vast and involve a large segment of the working population. People, businesses, organizations, and agencies involved in feeding a population make up the food system, which ends with the consumer—and that is every one of us. Every person on this earth is part of the food system. So are the plants and animals that we eat and the social, economic, technological, and environmental systems that involve or affect our food. Food systems are part of our community and our economy, and affect our health and that of our environment.

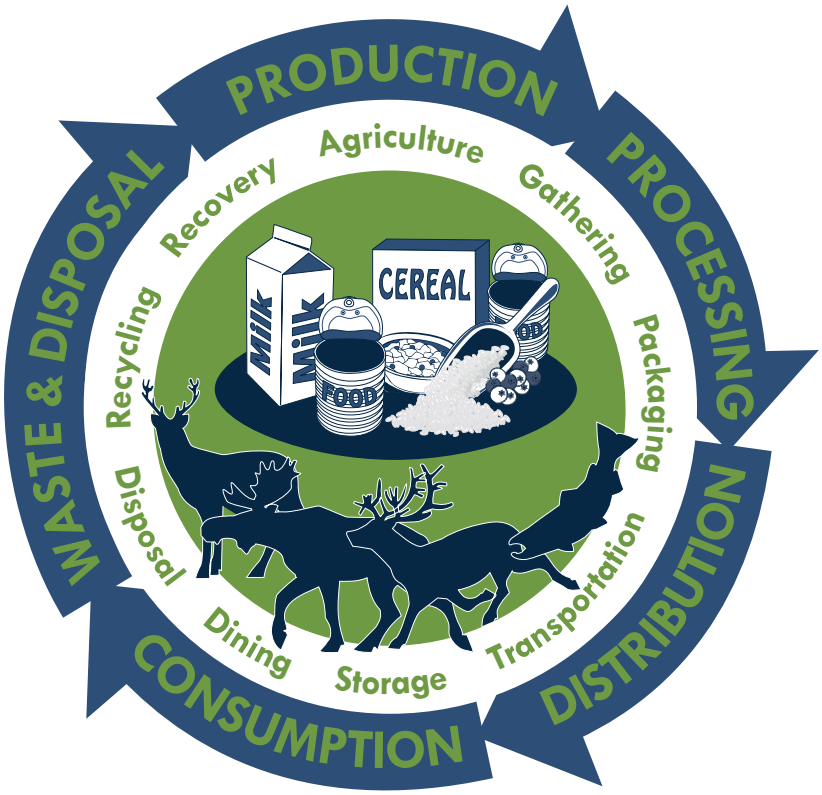
A food cycle is the process through which food travels in a food system. Along the way, food is produced, processed, packaged, stored or transported, eaten or drunk, and finally recycled, gleaned, or transformed into waste, which, eventually, becomes part of the next food cycle. The activities surrounding each step of the process and their outcomes contribute to food's availability and manner of use, as well as the effect that food has upon the human and natural environment. How food is treated at each step is influenced by the social, economic, and natural environments of the system, and depends upon human resources that provide labor, research, regulation, and education.

A food system describes the cycle of growing, distributing, eating, and recycling our food, and all the factors that affect it.

SF Food, www.sffoodsystems.org

In all the controversies over what the causes of diversities might be, no one seem to have paid much attention to the factor in the environment that has the most obvious effect on any organism: food.

—from *The Driving Force: Food in Evolution and the Future,* by Michael Crawford and David Marsh



The cycle of food production (including both agriculture and gathering from the wild), distribution, and use.

The Alaska food system

The Alaska food system is unique in many ways. For example, Alaska is one of the country's greatest food-producing locations with over half of the nation's seafood production. Also, its vast land area provides an opportunity for significant agricultural development. With a rich, healthy ecosystem, Alaska provides an amazing bounty of wild and natural foods that residents may harvest, gather, and hunt.

Yet there remain significant human, economic, and community development challenges in Alaska's food system. Most Alaskans are almost completely dependent on external sources of food, shipping, and distribution services. Most of Alaska's seafood is harvested and processed by non-local firms with little market concentration in Alaska.[1] The agriculture industry struggles in Alaska's high cost and rugged environment, and faces a lack of basic infrastructure and support industries common elsewhere.

However tightly linked and related one part of the system is to another, the food system is the result of a complex interaction between many participants, drivers, and factors, and so it is therefore difficult if not impossible to make comprehensive changes with a sure result: changes can result in unforeseen consequences. Nevertheless, tremendous improvements in all phases of the food system are achievable with better communication, education, facilities, and

1. Northern Economics Inc. *The Seafood Industry in Alaska's Economy*. January 2009. http://community.adn.com/sites/community.adn.com/files/Seafood_industry_impact.pdf.

program development, both public and private, and with policies that encourage the development of a healthy regional or local food system.

Alaska's policy makers also must contend with a wide range of biomes and subclimes: tundra, taiga, temperate rainforest, boreal forest, our extensive ocean coastline, a continental Interior, high mountains, floodplains, glacial moraines, and so on. Our food system's foodsheds reflect a wide variety of climates, cultures, and available foodstuffs.

The act of putting into your mouth what the earth has grown is perhaps your most direct interaction with the earth.

—Frances Moore Lappé

The foodshed

As we explore Alaska's food system, the foodshed serves as a good metaphor that may help the reader see the connections between the multiplicity of factors affecting food—and the aspects of our lives that it in turn impacts. The foodshed is the landscape through which food moves. Much like the term watershed, this term refers to how food flows through a given locale, and can refer to a social landscape as well a physical one. It is the economic, environmental, cultural, and legal streams and tributaries by which food is carried from its origin to our mouths. A foodshed can be very small; for example, one's house and garden can be described as a foodshed. Food is grown in the garden, weeded and harvested, taken indoors to the kitchen, prepared, and eaten. Scraps and plant material comes from the house and garden and goes to the compost pile, which is later incorporated into the soil of the garden beds. Seeds may be saved from the garden or enter the foodshed from, for example, a commercial greenhouse or a seed company. Other foods may enter the foodshed from outside the system, say, to the house from the grocery store, and incorporated into this very local foodshed. The concept simply describes where food enters, leaves, and moves within the system.

More commonly the term is applied to a particular community and its landscape. In Alaska, food production, distribution, regulation, and consumption have much to do with the region in the state in which they occur, so for the purposes of this paper, we will look at foodsheds on a regional to community scale. Alaska's larger foodsheds correspond to the well-known regions of the state: the Arctic Coast, North Slope, and northwestern Alaska; the Interior; southwestern Alaska; the Alaska Peninsula and Aleutian Chain; Southcentral; and Southeast. Smaller ones might be the foodshed of Kodiak Island or that of Arctic Village, for example. Each of these foodsheds have unique food production, distribution, supply, and utilization patterns and needs.

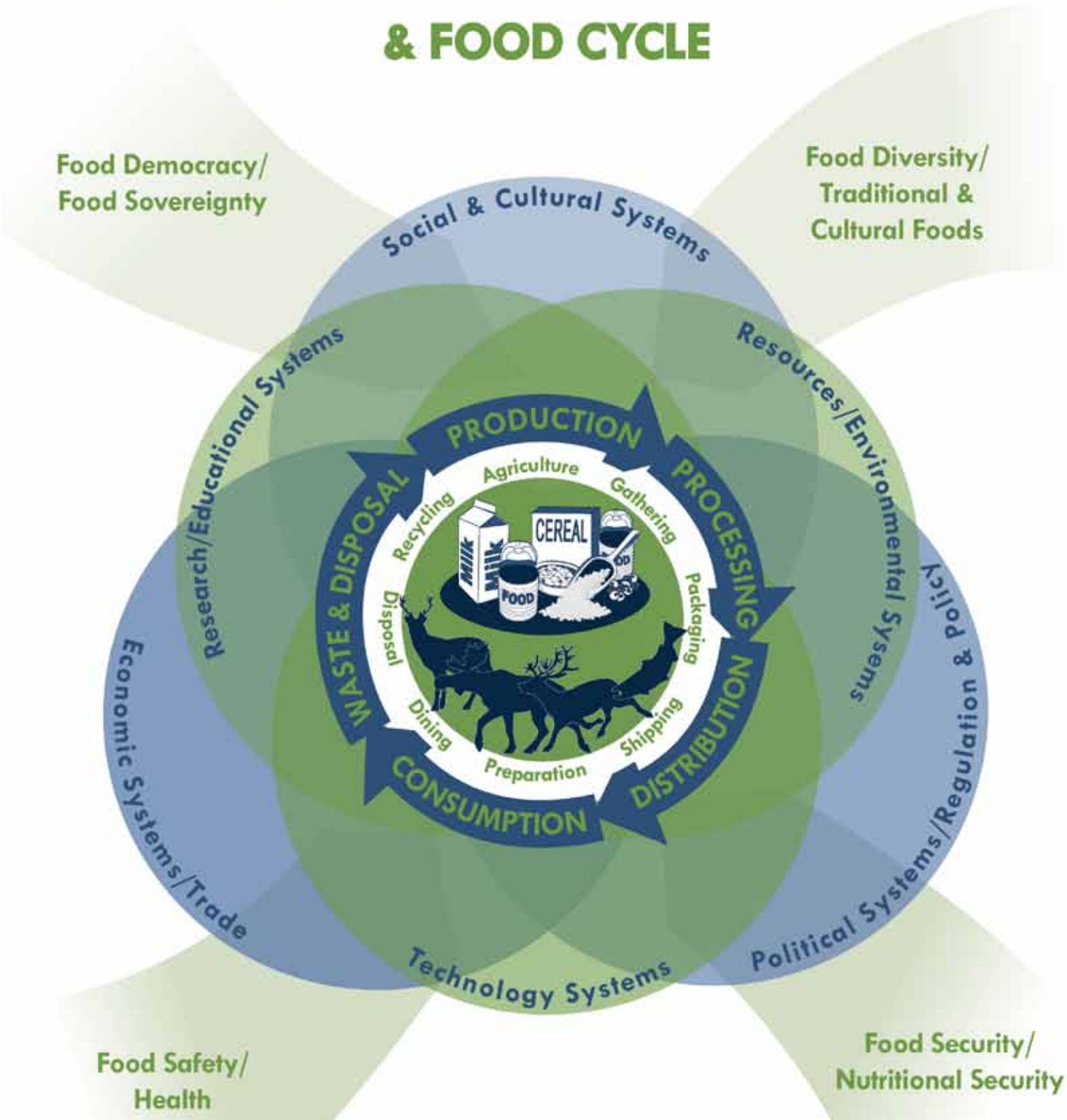
A foodshed is everything between where a food is produced and where a food is consumed—the land it grows on, the routes it travels, the markets it goes through, the tables it ends up gracing.

—Molly Watson,
About.com/local foods

The food cycle: Production/Agriculture/Gathering

The first step in the food cycle begins with the health of the land and water: living soils protected from erosion, healthy watersheds supplying our lakes, aquifers, and rivers, clean and bountiful bays and oceans. The production of food for Alaskans depends on the natural systems around us, whether nurtured by farmers and gardeners or obtained from the wild by hunters, fishers, and gatherers—and this is true whether the food comes from within the state or, like most of the food that Alaskans eat, from the Lower 48 or outside of the country. Management of these systems for long-term sustainability may or may not be a consideration—but should be, in a healthy food system. How the farmer tends the farm or the wildlife manager the game region is as important as the seeds or breeds chosen or the length of the hunting season. From well-managed and maintained resources, good food is produced in perpetuity. The production of food through agriculture and by hunting and gathering is the first stage in the food cycle, and includes animal husbandry and farming or gardening; range and wildland management for grazing, hunting, mushroom or berry gathering, or herb wildcrafting; fisheries and their management.

ALASKA FOOD SYSTEMS & FOOD CYCLE



The food system: a complex of food-related interactions between people, plants, and animals, with other human and natural systems.

Food production may require significant infrastructure, or very little: the requirements are as varied as foodstuffs themselves. Agricultural production requires support industries, however: manufacturers of the supplies and equipment that farmers use to grow their crops, such as fertilizer, greenhouses, or tractors; suppliers of seed, rootstock, or breeding stock; and the transportation infrastructure to ship these supplies and equipment to the farmer. Likewise, hunters and fishers must have the equipment and fuel to reach their game or fish. Here, Alaska is weak; our suppliers, like our producers, are mostly outside the state.

Examples of food production in Alaska include: the salmon runs of the Yukon River; the pollock fishery of the Beaufort Sea; the morel mushroom harvest in the few years after a fire; the fall moose hunt; the reindeer herds of the Seward Peninsula; fireweed honey from the neighborhood beekeeper; community gardens in towns across the state; berry picking (blueberries, rosehips, currants, salmonberries, raspberries, etc.); produce and meat production on farms and lands in the Tanana Valley and regions of Southcentral, including the Matanuska Valley, Kenai Peninsula, and numerous islands of the Alaska Peninsula; whaling in Barrow. These represent different foodsheds within the state, which can vary considerably depending on what grows or is hunted in the area, or what season it is and whether food can be flown, trucked, or barged in—or even if it must come in by dogsled, snowmachine, or backpack.

Alaskans are part of a global food system, both as producers (primarily seafood, our largest food export) and as consumers. It is important to remember that by far most of the food eaten in Alaska comes from thousands of miles away: Australian beef; Californian produce; Ethiopian coffee; Idaho potatoes; Irish cheese; Midwestern corn and other grain; Mexican peppers; Thai rice. Our food production is largely in the hands of other states and countries, and we have little control over it. We can make a difference in our food production at home in Alaska, however.

Locally or regionally grown agricultural food product: "(I) the locality or region in which the final product is marketed, so that the total distance that the product is transported is less than 400 miles from the origin of the product; or "(II) the State in which the product is produced."

—USDA, from HR 2419, an amendment to 2008 Consolidated Farm and Rural Development Act

The food cycle: Processing

Once food has been harvested, it must then be processed—transformed into a product that can be consumed. Processing can be minimal, such as washing lettuce or potatoes picked from the garden. It can also be an intensive, multistage process that requires significant time, skill, and infrastructure, such as milk processing into cheese or other fermented products, ice cream, dried whey or milk solids, condensed milk, and so forth. Activities that change the physical condition of a food, including butchering, thermal processing, cooking, dehydrating, freezing, pickling, salting, shucking, smoking, slicing, grinding, etc., can require a permit and are considered more than "minimal processing." Sufficient facilities for processing food have to be within range of the production facilities in order that processing can occur as soon as possible after production; much produce has a "shelf life," and produce especially is known to decrease in nutritional value as the time from when it was harvested increases.[2]

Shipping is a terrible thing to do to vegetables. They probably get jet-lagged, just like people.

—Elizabeth Berry

The relative number of food processing facilities in Alaska is low. For example, the majority of seafood produced within the state of Alaska must be shipped to Washington State for processing, even if its eventual destination for consumption is Alaska. Or, initial processing of food may be done here (such as cleaning and freezing) and additional processing conducted outside the state. We have approximately 800 seafood processors and about 200 general food processors permitted by the Alaska Department of Conservation (DEC). General food processors include beverage bottlers, jams/jellies processors, bakeries, and others. When the noncommercial harvest of fish or game is concentrated in too short a time or is unexpectedly large, a lack of alternatives means that local

2. A Nutritional Comparison of Fresh, Frozen and Canned Fruits and Vegetables," parts 1 and 2, by Joy C. Rickman, Diane M. Barret, and Christie M. Bruhn (2007) *Journal of the Science of Food and Agriculture* 87:930-944 and 1185-1196. See highlights at www.mealtime.org/content.aspx?id=312.

The destiny of nations depends on the manner in which they feed themselves.

—Jean-Anthelme Brillat-Savarin

Eating with the fullest pleasure—pleasure, that is, that does not depend on ignorance—is perhaps the profoundest enactment of our connection with the world. In this pleasure we experience and celebrate our dependence and our gratitude, for we are living from mystery, from creatures we did not make and powers we cannot comprehend.

—Wendell Berry

processing facilities can become overwhelmed, resulting in waste.

Examples of processing facilities in the state of Alaska include: fish and game processors that will clean, process, smoke, and package fish and game harvests; mobile meat butcheries; larger meat processing companies such as Delta Meats and Indian Valley Meats; Matanuska Creamery; honey processors; am makers in kitchens; berry cleaning and storing in individuals' homes; locally made ice cream; breweries, wineries, and the Alaska Distillery; and grain cleaning and milling. Other manufacturers provide food under the "Made in Alaska" trademark, such as Taco Loco, which makes tortillas and tamales sold in most major grocery stores, as well as salmon wraps for stores.

The food cycle: Packaging/Storage

Packaging may be thought of as the end of the processing stage and the beginning of marketing and distribution. Proper packaging is important to safety in processed foods, and to the protection of food while it is being transported (for example, shipping cabbages). There are some Alaska businesses that are trying to tackle the problem of supplying protective packaging for shipping food or other goods, but there aren't many that can actually manufacture it. Packages (jars, cans, bags, tubes, wrappings, etc.) for Alaska foods are often made outside the state and imported; large-scale storage facilities are so rare in Alaska that local distributors are largely dependent upon continuously open transportation routes to ensure that sufficient food packaging is available—another weak link in our food security.

Marketing begins with the presentation of the product (for example, the Alaska Grown or Made in Alaska logos or the company label on a tin of canned salmon). Proper packaging and storage is an aspect of food security: will the food harvested last the winter, or will it spoil? Root cellars and pantries used to be commonplace throughout Alaska; now, few homes have them, and the traditional knowledge of how to construct and maintain such household cool-storage facilities has faded.

The labels on foodstuffs are both an aspect of marketing and a significant tool for food safety; labeling serves as a mechanism to provide consumers with needed information, including growing method, origin, allergen and ingredients listings, proper storage instructions, and sell-by dates to indicate the freshness of the food.

The food cycle: Distribution

The food that we eat comes from all around the world: tomatoes from Mexico, grapes from Peru, cheese from France, tea from China, and so on. Our seafood is distributed all over the Earth. Today's food system is a global one, which of course necessitates a global transportation network that includes shipping, rail and air freight, and road transportation. Food transportation on this scale is costly not only in terms of dollar amount, but also in terms of energy (often from non-renewable sources) and the nutritional value and freshness of the foods being transported. For example, vitamins C, B, and E are all important antioxidants that are sensitive to time—spinach stored at room temperature loses between 50 and 90 percent of its vitamin C within 24 hours of being picked.[3] It has been suggested that buying locally grown foods is not only better for the local economy, but may be better for you nutritionally than buying food that must travel long distances to arrive here (due to the extra time involved). Added steps in the handling of food can add to risk, and require that at each step of the way, the food must be grown, processed, packaged, and transported safely.

Shipping anything costs more in Alaska, particularly in rural communities

3. A comparison of the vitamin C content of fresh and frozen vegetbles," by D.J. Favell (1998) *Food Chemistry* 62 (1): 59-64.

that are not connected with a road system. Perishable food that is shipped via by-pass mail, barge, or regular shipping can be temperature-abused in the summer or winter months, and may not be protected from the elements after it goes to a hub airport. As a result, villages see fewer available perishable items and may opt to buy shelf-stable products that are less expensive.

Many examples exist of food distribution to or from Alaska with the rest of the world. Examples of food distribution within Alaska include: ocean-going and river barges; air freight, including small planes to rural communities (such as the by-pass mail system); road and rail transportation; food banks; farmers' markets where food producers are able to distribute directly to consumers; school meal programs; university research crops provided to local soup kitchens or sold in community supported agriculture programs (as at Alaska Pacific University); country foods collected by individuals and sold to food processors, such as berries for ice cream or candy makers; and so on.

Food insecurity is an economic problem with public health implications.

—Charles J. Utermohle, et al., "Food Insecurity in Alaska

The food cycle: Consumption

Consumption is the part of the food cycle where we, the consumer, actually get to eat the food items that have come on the long journey from the water, field, and farm to our plates. Consumption is of huge concern in the U.S. today due to the fact that more than one third of children and two thirds of adults are overweight. This is, in large part, due to overconsumption. The Dietary Guidelines for Americans 2010, released in February 2011 by the USDA and Department of Health and Human Services, placed significant emphasis on decreasing calorie intake while at the same time increasing physical activity in an attempt to raise awareness of overconsumption and how we as individuals can combat the obesity epidemic that is becoming a global phenomenon. In another food paradox, hunger, along with obesity, is a significant problem in Alaska: 15% of Alaska children experienced food insecurity in 2009; 25% of schools offering school lunch do not offer school breakfast, leaving 22,645 Alaskan children with no access to an affordable breakfast.[4]

There are many of us who cannot but feel dismal about the future of various cultures. Often it is hard not to agree that we are becoming culinary nitwits, dependent upon fast foods and mass kitchens and megavitamins for our basically rotten nourishment.

—M.F.K. Fisher

Yet consumption is also more than just the physical act of consuming food and the health impact of that food on our bodies; there is also a large social and cultural component to food. The consumption of food is inextricably linked to the annual cycle of holidays, festivals, and celebrations, and on a daily basis the process of sharing food with our families and communities represents more than merely providing the nutrients that our body needs. For example, in Alaska, the potlatch is an important occasion that may mark a birth, death, marriage, or other rite of passage, and where food is just one of the many important aspects of a larger celebration that may include dancing, singing, or other events. The giving and receiving of food, its preparation and consumption all have meaning beyond simple sustenance. Consumption can be inside or outside the home, but either way it encompasses our requirements to fulfill the nutritional and biological needs of our bodies, as well as the social and cultural aspects of the food experience.

Examples of food consumption in Alaska include: eating in the home; family dinners; restaurant dining; potlatches (including the large potlatch recently held at Fort Wainwright for deploying soldiers, as a thanks to the military from the Alaska Native peoples who participated); festivals and celebrations that involve food (Thanksgiving, Christmas, the Sitka Seafood Festival).

The food cycle: Waste Disposal/Food Recovery

Food banks make use of one type of food recovery: donations of food past its sell-by date. This food that would otherwise be thrown away and fill up

4. Food Research Action Center. *School Breakfast Report Card: School Year 2008–2009.* December 2009. http://frac.org/newsite/wp-content/uploads/2009/09/breakfast091.pdf

An empty stomach is not a good political advisor.

—Albert Einstein

municipal dumps becomes useful to the community. The utility of food "waste" is evident in its re-use and pre-use, in everything from salvage of old vegetable or fish oil for use as heating or automobile fuel,[5] to municipal composting of food and yard waste into good soil amendments;[6] to farmers who donate gleanings from their harvested fields to help feed the hungry.[7]

Food in Alaska

Food production and security has long been an issue of importance to Alaskans, but has rarely been successfully addressed. "Seward's icebox" has had a difficult time even within the state in getting food taken seriously.

Even the extent of the problem is a mystery. In the heyday of Alaskan agriculture in the 1950s, we know that the state provided proportionately more food for Alaskans than it does today—but not *how* much.[8] Even today, our experts don't know how much food our wild and agricultural lands produce—it could be 10% of our needs, or the oft-heard 5%, or even less. The total agricultural production of Alaska remains unclear, as does the food gathered (fungi, berries, and other botanicals). Our population since the 1950s has increased significantly, and areas that were once cultivated near our major cities are now urbanized and paved, adding to the strain on food productivity in Alaska. Surveys and estimates of food production and consumption, while underway, are incomplete.

Compounding this uncertainty is the fact that the industry that employs the most people in the state, fisheries, sends most of its product Outside. Alaska provides 50-62% of all U.S. seafood, and the fishing industry is the third-biggest economic driver in the state.[9] Yet, while this level of seafood production certainly could supply Alaskans with all their protein needs, for economic and other reasons, it does not. How much seafood, and in particular, how much Alaska-produced seafood, is consumed here? Again, the answer is unknown.

The red meat situation is better understood. Including domestic or captive animals (bison, cattle, elk, reindeer, swine) and wild hoofed mammals (caribou, deer, moose, and other wild game), about 15% of the red meat consumed in Alaska is produced within the state.[10]

Alaskans are rightfully proud of their connection to the Great Land, but despite the image of the independent and self-sufficient denizen of the far north, it is quite clear that Alaskans are woefully dependent upon supplies of all types from Outside, and dangerously vulnerable to disruptions in the food supply.

Food security

In Alaska, rather than talking about food security, it might be more accurate to talk about food insecurity. Food insecurity is typically thought of as relating to hunger, malnutrition, food contamination and safety, or chronic disease. Yet, it also relates to the importance of particular foods to a culture for their history and symbolic importance; to the particular and unique flavors and culinary traditions and possibilities; and to the biological diversity of particular species or varieties of food plants, animals, bacteria, and fungi. Food security is a phenomenon of health, safety, tradition, community, environment, economy, culture. It also relates to the control people have over their food supply, how much voice they have in what and how that food is grown, how it is harvested and prepared, how it is regulated, sold, and marketed. Food security is about yesterday's food, its history and the customs that have developed around it; about today's food, eating enough and eating well; and about tomorrow's food, ensuring sufficient good, healthy food for all and for the generations to follow ours.

5. See, for example, www.alaskavegoil.org.

6. An example is Golden Heart Utilities in Fairbanks (www.akwater.com/compost.shtml) and the University of Alaska Anchorage's Green Landscaping initiative.

7. "Salvaging missed potatoes for hungry Alaskans yields rich harvest," by Barbara Kagerer, *Anchorage Daily News*, October 1, 2011. On line at www.adn.com/2011/10/01/2098799/salvaging-missed-potatoes-for.html.

8. In "Alaska farmers are the real thing," September 24, 2010, *Alaska Dispatch*, Danny Consenstein, director, Alaska Farm Service Agency, USDA, quoted the figure of 55%. The 5% figure frequently quoted for today's food production was a ballpark guess and never meant to be taken as a precise count, but has been repeated as fact ever since it was first mentioned in an informal talk given by then-experiment station director James V. Drew, "Some Thoughts About Agriculture in Alaska," in a seminar series in early 1977 held at the UAF School of Agriculture and Land Resources Management (the forerunner of the modern School of Natural Resources and Agricultural Sciences).

9. *The Seafood Industry in Alaska's Economy*, Northern Economics, Inc., January 2009. Available on line at http://community.adn.com/sites/community.adn.com/files/Seafood_industry_impact.pdf

10. "Security of the red meat supply in Alaska," by Thomas F. Paragi, S. Craig Gerlach, and Alison M. Meadow, *Agroborealis*, January 2011. The authors did not include poultry, wild fowl, marine mammals, or domestic sheep or goats in their survey.

Alaska has become increasingly reliant on imported foods with the growing urbanization of our population and the nationwide centralization of food production and processing, making us more vulnerable to food disruptions. We are at the end of a global food supply chain. Any disruption in the food supply system means immediate food shortages in Alaska; these are compounded in rural Alaska, where food may be barged or flown in to the communities off the road system—when the weather allows. Food is very expensive in rural Alaska, and its cost will increase faster than inflation if there are increases in transportation and energy costs. This is true for both store-bought foods and those obtained in traditional hunting, gardening, or gathering. Fuel, tools, equipment, vehicles, and supplies are also at the end of the supply chain.

Rural vulnerability to shortages in fuel or subsistence foods became national news in the winter of 2008–2009 when rivers froze early, barges were unable to make the last trips to stock community supplies of fuel and food, and midwinter shortages reached crisis proportions. This was compounded by the closure of the fishing season to ensure escapement to Canada, which is required by international treaty. The 2009 fish closure resulted in empty storage facilities, empty smokehouses, and barren fish racks from Stevens Village up through Fort Yukon and above. In combination with low harvest rates of moose and other terrestrial resources in some areas, the high price of fuel, and climate-driven changes in hydrology and water resources, the result was a "perfect storm" for a food security crisis, resulting in a political brouhaha and emergency airlifts of food to western Alaska. Food and water security are closely linked in all areas of rural Alaska. This is a classic example of food insecurity as expressed by scarcity of food due to weaknesses in the food supply chain.

Urban Alaska is also highly vulnerable to disruptions in the food supply. Fairbanks is estimated to have three to five days' of food on supermarket shelves, with Anchorage only having nominally more, perhaps five to seven days. The state of Alaska has no caches of emergency food supplies, relying instead on a system of contingency plans and supplies from nonprofit and for-profit suppliers, such as the Red Cross or Safeway. In the event of a significant emergency that cuts off our supplies from the Lower 48, we would be reliant on the Federal Emergency Management Agency and, significantly, food supplies stored in state from agencies and businesses that rely themselves on supplies from Outside, a fact that speaks for itself. In other words, given current conditions, Alaska communities are on their own.[11]

Hunger is a significant problem in Alaska. Over 80,000 Alaskans live in households that were "food insecure," where the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain.[12] These food insecure households included 11% of adults and 15% of children in Alaska; however, in rural Alaska, 22% of adults and 26% of children were food insecure. More than 74,000 people, including 31,080 children, receive emergency food each year through Food Bank of Alaska. Many of these clients (43%) who seek food assistance at food pantries report having to choose between paying for food and paying for utilities or heating fuel.[13]

Flavor, nutrition, and culture

Food security is not just access to food, however. It is also access to nutritious and culturally appropriate foods—to healthy and preferred foods. Low quality, highly processed foods have a longer shelf life than fresh, unprocessed or minimally processed foods—an important consideration when shipping long distances and with unpredictable storage at the various stages of the trip—but they tend to be bad for one's health if they are a significant portion of the diet.

11. The oft-repeated and false meme that Alaska's emergency food storage resides in Portland, Oregon may be derived from the fact that several food distributors and big-box grocery stores have their Pacific Northwest region warehouses in this port. Kerry Seifert, an Emergency Management Specialist for the state of Alaska, described the functioning of the Alaska Partnership for Infrastructure Protection on September 29, 2011. APIP is a cooperative, voluntary arrangement between public and private-sector owners of critical infrastructure. APIP's charter does not mention food, and the group depends on good communications to function. For more information about APIP, see www.ak-prepared.com/apip/index.htm. Seifert's essential point was that emergency food supplies are distributed throughout the state and outside it as well. This noncentralized contingency system of cooperative effort enables the state to deal with local emergencies, such as the 2010 Eagle ice dam and flooding, or the 2011 Crooked Creek flood. It does not resolve the question of how to deal with a major emergency, in which individual Alaskans and Alaska communities would need to rely on themselves during that time between when disaster strikes and federal support would become available. Alaska, Seifert said, may in fact be better prepared than other states, because its geographic isolation and low level of infrastructure means that its residents and agencies may in fact be more aware of the potential for disruption than those in the contiguous US states.

12. Utermohl C, Wells R, Fenaughty A. Food Insecurity in Alaska. *Chronicle* No. 4, July 2008. Anchorage, AK: Section of Chronic Disease Prevention and Health Promotion, DPH, AK DHSS.

13. Mabli J, Cohen R, Potter F, Zhao Z. *HUNGER IN AMERICA 2010: Local Report Prepared for The Food Bank of Alaska, Inc. (0101)* January 2010. Mathematica Policy Research.

The spirit cannot endure the body when overfed, but, if underfed, the body cannot endure the spirit.

—St Frances de Sales

Slow Food was founded in 1989 to counter the rise of fast food and fast life, the disappearance of local food traditions and people's dwindling interest in the food they eat, where it comes from, how it tastes and how our food choices affect the rest of the world."

—Slow Food International website, "About Us", www.slowfood.com

Even foods that are "healthy" are often bred for shelf life rather than flavor. The so-called "cardboard tomato" is an infamous fruit: a tomato bred for durability but not taste, picked green and shipped vast distances, ripened artificially with exposure to certain chemicals, and sold in midwinter far from its point of origin. This tomato may be of equivalent basic nutritive value to a fresh-picked, local tomato that has ripened on the plant and is enjoyed in-season, but it is utterly inferior in terms of flavor. The quality of a food is in its value for enjoyment as well as its nutrition. Good food that tastes good will entice people to eat it.

But what about the cooked, strained, dehydrated, and powdered tomato found in a commercial dry soup mix? All this processing has reduced its nutritional worth and its flavor (now enhanced with corn syrup and milk solids, spices, preservatives, colorants, and stabilizers). It may last for decades on a shelf in a warehouse, but it is no longer a tomato that speaks to the cultural and culinary requirements of, say, traditional Italian cooking. It is, arguably, no longer a tomato.

The Slow Food Movement originated in Italy in 1989, and addresses just this aspect of food security: flavor, enjoyment, food diversity, and the traditions of food. In the last couple of years, Slow Food chapters have started in Juneau and Anchorage. This movement suggests that the flavorfulness of food, the culinary and cultural traditions that surround it, and the health of the person eating it are inextricably linked. The economic concentration in the food industry and the large scale of modern food production has led to breeding foods for uniformity and durability. Market pressures have steadily reduced the percentage of mid-sized farms and, until recently, the percentage of small farms. With them the diversity in strains of foods was drastically reduced. The importance of heirloom and heritage breeds is again being recognized, even though these specialty crops may not be suitable to long-distance shipping or mechanized production and processing.

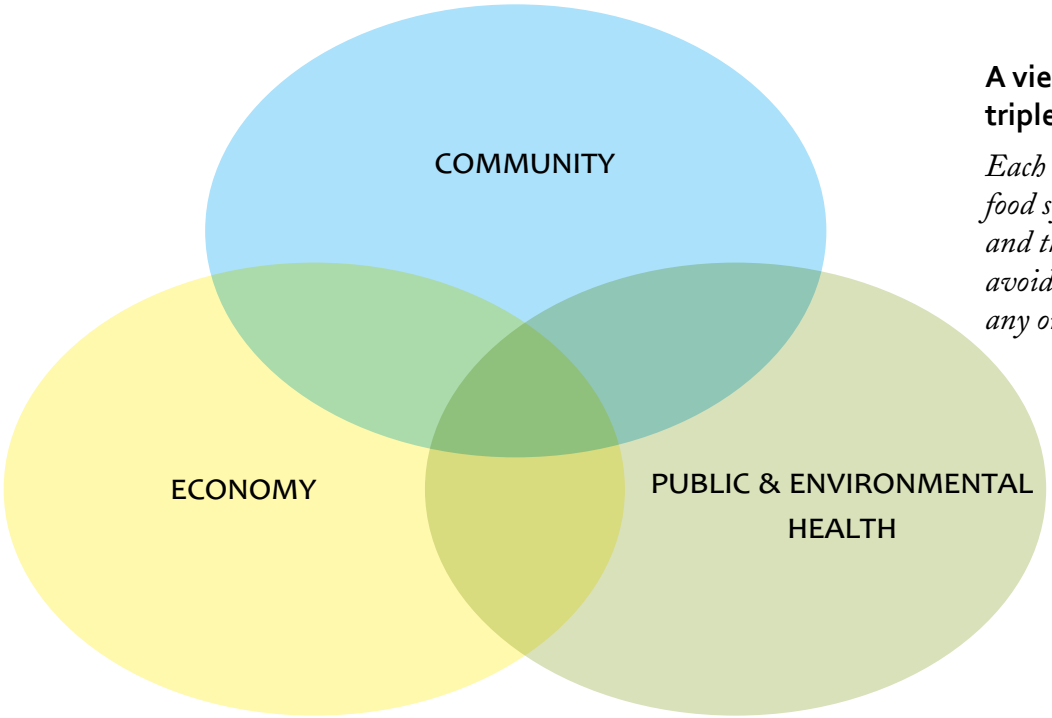
The Triple Bottom Line: Economy, Community, Health*

Food security issues can be defined as all those relating to food that affect the economy, the community, and health (both public and environmental)—also known as the triple bottom line. In business, the triple bottom line is used as a method of full cost accounting, or accounting for all costs and benefits generated by an organization. These interrelated aspects of the food system affect food security at all stages of the food cycle. Integrating each of them into our consideration of the best approaches for food policy is vital, for they depend upon and affect each other—and our food security.

Economy

The economic bottom line of food in Alaska depends a great deal on the cost of imports and exports. For example, to produce food on a farm in Alaska, everything from seed, fertilizers, equipment, structures, etc. must be imported—sometimes even compost—for none of these supporting inputs are made here, or are made here at affordable prices. Most food consumed in the state must be shipped from somewhere else, but there are minimal storage facilities, so only the food kept on the shelves at stores is what is on hand for consumption. A continuous supply of trucks, barges, and freight planes keep food coming in to the state and moving to its communities. Within the state, barriers to production and distribution also add to the costs of food. That said, the food industry affects a huge proportion of the economy: the fishing industry alone represents a third of the state's jobs. Other parts of the food industry add even more economic clout: hunting, gathering, gardening, farming, ranching, food processing,

*For more on the origins of the concepts of sustainability, full cost accounting, and the triple bottom line, see www.goethe.de/ges/umw/dos/nac/den/en3106180.htm.



A view of the interactions of the triple bottom line.

Each of these aspects of a sustainable food system must be taken into account and their linkages recognized to help avoid unintended policy consquences in any one area.

restaurants and more; nutrition and food-related medical jobs, costs, and benefits; construction, shipping and transportation, repair, and manufacturing related to farming, fishing, hunting, and so on. Because the overall lens of food-related economies is not a usual division of economic statistics, it is difficult to determine just how much of an impact food has on the Alaska economy, but one can be sure it is very large.

Community

Food and its related systems have been at the center of communities since the beginning of human record keeping and long before. Hunting in groups or settling in fertile valleys, food has brought and kept people together. These food systems, based in tight regional locales, were woven in the fabric of all emerging cultures.

Alaska, with its extensive lands and diverse ecosystems, has an array of culturally distinct foods that have emerged with its native people. Moose, caribou, berries, and a wide variety of plants are characteristic of the diets of Alaska's interior people; while fish, seals, and whales are associated with people of the coastlines, from Ketchikan to Kaktovik.

As Russians and people of European descent moved into the area they brought their own foods and food systems with them. Agriculture and livestock management took on new forms and at one time 50 percent of the food consumed in Alaska, came from Alaska. Now that figure, though widely debated, appears to be less than five percent.

However, local agriculture seems to be having a renaissance within the state. Food coops and community supported agriculture (CSA) farms are popping up all over. At the latest count, 38 CSAs were operating in the state, with seven more in early start up phases. Farmers' markets are emerging in Fairbanks, Anchorage, and on the Kenai Peninsula and in smaller communities, while throughout the state people are planting community gardens and building greenhouses. The message that Alaska is "food insecure" is getting through and being taken to heart.

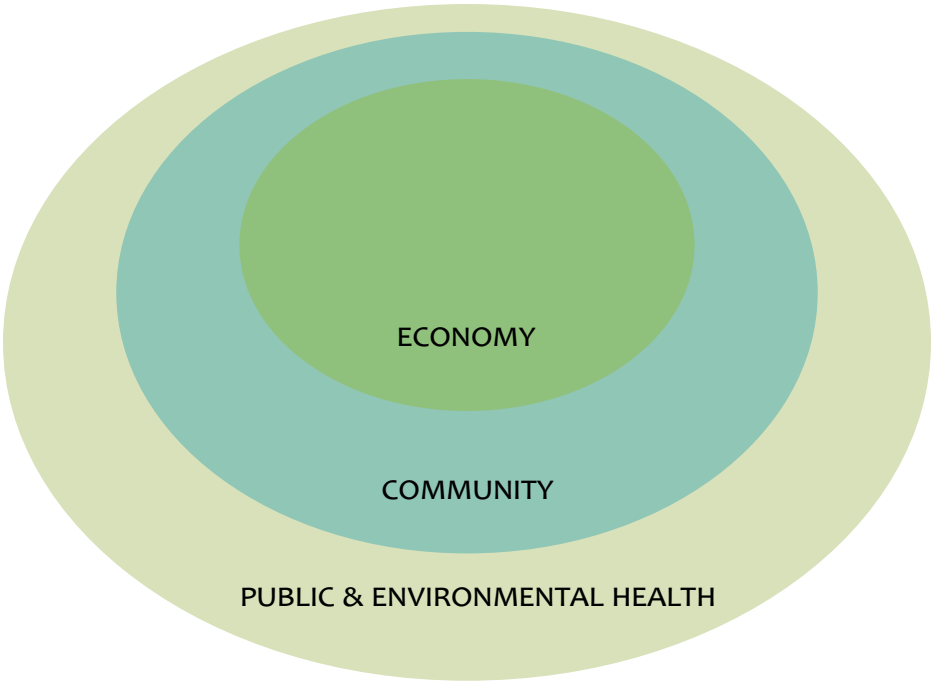
People are moving the idea of communities around food into action, forming organizations such as the Alaska Community Agriculture Association and the Fairbanks Community Cooperative Market, Slow Food chapters, programs like Veggies to Work. Older programs are expanding, such as the UAF Cooperative Extension Service Master Gardeners. Food is not taken for granted any more.

Triple Bottom Line accounting attempts to describe the social and environmental impact of an organization's activities, in a measurable way, to its economic performance in order to show improvement or to make evaluation more in-depth.

—The Dictionary of Sustainable Managment, www.sustainabilitydictionary.com

Nesting dependencies of the triple bottom line.

The economy is a function of and dependent upon society or community, and natural and human resources that generate value; the community's success is itself dependent upon the health of the public and the environment upon which they depand and of which they are a part. This diagram shows how the economy is constrained by societal limits, and both are constrained by the physical limits of people and the environment.



Communities are where we grow, harvest, gather, or hunt our foods and come together with others to process and eat our food. They are where we support businesses that help us in that pursuit: we buy vegetable starts, fuel our skiffs, visit the farmers' market or local brewery or seafood producer. We eat at local restaurants and cafés. Communities that increasingly understand the tenuousness of our food supply and re-embrace a sense of self-reliance are finding new ways to engage their citizens, organizations, and community leaders to invest in local food production. Alaska communities are seeing an explosion of innovative approaches to increase local food, from the re-birth of food cooperatives and buying clubs to small cottage industries that use the local brewery's spent grains in their breads to faith communities that make space available for communal gardens that "feed" the farmers' market community produce stand. Gardening clubs, school gardens, and community greenhouses strengthen the local food supply.

Environmental & Public Health

Food choices significantly affect our health, particularly chronic conditions, such as diabetes, heart disease, and high blood pressure. Two-thirds of Alaskan adults are above normal weight, with 25% of Alaskan adults classified as obese.[14] In some areas in Alaska more than 31% of the adult population is obese, among the highest rates in the nation.[15] The newest obesity-related medical cost estimate for Alaska of $477 million exceeds Alaska's tobacco-related medical costs of $380 million.[16]

The way in which food is grown, harvested, transported, packaged, and used, and the economic environment in which all this occurs, can have a heavy impact on the environmental health of a community. Alaska's economy and the health and wellbeing of its residents are already being affected by climate change. Climate change will impact our food system by affecting public infrastructure, such as transportation and water systems, increasing the potential for water-and food-borne diseases, and affecting changes in marine, terrestrial, and freshwater ecosystems. Changes in fisheries and forest resources, modes of travel, and the diversity and location of different plant and animal species have both beneficial and adverse impacts on natural systems and the services they provide.[17] The high petroleum inputs required for industrialized agriculture and the centralized nature of monocropping and feedlot meat production have a strong impact

14. Fenaughty A, Fink K, Peck D, Wells, R, Utermohle C. Peterson E. *The Burden of Overweight and Obesity in Alaska, February 2010.* Anchorage, AK: Section of Chronic Disease Prevention and Health Promotion, DPH, AK DHSS. Available on line at www.hss.state.ak.us/dph/chronic/obesity/pubs/ObesityBurdenReport_2010.pdf.

15. CDC. Estimated County-Level Prevalence of Diabetes and Obesity - United States, 2007. *MMWR*, November 20, 2009 / 58(45);1259-1263. Available on line at www.cdc.gov/mmwr/preview/mmwrhtml/mm5845a2.htm.

16. Tobacco Prevention and Control in Alaska FY2008. Anchorage, AK: Section of Chronic Disease Prevention and Health Promotion, Division of Public Health, Alaska Department of Health and Social Services. Accessed 1/5/2010.

17. Alaska Department of Environmental Conservation. *Alaska's Climate Change Strategy: Addressing Impacts in Alaska Executive Summary – Draft Final Report January 27, 2009.* Available on line at: www.climatechange.alaska.gov/aag/docs/aag_ES_27Jan10.pdf.

on the greenhouse gas load in our atmosphere (CO2, nitrogen, methane) and in the nitrogen and phosphorus load of our waters. Centralizing food production means greater environmental costs associated with transportation.[18]

Issues of concern in Alaska

The vision of the Alaska Food Policy Council (AFPC) is healthy, secure food systems that feed all Alaskans. Its mission is to improve our food systems for the benefit of all Alaskans. Initially funded in 2010 by a grant from the Centers for Disease Control and Prevention to the Alaska Department of Health and Social Services, the AFPC is an independent organization open to anyone interested in improving Alaska's food systems. Today, more than 150 people representing federal and state agencies, tribal entities, university programs, farmers, fisheries, food systems businesses, and health and hunger agencies participate in the AFPC. The council's intent is to provide recommendations and information to agencies, businesses, organizations, and individuals, with well developed comprehensive policies that improve the food system for the local area. For the past two years the AFPC has been working to connect people from different areas of the state, focus attention on our food system, and elevate food policy as strategy for strengthening our food system.

The AFPC held its initial meeting in 2010 to bring together a wide variety of food system stakeholders in Alaska. At that meeting, the Alaska Food Policy Council has organized into the AFPC formed committees were organizedthat to address certain stages of the food cycle and issues of major concern in Alaska's food system. These included the Education & Regulation Committee, the Production Committee, the Supply Chain Committee, the Food Security, Hunger, Social Justice & Health Committee, and the Traditional & Local Foods Committee. In addition, there is a Research Workgroup, Governance Committee, and a Communications Committee.

Knowledge Base: Research Needed

As described above, even the most basic information about Alaska's food system is patchy and incomplete. How much and what type of food is produced in Alaska? How much is imported? Where does it come from? How much of the food produced here is actually eaten by Alaskans? How much do we export? What is the economic impact of the food industry in Alaska? What are its environmental and health impacts? What kind of education needs do food producers, suppliers, and providers have? Which food policies are in place, and how effective are they? Are current regulations appropriate for Alaska's needs? What do they accomplish? The research needs about Alaska's foodsheds and food system are profound, and synthesizing what we have learned takes time—and money. The research needs we have so far identified are integrated throughout this document.[19]

Issues concerning research:

- Who eats what, and where does it come from? How long did the food take to get there? What is the nutritional value? For example, in general, due to Alaska's harsh climates most remote communities have very little or no agriculture, including gardens. This fact puts them at the end of a very long distribution chain of mostly canned or dried foods. These foods, lacking in nutrition, tend to be very expensive. However, we need community vulnerability assessments—we only have the general view, not the specific information essential to making accurate and appropriate policy.

Without protecting the environment no long standing economic activity will hold.

—Thomas Woodfin, "Economic Concepts in Sustainability: Using the Triple Bottom Line Approach"

18. Lappé, Anna. *Diet for a Hot Planet: The Climate Crisis at the End of Your Fork and What You Can Do About It.* 2010. Bloomsbury USA.

19. Source document: Alaska Food Policy Research Workgroup: Collected Priorities. 10.25.2010. Compiled by Raymond Anthony, Mark Carper (University of Alaska Anchorage); David Fazzino, S. Craig Gerlach, Joshua Greenberg, and Milan Shipka (University of Alaska Fairbanks).

Because of the media hype and woefully inadequate information, too many people nowadays are deathly afraid of their food, and what does fear of food do to the digestive system? I am sure that an unhappy or suspicious stomach, constricted and uneasy with worry, cannot digest properly. And if digestion is poor, the whole body politic suffers.

—Julia Child

- Food security for Alaskans will be addressed only if we choose to make it a concern. For example, the decline in agricultural production from the 1950s was mirrored by a decline in support for agricultural education and research. State support for agricultural research had virtually disappeared by the mid 1970s, and despite a brief resurgence with pipeline revenues, has again suffered neglect both from the state and federal governments. Research requires adequate funding to be effective in its role as long-term support.
- What are the challenges associated with climate change on Alaska's food system? What are the appropriate and effective responses to these challenges?
- Agriculture, storage, and distribution in a food system require energy. What are the best long-term solutions to the world's dwindling nonrenewable energy resources? What are Alaska's best place-based renewable energy resources for each of her communities?
- What are the sustainable economic frameworks and policies that should be developed or supported to maintain a strong and healthy financial base for farmers?
- Research institutes that concern themselves with food-related work are not supported or viewed through a food security lense; rather, they are evaluated on a hodgepodge basis. These include the Center for Native Health Research, ISER, SNRAS, Alaska Seafood Institute, the USDA, the Alaska Farm Service Agency, and a multitude of nongovernmental agencies that serve various aspects of food research.

Education & Regulation

Education in Alaska regarding food can be divided into three general areas: kindergarten through high school education; higher education; and professional training and adult learning programs. Although in recent years some programs and initiatives, such as such as Agriculture in the Classroom and the Farm-to-School Program, have been undertaken to improve food- and agriculture-related education for children and young adults, higher education and professional training is lacking.

Issues concerning education and regulation:

- Alaska lacks many higher education opportunities to develop a food systems workforce and infrastructure. For example, no college or university in Alaska offers a degree in environmental health. Environmental health examines the impact of the environment on human health, the control of adverse effects, and the complex systems that modify and influences the environment. Environmental health professionals play a direct role in ensuring that facilities are processing, preparing, and serving food in a healthful manner. They have the ability to apply science and common sense to identify public health problems and work with industry to develop cost-effective and protective solutions in urban and rural Alaska.
- Rural and low income areas in Alaska with poor access to affordable, healthy foods may benefit from education and policy changes. For example, DEC regulations allow the use of donated traditional foods in schools, but confusion about the policies and other barriers are preventing many schools from using this affordable, healthy food resource. The poor water quality in rural areas may contribute to high sugar-sweetened beverage consumption, so efforts to improve not only access to, but the taste of water can have an enormous impact on obesity and dental caries rates.

Production

As the Alaska Food Policy Council works toward a better understanding of the unique social, ecological, and economic aspects of the Alaska food system, it is equally important for us to promote new research and development in the area of food production. In doing so, we can build capacity for a stronger, safer, and healthier food system and develop functionally integrated livestock and crop production strategies. Our first priority is to determine exactly how much food really is produced in Alaska.

Current and future research in Alaska food production must incorporate new findings from the climate sciences, including a better understanding of inter-annual variability, extreme and catastrophic weather events, and gradual and/or sudden drying of the landscape, into models that also include production strategies and socioeconomics to enhance the capacity of producers to cope with changing conditions. Whether working with reduced input systems or with more conventional production strategies, the increasingly extreme conditions faced by all Alaska livestock and crop producers must be integrated with the challenging cultural, socioeconomic, and agro-ecological conditions if we are to develop a successful high latitude food production system that will meet the needs of the state.

Production-related issues:

- Very little of the two billion pounds of seafood commercially harvested is sold in Alaska. Most seafood sold in Alaska's national grocery store chains is imported into the state. In many cases, Alaska seafood is sent out for processing and then returning back to the state—an export from our own waters turned into an import, resulting in value lost to Alaska processors.
- Importation required on all basic inputs: seed, livestock, fertilizer, feed, equipment, tools, structures, even compost.
- Agricultural lands often have never before been farmed: soils must be built up from scratch.
- Infrastructure to support farming and support industries is nonexistent to minimal; thus, startup farmers face major impediments.
- The normally extreme seasonal differences are becoming more unpredictable due to climate change, thus creating difficulties for farmers or hunters, fishermen, or berry pickers in judging planting or travel. Also, as seasons and temperatures change from year to year and wildlife respond to these changes, the hunting or fishing seasons as defined by state agencies can miss the best times for wildlife hunts, therefore restricting or overestimating the volume of meat from hunting or the appropriate window or harvest take for fishing.
- An accurate survey of food produced in Alaska is not available: we simply do not know how much of what kinds of food are produced in the state.
- Food safety education and training is minimal, and the cost to obtain it is a barrier.
- Capital, labor, and regulatory barriers exist to farmers hoping to start up agricultural production.
- Farm management education can be difficult to obtain: access to conferences can be difficult due to geographic distances and costs. Some conferences are always held in the same location and only during workdays when people who own farms but also have off-farm jobs can't attend.
- The Alaska Product Preference Program, intended to support the manufacture or production of local goods, is not enforced, has no

Food democracy is based on the principle that citizens or "food citizens" have the power to determine food policies and practices locally, regionally, nationally and globally. Food democracy asserts it is a right and responsibility of citizens to participate in decisions concerning their food system.…The goal of food democracy is to ensure all citizens have access to affordable, healthy and culturally appropriate foods. Food democracy emphasizes social justice in the food system, and food is viewed as the center of the democratic process.

—Alexandria Fisher of Food First

enforcement requirements, and does not give any agency authority to request information. Reporting on purchases is not required.[20]

The Supply Chain: Processing, Distribution/ Transportation, Infrastructure, Development, and Planning

The supply chain includes a wide array of players and components. Adequate infrastructure for each part of the supply chain is essential as Alaska develops new ideas and opportunities for entrepreneurs in agricultural businesses. Current crop and food infrastructure capacity for processing, marketing, and distribution for foods produced in Alaska is low to nonexistent in many areas of our state.

Infrastructural development in Alaska needs to address both hard and soft components. Hard infrastructure refers to the physical and organizational structures necessary for system function and operation. This may include roads, telecommunication and electrical power networks, water supply, and waste management, all of which are for general use.

Soft infrastructure includes highly specialized buildings and types of equipment, the systems and organizations by which skilled and specialized professionals are trained and engage in their profession, the body of rules and regulations that govern a system, the financing available to support the system, and the networks of communication that lend support to a system. Examples of soft infrastructure relating to food are: government and regulation; specialized food and livestock transportation and storage facilities; agricultural price supports (such as insurance); food inspection; health standards; experimental farms and research stations; licensing facilities; educational centers and standards.

Ultimately, distancing disempowers.

—Jack Kloppenberg, Jr., et al., "Coming in to the Foodshed"

Supply chain issues:

- Huge imports of food supplies make Alaska extremely vulnerable to long-term delays in food shipments.
- Backhaul costs associated with empty cargo hulls increase the cost of Alaska inputs.
- Processing facilities or facilities that meet required federal or other standards are nonexistent or underrepresented in Alaska. Processing infrastructure can be added at the "community kitchen" level, to encourage small businesses to enter the processed food market without large capital investments in kitchen infrastructure. Lack of appropriate processing facilities limits food production to what can be sold on the fresh market during the summer months.
- Likewise, storage facilities, from home storage (root cellars, freezers, etc.) to industrial scale are also lacking in the state. Storage and transportation issues must be connected. To maintain quality, fresh produce must be transported in refrigerated units. Alaska may not have the capacity to ship refrigerated goods by truck, air, or barge.
- The conditions or environmental atmosphere to encourage entrepreneurship is lacking. To encourage new businesses, the following are necessary but weak or unavailable in Alaska: Venture capital availability; presence of experienced entrepreneurs; technically skilled labor force; accessibility of suppliers; accessibility of customers; favorable governmental policies; proximity of universities; availability of land or facilities; accessibility to transportation; receptive population; availability of supporting services; and attractive living conditions.

20. See the program's website at www.commerce.state.ak.us/ded/dev/prodpref/prodpref.htm.

- Food distribution systems are weak in the state and vulnerable to vagaries of weather, politics, and economics. Transportation has extremely high costs: for example, it can cost more to ship hay within Alaska (which may require air shipping) than to ship it from Washington to Alaska (which can be accomplished by barge or truck).

Food is the next frontier of the civil rights movement.

—Erika Allen, Growing Power

Food Security, Hunger, Social Justice and Health

Our choices and decisions around food define who we are, reflect our values, and are expressions of who we want to be. How we make those choices are equally telling of our values, our relationship to those who produce our food, and our desire to build capacity and promote community. In general, ethical consideration of a local food system can be defined by thinking about three key questions:

- In what ways can support of a local food system benefit the providers, which include farmers, ranchers, fishermen, wildcrafters, hunters, processors, and retailers, and how might that be nurtured?
- Is there general recognition that all members of a community have a right to nutritious, wholesome, and culturally appropriate foods and is this being observed, promoted, and supported?
- Is food being viewed as a connection to the environment to the extent that steps are being taken to preserve the ecological integrity of the systems upon which those foods, and we, depend?

Health, hunger, security, and social justice issues:

- While obesity, hunger, and food security issues are receiving increasing public attention, there is a lack of support for healthy food initiatives or policy and environments to affect change in people's behaviors. There are very few community or school coalitions for nutrition, physical activity, and health similar to the highly successful community and school tobacco coalitions. There is a lack of training and education in areas of food and nutrition, especially for what can or does work in different areas of Alaska.
- Access to healthy foods and beverages is difficult for some populations in Alaska. Federal programs exist to assist in providing nutrition to children through the schools, most notably the National School Lunch Program, the School Breakfast Program, and the Fresh Fruit and Vegetable Program; however, these programs are not reaching everyone who qualifies. Thirty-eight states provide some kind of matching funds for these federal programs; Alaska does not.
- Many of Alaska's rural areas and low-income neighborhoods lack access to healthy foods, and could be described as food deserts. Shipping, fuel costs, and storage in rural Alaska contribute to the disproportionally high cost and limited availability of fresh fruits and vegetables. Urban areas may lack adequate public transportation to get people to grocery stores or farmers' markets, which may limit people to fast food or convenience store options.

Schools and other institutions face severe funding limitations that affect which foods are served. Lack of nutrition education for teachers and students, lack of training for school food service, reliance on money from competitive foods (from vending machine companies, fundraisers, or through school stores) to fund school activities has led to an unhealthy food environment for many.

Many healthcare providers and insurance companies do not provide for or cover the cost of nutrition services and education.

Traditional & Local Foods for Health and Food Security

Traditional and local foods in Alaska are intimately connected to the place we live—for Alaska Native peoples, that connection has existed here for thousands of years. Foods of one's culture and family may only be available locally—or, for cultural groups that come from other parts of the world, may have to be imported from faraway countries. Traditional Korean, Philippine, Samoan, or Thai foods, for example, are important to sizeable populations in Alaska. Some heirloom varieties of herbs and vegetables may be grown in the state in personal gardens, but other elements of traditional cuisine must be imported. Common staples, such as wheat flour, rice, beef, sugar, or spices like black pepper or cinammon, are ordinary supplies in Alaska kitchens, but are largely unavailable locally. Some that might be thought exotic elsewhere, such as lowbush cranberries, whale, walrus, caribou, whitefish, or king salmon, are traditionally harvested in Alaska. Food is an important but often unnoticed part of the basic cultural identity of all of Alaska's varied peoples—unnoticed, that is, until those foods can't be obtained or grown, or a traditional event surrounding food cannot be celebrated. Control over food and its production and use is a matter of food sovereignty, a broader concept than that of food security. Food sovereignty and food democracy incorporate the idea of appropriate food and treatment of food (and people) into a food system, as determined by all those within that system—not by a few or by the narrow demands of markets.

A healthy food system in Alaska is one that is culturally appropriate to Alaska's diverse communities and which protects and promotes the dignity of its citizens/people. Food nourishes more than the body.

Food deserts are defined as urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options. The lack of access contributes to a poor diet and can lead to higher levels of obesity and other diet-related diseases, such as diabetes and heart disease.

—USDA

Issues concerning traditional and local foods:

- Traditional food gathering is not well supported by employment policies, such as leave time availability that takes into account the time-sensitivity and immediacy of food gathering activities.
- Support by community action and school programs for traditional foods and sustainable local practices is uneven. School systems may be unaware of the options available to them.
- We are overly reliant on non-renewable energy for food storage. Traditional knowledge of alternative food storage options, (i.e., root cellars, drying, preservation in oil, pressure canning, etc.) is still available, though underutilized. However, funding to build or maintain community freezers will likely be difficult to obtain in this economic climate.
- Waste management is a large issue in Alaska and a concern in many rural areas. The short-term costs of disposal of food packaging and food waste is not currently factored in to the cost of food. Improper disposal of hazardous materials in rural Alaska may impact the future of traditional food gathering; the long-term costs of improperly disposing of toxic items and the possible contamination of traditional food are likewise not factored in to the cost of food.

Food Policy and Food Policy Councils

Food policy concerns the production, distribution, and consumption of food. It is intricately entwined with water, health, environmental, economic, social, and natural resource policy. It consists of the setting of goals and guidelines for

food production, processing, marketing, availability, access, utilization and consumption, and the processes for achieving these goals.

Food policy comprises the mechanisms by which food-related matters are addressed or administered by governments, by international bodies or networks, or by any public institution or private organization. Food policy affects the entire food chain, from natural resources to production, processing, marketing and retailing, as well as food hygiene, consumption, and nutrition. Food policies are intertwined with population and environmental health. Food diversity—true diversity, not pseudo-variety—extends into production and natural resources management in heirloom varieties and domestic plant and animal species used as food to the extensive variety of plants, animals, and fungi obtained from the natural environment. Thus food policy is affected strongly by policies that affect wilderness areas or public lands: access; fish and game management; wetlands, watershed, and aquifer regulation and water rights; land use and zoning; biotechnology and biopatents; food commodity markets; advertising, labeling, and marketing of food products; processing plant safety and employment conditions throughout the food industry;

Food policy is any policy that addresses, shapes, or regulates the food system.

—from *Food Policy Councils: Lessons Learned*

What is a food policy council?

A food policy council, representing a community, region, or state, is an advisory forum for food issues and a platform for coordinated action to improve local and state food systems for the benefit of all within the system.[21] A food policy council creates a partnership between producers, agencies, researchers, and consumers, covering fields of food safety, emergency planning, health and hunger, production, supply, and traditional use.

What does that mean? Different councils approach the task of addressing food policy and food security in different ways. Some councils take on community projects, provide resources to the public, do research on specific issues, or formulate and advocate for particular policies. According to the Community Food Security Coalition, examples of work done by food policy councils include mapping and publicizing local food resources; creating new transit routes to connect underserved areas with full-service grocery stores; persuading government agencies to purchase from local farmers; and organizing community gardens and farmers' markets.[22]

Food policy councils relate to all of us as consumers. A food policy council can develop policy that combines various links in the food chain to improve the nutritional value of the food served to our children in the schools. It can encourage and pave the way for more locally grown or harvested foods to be eaten locally. It can assist emergency planners on gaining the resources necessary to assure that communities can fend off starvation or hunger due to prolonged breakdowns in the food supply chain. It can focus research activities to connect better with real-world problems in our environment. It can support the improvement of access and handling of Alaska's wild natural bounty for its residents.

The Alaska Food Policy Council

What can the AFPC do for Alaskans?

The Alaska Food Policy Council can connect seemingly unrelated segments of the food system to solve problems of food supply, processing, distribution, and use within the state. A common example might be connecting a food producer with a government procurement officer in charge of purchasing for school lunch

21. Alethea A, Harper A, Holt-Giménez E, Alkon A and Lambrick F. *Food Policy Councils: Lessons Learned.* 2009 Institute for Food and Development Policy.

22. See www.foodsecurity.org/FPC/index.html.

Fish are the "corn of the North."

—Dr. S. Craig Gerlach, "Rural Alaskan Food Systems: Problems, Prospects and Policy Considerations"

programs with the result being more locally grown food procured/purchased. A food policy council encourages and advises agencies on needed education and research, and offers broad policy advice on all matters pertaining to food. Here are several examples of actual events and/or programs in Alaska that connect several incongruent or unfamiliar parts of the food system. These examples, which occurred without the presence of a food policy council, would become commonplace and easier with a food policy council. The Alaska Food Policy Council is dedicated to creating and facilitating opportunities like these to build a viable Alaska food system.

Successful Community Actions to Emulate

• Community Fruit Trees for Sitka

When Sitka residents met for the community planning day during the Sitka Health Summit in October 2010, two of the four health priority projects they chose to work were centered around local food issues. One of the projects is to plant 100 fruit trees—apples, crabapples, or cherry trees—in Sitka by the 2011 Sitka Health Summit. As of mid-April 2011, the Sitka Fruit Tree Initiative had planted 45 trees on a combination of community and private lands, plus an additional 97 trees were planted by private individuals. The Initiative is collaborating with UAF Cooperative Extension Service, the Sitka Local Food Network, and the City of Sitka's Tree & Landscape committee, as well as dedicated citizens to educate and empower Sitkans to plant more fruit-bearing trees and shrubs and increase Sitka's food security.

• Turning Seafood Waste into Food Bank Fortunes

As the Americanization of fishing off the coast of the U.S. reached completion in the early '90s, public awareness grew regarding huge fisheries bycatch mortality from the trawl vessels' fleet. Federal law required millions of pounds of dead and dying halibut and salmon to be dumped overboard to eliminate targeting of these valuable species by trawl vessels.

Between 1990 and 1993 halibut bycatch mortality in the trawl fleet ran between 10 and 14 million pounds annually. This bycatch represented over a quarter of the hook and line commercial halibut fishery with an average annual dockside value of $18 million. Federal and international fisheries managers were concerned about the harvest level. Trawl fishermen were concerned their billion dollar fishery might be shut down from the building backlash by other fishermen, environmental organizations, and the public.

Starting in 1993, a nonprofit organization called SeaShare began lobbying fisheries managers to allow retention of the bycatch for food banks across the U.S. In 1994, SeaShare received a permit to run a pilot program. With in-kind donations from freighters, processors and distributors, SeaShare began moving seafood bycatch from Dutch Harbor to hungry people across the nation.

While SeaShare continues to move fisheries bycatch, it also handles regular seafood donations, including from outside Alaska. Seafood harvesters and processors find SeaShare an easy partner to help give back to the public. In 2010, seafood from bycatch equaled only 5% of the seafood SeaShare moved to food banks.

SeaShare, fisheries managers, and the seafood industry provide a great example of the synergies, savings, and solutions that are possible through a food policy council. Hard charging people jumped into a foreign arena and fought for positive change. It is possible through an Alaska Food Policy Council that more productive solutions may be achieved in quicker time.

• Nutrition Professions

The University of Alaska has recently instituted an excellent career preparation path in nutrition, beginning with a twelve-credit Rural Nutrition Services Occupational Endorsement on up to a Bachelor of Science in Nutrition or Dietetics and a Dietetic Internship. Alaska-based education/training is important because "homegrown" Alaskan students stay in Alaska—high turnover is an economic burden—and respectful of the realities of Alaska cultures, food systems, and needs.

• Organic Village Produce

Igiugig's Kvichak Organic Produce project was undertaken by the village council in 2009 to produce fresh vegetables for the people of the area. The village is constructing a wind-powered community greenhouse and an egg share as part of a health initiative for the village. The expense and difficulty of shipping fresh produce to the village, which is off the road system, can make healthy eating prohibitively expensive. In the project, fresh food is produced in the village and used both as healthy food option and an educational program. Chickens are raised and have their diet supplemented with kitchen scraps; the eggs go to village elders and other participants in the program, thus improving nutritional security, reducing waste, and encouraging community cohesion through this mutual support. Igiugig's program is serving as an inspiration to other communities in the area.[23]

• School Gardens for Healthy Families, Science Education, and the Work Ethic

Calypso Farm & Ecology Center is a small nonprofit educational farm near Fairbanks. Long before the 2010 signing of the Alaska Farm to School Act, Calypso was bringing agriculture onto the grounds of area elementary, junior, and high schools. The Schoolyard Garden Initiative is a network of school gardens, the first one planted in 2003; each garden is both an educational tool for hands-on teaching of science, ecology, agriculture, nutrition, construction, marketing, business skills, and the like, and a food-producing garden for the local area. Calypso Farm staff provide guidance on curricula and gardening know-how, but the gardens are run by committees formed at each school. The committees include parents, teachers, school administrators, students, and community members, and are responsible for planning and building the gardens, raising funds to construct and operate them, and for maintaining them. A companion program, Engaging Alaskan Teens in Gardening, or EATinG, hires teenagers to maintain the gardens during the summer and to sell the produce at student-run farm stands and for shares in school garden CSAs (community supported agriculture operations).

Calypso's work has an impressive record of success. In 2010, the EATinG program maintained five gardens, employed more than 100 teenagers, and fed more than 25 families—plus all those hungry teenagers! The gardens grew approximately 10,000 pounds of produce. This program is supported through donations, grants, and sales of garden produce. Although there are a few school or classroom gardens in other parts of the state, none are part of a cooperative network such as this, usually being the purview of one or two teachers and a classroom's worth of children, rather than a school-wide or district-wide program or network. Almost all Alaska schools are without food gardens.

Recent legislation has been proposed that would, as a matter of policy, fund school gardens in Alaska, making programs like Calypso's easier to create in Alaska's schools: HB 93, not yet passed as of this writing, authorizes matching

Food sovereignty is the right of peoples to define their own food and agriculture; to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives; to determine the extent to which they want to be self reliant; to restrict the dumping of products in their markets, and; to provide local fisheries-based communities the priority in managing the use of and the rights to aquatic resources. Food sovereignty does not negate trade, but rather, it promotes the formulation of trade policies and practices that serve the rights of peoples to safe, healthy and ecologically sustainable production.

—*Statement on People's Food Sovereignty* by Via Campesina, et al.

23. "Village Chickens and Community Gardens Thriving in Igiugig," by Alan Austerman, September 27, 2011. Alan Austerman—House District 36. Available on line at: www.alanausterman.com/?p=1838

Our food.
Our people.
Our future.

Alaska Food Policy Council Core Values

- **Alaska grown, harvested, caught, & made**
- **health**
- **community**
- **self-reliance**
- **interdependence**
- **justice**
- **stability & security**
- **sustainability**
- **safety**
- **prosperity**

funds for school districts and nonprofits that set up similar school gardens, greenhouses, or farms. Legislation or policy that enables fresh, local food to be served or grown at schools has many benefits: it helps feed children who might otherwise not have access to enough food, much less fresh food; helps provide job training and experiential learning environments for biology, ecology, business management, marketing; builds community; builds family ties and relationships with schools; improves nutrition for schoolchildren, their families, and their friends; and helps establish lifelong habits of healthy eating and physical exercise that reduce the chances of obesity, diabetes, and other food and lifestyle-related diseases.

- **Correctional Farming**

Point MacKenzie Correctional Farm is a departure from the traditional methods of incarceration by allowing low custody offenders the opportunity to build self-esteem by working the land and constructing their environment. The Point Mackenzie Correctional Farm has a sustained herd of hogs, several cows, and chickens. The produce operation, which includes five large greenhouses and two hydroponic greenhouses, has over the years provided potatoes, several varieties of vegetables, and grains to institutions around the state.

The Alaska Food Policy Council: next steps

The Alaska Food Policy Council held a strategic planning meeting at the beginning of August 2011, and developed a set of goals and strategies for the next three years. The difficulties and potential opportunities that exist in Alaska's food system are enormous. Our mission is to improve food systems for the benefit of Alaskans., but we must take action a step at a time. So, we identified the following five strategies as our top priorities:

- **Recommend enforcement of existing "Seven Percent" statute (change in language).**
- **Identify needs and gaps in data; recommend areas for research; and act as research aggregator/resource.**
- **Advocate and participate in the development of a comprehensive emergency food preparedness plan.**
- **Identify and support existing local leaders/projects/events/activities.**
- **Strengthen and expand the school-based programs that educate and provide healthy, local foods to schools.**

These strategies support five major goals of the Alaska Food Policy Council:

Goal 1: All Alaskans have access to affordable, healthy (preferably local) foods.

Goal 2: Alaska's food-related industries have a strong workforce and operate in a supportive business environment.

Goal 3: Food is safe, secure and protected throughout Alaska.

Goal 4: Alaska's food system is sustainable.

Goal 5: Alaskans are engaged in our food system.

Our vision is simple: to have healthy, secure food systems that feed all Alaskans. To reach our vision, we need your help. It is *all* our food, our people, and our future. Please join us.

THE ALASKA FOOD POLICY COUNCIL: WHO WE ARE

The Alaska Food Policy Council's members include a broad cross-section of Alaskans and organizations. Our members include restauranteurs and farmers, elementary school teachers and medical physicians, architects and bankers, nutritionists and agricultural agency administrators. Our members (to date) are listed below.

Alaska Botanical Gardens
Alaska Center for the Environment
Alaska Community Action on Toxins
Alaska Community Agriculture Association
Alaska Department of Administration, Division of General Services
Alaska Department of Commerce, Division of Economic Development
Alaska Department of Education and Early Development
- Child Nutrition Programs

Alaska Department of Environmental Conservation
- Division of Environmental Health
  - *Food Safety and Sanitation Program*

Alaska Department of Fish and Game
Alaska Department of Health and Social Services
- Division of Public Assistance
  - *Benefit Issuance & Recovery Unit*
  - *Commodity Supplemental Food Program (CSFP)*
  - *Food Stamp Program*
  - *Women, Infants and Childrens (WIC) Program*
- Division of Public Health
  - *Healthy Communities Program*
  - *Heart Disease and Stroke Prevention Program*
  - *Obesity Prevention and Control Program*
  - *Public Health Nursing*
  - *Section of Epidemiology*

Alaska Department of Natural Resources, Division of Agriculture
Alaska Farm Bureau
Alaska Farmers' Market Association
Alaska Farmers Union
Alaska Farmland Trust Corporation
Alaska Food Coalition
Alaska Interior Game Ranch
Alaska Native Tribal Health Consortium
Alaska Root Sellers/Delicious Dave Catering
Alaska School Nutrition Association
- Alaska Sea Grant Marine Advisory Program

Alaska Youth for Environmental Action
Alaska's Big Village Network
Aleutian Pribilof Islands Association, Inc.
Alpha-Omega Lifecare, Inc.
American Cancer Society
American Fast Freight Refrigeration Center
Arctic Slope Native Association
Association of Village Council Presidents
Balance Alaska
Bean's Café
Office of Sen. Mark Begich
Bristol Bay Area Health Corporation, Kanakanak Hospital
Representative Bob Buch
Calypso Farm & Ecology Center
Chugach Farm
Commodity Forwarders
Council of Athabascan Tribal Governments
Country Garden Farms
Fairbanks Community Cooperative Market
Fairbanks Memorial Hospital, Denali Center
Flyway Farm
Food Bank of Alaska
Fox River Cattlemen
Galley Gourmet, Inc.
Glacier Valley Community Supported Agriculture
Global Food Collaborative, LLC
Good Earth Garden School
Hope Finkelstein
Ionia, Inc.
Juneau Commission on Sustainability
Kenai Peninsula Food Bank
Lilyvale Farm
Lynn Canal Conservation
Marble Creek Farms
Matanuska Creamery
Matanuska Valley Federal Credit Union
Mat-Su Health Foundation
Office of Sen. Linda Menard
Mentasta Village Council
Municipality of Anchorage, Department of Health and Human Services
Organized Village of Kake
Pacific Seafood Processors, Inc.
Jay Ramras
Rosie Creek Farm
Ruby Tribal Council
Senator John Coghill
Sharon Walluk
Sitka Local Foods Network
South West Alaska Municipal Conference
Southeast Alaska Regional Health Corporation
Southeast Senior Services
Southern Kenai Peninsula Communities Project
Stellar Group
Stevens Village Tribal Bison Farm
Taco Loco Products
Tanana Chiefs Conference
Technologies, Inc.
Ugashik Village
University of Alaska Anchorage
- College of Business and Public Policy
- Culinary Arts, Hospitality/Dietetics & Nutrition
- Geography and Environmental Studies
- Philosophy Department

University of Alaska Fairbanks
- Agricultural and Forestry Experiment Station
- Alaska Center for Energy and Power
- Center for Alaska Native Health Research
- Center for Alaska Native Health Research
- Center for Cross Cultural Studies
- Cooperative Extension Service
  - *Health, Home and Family Development*
  - *Rural Development*
  - *Soldotna/Kenai Peninsula District Office*
  - *Agricultural and Horticulture /4-H*
  - *Sustainable Communities*
- Department of Anthropology
- Interior Aleutians Campus, Troth Yeddha' Nutrition Project
- School of Natural Resources and Agricultural Sciences

US Department of Agriculture
- Agricultural Research Service, Subarctic Agricultural Research Unit
- Alaska Farm Service Agency
- Natural Resources Conservation Service
- Rural Development

US Food and Drug Administration

Cover photo corutesy ORSO Restaurant

Illustrations by Julie Bates