Catalyze a shift towards Whole-sum food

Mission Statement

To cultivate and promote a local, Whole-sum Food system that readily provides health and vitality to every member of our community; that protects, stewards, and regenerates our land and our natural resources; that serves and honors our local interests and creates wealth and prosperity for every link in the food chain; and more meaningfully connects us as humans with one another, with the land, its occupants and its cycles, and the bounty, creativity, and sacredness of life.

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Sierra Harvest, a non-profit in Nevada City, CA, is the backbone organization to the Council. It helped found the Council and facilitates the Council's work without directing its decisions. Sierra Harvest's mission is to transform lives and strengthen community through fresh, local, seasonal food.

Acknowledgments

This assessment was made possible by the collaboration of members of the Nevada County Food Policy Council and funding from the Sierra Health Foundation. Appreciation to the Steering Committee for overseeing the completion of this assessment.

What is a Food System Assessment?

A food system encompasses all the stages of keeping us fed: growing, harvesting, packing, processing, transforming, marketing, consuming and composting or disposing of food. A food system assessment is a multidimensional evaluation of the food system taking into consideration qualitative and quantitative food systems data with regard to its social, economic, and ecological components. Creating a food system assessment as a community provided the opportunity for relationship-building and collaboration between organizations, businesses, and agencies across the food system.

Facilitation and Methodology

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Resources and Information

Ken Meter, Crossroads Resources Center
Nevada County Crop and Livestock Reports
Nevada County Community Health Improvement Plan
Nevada County Community Health Assessment
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EXECUTIVE SUMMARY

The Nevada County Food Policy Council (NCFPC), made up of diverse stakeholders, conducted an assessment of the Nevada County food system from 2015 to 2020. Those who participated shared an overwhelming consensus that Nevada County develop a food system to (1) increase community health and well-being, (2) build community resilience, and (3) steward and regenerate the land and natural resources.

Healthy food is critical to our lives. However, the future of our food supply is in jeopardy, threatened by erratic weather events, environmental degradation, and now a global pandemic. The COVID-19 pandemic pushed our fragile food system to the limit and supply for many products was disrupted.

Interest in growing, gleaning, and buying food locally has skyrocketed and some small farmers are benefiting, however, many are suffering huge financial losses as reliable income streams from restaurants, wholesalers, and institutional buyers dry up. Nationally, produce is rotting on the vine, farmers are throwing out thousands of gallons of milk, and slaughterhouses are closing. Food banks/food pantries are seeing an unprecedented rise in demand and are struggling or unable to meet it. This crisis shows us what we have known all along – local communities must plan for food resilience, both for ourselves and future generations.

It is estimated that Nevada County residents buy over $340 million in food annually. The value of food produced in the county is roughly $16 million, less than 5 percent of our annual purchases, and a good portion of the meat produced in Nevada County is exported.

Our locally produced food is a tiny part of our food market, leaving us vulnerable to a national food system that is fraying at the edges. Food can become unavailable, overpriced, and quality-compromised at any point. But our county has the water, land, and expertise to become more self-reliant. For this reason, now is the time to increase our independence and work toward a goal — the 20% by 2025 Whole-sum Food Challenge.
Our Goal: 20 percent of the food consumed by the county's population will be Whole-sum Food by 2020

The NCFPC defines Whole-sum Food as

**Local:** produced within 20 miles of where it will be served

**Regional:** within 20-120 miles

**Fair, ecologically-produced, and/or humane.**

**Why 20 Percent?** This would mean doubling the Whole-sum Food we consume today. If we doubled just our local food production it would keep $32 million food dollars recirculating in our local economy, as well as create tax revenues, food resilience, and meaningful jobs for our farmers. From a health standpoint, local food purchases will likely equate to fresher, more nutritious, less processed foods. In addition, local food is transported from farms a shorter distance thus reducing fuel and refrigerant use, causing less pollution, packaging, and waste.

**Why 2025?** This target suggests we face an urgent problem: small, sustainable farms are disappearing and our control over the quality and quantity of our food supply is slipping away. The NCFPC is committed to promoting this vision for a healthy future food system by tracking consumption of Whole-sum Food and measuring progress from our current baseline to the goal of 20% by 2025. This Food System Assessment provides a roadmap to this destination, along with tactics that can accelerate our progress.

We recognize 20% by 2025 is an ambitious goal. However, this challenge also presents opportunities that are especially valuable in today's fragile economy. Through collaboration and commitment, our community can increase (1) availability and access to Whole-Sum Food, (2) supply of Whole-sum Food, and (3) consumer demand for Whole-sum Food. To this end, the NCFPC created a [Resource Guide](#) of organizations, agencies, and businesses with programs that are already working toward this goal.
The NCFPC identified 11 key opportunities:

- Expand farm-to-institution procurement of local products
- Connect landowners and farmers to increase productive farmland
- Implement more food recovery programs to reduce food waste
- Incubate new businesses such as composting from food/green waste
- Expand use of restaurant commercial kitchen space for processing shelf stable products from local produce
- Establish county policies that support agricultural producers
- Implement localized USDA-approved meat processing
- Create marketing and branding campaigns to support Whole-sum Food purchases
- Provide buyer education around local, fair, humane, and ecologically-produced foods
- Increase opportunities for farmers and ranchers to share of knowledge, resources and market cooperatively.
- With the guidance of the Nisenan, curate educational curriculum to teach traditional ecological knowledge (TEK) and its importance in stewarding traditional food systems.

The NCFPC food system assessment fosters relationship-building and collaboration between organizations, businesses, and agencies across the food system. Successful collaborations are moving the needle toward the future food system that benefits the health of people and our economy. The NCFPC invites residents, local government agencies, and every other institution in the county to participate in creating our sustainable and healthy food system.
CHAPTER 1: THE NEVADA COUNTY FOOD POLICY COUNCIL

Established in 2015, the Nevada County Food Policy Council (NCFPC) is made up of over 55 diverse stakeholders in our local food system and is also on the Steering Committee for the California Food and Farming Network a state-wide food policy advocacy group.

The NCFPC believes that food gives life, and the better the quality of food, the better the quality of life. To that end, the NCFPC is dedicated to developing, inspiring, and empowering a Whole-sum Food culture that positively impacts and transforms our relationship with food and its profound significance in our daily lives.

Our Vision for the future of Nevada County’s food system

Residents participate in, and visitors witness and enjoy, a vibrant food culture throughout Nevada County. Our extensive local food system is visible in the number and scale of farms and ranches which grow in excess of 20 percent of the food we eat. Consumers recognize the important, beneficial impact of agriculture on our communities and of local food on our health and enjoyment of life.

Farms and farmers are actively engaged in regenerative agriculture as stewards of the land and, regardless of race, earn a fair price and a real livelihood for the food they grow. They have access to the land, water, and infrastructure which supports their businesses. There is a culture of cooperation among farmers and with local communities reflecting long-term growing demand and recognition that farmers and ranchers benefit from the help and support of other growers. Local and state policies are now supportive of small farms and ranches and continue to help fund programs which facilitate growth in local demand.

Consumers have access to local food wherever they normally buy their food. Restaurants, schools, and hospitals have access through a community-based procurement model that includes local aggregation, processing, and distribution networks. Value-added local food products like flour, baked goods, cheeses, and jams are readily available. Residents of all income levels include local, fresh, seasonal foods in their regular diets and many more families now prepare and eat meals together.
In Nevada County, the local food system has become fundamental to ensuring that no one goes hungry. Children are not even aware that local, fresh, seasonal foods were once rare and considered a luxury. Food waste has been dramatically reduced through food conservation efforts at all levels of the community. As a natural outcome of these many changes, the incidence of diet-related illnesses is much lower than it once was. Less visible, but just as real, is the sense that our communities are stronger, more connected, and are able to address the issues that arise in the normal course of life.

Mission

1. To cultivate and promote a local, Whole-sum Food system that readily provides health and vitality to every member of the community
2. To protect, steward, and regenerate the land and natural resources
3. To serve and honor local interests and create wealth and prosperity for every link in the food chain
4. To connect community members with the land (including its occupants, cycles, and bounty), as well as the overall sacredness of life

Who Was Involved?

Current Steering Committee
Malaika Bishop, Sierra Harvest
Mielle Chenier-Cowan Rose, Piece of My Heart Kitchen
Jonathan Collier, CA Growers Association, BriarPatch Food Co-op
Debbie Gibbs, Heronview Fiber Ranch, Nevada County Climate Action Now
Lynne Lacroix, Nevada County Department of Public Health
Miriam Limov, Sierra Harvest
John Pomeroy, Mooney Flat Co-op
Erika Seward, Bear Yuba Land Trust
Bob Thurman, Interfaith Food Ministry (IFM)
Luci Wilson, Nevada County Department of Agriculture, Weights & Measures

Past Steering Committee Members
Catherine Williford, Community Member, volunteer
Chris Dudine, Origin Grazing
Jan Blake, Nevada County Resource Conservation District
Phil Turner, Former Sierra Harvest Board President
Rachel Berry, Sierra Harvest
Rich Johansen, Johansen Ranch
Stephanie Stevens, Red Shed Farm
Carol Turner, Nevada County Indivisible Women, Democratic Party Convention Delegate
All Participants Past and Present

All Organizations Past and Present

API Marketing, Asia Restaurant, Biodynamic Association of Northern California (BDANC), Banner Community Guild, Bear Yuba Land Trust (BYLT), Blue Oaks Ranch, Briarpatch Food Co-op, CA Office of Public Health, Caravan Café, California Food and Farming Network (CFFN), California Growers Association, Chapman Family Farms, Community Action Partners, Community Alliance for Family Farmers (CAFF), Community Recovery Resources (CORR), Crossroads Resource Center, Decus Biomedical, David G. Franco CPA, Democratic Party Convention Delegate, Dignity Health, Dinner Bell Farm, Early Bird Farm, Ellis Planning Associates Inc., First Rain Farm, Food Corps, Fowler Family Farm, Grass Valley City Council, Grass Valley Grains, Grass Valley Chamber of Commerce, Heronview Fiber Ranch, Hoot N, Annie's Homestead, Indivisible Women Nevada County, Interfaith Food Ministry, Johansen Ranch, KVMR Community Radio, Legacy Ranching, McCourtney Road Pumpkins, Mountain Bounty Farm, Mooney Flat Co-op, Nevada City Council, Nevada City Cohousing, Nevada City Farmers Market, Nevada City Mayor, Nevada County Agricultural Commissioner, Nevada County Agricultural Advisory Commission, Nevada County Arts Council, Nevada County Cannabis Alliance, Nevada County Climate Action Now, Nevada County Department of Agriculture, Weights and Measures, Nevada County Department of Public Health, Nevada County District 4 Supervisor, Nevada County Environmental Health, Nevada County Farm Bureau, Nevada County Food Bank, Nevada County Grown, Nevada County Master Gardeners,
Nevada County Resource Conservation District (NCRCD)(NRCS), Nevada Irrigation District (NID), Food & Fitness Project, Origin Grazing, Piece of My Heart Kitchen, Red Shed Farm, Road Dog Farm, Roots of Change, Sierra Commons, Sierra Harvest, Sierra Nevada Memorial Hospital, Tahoe Food Hub, Tahoe-Truckee Joint Unified School District, The Edwin Perkins Foundation, The Friendship Club, The Goat Works, The Union, Three Forks Bakery and Brewing Co., UC Cooperative Extension, UC Davis SAREP.

**Methodology**

This Nevada County Food System Assessment (NCFSA) used a “systems thinking” approach to set a baseline for the food system of Nevada County, as well as goals for creating a fair, sustainable, and equitable local food system that achieves the ultimate goal of community health and well-being. The council mapped the existing global food system that provides Nevada County with reliable, cheap, convenient food, year-round. (See Existing Food System Map, page 11). While the system does this well, the council determined that at a large scale, some of the other valued elements of a food system are lost: community connection, small farm viability, people's health, and equity. The NCFPC then mapped the future food system that we are working toward (see Future Food System Map, page 14). The systems maps, once completed, provided comparative references of today's food system and tomorrow's desired system and allowed the NCFPC to see how the intentions driving each system (profit versus community health and well-being) created and sustained very different systems.

The Future Food System Map was divided into three distinct System Loops. Each System Loop was characterized by a Goal that would improve overall community health and well-being.

1. Increased Availability of and Access to Whole-sum Food
2. Increased Supply of Whole-sum Food
3. Increased Consumer Demand for Whole-sum Food

The NCFPC defines "Whole-sum" food as local (produced within 20 miles of where it will be served), regional (within 20-120 miles), fair, ecologically-produced, and/or humane.

Within each of these 3 goals, the NCFPC established a baseline of where we are as a county and existing efforts to support these goals. From this, we created a Resource Guide of organizations, agencies, and businesses with programs that further these three goals. While Nevada County doesn’t have a plethora of ideal farmland, we have access to water, reliable markets, and dozens of community resources to support a food system that lead to community health and well-being.
In addition, the NCFPC identified leverage points where there are opportunities to make positive change quickly with maximum return per unit of effort. Within each goal, the council mapped the leverage points and provided recommendations (see chapters 4, 5, and 6). Some of the opportunities that rose to the top were: supporting farm-to-institution procurement and food recovery programs to reduce food waste; advocating for county policies that support agricultural producers; pursuing more localized USDA meat processing; developing farm infrastructure and regional distribution and processing; creating marketing and branding campaigns to support Whole-sum Food purchases; providing buyer education about local, fair, humane, and ecologically-produced foods; and protecting farmland.

The NCFPC used a methodology to facilitate community-level social change called Collective Impact. Collective Impact brings people together in a structured way to achieve social change through placing priority on equity, collaborative cross-sector partnerships, and using data to continuously learn, adapt, and improve [1]. A Collective Impact Goal was selected as a strategy to achieve the three FSA goals above.

**Collective Impact Goal:**

**The 20% x 2025 Whole-sum Food Challenge**

The NCFPC will collaborate to convert 20 percent of the County’s food consumption, among residents, to Whole-sum Food by 2025. The NCFPC has committed to helping track consumption of Whole-sum Food by entities in Nevada County; measuring progress from their current baseline toward the goal of at least 20% by 2025.

While data for a countywide baseline toward the 20% Whole-sum food by 2025 goal does not exist in all categories, the council created an index to give us a sense of our starting point. Through this process, the council learned that only 4.7 percent of what is spent on food purchased in Nevada County is produced here while 42.4 percent of what is spent on food regionally is produced regionally.
Chapter 2: Creating the FSA

In order to plan a sustainable, equitable, and healthy food system for the future, the NCFPC employed analytical methods, engaged many stakeholders in setting a collective impact goal, and utilized a “systems thinking” approach [2] that maps existing and desired systems in order to understand the influences and dynamics of complex entities that comprise the whole. From there, a common vision was formed that can deliver desired outcomes. The existing global food system of which Nevada County is a part, produces reliable, cheap, convenient food, year-round. While it does this well, some of the other valued elements of a food system are lost: community connection, small farm viability, people's health, and equity.

“One principle of complex systems is that they are perfectly designed to produce the results they are achieving.”

[3]

Mapping the System

After gathering the county’s baseline statistics, the NCFPC began creating systems maps of the existing and future food systems and began looking at the gaps between the two.

Existing Food System Map

The existing industrial food system began with the industrial revolution in 1760 and was bolstered with the green revolution in 1950. This, now global, food system which continues to supply most of the County’s food, grows out of at least two sets of beliefs: (1) Food is good business, and, when properly done, it can be a profitable business; and (2) Food is simply calories supplying energy to our bodies, the quality of those calories or how they are derived is irrelevant as long as the product looks good. The causal loop map below captures how variables in a system are interrelated, using cause and effect linkages. This existing system loop outlines a now long-established system which incorporates these two beliefs above.

Reading the System Maps

The maps are read clockwise. First, following the elements in blue type through the main, inner loop, the NCFPC found: 1) demand influences supply, 2) supply drives availability and 3) availability and access encourage the ultimate outcome of the system (community health and well-being in the future map or profits from food in the existing map).
Mental Models are represented by thought bubbles where they appear within the System Loops. Mental Models are a set of beliefs or assumptions that impact how we understand the world and take action in it.

Delays appear when there is a time lag between two points within a System Loop. For example, the number of efforts to influence policymakers will not immediately lead to more policies that support small-scale farms and ranchers. These sorts of efforts can take years.

R indicate the causal elements in this loop reinforce one another so that over time they become stronger and stronger.

Takeaways

Policy is Important
The existing food system highlighted the importance of policy decisions to strengthen existing food systems and make them more profitable for companies operating within the system. In fact, the mapping exercise made clear how growth and profitability became self-reinforcing loops within the system. As companies gain strength, scale, and profitability, they can use a share of their increasing revenues to influence legislation and create barriers to entry for small, more localized farms and ranches. In this system, infrastructure and policies become tailored to the large scale of industrial food system.

The System Reinforces Itself
This systems map revealed how these systems supported and reinforced themselves. They created a picture which NCFPC members could see and refer to in developing ideas for change and improvement. These maps helped establish a shared and clear picture of the challenges local agriculture faced and how different the function and goals of these industrial systems were from food systems which would contribute to human health and community well-being.

We Are Complicit in the System
A crucial learning from this effort was the realization that many NCFPC members and member organizations were complicit in supporting and dependent upon these industrial systems through our own food purchasing decisions and would have to learn about and change our own mental models in order to create new local food systems.

The System Must Serve Everyone
One of the greatest failures of the existing food system is that it does not serve everyone. When profit is the only desired outcome of a system, poor and disadvantaged populations and the environment are ignored. Conversely, when community health and well-being are the desired outcomes, comprehensive and sustainable systems must be established to serve everyone in the community, especially those who are most vulnerable. For example,
there must not only be increased efforts to connect Nevada County’s food insecure to vital services, but the mechanisms driving these deep socioeconomic inequities in the county must be addressed.

Beliefs Must Change
In each of these sub-systems, beliefs or mental models are at work which either keep the community embedded in existing industrial food systems or alternately could move us toward small food systems which are more likely to be oriented to outcomes like health and well-being rather than growth and profits. Rather than accepting, for example, that large industrial systems will remain dominant, beliefs can be nurtured that support policy change at a local or state level, which recognize the value to a community of small farm investments and infrastructure, and which recognize that small, diverse farms are more sustainable ecologically, and less subject to the vagaries of world commodity markets.

The Future Food System

The NCFPC understood that although the industrial food system was consolidating power, it was also sowing the seeds of its own destruction by using practices that contribute directly to climate change, inequity, and environmental deterioration. Climate change poses an unprecedented threat that will fundamentally alter global food systems and disproportionately harm the world's poorest populations [4]. As we've seen with the COVID-19 pandemic, our existing industrial food supply chains are not as resilient as we thought. Because disruptions in industrial food systems can leave communities vulnerable, the NCFPC needed a new vision that placed community health, well-being, and resilience at the center of the system. NCFPC began a long process of mapping a future food system, i.e., mapping a system that didn't yet fully exist but which would lead to the NCFPC's ultimate goal of community health and well-being for all.

The Future Food System Map was divided into three distinct System Loops. Each System Loop was characterized by a Goal that would improve overall community health and well-being.

1. Increased Availability of and Access to Whole-sum Food
2. Increased Supply of Whole-sum Food
3. Increased Consumer Demand for Whole-sum Food
Takeaways

In this Future Food System map; the basic story of the inner loop (in blue) becomes a narrative in our community: many people want better food and research has demonstrated that local, fresh food raised in an ecologically-produced manner acts like medicine for the body. People are willing to pay a bit more because the food is of higher quality and people want to support farmers willing to grow this food. Local farmers and ranchers, in turn, respond by raising more of this food. This has resulted in more farmer's markets and CSA's and the stocking of more Whole-sum Foods at local markets and supermarkets. As a result, there is an uptick in health indicators for families, individuals, and for the community. Realizing the source of these improvements, our demand for Whole-sum Food increases and influences the growth of a system dedicated to it. However, this theory does not speak to the barriers that would prevent individuals from “paying a bit more.” For many people, this simply isn't possible, and it will take many years, if not decades, to transition our food system to one that is truly equitable.

The System Reinforces Itself
An uplift in community health and well-being results from the inclusion of Whole-sum Food in diets, sustainable agriculture in the landscape, and increases in demand for Whole-sum Food. In this process, old mental models like “food should be cheap and convenient” are displaced by thoughts of its value in affecting our health and that of the community. Over time, people think about food differently and are more demanding of stores to stock Whole-sum Food. They are also more likely to bring these foods into their homes. As evidenced in the Existing Food System Map, these loops are energized by the strengthening of each element and become self-sustaining and reinforced over time.

Experiences Inform Choice
The subsystems (in black) reflect stories at a more detailed level. The inner workings of the Whole-sum Food demand loop are energized by encounters and experimentation with Whole-sum Foods and discovering that people feel better and kids learn better when they eat fresh, healthy foods. This, in turn, affects willingness to pay the premium associated with buying these foods and increases the demand for them. As this happens, Whole-sum Food appears for sale in more locations and becomes easier to find, purchase, and consume - and contributes to even more good experiences. The demand loop wakes up, begins turning on its own, and helps grow demand.

The supply loop reveals the impacts that local farmers working together and community influences have on small farm policy in increasing small farm infrastructure and profitability. As small farms demonstrate increased profitability and, consequently, provide higher incomes to farm families, farming and ranching become more attractive careers and encourage new farmers to choose this path. This then impacts the number and scale of
farms and may help bring down Whole-sum Food prices which then increases the number of outlets able to carry Whole-sum Food as a regular part of their offerings.

The Gaps

Once the map was complete, the NCFPC could begin to imagine how existing pieces might fit together and where the county was missing critical elements of a highly functioning system. The NCFPC could understand how the differences in scale enabled large-scale agriculture to influence government policy and drive public investment. Further, it became apparent that the infrastructure necessary to support this large system was well-established. This was both daunting and encouraging. It was, and is, hard to see how to change the goals of the existing industrial food system. Without transforming its goals, it is difficult to see how the system itself would change. This helped the NCFPC turn its attention away from trying to change the existing food system toward bolstering the future food system that we could rely on for at least 20 percent of our food.

Comparing the Maps

<table>
<thead>
<tr>
<th>Existing Food System</th>
<th>Future Food System</th>
<th>Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profits from food</td>
<td>Community health and well-being</td>
<td>Gaps in Consumer Demand</td>
</tr>
<tr>
<td><strong>Drivers of Consumer Demand</strong></td>
<td><strong>Drivers of Consumer Demand</strong></td>
<td><strong>Gaps in Consumer Demand</strong></td>
</tr>
<tr>
<td>• Convenience of access</td>
<td>• Number of places where Whole-sum Food is sought/requested</td>
<td>• Even though Whole-sum Food is growing in demand, there are far fewer places to purchase Whole-sum Food than conventional food.</td>
</tr>
<tr>
<td>• Pricing</td>
<td>• Amount of Whole-sum Food purchased</td>
<td>• Conventional food is generally more convenient and more affordable.</td>
</tr>
<tr>
<td>• Satisfaction with quality &amp; value (taste, impacts on health, etc.)</td>
<td>• Number of encounters/experiences people have with Whole-sum Food</td>
<td>• People need to have more positive encounters &amp; experiences with Whole-sum Food.</td>
</tr>
</tbody>
</table>
## Existing Food System

### Drivers of Supply
- Policies that support large-scale agriculture
- Farming/Ranching methods
- Availability of labor & infrastructure
- Farm and Ranch profitability
- Number of acres producing food

### Drivers of Availability & Access
- Conventional food distribution capacity
- Ease of access to conventional food by wholesalers, retailers, charities, etc.
- Number of institutions and businesses carrying conventional food
- Amount of conventional food distributed across Nevada County

## Future Food System

### Drivers of Supply
- Number of meetings and gatherings of the food community
- Number of efforts to influence policy-makers on behalf of farmers & ranchers
- Policies supportive of small-scale farms and ranches
- Instances of acquiring and sharing knowledge & infrastructure
- Amount of available farm & ranch infrastructure
- Farm profitability
- Number of people choosing to farm
- Capacity to scale up and reduce prices

### Drivers of Availability & Access
- Whole-sum Food distribution capacity
- Ease of access to Whole-sum Food by wholesalers, retailers, charities, etc.
- Number of institutions and businesses carrying Whole-sum Food in addition to farmers markets, farm stands, etc.

## Gaps

### Gaps in Supply
- The food community is already very active and there are a number of opportunities for farmers and ranchers to get together. However, there needs to be more instances of sharing infrastructure and information.
- The NCFPC is active at the local level but needs to be more engaged with policymakers on the state level.
- Farm and ranch infrastructure in Nevada County is limited.
- Farms and ranches are generally not profitable in Nevada County, and, consequently, there are not many people choosing to farm as a career.
- There is limited capacity to scale up for profitability and land is often a limiting factor.
- Regional distribution, processing and packaging capacity is limited.

### Gaps in Availability & Access
- Conventional food distribution capacity is more established and widespread than Whole-sum Foods.
- It is easier for wholesalers, retailers, and charities, etc. to access conventional food.
- There is more conventional food distributed in Nevada County.
**Existing Food System**

**Mental Models**
- “Food is good business.”
- “We need to eat: food is calories/energy.”
- “We need Big Ag to feed the world.”
- “Scale drives profitability.”
- “Profits are prioritized over community health.”

**Future Food System**

**Mental Models**
- “Food is medicine & fundamental to health.”
- “Whole-sum Food is worth more.”
- “Whole-sum Food is healthier & promotes longer life and a greater quality of life.”
- “Whole-sum Food benefits the community in tangible ways.”
- “Grassroots movements can impact local change.”
- “Sharing and collaborating is good for business.”
- “Small farm investments are good for community health.”
- “Quality-of-life-oriented careers can be more satisfying than strictly profit & money-oriented careers.”
- “Small, diverse farms are more sustainable.”

**Gaps**

**Gaps in Mental Models**
- Current Mental Models are long-embedded and self-reinforced by the functioning of the system.

Comparing the maps suggested the value of being clear about the NCFPC’s purpose and then designing a system to accomplish it, unfettered by any effort to tear the old system down. The demand subsystem imagined in the future food systems map was all about changing mental models, in sharp contrast to the existing food systems map, and increasing experiences with Whole-sum Food on the premise that successful experiences would drive increased consumption. Comparisons also reinforced the importance of both food and farm policy and small-scale agricultural infrastructure. It helped raise the importance of involvement in politics at a local and state level. Similarly, where infrastructure was already in place to deliver industrial food to consumers, it was not very well adapted to dealing with individual, small-scale suppliers.
Identifying What Already Exists

Ken Meter of Crossroads Resource Center met with the NCFPC to provide an economic baseline incorporating publicly available data on topics relevant to the food system in Nevada County. To add to this economic baseline, Ken also conducted an Asset Mapping exercise looking at existing producers, consumers, retailers, institutions, restaurants, aggregators, processors, wholesalers, distributors, etc. so that the NCFPC could develop a picture of some of the positive elements of the food systems already in existence.

Producers: We identified a number of producers in the county. A full listing of current Nevada County producers is coming soon.

Consumers: Schools, hospitals, ski resorts, hotels, restaurants, grocery stores, families, cooking schools, nutritionists, non-profits, government agencies, food trucks, convalescent/retirement homes/skilled nursing facilities, and local butchers.

Retailers: Farmers markets, BriarPatch Food Co-op, SPD, Raley’s, Farm/Garden supply stores (nursery), hardware stores, California Organics, Natural Selections, Holiday Market, Mother Truckers, Safeway, Grocery Outlet, and SaveMart.
**Institutions:** All the institutions identified that are supporting the local food system are outlined with descriptions in the resource guide.

**Restaurants:** For resources on which restaurants are supporting these efforts, there will be a list coming soon on the Sierra Harvest website.

**Aggregators:** This was an area where we saw opportunity for expansion. The only aggregators we identified were Tahoe Food Hub and Mt. Bounty Farm (which brings in produce for their winter CSA from various regional farms).

**Processors:** This was also identified as an area with room for expansion. We have very few cottage businesses which process farm fresh products and no USDA certified meat processing facility.

**Wholesalers:** We also had few wholesale distribution opportunities identified. There are a few flower markets which buy from local growers and small distribution companies like Produce Express but none are located in Nevada County.

**Distributors:** Schilling Seeds, Tahoe Food Hub, Gold County Distributors, Waste Recyclers: Landscaping stores like Rare Earth, SH Gold Country Gleaners, Waste Management, NCRCD manure exchange.

**Other ideas/Opportunities:** Carbon rich soil, heritage of distribution, temperate climate, diversity of commodities, income from cannabis industry, empty buildings, snow pack, ag and ranch land, experienced farmers and new young farmers, traditional foods education, harvesting & processing.

Through mapping what existed the NCFPC learned there was work to be done but we were not starting from scratch. There were gaps to be filled: policy to be changed, demand and supply to be increased, and infrastructure to be created. It had to be done in a way that enabled the knitting together of a local food system that would become self-sustaining and adaptive to our particular corner of the world. However, important elements of the future food system already existed in the county. These needed to be encouraged and, in some cases, strengthened. There were also missing pieces. One of the big takeaways of this exercise was the lack of processing, packaging, and aggregating infrastructure in Nevada County. Next, the NCFPC began to overlay existing resources on the future food systems map. (See yellow notes, page 21.)
Identifying What Already Exists

The NCFPC then identified Lever Points within each systems loop. Lever Points are areas where a small amount of effort can make a big impact. Lever Points can also be “mental models”. Mental models are a set of beliefs or assumptions that impact how we understand the world and take action in it. The NCFPC found that there were five Lever Points that could exponentially change the outcomes of the future food system. We’ll go into more detail on each of these as we discuss each goal.

1. **Goal:** Increased Availability of and Access to Whole-sum Food
   a. Lever Point: The amount of Whole-sum Food distributed
2. **Goal:** Increased Supply of Whole-sum Food
   a. Lever Point: A thriving farming community where information and resources are actively exchanged through meetings and gatherings
   b. Lever Point: Policies that support small-scale and sustainable agriculture
   c. Lever Point: The number of efforts to influence policy-makers on behalf of farmers and ranchers
3. **Goal:** Increased Consumer Demand for Whole-sum Food
   a. Lever Point: The mental model that Whole-sum Food is worth more.

**Collective Impact**

Traditional methods of programs by one agency seemed inadequate

The difficulty and the scale of moving from an existing embedded industrial system from which the Nevada County residents bought most of our food to our desired future food system were major enough to require significant, long-term effort by food system stakeholders. Somehow, the NCFPC would need to align the efforts of a multitude of organizations and the community-at-large to change, to an important degree, long-established eating habits. The NCFPC decided to use the Collective Impact approach. The seminal paper on Collective Impact was published in the Stanford Social Innovation Review in the winter of 2011 [5]. The central idea required moving community efforts from individual silos of focus toward collective efforts on behalf of the important social change we strive for. A single shared goal was to be developed toward which all community organizations could strive and measure themselves. While this would not preclude other more specific goals an agency like Public Health or an Agriculture Department might use to measure themselves, the Collective Impact approach was predicated on some level of participation by all entities in achieving a shared community goal.
The 20% by 2025 Whole-sum Food Challenge

The NCFPC's Collective Impact Goal is the 20% x 2025 Whole-sum Food Challenge. The NCFPC defines and will track "Whole-sum" food in the following categories.

Whole-sum Food Definition

**Local:** produced within 20 miles of where it will be served (includes home-grown & foraged)

**Regional:** within 20-120 miles

**Fair:** Fair Trade Certified

**Ecologically-produced:** Organic or Demeter certified

**Humane:** Animal Welfare Approved or Organic

The 20% by 2025 Whole-sum Food Challenge

The NCFPC will collaborate to convert 20 percent of the County's food consumption, among all residents, to Whole-sum Food by 2025. The Collective Impact Goal was selected as a strategy to achieve the FSA goals of (1) increasing availability of and access to Whole-sum Food, (2) increasing supply of Whole-sum Food, and (3) increasing consumer demand for Whole-sum Food. The NCFPC has committed to helping track consumption of Whole-sum Food by entities in Nevada County; measuring progress from their current baseline toward the goal of at least 20% by 2025.

While data for a countywide baseline toward the 20% by 2025 goal does not exist, there are a few things we do know from existing county, state, and national data that can give us a sense of the baseline of how close we are to meeting our 20% by 2025 goal.
Local

Using Nevada County population estimates from the 2018 Nevada County Crop Report [7] and purchasing information in the Western states from the 2018 Bureau of Labor Consumer expenditures survey [8], we estimate that Nevada County residents buy over $340 million dollars in food annually [9]. 4.7 percent of the value of that food is produced in Nevada County [10]. A portion of this food is sold outside of the county, so we are not eating all of the food produced here. The graph below provides our best estimates of food that remains in the county. According to these estimates, approximately 7.59 million or 2.3 percent of what we eat is produced locally.
2018 Nevada County Food production

<table>
<thead>
<tr>
<th>Category</th>
<th>Gross Production Value</th>
<th>% Estimated Local for Direct Sale to Residents</th>
<th>Estimated Local Sales (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables</td>
<td>$1,869,800</td>
<td>95%</td>
<td>$1.8</td>
</tr>
<tr>
<td>Fruite &amp; Nuts (includes wine grapes)</td>
<td>$2,663,100</td>
<td>75%</td>
<td>$2</td>
</tr>
<tr>
<td>Eggs</td>
<td>$102,300</td>
<td>100%</td>
<td>$0.10</td>
</tr>
<tr>
<td>Honey</td>
<td>$100,700</td>
<td>90%</td>
<td>$0.09</td>
</tr>
<tr>
<td>Steers &amp; Heifers</td>
<td>$6,146,000</td>
<td>35%</td>
<td>$2.15</td>
</tr>
<tr>
<td>Cows &amp; Calves</td>
<td>$3,877,800</td>
<td>20%</td>
<td>$0.78</td>
</tr>
<tr>
<td>Sheep &amp; Lambs</td>
<td>$210,000</td>
<td>20%</td>
<td>$0.04</td>
</tr>
<tr>
<td>Hogs, Goats, Chickens</td>
<td>$253,000</td>
<td>20%</td>
<td>$0.05</td>
</tr>
<tr>
<td>Specialty Livestock</td>
<td>$614,000</td>
<td>95%</td>
<td>$0.058</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$15,836,700</strong></td>
<td></td>
<td><strong>$7.59</strong></td>
</tr>
</tbody>
</table>


Regional

In evaluating food produced county by county, we estimate the amount of food produced in the CA counties within 120 miles of Nevada County in 2018 to be $14.06 billion dollars in value[12] [13] [14]. In 2018, about 42 percent of what was produced by California farmers and ranchers was exported out of the U.S.[15]. The value of non-exported food is $8.14 billion. Divide that by the estimated $343 million dollars Nevada County spends on food [16] [17], and we learn that even after removing food that is exported outside of the U.S., approximately 24 times what Nevada County spends is produced in the counties within 120 miles of Grass Valley.

Based on this finding, we should be able to source the vast majority of our food from within our region – other than crops that only grow in the tropics. When we look at the population of the counties within that 120 mile radius[18] versus food production in that region[viii] we learn that these counties are producing 42 percent of their food needs locally[20] [21]. The NCFPC recommends strengthening regional food packing and distributions systems so that this food doesn’t have to
travel out of our region to be processed and resold within our region. This would create increased food security, reduce environmental impact, and would ensure those dollars could continue to circulate in the local economy.

**Ecologically-produced**

We know from the 2019 Organic Industry Survey released by the Organic Trade Association that of all the food sold in the U.S., 5.7 percent is now certified organic [22] [23]. According to United Natural Foods (the largest natural foods distributor in the world), per capita consumption of natural and organic foods in Nevada County is one of the highest in the U.S., so our consumption of organic food is likely quite a bit higher than national averages [24].

**Fair Trade**

Fair trade refers to a food system where food is produced in safe and fair conditions and workers receive fair compensation. According to the 2017 Fair Trade International Annual Report, U.S. Fair Trade certified goods sales were $1.12 billion dollars [25] [26]. Total 2017 food sales in the U.S. amounted to roughly $5.75 trillion dollars [27]. Therefore, the percentage of fair trade food in the U.S. was just 0.02 percent. Fair Trade coffee represents 4 percent of all coffee markets in the U.S. [28] and less than 1 percent of bananas sold in the U.S. are fair trade certified [29] (However, products with as little as 11 percent fair trade-produced cocoa can be labelled as Fair Trade Chocolate in the U.S.) We also consider food to be fair when it is available to everyone, especially low-income and disadvantaged people. This is tracked by access and availability rather than through the fair trade certification.

**Humane**

Humane certification addresses a requirement that animals be raised using practices that allow them to exhibit natural animal behaviors, in an environment that is free of cruelty, in a way that promotes the health of the animal and the land. Based on data from Sentience Institute, utilizing data from the 2017 USDA Census of Agriculture, an average of 1 percent of meat consumption in the U.S. is humanely raised [30]. However, for those eating Nevada County-raised meat, that number would be quite a bit higher since most meat produced here is pasture-raised.
Homegrown and Foraged

We are including this as a subset of Local because a portion of what is eaten locally is produced or foraged at home. Based on the USDA Economic Research Service “Nominal food & alcohol expenditures, with taxes & tips for all purchasers” report, food produced at home in home gardens and orchards [31] was approximately 0.29 percent of the total value of food consumed at home[32] [33]. When you take into consideration that Nevada is a rural, agricultural county, and that home meat production is not accounted for in this number, we would assume that this number would be higher for Nevada County. In addition to food raised in home gardens, orchards and pastures, we value and hope to lift up and reinvigorate the native food ways of the Nisenan and Tsi Akim Maidu peoples of this area. At one time the vast majority of foods were hunted or foraged from local native plants and trees that were managed by tribes of the area. Through education, we can increase the amount of Whole-sum food eaten in our area by increasing the quantity of foraged foods stewarded, collected and prepared by Nevada county residents.

Why Whole-sum Food

1. The **Economic Multiplier Effect**: Buying local has a positive economic benefit on the community because locally-owned businesses recirculate a greater percentage of revenue locally [34]. In 2016, UC Davis agricultural economics professor, Shermain Hardesty, released a study that showed a dollar of sales for a direct-market fruit or vegetable grower had twice the economic impact as a dollar of sales with a larger regional wholesale farm [35]-[36].

2. **Food Sovereignty** “Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” [37]. By putting the power of the food system back in the hands of Nevada County residents, the NCFPC will have greater influence over the outcomes of the system.

3. **Food Resiliency**: Local, regional systems built on relationships are going to be more stable in times of uncertainty. By choosing Whole-sum food we are choosing farming methods more adapted to climate change and less reliance on travel through long food chains to reach us.

4. **Health Benefits**: Local food travels a shorter distance to the consumer’s table, reducing the possibility of contamination. Local foods are also fresher, so fewer nutrients are lost before consumption [38] Producing food ecologically results in less consumption of toxic chemicals.
5. **Ecological Benefits**: Local foods preserve green spaces and farmland in the community. When produced at the scale of our local farms, they build soil health, enhance wildlife and ecology, and are usually produced without chemicals. Local food has a much smaller carbon footprint because it doesn’t have to be shipped hundreds (if not thousands) of miles [39].

6. Whole-sum prioritizes food that is **fair and humanely-raised**, conditions that are often overlooked when purchasing food.

As each entity signs on to the Whole-sum Food challenge, we will work with them to establish a baseline in each of the categories they are choosing to work on and then track their progress on purchases in one or more of these categories with a goal of reaching 20% or more Whole-sum Food.

Whole-sum Food brings a holistic awareness to each piece of the system and its contributions to the greater whole, and that by respecting and maintaining a right relationship with each part, the NCFPC promotes a more robust, productive, and thriving system that supports and rewards all levels of participation. It expresses the Whole-sum of the food system, and seeks to acknowledge, integrate, and optimize its every aspect.

The NCFPC drew heavily from the [Real Food Challenge](#) to define Whole-sum criteria.
Chapter 3: The Baseline & Opportunities for the Future Food System

Nevada County

Agriculture has been at the heart of Nevada County since its founding in 1851. The Gold Rush created a need for food in the region, and agriculture became good business for many miners-turned-farmers. Farmers raised crops such as vegetables, fruits, grains, potatoes, grapes, and some types of citrus in Western Nevada County due to the mild climate and good soils [40]. Livestock like sheep and cattle were grazed in high mountain ranges during the summer and moved to oak woodlands in the winter [41]. At that time, it is likely that the vast majority of food eaten in Nevada County was produced here. Before the Gold Rush, indigenous communities in the region carefully managed the wild ecosystems and used sophisticated horticultural methods to sustain themselves [42].

Indigenous Heritage and Legacy

It is important to frame the County’s history through the indigenous experience. Although Nevada County was established in 1851, indigenous peoples lived in the Sierra Nevada for thousands of years before their cultures, resources, and way of life were violently dismantled by European settlers. The Maidu were divided into three major groups: the Mountain Maidu, the Concow, and the Nisenan [43]. The Nisenan were located in Gold Country, including Coloma, the site where gold was discovered in 1848. The effects of the
Gold Rush were particularly brutal for the Nisenan [44]. To this day, the Nisenan have not regained federal tribal recognition from the U.S. Government, and efforts to restore their federal status are ongoing [45]. Native Californians used sophisticated methods of managing the forests to ensure the availability of food and medicinal plants, including low-density “wild” agriculture and controlled burns [46][47].

**Demographics**

Overall, Nevada County has a mature population. According to a 2019 Community Health Assessment, the median age was 49.5, ten years more than the state median of 36.7 in 2018, and about one in ten people are 75 or older [48].

Nevada County has one of the highest percentages of Caucasian residents in California, second only to Sierra County, a county with a population of only 2,987 people [49].

Population by Race/Ethnicity, Nevada County

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>2010</th>
<th>2016</th>
<th>Percent Total in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>White alone</td>
<td>85,681</td>
<td>84,469</td>
<td>85.6%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>7,913</td>
<td>9,019</td>
<td>9.1%</td>
</tr>
<tr>
<td>American Indian Alone</td>
<td>836</td>
<td>876</td>
<td>0.9%</td>
</tr>
<tr>
<td>Black or African American Alone</td>
<td>370</td>
<td>472</td>
<td>0.5%</td>
</tr>
<tr>
<td>Asian alone</td>
<td>1,247</td>
<td>1,246</td>
<td>1.3%</td>
</tr>
<tr>
<td>Native Hawaiian &amp; Pacific Islander</td>
<td>127</td>
<td>57</td>
<td>0.1%</td>
</tr>
<tr>
<td>Other/Multiple</td>
<td>1,719</td>
<td>2,500</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, ACS 5-Year Estimates [50]
The lack of ethnic diversity in the area poses some challenges in terms of racial equity within the food system. And since a “Whole-sum Food” system cannot exist without equity among all peoples, the NCFPC must proactively remove barriers so anyone, regardless of race, gender, sexual orientation, or socio-economic standing, can have access to the same opportunities in Nevada County’s food and farming system. Furthermore, the NCFPC must ensure that disadvantaged populations do not bear a disproportionate burden of the negative environmental impacts of our food system, including, but not limited to, poorer health outcomes.

The State of Agriculture in Nevada County

At a glance
(2019 USDA Ag Census) [51]

- The number of young farmers more than doubled between 2012 and 2017 and 12.9 percent are under 35 compared to 5.7 percent in 2012.
- 39.5 percent of respondents to the Ag Census were considered beginning farmers with less than 10 years of experience.
- Farmers need to gross $150,000-220,000 to earn the median per capita Nevada County income of $34,000.
- 29 farms (of the 1,208 producers who responded to the Census) report gross sales over $100,000.
- Most cattle producers in Nevada County run “cow-calf” operations where a mother cow produces one calf per season which is grazed and then sold at auction to be finished on a feedlot and slaughtered and sold elsewhere. A yearling sold at auction can generate $800-$900 of income.
- It takes 16-20 acres of non-irrigated rangeland to run 1 cow-calf pair. This means that a rancher would need about 3,750 acres of non-irrigated pasture to run the 185 cow-calf pairs needed to earn gross sales of $150-20,000 per year (1 acre of irrigated pasture can support 1 cow-calf pair).
- There is still interest in the creation of a USDA-inspected slaughterhouse in Placer County, however, $3 million in funding is needed. The feasibility study for the facility was completed in November 2016 but neighbors strongly opposed the project location. There has not been an individual or group that has come together with financial resources for the project to move forward on buying property and starting the permit process. There is a new effort to establish a mobile USDA certified meat processing facility.
- Farmers as a whole in Nevada County have not made a profit since 1982 because food prices have remained almost constant while production expenses have increased dramatically.
Net Cash Income for Farmers (adjusted) in Nevada County, California, 1969-2014

- Source: Bureau of Economic Analysis - Ken Meter

Photo credit: Jarratt Moody

AM Ranch
Top Crops

Gross Food Production in Nevada County

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable Crops</td>
<td>$1,869,800</td>
<td>$1,964,200</td>
</tr>
<tr>
<td>Nursery &amp; Flower Products</td>
<td>$603,300</td>
<td>$531,400</td>
</tr>
<tr>
<td>Fruits &amp; Nuts</td>
<td>$2,663,100</td>
<td>$2,143,500</td>
</tr>
<tr>
<td>Timber Products</td>
<td>$5,254,100</td>
<td>$4,356,300</td>
</tr>
<tr>
<td>Pasture &amp; Rangeland</td>
<td>$3,700,000</td>
<td>$3,700,000</td>
</tr>
<tr>
<td>Livestock &amp; Poultry</td>
<td>$11,100,800</td>
<td>$10,706,700</td>
</tr>
<tr>
<td>Apiary, Eggs, &amp; Wool Products</td>
<td>$418,100</td>
<td>$460,400</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$25,609,200</strong></td>
<td><strong>$23,862,400</strong></td>
</tr>
</tbody>
</table>

Source: 2018 Nevada County Crop and Livestock Report

Although recent news headlines have emphasized Nevada County’s ideological polarization, food and farming is an area where both sides of the political spectrum have found common ground. Preservation of land, landowner succession, farmer-friendly land use policies, and access to healthy food are issues that affect everyone. Organizations and community groups that are associated with disparate political interests often work together in Nevada County, and the NCFPC will need to promote much more collaboration to achieve community health, well-being, and food security.

Agriculture has always played an important role in Nevada County, but the industry has faced significant challenges over the last twenty years. Land prices have soared, and there has been increased pressure to subdivide historic pieces of agricultural land [52]. Despite these challenges, the number of farms in the region have increased. “Much of this increase can be attributed to the increase in specialty crops being grown in the area” [53]. Specialty crops are defined in law as fruits and vegetables, tree nuts, dried fruits and horticulture and nursery crops, including floriculture. According to Nevada County’s General Plan, given the diverse nature of crops being grown in the County, agricultural income should continue to rise [54]. Cannabis cultivation is also prevalent in the region, however because it was illegal up until 2016, there is very little data available to measure the impacts of the crop. Due to the underground nature of the industry, cannabis has historically been left out of the food and farming conversation.
The 2018 Nevada County Crop and Livestock report noted that “agricultural businesses, suppliers, and their employees spent an estimated $7.7 million in the county economy. When combined with farm production value, this brought agriculture's total 2018 economic contribution to $33,356,991.” It also estimated that ecosystem services such as scenic wildlife habitat and wildfire protection provided between $420 million and $1.2 billion dollars in benefit to the county.

Source: 2018 Nevada County Crop and Livestock Report

In a 2016 Community Health Assessment, 63 percent of the Nevada County residents surveyed indicated that they were satisfied with the quality of life within the community [56], and identified the county’s prevalence of farmers markets and open spaces as significant assets [57]. Ken Meter’s 2016 report created a picture of the County which helped confirm the NCFPC’s impressions of the environment they were focused on improving. Farming and ranching are difficult businesses to run profitably, particularly in an environment where local food is undervalued and industrial food is the norm. Residents of Western Nevada County spend over $340 million dollars per year on food [58]. The majority of this money supports industrial scale food manufacturing businesses elsewhere in the country and in the world. It is difficult to grow a vibrant, Whole-sum Food community on the backs of farmers and ranchers who barely make a living. Additionally, over half of the farmers in Nevada County qualify for CalFresh federal food assistance [59].
Chapter 4: Availability of and Access to Whole-sum Food

Availability and Access refer to the affordability and availability of Whole-sum Food for all residents, especially low-income and disadvantaged populations. The NCFPC determined that availability and access are primarily driven by:

- Whole-sum Food distribution capacity
- Ease of access by wholesalers, retailers, charities, etc.
- The number of institutions and businesses carrying Whole-sum Food, in addition to farmer’s markets & farm stands, etc.
- Lever Point: The amount of Whole-sum Food distributed across Nevada County

Trends and Barriers

A 2019 Community Health Needs Assessment/Community Health Assessment of Nevada County states that youth food insecurity in Nevada County is 23 percent versus 14 percent for overall residents of Nevada County [60]. In addition almost 17,000 people qualify by income for CalFresh benefits [61].

We define Food Insecurity as the state of being without reliable access to a sufficient quantity of affordable, nutritious food.
Issues affecting low-income residents of Nevada County

According to the 2010-2014 Federal Census, four percent of the county's households (more than 4,000 residents) earned less than $10,000 per year [62]. At this level of income, children qualify for free or reduced-price lunch at school. Sixty-two percent of students currently qualify for free or reduced school lunch [63]. These lower-income residents spend an estimated $55 million each year buying food, including $5.5 million (26-year average) of CalFresh benefits. Residents also receive additional aid through WIC (Women, Infant, Children) coupons.

Food-related health concerns

According to a 2019 Community Health Needs Assessment/Community Health Assessment of Nevada County, 8.7 percent of adults 20 and older were diagnosed with Type II diabetes in Nevada County versus 8.5 percent for California, 14 percent of the population experienced food insecurity, on par with California averages, and 6.77 percent of the population was low-income and did not live close to a grocery store. Only 19.39 percent of food outlets were classified as “healthy” [64].

Existing Efforts to Support Availability of and Access to Whole-sum Food

A discovery in the process of exploring existing resources was the number of programs and experiments already underway to address the issue of equity in providing Whole-sum Food to low income residents. One Community Supported Agriculture farm asked subscribers to donate a dollar amount so that CSA boxes could be offered to low-income consumers. Another farm enabled donors to finance rows of crops which would then be donated to one local food pantry. Another food pantry has a farm dedicated to growing food for their clients. A local food co-op lowers prices on a designated set of products making them affordable for low-income members. Nevada County Social Services has reached out into the community to find non-profits who will help publicize and enroll low income families in CalFresh. These existing efforts will gradually be knitted into our evolving local food system to ensure Whole-sum Food is available to low income families even in a system where prices will be somewhat elevated in order to compensate food producers fairly. One of the goals of the NCFPC is to bring these organizations into closer collaboration so the NCFPC can leverage resources and share information.

For a full description of efforts by these entities and more, see the Resource Guide.
Opportunities to Support Availability of and Access to Whole-sum Food

In addition to the existing efforts outlined above, the NCFPC has identified the following opportunities to improve availability of and access to Whole-sum food in Nevada County.

**Whole-sum Food distribution capacity**

- Collaborate with statewide organizations working on our priorities to see how the NCFPC can be mutually supportive.
- Support market match program (matches CalFresh dollars one for one) availability at all farmers’ markets in Nevada County. CalFresh Market Match wasn’t renewed at the Grass Valley and Penn Valley location because the Nevada County 211 (resource and information hub connecting residents with programs and services) determined it wasn’t drawing enough customers and wasn’t worth the time and resources.
- Support Nevada County food bank distribution sites in all major areas of Nevada County.
- Explore policies that create barriers to availability and access to Whole-sum Food and advocate for change.
- A significant portion of CalFresh dollars are spent at "corner" stores. Increasing the amount of Whole-sum Food at these stores would increase access for these shoppers.
- Address distribution scale issues: Supermarkets struggle to work with small farmers because of price point, fluctuating availability, small supply, or distribution systems that aggregate produce regionally. Farms and ranches are either constrained by small landholdings or are reluctant to commit to wholesale production because of lower prices, fluctuating or unreliable demand, packaging or food safety requirements, or quantity requests that are too large to meet or too small to make worth their while.

![Executive Director of Interfaith Food Ministry, Phil Alonzo, with donated plums harvested from local growers by Sierra Harvest's volunteer gleaners.](Photo credit: Clif Mackinlay)
**Ease of access by wholesalers, retailers, charities, etc.**

- Educate community on how donors can purchase food for others, such as increasing partnerships like Riverhill Farm and Interfaith Food Ministry (see Resource Guide: “Interfaith Food Ministry”).
- Incentivize new farms to provide co-op-to-wholesale specific items (for example, Grass Valley Grocery Outlet expressed interest in purchasing local food, however they would need produce to be pre-weighed and packaged).
- Create policies where physicians are able to prescribe produce and insurance pays for quality food.
- Increase support and enrollment in programs like CalFresh, WIC, and nutrition education through community outreach and education that promotes Whole-sum Food.
- Improve community health through nutritious food, thereby reducing or eliminating common health-related diseases such as obesity, heart disease, diabetes, strokes, etc. The benefits include improving people’s quality of life, as well as reducing costs to health care. (Examples include helping people set up home gardens, providing more nutritious foods at food distributors, and educating the community about the benefits of nutritious foods.)
- Support efforts for pop-up farm stands to occur in areas of low-income neighborhoods allowing greater access to fresh food to those in need. Nevada County passed a direct marketing ordinance that will make this easier[65].
- Eliminate the waste of nutritious foods through food recovery programs and composting.

**The number of institutions and businesses carrying Whole-sum Food**

- Support farm-to-institution procurement with institutions (like hospitals, schools, jails, government cafeterias etc.) Provide support and systems for buyers to know what local produce is available when, where to access it, as well as education on fair, humane, and ecologically-produced foods.
- Encourage programs that allow residents to access farm fresh local food through farm fundraising strategies like “plant a row for the food bank or pantry” or “contribute to a low income CSA box” type programs.
- Educate buyers on the importance of organic, fair, and humane purchasing.

**LEVER POINT: The amount of Whole-sum Food distributed across Nevada County**

- Increase the number and size of low-income Whole-sum Food distribution points, including food banks/food pantries, farms and ranches, corner stores, shelters, etc.
- Focus on widening permissions for cottage food industry, staying focused on local food access. Cottage Foods are certain low-risk foods defined by the state of California. This list is periodically updated an can be found on the CDPH website.
- Sign more organizations up for 20% by 2025 Whole-sum Food Challenge
Supply includes crops, livestock, as well value-added products that have been processed at commercial kitchens or co-packing facilities. The NCFPC determined supply is primarily driven by:

- **Lever Point:** A thriving farming community where information and resources are actively exchanged through meetings and gatherings
- **Lever Point:** Policies that support small-scale and sustainable agriculture
- **Lever Point:** The number of efforts to influence policy-makers on behalf of farmers and ranchers
- The amount of usable farmland and infrastructure
- The profitability of farming
- The number of people farming
- The ability to scale up and reduce operational costs

Additionally, the NCFPC identified five Mental Models that are critical to cultivating an ideal supply system:

- “Grassroots movements can impact local change”
- “Sharing and collaborating is good for business”
- “Small farm investments are good for community health”
- “Quality-of-life-oriented careers can be more satisfying than strictly profit-oriented careers”
- “Small, diverse farms are more sustainable”
Trends and Barriers

According to the 2017 Census of Agriculture, 24 percent of agricultural producers in Nevada County show a positive net income. The average loss among the 76 percent that lose money is $20,000. Part of this is because many part-time operators, hobby farmers, and small-scale farms with off-farm income are claiming the tax benefit of farm losses. According to the Bureau of Economic Analysis, agriculture in Nevada County as a whole has not made money since 1982, mostly due to a substantial increase in production expenses with little increase in food prices. This is not expected to change with the cost of labor continuing to go up and policy contributing to this. The average age of a farmer in Nevada County is 57 \[66\], and most have no succession plan. Also, in the last 5 years, Nevada County’s top agricultural products of cattle and timber have decreased due to low market prices while fruit and vegetable sales have increased due to increased farmer knowledge and local demand. Between 2015 and 2017 vegetable farmers in Nevada County increased their sales by $33,000 per acre farmed \[67\]. One concern is that much of the land these vegetables are grown on is vulnerable, often leased with low prospect to own. For ranchers, their business model is often reliant on multiple leased parcels.

The NCFPC learned that the county is producing approximately 4.7 percent of food consumed in Nevada County locally \[68\]. Agricultural soils and infrastructure are marginal, skilled labor is sparse, but access to water is currently abundant through the Nevada Irrigation District and market demand for local products is strong. This may change as climate change impacts snow pack (one of our biggest water storage sources) and population increases. During times of drought, the Nevada Irrigation District prioritizes water usage in the following order: 1) human consumption, 2) livestock and animals, 3) perennial crops, 4) annual crops \[69\]. Another trend is that statewide there is a huge amount of investment capital going into the ag tech sector which is focused on indoor, mechanized production. Much of the innovation of occurring in the ag tech policies are not scaled to the needs of small foothill producers.

How many farms and ranches do we really have?

According to the USDA National Agricultural Statistics Service (NAS) 2012 Census of Agriculture, there are 354 farms and ranches in Nevada County. As the USDA has access to the IRS contact data for operations claiming farm business income on their tax returns (Schedule F), this number likely includes a number of hobby farms that may or may not be contributing agricultural products to the local community food systems. Using the 2012 published NASS data and excluding those farms claiming farm income of less than $5,000 in gross income brings the number of farms closer to 150, a little over 100 of which grow
food crops like vegetables, fruit trees, eggs, and meat. The remaining farms grow nursery plants, Christmas trees, wine grapes, seeds, wool etc.

As a non-federal agency, the Nevada County Agricultural Commissioner’s office cannot access the same IRS data, and therefore takes a different approach to identifying potential farms for the annual County Crop and Livestock report. Using a variety of sources – including but not limited to registered organic farms, licensed nurseries, certified producer’s certificates, and pesticide permits – the data is collated in a way that does not reveal individual operation’s sensitive information.

The data required to be collected also varies between county and federal surveys. One difference is the County considers land rentals for pasture or rangeland to be “crop income”, while the Census reports this as “farm-related income” in a separate entry. Similarly, the County counts all timber sales as part of agriculture crop revenue while the Census of Agriculture counts only timber sales made by farms, and considers this to be “farm-related income,” not crop income. Even removing these two sources of income leaves a $2 million difference between the County data and the Census of Agriculture. Additionally, many farmers are more likely to provide the County with more accurate sales data because the process is confidential and does not affect their taxes. The County counts fewer farms than the Census of Agriculture counts, but reports greater sales.

Food and Farm Economy

Farmers lose $8 million each year producing food products, gain $283,000 from federal subsidies, and spend (conservatively-estimated) $9 million buying inputs sourced outside of the county. Even if farmers were to turn a profit, these input purchases would result in substantial losses to the County as a whole. Overall, farm production creates an outflow of $17 million from the county [70]. This is a great opportunity for import substitution, a strategy that emphasizes the replacement of imports with locally produced goods, rather than the production of goods for export, to encourage the development of local industry. If Nevada County could produce more farm inputs locally, the $9 million spent on inputs could instead be spent within the county. Compost and animal feed are two big inputs here.

For a complete list of gross agricultural product sales in Nevada County, please reference the County Crop Report Archives.
In 2012

189 farms (26%) sold food directly to household consumers

In total $933,000
10% of Sales

Source: 2012 Census of Agriculture

Nevada County Needs More Farming Infrastructure

Both small-scale, grower-oriented policy and small farm and ranch infrastructure, particularly when compared to the existing food system map, were weak. However, these were elements the NCFPC could affect. The NCFPC couldn’t, for example, reasonably undo large-scale farm policy which favored mono-culture farming, soil mining, and chemical agriculture, but the NCFPC could influence local and state policy. Similarly, the NCFPC could learn and help the community invest in shared infrastructure that would boost productivity and profitability among local farms and ranches. Examples of such infrastructure include a closer USDA meat processing facility, a group cold storage location, and a local composting facility. There is currently seed processing machinery and Mooney Flat Co-op is establishing a tool lending library.

Local Supply of Whole-sum Food

While the NCFPC’s goal of 20% Whole-sum Food consumption by 2025 refers to the combined consumption of local, regional, fair, ecologically-produced, and humane foods and our research supports a regional approach to local food resilience, it is worth understanding what it would take in sales, land, and farmers to produce 20% of Nevada County’s food locally.
The NCFPC learned that Nevada County residents spend $340 million a year on food [71]. Nevada County farmers and ranchers produce $2.1 million in produce (vegetables/fruit/nuts – for this example we are not going to include wine grapes) on 126 acres of land and $10.9 million in livestock products on approximately 109,000 acres [72]. According to the 2017 Ag Census the average age of a producer in Nevada County is 57 years old and there are 447 producers reporting farming or ranching as their primary occupation.

### Produce (vegetables, fruits, nuts)

According to the chart below the average American eats eight percent of their diet in produce. If the $2.1 million dollars in produce grown in Nevada County were consumed locally it would represent .62 percent of total annual food purchases by Nevada County residents [73]. In order to reach 8 percent, we would need to grow 12.9 times more produce than we are growing now. This would bring local produce sales to $27.2 million dollars. If 128 acres of land are producing .62 percent of Nevada County's annual food purchases, in order to reach 8 percent of annual food purchases (the national average of fruit and vegetable consumption), Nevada County would need about 1,646 acres in production (or 12.9 times what currently exists). If we assume that it takes approximately two farmers per acre to farm organically, Nevada County would need about 3,292 farmers (or 3036 more).

![U.S. Daily Calories Chart]

Source: National Geographic [74]
Meat, Dairy, Eggs

According to the pie chart above, Americans eat 27 percent of their diet in meat, eggs, and dairy. The $10.9 million Nevada County earns on livestock products represents 3.38 percent of the county’s food consumption. However, this figure includes a large number of beef calves, the majority of which are sold outside of the county to be “finished.” The NCFPC identified two opportunities here: (1) finish and sell that meat inside the county, and (2) upgrade regulations and infrastructure to allow for more local production of these items which are almost entirely imported from outside the county.

Less than 4% of the value of food consumed in Nevada County residents is produced within the county.

If 109,000 acres produces 3.38 percent of the value of the food consumed in Nevada County [75], to produce 13 percent of the County’s meat products (based on national averages) there would need to be 3.84 times more land in production (or 418,904 acres in rangeland and irrigated pasture). Meat sales would need to jump from $11.5 million to $44.2 million in sales.

Considered another way, global statistics say it takes .5 acres of cropland to feed one person (in vegetables). There are currently only 128 acres of land in production in Nevada County. There would need to be 49,141 acres in order to feed every resident 100 percent of their produce, and 9,828 acres to feed every resident 20 percent of their produce.

Assuming it takes 1.5 acres to feed one person, with 98,904 people in the County, it would take 148,856 acres of farmland to feed every resident 100 percent of the time, and 29,485 acres to feed every resident 20 percent of the time. Nevada County has 107,126 acres in production – more than enough land to produce 20 percent of the food consumed in Nevada County. We would need to simplify our diets and growing practices to meet the efficiency of this global standard which is driven largely by small subsistence farming methods.

The other ways to meet these goals would be to increase our imports of regional foods that are already being produced and to increase productivity on the land that is already being cultivated. From 2015 to 2018 [76], we saw vegetable growers in Nevada County double their income on essentially the same amount of land. By concentrating on intensive, sustainable growing methods we can produce more high-quality produce on less land.
## Reaching 20 Percent Local Production

### Expenditures

<table>
<thead>
<tr>
<th>Nevada County</th>
<th>Expenditures</th>
<th>Sales</th>
<th>Total</th>
<th>Multiple to Reach Goal</th>
<th>Goal for 2025 &amp; Beyond</th>
<th>Goal for 2025 &amp; Beyond matches % of average American diet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total spent on Food</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nevada County</td>
<td>$340,343,880</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales of meat (includes honey &amp; meat)</td>
<td>$11,512,600</td>
<td>3.38%</td>
<td>3.84</td>
<td>$44,244,704</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Sales of vegetable fruit and nuts (doesn't include wine grapes)</td>
<td>$2,117,900</td>
<td>0.62%</td>
<td>12.86</td>
<td>$27,227,510</td>
<td>8%</td>
<td></td>
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<tr>
<td>Total</td>
<td>$13,630,500</td>
<td>4%</td>
<td></td>
<td></td>
<td>$71,472,215</td>
<td>21%</td>
</tr>
</tbody>
</table>

### Land

<table>
<thead>
<tr>
<th>Nevada County</th>
<th>Acres in Production</th>
<th>Multiple to Reach Goal</th>
<th>Goal for Acres in Production by 2025 &amp; Beyond</th>
<th>Acres needed to produce x% of food locally matches % of average American diet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pasture &amp; Rangeland</td>
<td>109,000</td>
<td>3.84</td>
<td>418,904</td>
<td>13%</td>
</tr>
<tr>
<td>Vegetables, fruits, nuts</td>
<td>128</td>
<td>12.86</td>
<td>1,646</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>109,128</td>
<td></td>
<td>420,549</td>
<td>21%</td>
</tr>
</tbody>
</table>
Existing Efforts to Support the Supply of Whole-sum Food

Agriculture has many advocates in Nevada County. Since 1990, Bear Yuba Land Trust has protected over 6,000 acres of local farm and ranch land through conservation easements and continues to grow this footprint through the Forever Farms campaign in collaboration with Sierra Harvest, BriarPatch Food Co-op and Tahoe Food Hub. The local Farm Bureau is very active and plays an important role in preserving farmable land in Nevada County. They offer two scholarships a year to graduating high school seniors who choose to pursue their studies in agriculture. Sierra Harvest offers farm business classes, organic certification and production skills classes to the next generation of farmers in Nevada County. They support farms in finding new markets by connecting them with buyers. They also match farmers with agricultural land and support long term land tenure for farmers through easements, lease agreements, and purchase. The NCRCD and NRCS provide local agriculture and conservation resources to farmers and ranchers. The Agricultural Advisory Committee and Ag Commissioner represent the full spectrum of farming in Nevada County and there are a number of agriculture advocates in different levels of county government, including the Board of Supervisors.

For a full description of efforts by these entities and more, see the Resource Guide.

Opportunities to Support the Supply of Whole-sum Food

In addition to the existing efforts outlined above, the NCFPC has identified the following opportunities to increase supply of Whole-sum Food.

**LEVER POINT: A thriving farming community where information and resources are actively exchanged through meetings and gatherings**

- Increase opportunities for farmers and ranchers to support one another through sharing of knowledge, equipment, infrastructure, and pooling sales to markets (for example, collective sales to wholesalers, farmer co-op models, tool sharing, etc.). As a result, most farmers in the area will feel they have people to turn to when they have questions or need equipment. More opportunities like this will build community and draw on that social capital as needs arise.
- Foster cross-branding and cooperative marketing.
- Collaborate more with organizations that represent different demographics and interests.
- Educate the public on the value of small farms and ranches to the community.
- Establish or expand local and regional food distribution businesses that serve restaurants and caterers by tracking, aggregating, and providing Whole-sum Foods – and guarantee sales for farmers and ranchers.
**LEVER POINT: Policies that support small-scale and sustainable agriculture**

- Work with County Environmental Health to promote food & farm friendly interpretations of laws. For example, AB626 (Microenterprise Home Kitchens) has not been implemented in Nevada County, although it would be beneficial to local entrepreneurs.
- Lobby County agencies and residents to support and invest in food and farm infrastructure. Improve small-scale local farm infrastructure (fencing, irrigation etc.) and community infrastructure such as refrigeration and freezer space for storage, washing, and packing stations, and kitchen space for value added products (such as salsa, sauces, dehydrated fruit and vegetables), and for meat processing. Create a farm infrastructure fund.
- Actively help farmers and ranchers to secure land and infrastructure. Support state policy funding for agricultural land mitigation programs for conservation easement purchased in Nevada County.
- Refine “one size fits all” agricultural policies to tier regulations and fees to local scale.
- Create policy funding streams or business initiatives to improve regional infrastructure for aggregation and distribution of regional foods. Because more than enough food exists within a 120-mile radius to feed Nevada County and Nevada County produces only a small amount of its own food, strengthening distribution networks regionally will create more resilience locally. Collaborate with organizations like Placer Grown and Capay Valley Grown to strengthen purchases from their regional member growers.

**LEVER POINT: The number of efforts to influence policy-makers on behalf of farmers and ranchers**

- Work directly with Nevada County government to create food and farm friendly policies when updates are made to the General Plan and Area Plans. Work is already being done toward this end.
- Host more food and farming candidate forums during election years. Cultivate relationships with our elected representatives: Board of Supervisors, CA District 1 Assembly
- Member and Senator, CA District 1 Congress Member and State Senator.
- Give the county Ag advisory commission the teeth to oppose development projects on agricultural land.

**The amount of usable farmland and infrastructure**

- Work with Bear Yuba Land Trust, California FarmLink, and American Farmland Trust to preserve arable and pasture lands for future use as farms and ranches through agricultural conservation easements, tax incentives for keeping land in agriculture, urban growth boundaries, zoning changes, development mitigation fees, general plan guidelines, and more. Support more farms being included in the Williamson Act. Utilize Cal Fish and Wildlife and other agency funds for agricultural conservation easements.
• Buy locally: If we each spent $5/week on local food, we would support farmers and ranchers and bring almost $26 million in economic return for farmers and ranchers.
• Protect Ag land: Set urban growth boundaries.
• Zoning: Land that is Ag-significant should be 40-acre minimums. Be willing to make improvements to the land (like water and fencing) that will attract a farmer.
• Create steep mitigation fees for developing agricultural land.
• Producing farm inputs locally would lower cost of production: There is a huge opportunity for local compost business and on-farm compost production [77]. Nevada County farmers, gardeners, and homesteaders collectively spend millions of dollars per year on compost and 95 percent of this compost is produced outside of the county. Localizing compost production will reduce imports and keep income within the county. The abundance of slash from fire abatement efforts offers a ready resource for a compost project such as the Fire Safe green waste production of free wood chips.
• Create a community commissary kitchen for school meals, value-added products (such as salsa, sauces, dehydrated fruit and vegetables) and for meat processing. A good model exists in Truckee (Kitchen Collab) but not Western Nevada County.
• Pursue USDA Certified mobile meat processing and freezer space for meat products.
• There is a lack of aggregation, processing and facilities. If we can create more value-added products we can keep revenue in the county. Environmental health supporting the ability to do local processing would allow for local dairy products which used to be big in this county and are no longer. Ranchers have to drive 1 to 3 hours for meat processing and the majority of our meat is sold out of county. Local processing would make it more feasible for import substitution and would keep that revenue in the county.
• Improve small scale local farm infrastructure (fencing, irrigation etc.) on agricultural land. Create a farm infrastructure fund. Map arable land with access to water that is not currently being cultivated and make that map available to prospective farmers.
• Refine “one size fits all” agricultural policies to tier regulations and fees to local scale.
• Establish tax incentives for keeping land in agriculture so retiring farmers don’t have to sell their land.
• Establish programs to support climate resilience in water infrastructure and farming practices.

The profitability of farming
• Use education and experiences to remove the Mental Models that support industrial agriculture and replace them with mental models that support small farms, local agriculture, and nutritious foods.
• Pay farmers and ranchers for ecological and fire protection services. Create policy funding streams to pay farmers for forest management and grazing practices that improve fire protection.
• Increase the number and size of Whole-sum Food distribution points including institutions, restaurants, farm stands etc.
• Help farmers take advantage of opportunities with larger grocers. For example, if local farmers were able to sell prepackaged or pre-weighed produce, Grocery Outlet would be more likely to purchase from them.
• Establish programs to support climate resilience in water infrastructure and farming practices.
• Support farms to achieve organic, and humane production certifications.

The number of people farming
• Encourage the creation of farm businesses that operate at a scale that specifically meets the needs of wholesale food production.
• Support business and production skills classes for farmers and ranchers, especially on successful production farms.
• Support gardeners and homesteaders to produce a larger percentage of their food where they live.
• Study places that are producing 20 percent or more of their food and implement strategies they used.

The ability to scale up and reduce operation costs
• Improve our ditch irrigation systems and increase capacity for new customers.
• Expand hoop-house/greenhouse production during off-season.
• Seed production: There is an opportunity to increase the amount of seeds produced in the County. The climate is perfect for growing seeds and small farms and diverse microclimates lend themselves to growing seeds that need isolation from one another.
• Establish an area for food trucks and pop-up food vendors to foster the growth of new businesses.
Chapter 6: Consumer Demand for Whole-sum Food

**Consumer Demand** relates to consumption of Whole-sum Food, including all the steps through which residents purchase and use food. This can include retailers, restaurants, food pantries/banks, farmers markets, home gardens, or agriculture, to name a few. The NCFPC determined consumption is primarily driven by:

- The number of places where Whole-sum Food is sought/requested
- The amount of Whole-sum Food purchased
- The number of encounters/experiences people have with Whole-sum Food
- The number of times Whole-sum Food meets or exceeds expectations
- The number of people and businesses willing (and able) to pay a “fair” price for Whole-sum Food
Additionally, the NCFPC identified three Mental Models that are critical to cultivating the ideal supply system as it relates to consumer demand for Whole-sum Food:

- Whole-sum Food benefits the community in tangible ways
- Whole-sum Food is healthier/promotes longer life
- **Lever point:** Whole-sum Food is worth more

The NCFPC identified “Whole-sum Food is worth more” as an especially powerful lever of change. A common perception of local produce (especially at farmers’ markets) is that it is more expensive than grocery store produce. In 2014, Eat Local Placer County, along with the Nevada County Public Health Department, collected data relating to produce prices from four farmer’s markets and six grocery stores in Placer and Nevada Counties. For five of the ten items measured, the farmers’ market prices were cheaper or equal to grocery store prices [78].

Although this study included a relatively small sample size, it begs the question: to what degree are consumer habits driven by the Mental Model that local food is too expensive and not necessarily worth more? Advertising of processed industrial foods exacerbates the prevlence of this mental model.

**Fast Food Advertising**

Source: fastfoodfacts.org [79]

If our estimates on page 24 are correct and 2.3 percent ($7.59 million) of what we spend is bought from local producers, that means that consumers spend $333 million buying food sourced outside Nevada County. Thus, total loss to the county through its food economy is $333 million of potential wealth each year. This loss amounts to 21 times the value of all food products raised in the county.
If every Nevada County resident spent $13 per week on local products, the county would reach 20% local food consumption [80]

**Existing Efforts to Support Consumer Demand for Whole-sum Food**

Sierra Harvest’s Farm to School program is exposing 97 percent of Western Nevada County students to local produce and they now ask for it at home. 4H and FFA (Future Farmer of America) also introduce kids to agriculture through educational programs.

BriarPatch Food Co-op has a broad influence in the community and employs different marketing techniques to educate consumers. Over 60,000 copies of their quarterly newsletter, The Vine, were distributed through the county in 2018. The newsletter features seasonal recipes, profiles of local farmers, and education on healthy food. They have over 170,000 video views, and many of their videos feature local and regional farmers. At the time this report was written, the Co-op had 8,931 followers on Facebook and 5,531 on Instagram.

The Local Food Coalition (LFC) is a listserv with 1,165 active members. LFC aims to support local farmers, preserve local farms and farmland, and ensure a local food supply in the western Nevada County area of California. There are eleven farmers’ markets in area, many of which offer EBT (Electronic Benefit Transfer) redemption through the CalFresh supplemental food assistance program and a Matching Program which can double their dollars spent on fresh fruits and vegetables. The Nevada County Fairgrounds has helped preserve the county’s agricultural heritage by providing a community-friendly annual fair and nurturing the next generation of farmers, ranchers, and consumers.

For a full description of efforts by these entities and more, see the [Resource Guide](#).

**Opportunities to Support Consumer Demand for Whole-sum Food**

In addition to the existing efforts outlined above, the NCFPC has identified the following opportunities to increase consumer demand for Whole-sum Food in Nevada County.

**The Number of places where Whole-sum Food is sought/requested**
- Support marketing and branding campaigns which encourage residents to value and choose Whole-sum Food and preference local and regional foods.
- Support store merchandising that highlights and supports the purchase of wholesome foods. Promote local origin labeling to increase sales of locally-grown food.
- Enlist more institutions and businesses to commit to the 20% by 2025 Whole-sum Food Challenge. This will take a community-wide effort with local government support and
multiple groups engaging in this collective impact goal, making healthy food the easy choice for consumers.

- Help farmers take advantage of opportunities with larger grocers. For example, if local farmers were able to sell prepackaged or pre-weighed produce, Grocery Outlet would be more likely to purchase from them.

**The amount of Whole-sum Food purchased**

- Give more support to programs like CalFresh, WIC, and nutrition education.
- Educate restaurants and wholesalers on the value of Whole-sum Food (local, fair, humane and ecological).

**The number of encounters/experiences people have with Whole-sum Food**

- Expand farm stands, u-picks, farm events, picnics, harvest festivals, tasting rooms, year-round farmers’ markets, and working farms visible to highway. All these are opportunities to engage with, taste, enjoy, and share Whole-sum Food.
- Support agri-tourism making Nevada County a food destination. Create a local cuisine and culture.
- Promote tastings, recipe cards, and cooking classes.
- Publish monthly NCFPC article in The Union newspaper.
- Expand exposure of children to Whole-sum Foods through farm-to-school programs, tastings, and curriculum that emphasizes the value of Whole-sum Foods.
- Support government education and policies that value the importance of local food as a necessary utility which strengthens the local economy. Support policies that ensure readily available food in the event of supply chain disruptions.

**The number of times Whole-sum Food meets or exceeds expectations and the number of people and businesses willing (and able) to pay a “fair” price for Whole-sum Food**

- Increase CalFresh participation through awareness campaigns: thousands of Nevada County residents qualify for CalFresh benefits and are currently not enrolled. Expand the number of retailers that accept Electronic Benefits Transfer (EBT) (farmer’s markets, local stores that carry Whole-sum Foods).
- Produce classes, tastings, farm tours etc. in which community members have positive experiences with Whole-sum Food and strengthen a local food culture and identity.

**LEVER POINT: The Mental Model that “Whole-sum Food is Worth More”**

- Increase education and awareness around the value of Whole-sum Food.
Chapter 7: Conclusion

In the five years that the NCFPC has been working on this report, much has changed in the food system, from fires and power shut-offs, to a global pandemic which disrupted food supply chains, to a heightened awareness of the need for equitable conditions for all workers along our food chain. Nevada County stands ready and able to build upon what we have and create a food system that creates health and well-being for all and has the resilience needed to meet future challenges. Through collaborative county-wide efforts we can make this food system a reality.

Recommendations

There were many opportunities identified to support the NCFPC’s goals toward a resilient future food system, listed in full in the opportunities sections. Here are a few resounding recommendations:

Availability of and Access to Whole-sum Food

- Support farm-to-institution procurement with institutions (like hospitals, schools, jails, government cafeterias etc.) that serve low income residents. Provide support and systems for buyers to know what local produce is available when and education on local, fair, just, humane, and ecologically-produced products.
- Replicate programs that allow residents to access farm fresh local food through farm fundraising strategies like “plant a row for the food bank or pantry” or “contribute to a low-income CSA box” type programs.
- Work with statewide policy partners to increase support and enrollment in programs like CalFresh, WIC, and provide funding for nutrition education.
- Eliminate the waste of nutritious foods through food recovery programs, composting and other efforts.

Supply of Whole-sum Food

- Increase opportunities for farmers and ranchers to support one another through sharing of knowledge, equipment infrastructure, and pooling sales to markets.
- Foster cross-branding and cooperative marketing.
- Create policy funding streams or business initiatives to improve regional infrastructure for aggregation and distribution of local and regional foods.
- Improve small scale local farm infrastructure and community infrastructure such as refrigeration and freezer space for storage, aggregation, and kitchen space for value-added products and facilities for meat processing.
- Actively protect existing farmland and help farmers and ranchers to secure land and infrastructure.
Produce more farm inputs (like compost) locally.
Work directly with Nevada County government to create food and farm friendly policies.

Opportunities to Support Consumer Demand for Whole-sum Food

- Support marketing and branding campaigns which encourage residents to value and choose Whole-sum Food and preference local and regional foods.
- Support store merchandising that highlights and supports the purchase of wholesome foods.
- Enlist more institutions and businesses to commit to the 20% by 2025 Whole-sum Food Challenge.
- Produce community events, classes, tastings, farm tours etc. in which community members have positive experiences with Whole-sum Food and strengthen a local food culture and identity.

Accomplishments

Since beginning this assessment, the NCFPC has already made significant strides toward achieving its goals. These relationships were a direct result of the work performed by the Council and the relationships formed through meetings.

- **20% by 2025:** Interfaith food Ministry was the first organization to adopt the 20% by 2025 goal and begin changing their purchasing policies to match this goal. From July 2016-July 2020, Interfaith has increased their local food purchases from 0.8 percent to 6.4% of their food budget [81].
- Nevada County Food Bank receives about $50,000 a year through the Cal Foods program which must be spent on California Food. This year they heard about the 20% by 2025 challenge and are working to source 100 percent of this product with local farmers.
- **Restaurant Certification for Local Purchasing:** There is a committee creating a certification program that will be awarded to local businesses that purchase and serve a certain percentage of local and regional products. This certification will work in conjunction with the 20% by 2025 Whole-sum Food Challenge.
- **Infrastructure:** Interfaith Food Ministry is in the process of permitting a commercial food dehydrator that would provide Whole-sum Food for its customers year-round.
- **Collaboration:** Sierra Harvest supported the Gold Country Gleaners with administrative support and volunteer recruitment. In 2018 and 2019, the Gleaners harvested over 32,000 pounds of produce that were donated to the food pantry, Interfaith Food Ministry, and distributed to their 8,000 clients.
- **Policy:** The NCFPC served on a subcommittee to rewrite Nevada County’s permitting policies for non-permanent agricultural structures such as high tunnels. The NCFPC also supported a county policy supporting agri-tourism on Nevada County farms and ranches. The NCFPC hosted a dialogue with the director of Nevada County’s
Identify programs which address issues like policy change and development of infrastructure. These will take a concerted effort and more attention to the local and state political environment and systems – critical long-term work to be done by members of the Council and others in the County communities.

- **Relationship-building**: Sierra Harvest provides monthly reports on council and other activities to Nevada County's Agricultural Advisory Commission and Nevada County Farm Bureau at monthly meetings to foster cross communication.

This assessment details the NCFPC's journey to understanding the food system in Nevada County and preparing to create a local system devoted to community health, well-being, and food security. The NCFPC, as a result of the systems work, is more realistic about the challenges the county faces in changing local food consumption patterns. Developing a new, health-focused food system, even when some elements already exist, will take many years, if not decades, of persistent effort. The council will work to:

- Identify programs which address issues like policy change and development of infrastructure. These will take a concerted effort and more attention to the local and state political environment and systems – critical long-term work to be done by members of the Council and others in the County communities.
- Recruit local agencies, non-profits, institutions, restaurants, food co-ops, etc. to incorporate the Council's 20% by 2025 Whole-sum Food Challenge into their everyday and long-term efforts. Further, the NCFPC wants this goal to be visible to the
community as a whole and to enlist individuals and families in helping to achieve this number.

- Measure progress toward the goal by improving indicators and indexes, developing baselines, and measuring progress consistently over time. Arriving at a single conclusion is critical to developing appropriate metrics.
- Learn to experiment within the context of the systems work that has been done. Where historically the NCFPC may have implemented improvement ideas without understanding where they fit systemically and without metrics to reveal their effectiveness, now the NCFPC can try things without committing to full implementation. This is a different mindset and will demand some care in designing experimental approaches.
- Maintaining and increasing participation by the full set of people and organizations needed to create a new food system will be an ongoing challenge. It is crucial that the Council be diverse across racial and socio-economic lines.
Endnotes


[6] Notes on Whole-sum Food Baseline

29 California Counties are within 120 miles of Grass Valley (GV): Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, ElDorado, Glenn, Lake, Marin, Mendocino, Mono, Napa, Placer, Plumas, Sacramento, San Francisco, San Joaquin, Sierra, Solano, Sonoma, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, Yuba. Areas in NV were not included.

Total dollars sold in 2018 in the CA counties within 120 miles of GV = $14,064,306,000.
Total dollars sold in ALL CA = $49,900,000,000.
$21,020,000,000 of CA’s total food sales are exported outside the US.

% of food grown in CA exported out of US in 2018 = $21,020,000,000 / $49,900,000,000 = 42.1% (meaning that 1 - 42.1% = 57.9% of food grown in CA is NOT exported out of the US).

$ amount of food grown within 120 mi of GV and NOT exported = $14,064,306,000 * 57.9% = $8,139,822,791

In 2018, Nevada County spent approximately $343,073,000 on food. (Nevada County population in 2018 was 99,696 / 2.6 people per “consumer unit” * $8,947 yearly total food expenditures per consumer unit in western states in 2018)
In 2018, the counties within 120mi of GV spent approximately $33,178,392,722 on food. (Population in 2018 was 9,641,647 / 2.6 people per “consumer unit” * $8,947 yearly total food expenditures per consumer unit in western states in 2018). $8,139,822,791/$343,073,000 = 2.373% of the amount that Nevada County spends on food is produced within 120 miles and not exported.

$14,064,306,000 / $33,178,392,722 = 42.4% of the amount that the 120 mi region spends on food is produced within the region (although currently 42.1% of it is likely exported). The region within 120 miles of GV consumes 2.4 times as much food as it produces.


Bureau of Labor Consumer expenditures survey data from the “Region of Residence” table 1800 for the Western region lists yearly food expenditures per consumer unit in the western states as $8,947, and the number of people per consumer unit as 2.6 people.


Nevada County’s population from the 2018 Crop & Livestock Report (98,904) / # people per consumer unit from 2018 Bureau of Labor Consumer expenditures survey by region(2.6) * yearly food expenditures per consumer unit from the same survey ($8,947) = $340,343,880 spent annually on food in Nevada County.


The 2018 Crop & Livestock Report shows the $ value of vegetable crops, Fruits & Nuts, Livestock & Poultry, and Apiary, Eggs & Wool Products (less wool and apiary) produced in Nevada County was $15,836,700. Dividing this by the estimated annual food expenditures in the county above provides $15.837M/$340.343M = 4.65%
Total value of livestock, poultry, honey & eggs (not including wool) produced in Nevada County (2018) = $11,303,800

Total gross production value vegetable crops, fruit & nuts in Nevada County (2018) = $4,532,900

If we use the population estimates from the Nevada County Crop Report, in 2018 Nevada County spent approximately $340,343,880 on food. (Nevada County population in the 2018 Crop report was 98,904 / 2.6 people per “consumer unit” * $8,947 2018 yearly total food expenditures per consumer unit in western states)

% of total food purchased in Nevada County that is grown here = ($11,303,800 + $4,532,900)/ $340,343,880 = 4.65%

We used Google Map’s distance tool to map out a 120 mile radius from Grass Valley. We then used the county graphing tool at https://www.randymajors.com/p/countygmap.html to locate counties matching the map. 29 CA counties are within 120 miles of Grass Valley (Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Glenn, Lake, Marin, Mendocino, Mono, Napa, Placer, Plumas, Sacramento, San Francisco, San Joaquin, Sierra, Solano, Sonoma, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, Yuba). NV areas were not included. See the jpg “Details on regional food within 120 mi. by county” and “Details on regional food within 150 mi. of GV.”

California Agricultural Statistics Review 2018-2019 p. 21 provided the Gross Agricultural Production for the counties within 120 miles of Grass Valley.

The total of all counties' production is higher than the amount produced for human consumption, since it is garnered from Agricultural Commissioner's data, which includes food used on the farm where it is produced (as feed for animals, for example) as explained on p.19 of the report. This explains why the total of county production (on p. 21 of the report) is greater than the total sales listed on p. 2 of the report.


For this estimation, in order to be consistent with population estimates throughout the 120mi radius of Grass Valley, we used population data from sourced from the 2018: ACS [American Community Survey] 1-Year Estimates Detailed Tables at http://www.census.gov/.


2018 Nevada County population (99,696 people per consumer unit (from https://www.bls.gov/cex/2018/region/region.pdf)(2.6) * yearly food expenditures per consumer unit from the same survey ($8,947) = $343,073,000 spent annually on food in Nevada County.


Using data from the 2018: ACS [American Community Survey] 1-Year Estimates Detailed Tables at http://www.census.gov/ shows that the population of the 29 counties within the 120mi. radius = 9,641,647 people.


Total food production among the 29 counties within the 120mi radius = $14,064,306,000.

[20] Population of 9,641,647 / number of people per consumer unit from 2018 Bureau of Labor Consumer expenditures survey by region(2.6) * yearly food expenditures per consumer unit from the same survey ($8,947) = $33,178,392,722 spent annually on food in
the counties within the 120mi radius.

[21] Total food production among counties within the 120mi radius ($14.06B)/total annual expenses among counties within the 120mi radius ($33.18B) = 42.4% if no food is exported.


Page 11 shows 2017 fair trade sales in the U.S. was $994,122,922 Euros.


2017 exchange rate from Euros to US Dollars was 1.13.


From US Census Bureau July 2019 publication.


“Nominal food and alcohol expenditures, with taxes & tips for all purchasers.” 6/2/2020 column J shows that total value of home production and donations in 2018 was $2,100,170,000.


“Nominal food and alcohol expenditures, with taxes & tips for all purchasers.” 6/2/2020 column K shows total value of food consumed at home in 2018 was $777,909,000,000.

[33] $2.1B / $777.9B = .27%


Excerpt from the Declaration of Nyéléni, 2007 Forum for Food Sovereignty in Sélingué, Mali.


[59] Per Cindy Fake, University of California Cooperative Extension Placer and Nevada Counties Small Farm Advisor: According to 2012 Ag Census, over half the farms generate less than $30,000 per year. The net average of cash from these farms is $24,000. In 2018, for a household size of two, the maximum income to qualify for Calfresh was $2,744 per month ($32,928 per year).


Gross production value (fruits, nuts, vegetables) divided by total food purchases (K, Meter).


[77] We asked the following local businesses about their compost sales: Vital Garden Supply, Peaceful Valley Farm & Garden Supply, Sweetland Garden Mercantile, Rare Earth Landscape Materials, Four Seasons Garden Supply, Fulcrum Farm. Based on these values, we estimate Nevada County spends at least $8 million a year on compost.


[80] Total food purchases by everyone in NC/total population) times 20% divided by 52 weeks.

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