CCRP
California Center for Rural Policy

Humboldt County

Community Food Assessment

Authors

Danielle Stubblefield, MS
Community Food Systems Analyst

Sheila Lakshmi Steinberg, PhD
Director, Community Research

Alexis Ollar
Graduate Research Assistant

Amanda Ybarra
Graduate Research Assistant

Connie Stewart
Executive Director

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Executive Summary

Because there is a direct connection between healthy food and a healthy community, it is critical to take stock of Humboldt County's agricultural production and distribution as well as the availability of fresh food to low-income consumers.

This Community Food Assessment is a profile of Humboldt County's current food system "from farm to table," and is meant to be a tool for stakeholders—farmers, sellers, consumers and policy-makers alike.

It also is part of a larger project, by the California Center for Rural Policy (CCRP) and funded by the California Endowment, entitled "Addressing Food Insecurity with Dignity." The goal of this project, aside from doing a Community Food Assessment, is to research innovative rural projects addressing food insecurity and to facilitate the creation of a Food Policy Council.

The purpose of this assessment is to provide an overview of Humboldt County's food system and an examination of how well it is serving our community. Community Food Assessments have proven to be an effective way to help establish priorities and actions taken by groups and individuals working on food systems planning.[1] Humboldt County has many organizations working on such issues, ranging from food access to advocating for local farmers. This report provides hard data, identifies food system needs and helps target areas for change. It is intended to be a living document that will be updated as new data emerge.

For this assessment CCRP gathered existing data regarding the different sectors of Humboldt County's food system. We also generated primary data by conducting a small research project mapping the food system's strengths and needs. We are deeply thankful to everyone who took the time to share information with us.

Six months of research into both the availability and affordability of food led to the following conclusions and recommendations about Humboldt County's food system strengths and needs:

STRENGTHS
- Food production, farming and direct marketing are robust.
- A small shift in local consumption can make a big difference in farm incomes and local economic growth.
- The county boasts strong food assistance and food pantry services.
- Interest in expanded local food distribution and processing is growing.
- Nearly 50% of Humboldt County schools have gardens.

NEEDS
- More food stores, and improved transportation to them, are top priorities.
- Fresh healthy foods are not consistently available in geographically isolated communities, and affordable healthy foods are needed all over.
- Women and children are at greatest risk of poverty and food insecurity
- Food is a significant proportion of our waste stream and needs to be addressed.
- Purchasing policies make it hard for farmers to sell to institutions.
- Agricultural leaders need more support and research.

RECOMMENDATIONS
- Target communities to increase use of federal food-assistance programs.
- Develop a locally appropriate food culture to encourage healthy eating.
- Connect the low-income community to fresh and nutritious foods.
- Work with ethnic populations to understand food customs and food system needs.
- Conduct more research into the prices and availability of foods offered at stores throughout the county.
- Apply techniques of local food processing and distribution that have been successful elsewhere.

1 Harper, Alethea, et al. 2009. Food Policy Councils: Lessons Learned. Food First.

Section 1

Introduction

Households with children were more likely to be food insecure (21%) than households with no children (11.3%).

The food system can be thought of as the five sectors that take our food from "farm to table:" 1) agricultural production, 2) processing, 3) distribution, 4) marketing and consumption, and 5) waste and recycling. The availability, cost, transport miles and quality of foods are linked to these sectors, determining the foods that end up in schools, stores and hospitals (see Figure 1).

The link between healthy foods and a healthy community is strong. According to the American Journal of Alternative Agriculture, "Not only does an adequate, varied diet contribute to individual health, but the way food is grown, distributed and eaten also profoundly affects the environmental, social, spiritual and economic well-being of the community." [1]

How well a food system is serving the community is summed up by the term "food access," representing the availability as well as the affordability of food in a community. Those who consistently have enough food to lead an active, healthy life have food security.

Both locally and nationally, poverty is the chief cause of food insecurity and points to where the need for improved food access is the greatest. Food insecurity is also strongly linked to family structure. Households with children are more likely to be food insecure, with the greatest need being seen in households with children under 18 and headed by a single mother.

It's estimated a shocking 57% of single moms with children below 5 years of age are living in poverty.

Agricultural Production

Local food production includes a wide array of fruits, vegetables, meat, poultry, both cow and goat dairy and a small amount of processed products. While the bulk of food production is conducted on large- and small-scale farms, the county also has community and school gardens and a growing number of backyard gardens and orchards.

In 2008, Humboldt County recorded a total of $81.8 million for food-related* agricultural production.[2] Top sales were of dairy, livestock and field crops. In 2007, there were 852 farms, with 155 of them selling directly to consumers.[3]

** This amount excludes timber and nursery stock.*

An increasing number of producers are converting acreage into organic production.[4] The county hosts 20 community gardens [5] and a phone survey found that 42 of our 88 kindergarten-through-12th grade schools have school gardens.[6]

Spending food-related dollars locally doubles the number of dollars circulating in the community.

Processing

There are many locally grown, processed and distributed food products in Humboldt County that add a unique character to the local food system. Unfortunately, most large-scale processors import the bulk of their raw ingredients from out of the area. Increased use of local foods would create market opportunities for local farmers.

Distribution

An inadequate distribution system remains one of the largest obstacles for the development of our local food infrastructure. In particular our community is lacking refrigerated drop-off sites.[7] There are only a few organizations and businesses that distribute food within the county and carry it out of the region to other retailers.

Marketing and Consumption

Studies have found that spending food-related dollars locally doubles the number of dollars circulating in the community.[8] Shifting consumer purchases by 1% to locally grown products increased local Maine farmers' income by 5%, according to one study.[9] The "Buy Fresh Buy Local" and "Made in Humboldt" campaigns are new branding efforts to encourage support for local farmers, local producers and the businesses that offer locally-sourced foods.[10,11]

Waste and Recycling

Learning specifics about Humboldt County's food system gives us the ability to influence impacts on the environment. Worldwide, it is estimated that current agriculture and food system practices are responsible for at least a quarter of global greenhouse gas emissions.[12] We can make changes locally that minimize the negative impacts on the environment, improve individual health and strengthen our local economy by strengthening our local food system.

How well is the food system providing food access?

42 of the 88 kindergarten-through-12th grade schools in Humboldt County have school gardens.

Humboldt County has a population of approximately 130,000 and the majority of the population accesses local foods through direct farmer-to-consumer markets: farmers' markets, on-site farm stands and community supported agriculture (CSA) shares. At the time of this report there were 11 farmers' markets, 9 on-site farm stands and 8 CSA's (see Appendix 14 & 15). Several of our grocery stores also feature produce, milk and meats from local farms and ranches.

Yet for a significant portion of our population, fresh and local foods are out of reach. In 2008, 12% of the families in our county lived below the poverty line, which was above the California average of 9.6%.[13] As seen in regard to food insecurity rates, household family structure also has a strong influence on poverty rates. Around 17% of families with children under the age of 18 are likely to live in poverty, and it's estimated a shocking 57% of single moms with children below 5 years of age are living in poverty.[14]

In 2007, CCRP interviewed food system stakeholders (farmers, grocers, food pantry staff, etc.) in Humboldt, Del Norte, and Trinity County regarding food access.[15] Financial reasons were mentioned most frequently as the obstacle to obtaining fresh and healthy foods. One comment that was typical of many others heard was, "The store that we do have is expensive and the selection is limited, and a lot of people can't afford to buy fresh vegetables." Another telling statement was, "I do food stamp applications 5 to 10 times a week, and 50% or more of the families check 'yes' for the question, 'Will you run out of food in three days or less?' and that's after they already visited the food bank." In terms of solutions, or changes to make in the community, some form of education was often cited.

In 2006, the Rural Health Information Survey conducted by CCRP asked the question, "In the last 12 months were you or people living in your household ever hungry because you couldn't afford enough food?" In some Humboldt County towns as many as 25% of respondents said "yes."[16]

"The store that we do have is expensive and the selection is limited, and a lot of people can't afford to buy fresh vegetables."

There are multiple food assistance programs helping to feed the food insecure members of our community. Currently 11,000 – 12,000 people a month are relying on the county's food bank, a jump from former years.[17] Federal food assistance programs bring thousands of dollars into our economy every year and account for a large portion of the services provided. As of February 2010, there were over 12,000 individuals in the county receiving Supplemental Nutrition Assistance Program (SNAP) benefits, almost 50% of whom were children under the age of 18.[18] The Food Stamp Policy Task Force encourages program participation and also the use of SNAP at local farmers' markets.[19]

This not only enables individuals to purchase fresh and healthy produce, but also to buy plant starts for growing their own gardens. During the 2009 market season 437 customers utilized SNAP at the Saturday farmers' markets of the North Coast Growers Association, spending a total of $8,631.[20]

The Women, Infant and Children (WIC) program targets low-income pregnant and post-partum women and children up to age five. In Humboldt County there are over 3,000 WIC participants.[21,22] There is greater demand than supply for the Farmers' Market Nutrition Program booklets WIC offers, providing $20 per person worth of coupons once a year for use at farmers' markets.

There are other important Federal food assistance programs that help feed thousands of individuals in our county, but aside from three schools purchasing local foods that are incorporated into their meal plan, we do not know of any of these programs linking participants to local fresh and healthy foods.

What are food system strengths and weaknesses?

At the first Food Policy Council Task Force meeting in March 2010, attendees were asked to participate in a project mapping Humboldt County's food system strengths and needs. The top seven categories that emerged were Grocery Store, Farm, Livestock/Poultry, Community Gardens, Farmer's Market, Food Banks/ Pantries and Community Centers and Shelter. Main

In smaller communities, a need for more fresh produce, quality food and overall access to groceries was identified.

food system strengths identified fell in the categories of Grocery Store, Farm, and Food Bank/Pantry. The theme of Grocery Store also emerged as the most mentioned food system need, followed by Transportation. In smaller communities, a need for more fresh produce, quality food and overall access to groceries was identified.

In conclusion, this Community Food Assessment covers a wide range of data and hopefully presents the reader with a holistic view of our food system. In addition to providing further details regarding everything mentioned above, the report further reviews several national program and policy models for us to learn from and provides more extensive explanation of conclusions and recommendations.

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1 Feenstra, Gail. 1997. "Local food systems and sustainable communities." American Journal of Alternative Agriculture 12 (1): 28-34.
2 Humboldt County Department of Agriculture. Commissioners Report 2008. Pg 1-5. Retrieved May 23, 2010. http://co.humboldt.ca.us/ag/pdf/2008cropreport.pdf
3 United States Department of Agriculture. Agriculture Census of 2007:Humboldt County Profile. Retrieved May 19, 2010 (http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/
California/cp06023.pdf).
4 Humboldt County Dept of Agriculture 2008.
5 The North Coast Community Garden Collaborative. Garden Data, 2010. www.reachouthumboldt.org/north-coast-community-garden-collaborative
6 Ollar, Alexis. Phone conversations with 88 K-12 schools in Humboldt County. Created June 9, 2010. http://www.humboldt.k12.ca.us/schdist/index.php
7 Patrick, Melanie. 2010. Presentation "Humboldt County Food Distribution" to the Food Security Forum, February 27, 2010. Community Alliance with Family Farmers.
8 Sonntag, Viki. 2008. "Local Food: The Economics." World Watch July/August 2009. Retrieved February 2010 (www.worldwatch.org)
9 Gandee, Jesse. November 2002. Economic Impact of Maine Food System and Farm Vitality Policy Implications. A Report to the Joint Standing Committee on Agriculture, Conservation and Forestry, Second Regular Session of the 120th Maine Legislature.
10 Community Alliance with Family Farmers. Buy Fresh Buy Local Food Guide. 2008. Retrieved June11, 2010. http://guide.buylocalca.org/PDFs/CAFF_humbolt_08.pdf
11 Humboldt County Economic and Community Development. Retreived June 2010 (http://www.humboldtmade.com/).
12 Ho, Mae-Wan. 2008. "Organic Agriculture and Localized Food & Energy Systems for Mitigating Climate Change." Lecture at East and Southeast Asian Conference-Workshop on Sustainable Agriculture, Food Security and Climate Change, Davao City, Philippines, 12-14 October 2008. Posted online by Institute of Science in Society. Retreived July 2010 (http://www.i-sis.org.uk/OAMCC.php).
13 US Census Bureau, 2006 - 2008 American Community Survey 3-Year Estimates. California: Selected Economic Findings.
14 US Census Bureau, 2006 - 2008 American Community Survey 3-Year Estimates. Humboldt County: Selected Economic Findings.
15 S. L. Steinberg, Danielle Stubblefield and Dimitra Zalarvis-Chase. 2009. Food Access and Security in Remote Rural Communities. Paper presented at the annual Rural Sociological Society Meeting. Madison, WI. July 30-August 3, 2009.
16 Van Arsdale, Jessica et al. 2008. Rural Poverty and its Health Impacts: A look at Poverty in the Redwood Coast Region. Humboldt State University: California Center for Rural Policy.
17 Food for People, 'Food Notes' Newsletter, Fall 2009. Retrieved January 2010 (http://www.foodforpeople.org/Newsletters/Food%20Notes%20Fall%202009.pdf).
18 Humboldt County Department of Health and Human Services. 2009. Integrated Progress and Trends Report. Eureka CA. (Also available at http://co.humboldt.ca.us/HHS/Administration/)
19 Food Stamp Task Force. 2010. "Food Stamp Participation Rates Soar". Food Stamp Task Force News, May 2010. Pp 3.
20 Bramble, Portia. North Coast Growers Association EBT Use at the Saturday Market Arcata. 2010.
21 Aldridge, Allison. United Indian Health Services, Nutrition Services. Personal communication June 2010.
22 Howe, Barbara. Humboldt County Department of Public Health and Social Services, Public Health Branch Deputy Director. Personal communication May 2010.

Section 2

Project and Organization Background

This Community Food Assessment is part of a larger project, by the California Center for Rural Policy (CCRP) and funded by the California Endowment, entitled "Addressing Food Insecurity with Dignity." The goal of this project, aside from doing a Community Food Assessment is to research innovative rural projects addressing food insecurity and to facilitate the creation of a Food Policy Council.

The California Center for Rural Policy is a non-profit research organization at Humboldt State University. Its mission is to conduct research that informs policy, builds community, and promotes the health and well-being of rural people and environments. CCRP accomplishes this by using innovative research methods tailored to the study of rural people, environments, and their interactions.

Michaela Hasler and Omar Martinez, Maggie May Farm, Arcata Farmer's Market.
Alexis Ollar, 2010.

Research Team

Lead researcher on this project was Danielle Stubblefield, Community Food Systems Analyst at the CCRP. Danielle led the design and carried out the day-to-day implementation of the Community Food Assessment. Dr. Sheila Lakshmi Steinberg, Director of Community Research at CCRP, assisted with the project's research design, including public participation GIS, analysis, assessment of secondary data and conceptual framework development. Project supervision and policy input was provided by Connie Stewart, Executive Director of the California Center for Rural Policy. CCRP Graduate Research Assistants Alexis Ollar and Amanda Ybarra contributed greatly to the final report and authored various parts. The Institute for Spatial Analysis, particularly Student Assistant Brian Anspach, created the maps under the direction of Dr. Steven Steinberg, GISP, Director of the Institute for Spatial Analysis.

Purpose

A Community Food Assessment is proven to be an effective way to inform priorities and actions taken by groups and individuals working on food systems planning[1]. The purpose of this Community Food Assessment is to provide an overview of Humboldt County's current food system and an examination of how well that system is serving the community. Humboldt County has many organizations working on food issues ranging from food assistance services to advocating for local farmers. There is a growing interest in the county in taking

stock of agricultural resources, local food distribution systems and making sure fresh and healthy foods are more available to low-income consumers. To build a healthy and equitable food system it is equally important to know the needs and obstacles facing farmers as it is to know the ones facing our neighbors who rely on food assistance.

A food system has a big impact on the environment, health and economy. Studying a community food system can inform changes that minimize the negative impacts on the environment, improve individual health and strengthen the local economy.

This report is intended to be a living document that will be updated regularly. 2010 census data will reveal many new insights and updated data on important issues such as poverty and food insecurity. In addition, comments and feedback from the community and organizations using this document will help improve it. Time and funding permitting, CCRP looks forward to researching several of the topics contained herein more deeply over the coming years. Compiling baseline profiles now, at the outset, also serves as a tool in evaluation later, so that measurements of progress and improvements can be made.

This study can potentially serve as a model for other rural regions. In this assessment, CCRP has identified indicators and considered questions pertaining to the food system from seed to table. CCRP also used public participation GIS to suggest targeted action to 1) build on local strengths, 2) better meet the needs of the local population related to food, and 3) identify priority areas and policies for the region.

1 Harper, Alethea, et al. 2009. Food Policy Councils: Lessons Learned. Food First.

Section 3

Topic Background

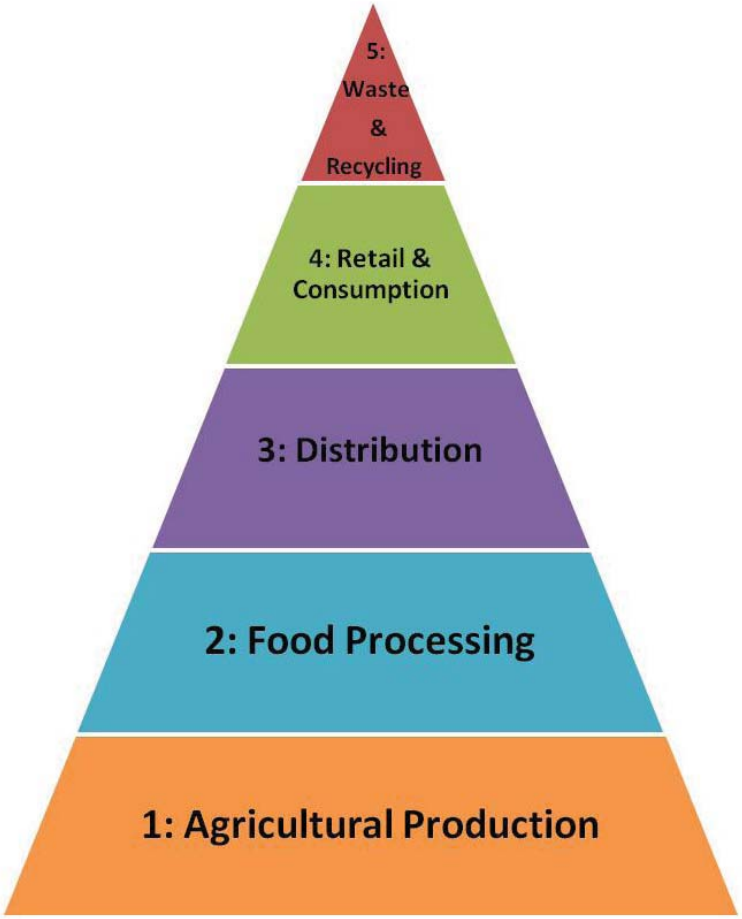
Few things in life are more important than food and the link between healthy foods and a healthy community is strong. In the past decade there has been an increasing focus on the role that our overarching food system plays in the relationship between foods and communities. "Not only does an adequate, varied diet contribute to individual health, but the way food is grown, distributed and eaten also profoundly affects the environmental, social, spiritual and economic well-being of the community."[1]

Food System

The food system can be thought of as "farm to table" – encompassing all the activities that take place from farm production to consumption: 1) agricultural production, 2) processing, 3) distribution, 4) marketing and consumption and 5) waste and recycling (see Figure 1, "5 Sectors of the Food System"). The availability, cost, transport miles, and quality of our foods are all linked to these processes, which have far reaching impacts. The natural resources and human energy used in getting food to our plates are extensive.

A local food system represents the same range of activities but keeps them in closer geographic and economic relationship to each other. More face-to-face transactions are developed through direct marketing, with fewer steps along the chain from farmer to consumer or farmer to storeowner. Local foods travel fewer food miles, compared to the average 1,500 miles[2] that is typical of grocery store produce in the US. Local communities can be strengthened from increased relationships and business networking, while local businesses reap a larger portion of consumers' food dollars when more sectors of the food system are kept within the community.

Figure 1: Five Sectors of the Food System



Created by Stubblefield, Danielle. 2010. Concepts from Unger, Serena and Heather Wooten. A Food Systems Assessment for Oakland, CA: Toward A Sustainable Food Plan. Oakland Mayor's Office of Sustainability and UC Berkeley. May 24, 2006. Retrieved February 2010 (http://oaklandfoodsystem.pbworks.com).

Food Access

The issue of how well a food system is serving the community is summed up by the term food access. One good way it can be explained is by the "4 A's," a schemata originally laid out in "Making Fruit and Vegetables the Easy Choice" by S. Davies (1999) in a proposal to the UK Department of Health.[3]

Availability: Is healthful food physically available in stores, through pantries, or other food assistance programs?

Affordability: Is healthy food offered at a price that is fitting with the surrounding community?

Awareness: Is food availability impeded by an individual's lack of knowledge or understanding regarding such things as preparing and cooking food, shopping smart on a budget, or choosing nutritional foods?

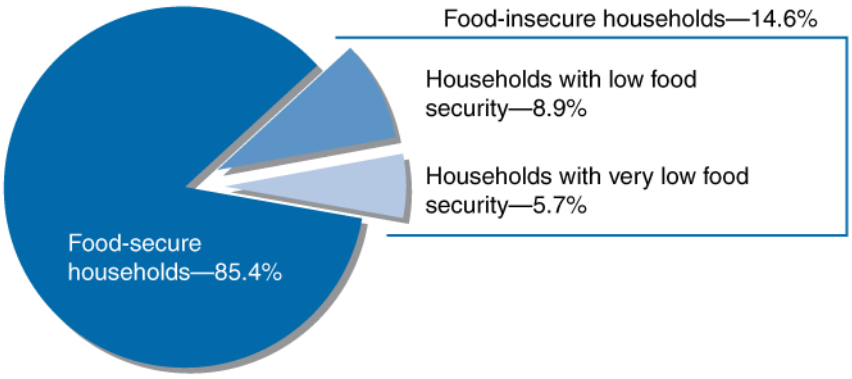
Acceptability: Food choices are strongly tied to culture, social norms, and religion. While some dietary choices are flexible, others can be extremely rigid. Are healthy foods available that are appropriate for the food culture of area residents?

As defined by the Seattle King County Acting Food Policy Council in Washington state, "Equitable food access means that all people, regardless of ethnicity, geography or economic status, can produce, procure and/or eat good food."[4]

Food Insecurity

The way food access has been examined in the United States is through a measure of household food security. Food security is access by all people at all times to enough food for an active, healthy life.[5] Food insecurity has many impacts on a person's life, and food insecure individuals report poorer quality of health than adults who are food secure.[6] The most recent nation-wide food security data are from 2008, published in late 2009. The USDA Economic Research Service conducting the annual survey found that 85.4% of US households were food secure. There are 17 million US households (14.6%), that are food insecure (see Figure 2, "US Households by Food Security Status"). The rate of food insecurity increased from 2007 when 13 million households were food insecure, and the 2008 findings are the most bleak since the national survey was instituted in 1995.[7]

Figure 2: US Households by Food Security Status, 2008



Source: Calculated by ERS using data from the December 2008 Current Population Survey Food Security Supplement.

There are many food programs that keep children, especially younger ones, from disrupted eating patterns. Despite this in 2008, there were still 506,000 US households (up from 323,000 household in 2007) where children and adults experienced very low food security.[8]

As could be expected, rates of food insecurity were highest in households with incomes near or below poverty.[9] Other characteristics that showed a higher prevalence of food insecurity were households headed by a single parent (particularly single women) and Black and Latino households. Food insecurity was more common in large cities and rural areas than in suburban, and rates were greatest in the Southern states and least in the Northeast.[10]

Defining Food Security

Only in 1990 were the US Departments of Agriculture and Health and Human Services directed to define, measure and monitor food insecurity in the United States. Following this requirement, definitions provided by the Life Sciences Research Office were adopted. They are:[11]

Food security – Access by all people at all times to enough food for an active, healthy life. Food security includes at a minimum

- The ready availability of nutritionally adequate and safe foods.
- An assured ability to acquire acceptable foods in socially acceptable ways.

Food insecurity – Limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.

Hunger – The uneasy or painful sensation caused by a lack of food. The recurrent and involuntary lack of access to food.

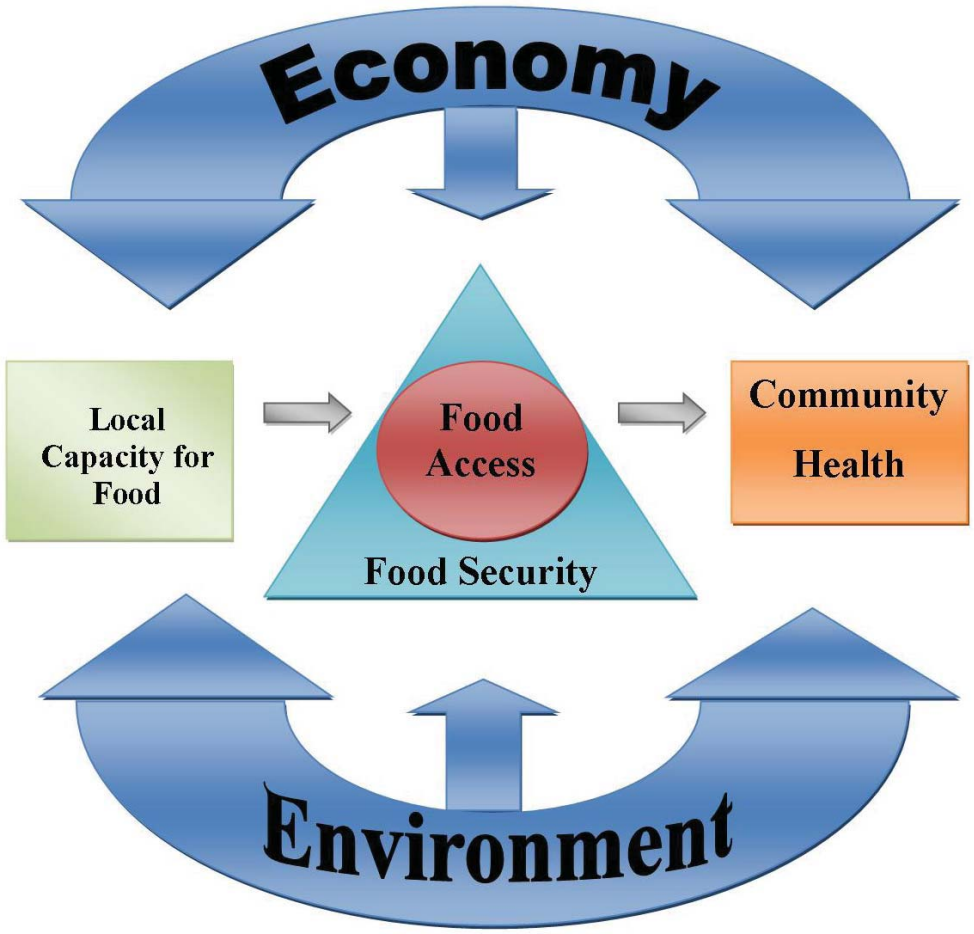
In 2006 the terms were further categorized to more clearly define the severity of food insecurity, as shown below. Specifically, households are put into the "very low food security" category when food intake of one or more members is disrupted for six or more instances within the year. Households are further classified as "very low food security among children" if there are five or more instances reported among the children.[12]

USDA's Revised Labels Describe Ranges of Food Security

General categories (old and new labels are the same)	Detailed categories		
	Old label	New label	Description of conditions in the household
Food security	Food security	High food security	No reported indications of food-access problems or limitations
		Marginal food security	One or two reported indications—typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake
Food insecurity	Food insecurity without hunger	Low food security	Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake
	Food insecurity with hunger	Very low food security	Reports of multiple indications of disrupted eating patterns and reduced food intake

Source: US Department of Agriculture, Economic Research Service. "Food Security in the United States: Definitions of Hunger and Food Security". Retrieved June 5, 2010 (http://www.ers.usda.gov/Briefing/FoodSecurity/labels.htm).

Figure 3: Rural Food System Conceptual Framework



Source: S. Steinberg, D. Stubblefield and A. Ybarra 2010.

Rural Food System Conceptual Framework

The conceptual model (Figure 3) presents the key concepts that are a part of a macro-view of rural food systems. The purpose of this model is to communicate an effective framework that other rural communities can use to identify, highlight and employ to improve food access and security and ultimately community health. CCRP developed this model over the course of this project and found it especially helpful for visualizing the big picture of rural food systems.

In the far left of the model, **Local Capacity for Food is** written inside a square. This concept can be defined as the ability of the local area to produce, import and process food. In Humboldt County, there are certain local products that are produced on a fairly large scale, including many dairy products. There are also small community and individual household gardens that serve to provide food at a smaller scale. In the model, the Local Capacity for Food directly impacts Food Security and as a result, Food Access. For example, if you have a place where there is limited local capacity for food, such as occurs in a more urban environment, the food security of the region will be negatively impacted.

At the heart, or center of the model, **Food Access** is in a circle surrounded by a triangle that says **Food Security**. For the purpose of this project CCRP defines food access as people's ability to access healthy food, including not only the availability of healthy food, but its affordability and cultural appropriateness to the individual. The term food security is defined as the access by all people at all times to enough food for an active and healthy lifestyle.[13] Food security and food access are two intertwined concepts. This model assumes that food access is a major component of food security, which is why the circle (Food Access) is set inside the triangle (Food

Security) in the model. Food security is a macro-level concept, and food access is an important piece of that larger concept. The definition of food security implies that when food security is strong, so is food access.

Community Health is defined as the general health of the region or area. CCRP takes a broad view of this concept and defines it as consisting of the physical, social, and economic well-being of the community. Ultimately, many factors affect community health. This model indicates that the Economy, the Environment and Food Security all impact community health. If a region has a solid economy and fertile environment that is conducive to diverse agricultural production, chances are the food security of the region will also be good. Community health would also be expected to be good given the influence of the positive economy, environment and food security and food access.

According to this model, two overarching contextual factors influence everything in the model: the Economy and the Environment. The **Economy** can be described as the general flow of commerce in an area. This consists of the ebb and flow of production and distribution of goods and services and would include things like local jobs, retail establishments, entrepreneurial opportunities and lending institutions. In the model Economy impacts Local Capacity for Food, for example a farmer's access to capital, marketing opportunities and production choices. The economy of a place influences people's general food security and their access to food. The economy influences things like an individual's purchasing power as well as the types of food available to a particular community. Overall, higher income communities are going to have a greater selection of diverse healthy and nutritious foods than poorer areas along with a greater ability to purchase such foods.

The other major contextual factor that influences the entire model is the **Environment**. The environment consists of the physical context of the place, including aspects such as: how rural or remote is the community? What types of crops grow best in this region? What is the climate like? What is the topography? What prime soils exist in the region? The type of food produced in a region will ultimately be affected by factors such as the climate, topography and soil type. The model highlights the role of place through the Environment variable.

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1 Feenstra, Gail. 1997. "Local food systems and sustainable communities." American Journal of Alternative Agriculture 12 (1): 28-34.
2 Hendrickson, John. 1996. "Energy use in the U.S. food system: A summary of existing research and analysis." Center for Integrated Agricultural Systems, UW-Madison. Retrieved June 14, 2010 (http://www.cias.wisc.edu/wp-content/uploads/2008/07/energyuse.pdf).
3 Answers.com "What is Food Access". Retrieved June 5, 2010 (http://wiki.answers.com/Q/What_is_food_access).
4 Seattle King County, Acting Food Policy Council. 2009. Strategic Planning Framework. Retrieved February, 2010 (http://king.wsu.edu/foodandfarms/AFPC/AFPC_Strategic%20Framework_051209_FINAL.pdf).
5 Nord, Mark, Margaret Andrews and Steven Carlson. 2009. Household Food Security in the United States, 2008. ERR-83, US Department of Agriculture, Economic Research Service. Pp2.
6 Stuff, Janice et al. 2004. "Household Food Insecurity is Associated with Adult Health Status." The Journal of Nutrition 134 (September): 2330 – 2335. Retrieved June 2010 (http://jn.nutrition.org/cgi/reprint/134/9/2330).
7 Nord 2009. Pp III.
8 Nord 2009. Pp IV.
9 Nord 2009. Pp IV.
10 Nord 2009. Pp2.
11 Cohen, Barbara. 2002. Community Food Security Assessment Toolkit. E-FAN-02-013. IQ Solutions, Inc., for US Department of Agriculture, Economic Research Service. Pp 3.
12 Nord 2009. Pp2.
13 Ibid.

Section 4

Methods

This project adopted a mixed-methods approach, collecting both primary and secondary data on food systems for a food assessment in Humboldt County, California. Project design was largely informed by the USDA Community Food Security Assessment Toolkit.[1] Specifically, the methods involve a review of archival materials, media sources, a compilation of secondary sociodemographic and health data, community engagement and public participation Geographic Information Systems. Using a multiple methods approach strengthens the understanding of an issue because it facilitates examining the topic across multiple data sources in diverse ways.[2] CCRP included both qualitative and quantitative data to create a broad understanding of rural food systems.

Review of Archival Materials and Media Sources

First, to better gauge the issues and topics under discussion, CCRP conducted a review of websites, pamphlets, newspapers, and periodicals locally, statewide and nationally.

Secondary, or Existing, Data

CCRP collected relevant data from the U.S. Census, local health and nutrition-related organizations and various existing reports and existing CCRP data sets, including the Rural Health Information Survey, the Rural Latino Project and Food Access & Security in Remote Rural Communities key-informant interviews.

Engagement with the Food Community

CCRP staff attended approximately 15 public meetings held by various organizations that do work in the community related to food. Examples of some of the meetings attended include: the City of Arcata Agricultural and Open Space Committee, Community Alliance with Family Farmers (CAFF) Chapter meetings, a conference hosted by CAFF and the North Coast Co-Op called the “Food Security Forum,” Plan It Green Expo focusing on local foods and self reliance, and meetings of Humboldt CAN (Communities for Activity and Nutrition). Participating in these meetings helped the team to develop a better understanding of regional food-related themes and topics of importance to the community.

Public Participation Geographic Information Systems (PPGIS)

To identify local and regional issues related to rural food systems, CCRP held a community meeting on March 11, 2010. The goal was to share information related to food systems and food access on the North Coast and to collect community ideas about current food issues and where these food issues are located. Meeting participants were selected to represent different social and geographic sectors of the county. Using Public Participation GIS (PPGIS), groups of 5-7 people engaged in discussion and knowledge sharing to answer a series of questions and indicate responses by marking locations on a map. Groups were given maps of Northern and Southern Humboldt County and asked to mark answers to a series of questions to identify food-related strengths and needs. All meeting attendees were over the age of 18. The data gathered from these maps were coded for themes and entered into a Geographic Information Systems database for analysis. Trends and patterns were highlighted using the GIS and maps were produced for sharing at subsequent meetings.

Meeting participants were selected to represent different sectors on the North Coast, including representatives such as the business and economic development community, farmers, local food advocates, people who run community gardens, people from food banks, food access and nutrition communities, and groups that provide social services for people in the area. CCRP also sought demographic representation from the local Latino and American Indian population. Participants were purposely invited from various geographical regions of Humboldt County, such as Northern Humboldt County, Inland Humboldt County and Southern Humboldt County to provide geographic representation of ideas.

Group Mapping Activity

There was a public participation group mapping exercise which took approximately 50 minutes to complete. Groups of 5-7 people were asked to mark the following on maps:

1) "In thinking about food security and our regional food system, please identify positive things that are happening, where they are happening and who or what group is doing them. What is good/positive about food in the region? Please mark and label these things where they exist on a map using BLUE markers. Please write descriptive details in the margins."

2) "In thinking about food security and our regional food system please mark on the map things that need to happen and where they need to happen. Please mark and label these things where they are needed on a map using RED markers. Please write descriptive details in the margins."

At the second group meeting held on June 17, 2010 CCRP "groundtruthed" the information gathered as a part of the mapping exercise to provide community members another opportunity to provide input and share any information they may not have been shared at the first meeting. The information generated from the June meeting is not included in this report. CCRP asked the following:

"With your input we have created a spatial distribution map of Humboldt County's top six food system strengths and needs. Are there any places on the map that we missed marking either strengths or needs? If so, please mark these locations in orange and attach a descriptive label."

Qualitative Coding of Map Data

Data collected on the maps from the March exercise was then coded according to themes that emerged from conducting an overarching assessment of all data. In total, 23 themes or micro-codes were developed. For map display purposes we also developed macro-codes consisting of combined categories or themes. Codes were developed using a Grounded Theory[3] qualitative methods approach, where one begins with the data and lets a thorough assessment of the data generate the codes.

Participants at group mapping activity, community meeting March 11, 2010.
Photo by Amanda Ybarra 2010.

Spatial Analysis Coding

Using GIS, ARC GIS Version 9.3 produced by ESRI 2010 we created point shapefiles and established a food events frequency table (Point shapefile: NAD83-UTM Zone10).

The field used for this process included numeric codes, event themes, macro code, needs and strengths, location, and map number. The codes had been previously developed and coded by another researcher prior to their spatial mapping. The cartographer created points and populated the events table according to the codes and locations marked within the 12 participatory maps. In total, 362 records were created. The events were then added to the map for displaying and querying.

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1 Cohen, Barbara. 2002. Community Food Security Assessment Toolkit. E-FAN-02-013. IQ Solutions, Inc., for US Department of Agriculture, Economic Research Service.

2. Creswell, John. 2009. Research Design: Qualitative, Quantitative and Mixed Methods Approaches.Thousand Oaks, Sage Publications.

3 Charmaz, Kathy. Constructing Grounded Theory: 2006. A Practical Guide Through Qualitative Analysis. Thousand Oaks, Sage Publications.

Section 5

The Community Assessment

Section 5.1: Existing Data

Local Agricultural Production

Humboldt County is an active agricultural area, situated in a rural region of Northern California. Agricultural production in the food system refers to the cultivation of plants and the domestication of animals. Local food production includes a wide array of fruits, vegetables, meat, poultry, both cow & goat dairy, and a small amount of processed products. While the bulk of food production is conducted on large and small scale farms, the county also has a thriving number of backyard gardens, nurseries, greenhouses and community and school gardens.

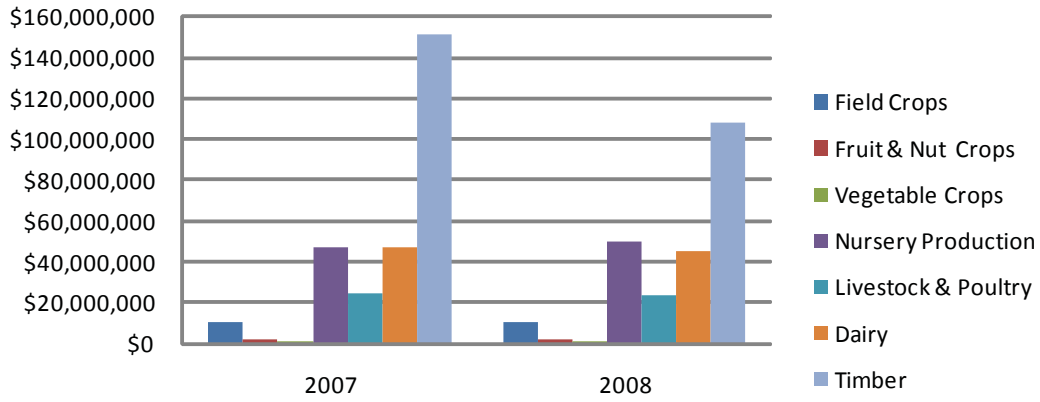
This section will examine the agricultural products produced in the region by analyzing crop sales, production points, and community and school related resources. An assessment of food production within the community helps to establish what local food production resources are and to identify gaps in the local food system. The following table identifies research questions that are key to the topic of agricultural production. As indicated, some of the questions are included in this section of the Community Food Assessment. Some did not fit into the scope of this project, while others lacked existing data. All of the questions could benefit from future research.

Research Questions Included
How many farms are in Humboldt County?
How is farmland used and what is the average farm size?
What are the top crops produced and the agriculture sales for the region?
How much farmland has been lost?
What is the average age of our farmers?
How many farmers participate in direct marketing?
How many community gardens are in the county?
How many school gardens?
Research Questions Not Covered
What are the food production gaps?
What prime farmlands are at the greatest risk of development?
What policies are in place for farmland preservation?

Agriculture Commissioner's Crops and Sales Report 2007- 2008

The Humboldt County Department of Agriculture Commissioner's Report details the crop sales, the percentage change from the past year and the sustainable measures that have been implemented for the region's agricultural products. In 2008, the county recorded a total of $239,180,710 for its total gross agricultural sales. This includes the sales of timber, nursery stock, dairy products, livestock (beef cattle & calves, sheep, lambs, etc), field crops (alfalfa, silage, range, etc), fruit and nut crops, and vegetable crops.[1] The gross agricultural production sales of each crop are represented in 2007 and 2008 fiscal year (see Figure 4).

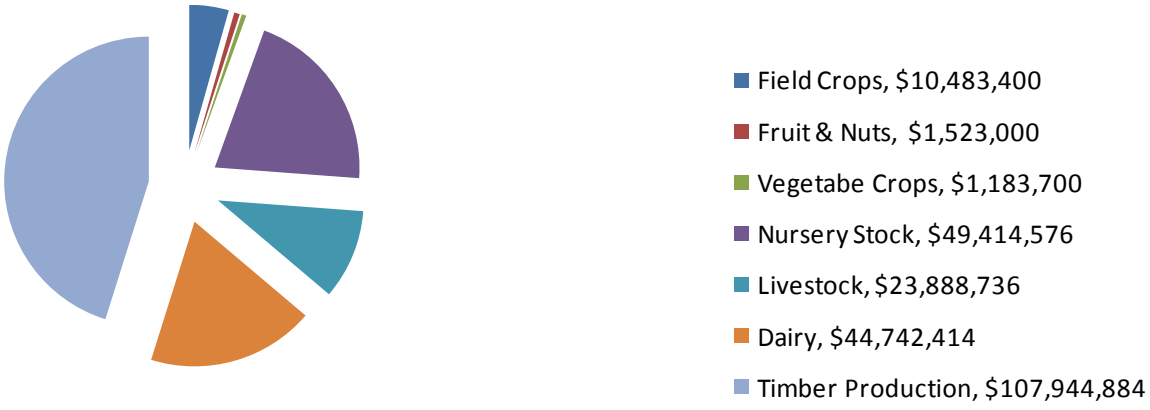
Figure 4: Humboldt County Agriculture Sales 2007-2008



Source: Humboldt County Department of Agriculture. Commissioners Report 2008. Pg 1-5. Retrieved May 23, 2010 (http://co.humboldt.ca.us/ag/pdf/2008cropreport.pdf).

In 2008, the majority of sales in the agriculture sector came from timber which is not a significant indicator for the communities' food system and local food production. If timber sales are removed from the gross earnings given above, the remaining agricultural production activities reflect more accurately food production earnings grossed at $131,235,826. The crops produced in 2008 that provided the most economic influence into the community were nursery and dairy sales. Dairy sales grossed $44,742,414 with products including cheese, milk, wool, apiary, and goat products.[2] The next highest sales for the county were livestock and poultry above $23 million.[3] Livestock includes cows, calves, bulls, steers, aquaculture, chickens, turkey, swine, and goats. Sales from vegetable crops and the combined category of fruits and nuts were both above $1 million. Vegetable sales are from corn, potatoes, pumpkins, tomatoes, squash, cabbage, beans, peppers, mushrooms, alfalfa sprouts, and many more vegetables. Fruit and nut sales include apples, berries, cherries, chestnuts, figs, peaches, walnuts, grapes, and more.

Figure 5: Humboldt County Crop Sales 2008



Source: Humboldt County Department of Agriculture. Commissioners Report 2008. Pg 1-5. Retrieved May 23, 2010 (http://co.humboldt.ca.us/ag/pdf/2008cropreport.pdf).

Sustainable Agriculture

Part of Humboldt County's Department of Agriculture mandate is to measure sustainable practices in the food system. These practices and programs promote economic viability for agriculture, and minimize impacts on natural resources. The county has a rising number of producers who are converting acreage into organic production.[4] A large portion the agriculture producers in the county who register and practice organic farming also participate in the local food movement through alternative markets. These sustainability measures are the number of producers who register as: organic registrants, certified producers, and register to participate in the farmers markets.[5] These measures to track and quantify sustainable practices provide a baseline for future comparisons. This allows the observation of trends related to organic production and direct marketing.

Table 1: Organic and Certified Producers in Humboldt County

Sustainable Ag Measure	Year	Number of Registrants	Acreage
Organic Registrants	2008	128	33,251
	2007	D	
Certified Organic Producers	2008	126	927
	2007	D	
Farmers Markets	2008	14	
	2007	12	

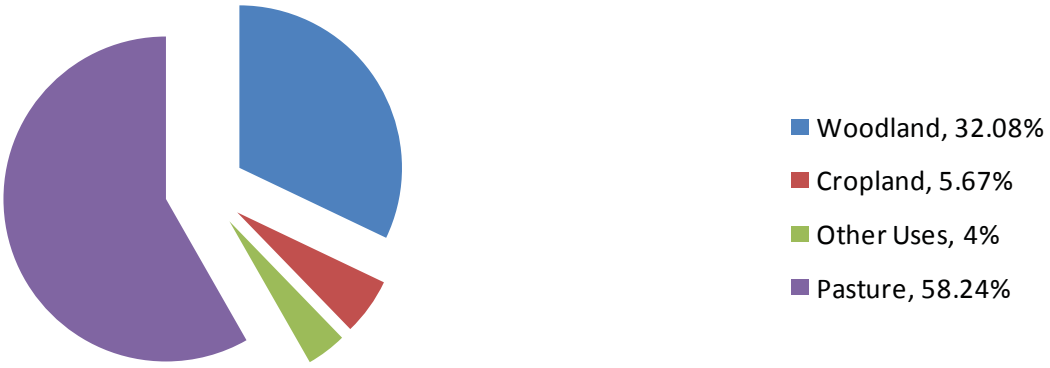
Source: Humboldt County Dept. of Agriculture. Commissioners Report 2008. Pg 1-5. Retrieved May 23, 2010 (http://co.humboldt.ca.us/ag/pdf/2008cropreport.pdf).
(D) Cannot be disclosed.

USDA Agriculture Census for Humboldt County 2007

Every five years the United States Department of Agriculture reports each state and county's agriculture sales, top production crops, land acreage in production, and other agriculture indicators for the specific county. The most recent agriculture census was 2007, and before that 2002. Between 2002 and 2007, the number of farms decreased from 993 to 852, representing a 14% decrease. In 2007, 597,477 acres of land were used for agriculture production. This is down from 2002, a 6% decrease in land acreage, largely due to the decreasing number of farms. Farmland loss due to development and other agriculture land conversions between 2002-2007 amounted to 36,454 acres, which is a 6% loss.[6]

The average size farm in 2007 was 701 acres, with a 10% increase in farm size between 2002 and 2007. As seen in Figure 6 "Farm Land Use," the bulk of the county's acreage is devoted to pasture land for livestock. Humboldt County ranks 16th in the state of California for cattle and calves produced. Other land use that is significant is woodland for timber products and crop land for fruit and vegetable production. In 2002, there were a total of 90 vegetable farms utilizing 543 acres. In 2007, these numbers dropped significantly down to 64 farms on 282 acres. In 2007, of the vegetable farms, 5 farms on 10 acres harvested their crops for processing, while 64

Figure 6: Farm Land Use



Source: United States Department of Agriculture. 2007 Census Agriculture Humboldt County, CA. Retrieved May 24, 2010 (http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/California/cp06023.pdf).

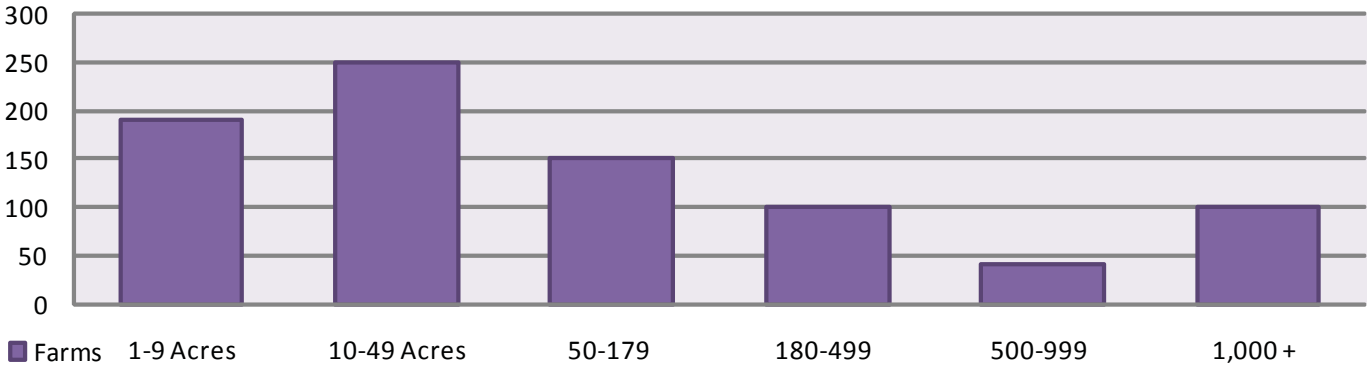
farms on 271 acres harvested for fresh market.[7]

Farm Size

In 2007, the United States Department of Agriculture Census reported 852 farms in operation in the county. The size of the farms vary in acreage from 1 acre to over 1,000 acres (see Figure 7 "Number of Farms by Size"). The majority of farms range from 10 to 49 acres, with the next most frequent size ranging from 1 to 9 acres.[8] Therefore approximately half of the county's total farms are small farms operating on less than 50 acres each. On the opposite end of the spectrum, roughly 10- 12% of the county's farms are over 1,000 acres in size.[9]

Top Crop and Livestock Products

Figure 7: Number of Farms by Size



Source: USDA 2007 Census Agriculture Humboldt County, CA. Retrieved May 24, 2010 (http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/California/cp06023.pdf).

Humboldt County produces a variety of different agriculture products for the North Coast region as well as for export. The census ranks products by the number of acreage the crops/livestock are grown on, the ranking compared to the state of California counties, and the ranking compared to the total counties in the United States. The top five crop products and livestock products reported in the 2007 Agriculture Census are listed in Table 2 .

Table 2: Top Crop and Livestock Products, Humboldt County

Crop/Livestock	Acreage	California State Rank out of 58 Counties	U.S. Rank out of 3,141 Counties
Crops			
Forage	10,566	24	1,669
Corn for Silage	979	14	1,010
Floriculture Crops	(D)	3	(D)
Vegetables	282	34	906
Grapes	231	38	90
Livestock			
Cattle and Calves	58,900	16	442
Sheep and lambs	3,370	28	314
Goats	2,472	17	205
Layers	1,800	33	1,168
Horses and Ponies	1,489	39	871

Source: USDA 2007 Census Agriculture Humboldt County, CA. Retrieved May 24, 2010 (http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/California/cp06023.pdf).
(D) Cannot be disclosed.

Direct Farm Sales

Regarding direct sales of fresh and healthy foods in the local food system, the 2007 Agricultural Census provides the following data:

Table 3: Humboldt County Direct Farm Sales

Number of farms in the county that sell directly to final consumers:	155
Percent of farms in the county that sell directly to final consumers:	18.2%
Percent of the total value of farm sales in the county sold directly to final consumers:	.8%
Value of direct farm sales in the county:	$1,192,000
Value of direct farm sales in the county divided by the residents* of the county:	$9.27

Source: USDA Agricultural Census of 2007, Humboldt County. Direct marketing information from the Ag Census presented in the "Your Food Environment Atlas" by USDA Economic Research Service (http://ers.usda.gov/FoodAtlas/).
* Number of county residents from US Census Bureau, 2007 estimates.

North Coast Prosperity Report

North Coast Prosperity is an economic development network, working to strengthen the North Coast economy while preserving and enhancing the quality of life in Humboldt County.[10] Prosperity publishes State of the Industry reports for the north coast communities, and highlighted 'Specialty Agriculture' and the 'Dairy' industry in 2007. The Specialty Agriculture Cluster is the third largest target of opportunity in the North Coast region employing 5,547 residents.[11] Some of the products included in this cluster are goat cheeses, organic grass-fed beef, organic eggs and milk products.

Over the years of 1990-2004, specialty agriculture has added jobs at a rapidly growing rate of 33%, compared to the average job growth rate in the region of 8% during this time period. Within the specialty agriculture cluster the number of firms have increased by 11% between 1990 and 2003, while the average growth rate of new firms in the region was only 1.5% .[12] The Specialty Agriculture report documented some sectors of agriculture thriving in the county such as organic grass-fed beef, nursery flowers, farmers markets, and ranchland preservation. In 2007, there were 65 beef cattle ranches in the county, and a growing demand for organic grass-fed beef by consumers. The report mentioned how the livestock industry was challenged due to distribution limitations by trucks in Humboldt County along coastal roads and Highway 101.[13]

The Specialty Agriculture report highlighted the county's local food movement, farmers markets, floral products, and horticulture industry. The North Coast Growers Association (NCGA) currently has five farmers' markets that work with over one hundred farmers. Approximately two-thirds of the NCGA growers cultivate vegetable produce on 10 acres or less.

The Prosperity Dairy report highlighted successful cheese and dairy businesses, coming from family owned pastures for more than a century. The county is known for specialty cheeses like Humboldt Fog by Cypress Grove. Nationally specialty cheese consumption has grown five times faster than total cheese consumption in the past decade. The county hosts 90 dairies, with dairy and beef pastures occupying 82% of the farmland. Organic milk production is growing more than 20% per year.[14] There are four processors buying organic cow and goat milk in order to make organic products: Humboldt Creamery Association, Organic Valley, Horizon Organics and Loleta Cheese.

In addition, Prosperity documented success in preserving ranchland in the face of rural development, due to the Williamson Act. The Williamson Act is also known as the California Land Conservation Act of 1965, which enables local governments and private landowners to work together to restrict development on lands for agriculture or open space. By enrolling in the program property owners receive tax incentives and assessments at a much lower cost. In 2007, Humboldt County had 273,000 acres in the Williamson Act program.[15]

Community Gardens

A community garden is a single piece of land that is gardened by a collective group of people and community residents. There are 20 community gardens throughout the county.[16] The areas with community gardens are located in Garberville, Arcata, Manila, Eureka, McKinleyville, Hoopa, Rio Dell, Orick, Fortuna, and Blue Lake. The majority of the community gardens are in the north, with a few inland and in the Southern part of the county. The largest community garden is in Southern Humboldt located in Garberville at the Community Farm and Park. The Community Farm in Garberville is 10 acres and houses gardening allotments for local residents, organizations, and school groups. A newly formed group, the North Coast Community Garden Collaborative came together in the spring of 2009 to coordinate local community garden efforts and to be a resource for a range of topics related to community based gardening.[17] The collaborative helps with logistics of running a garden, finding available land, organizing volunteer work days, and advocacy of gardening through supportive zoning codes and other city and county policies. See Appendix 2: "Community Garden" for a complete table of Humboldt County's community gardens.

School Gardens

School gardens are incorporated into a variety of schools and educational institutions throughout the country, teaching students hands on skills about food, nutrition, and agriculture. There are 29 school districts with 88 kindergarten- through- 12th grade schools.[18] Out of those schools, 42 of the institutions have school gardens.[19] The gardens range in size from small (measuring less than 300 square feet) to large (equaling half an acre).[20] The majority of the schools have small fruit, vegetable. and raised flower beds around the school grounds. Schools with larger gardens have greenhouses, picnic tables, and garden trails for students to use. The school gardens are incorporated into the classroom, science curriculum and nutrition education programs for students and teachers. The majority of schools use the gardens as added curriculum for classes in spring and fall. Schools also utilize the gardens for afterschool programs and gardening clubs for students. In the spring students till, plant seeds, weed, water and construct new beds. In the fall the students weed and prepare to harvest fruits and vegetables. A challenge mentioned by some schools with gardens is the maintenance required over the summer, if summer classes are not provided. In most cases funding for the school gardens come from extra school funds, community donations and grants sought out by teachers and parents. The Arcata Elementary School District has the most school gardens; the next district with a significant amount of school gardens is Klamath-Trinity Unified School District, a large district serving the towns of Willow Creek, Hoopa, Weitchpec, and Orleans.[21] See Appendix 3: "School Garden" for a table of the school gardens.

Shakefork Community Farm CSA Pickup

Further Research for Agriculture Production

Within this Community Food Assessment CCRP has tried to inventory the food production resources and synthesize what is known about current production practices. However, there are food production gaps, and this assessment does not currently have data on all facets of agricultural production within the food system.

If one of Humboldt County's goals is to be more self-reliant and eat more locally grown food, more production of grains and legumes is needed. Farmer John LaBoyteaux has been researching grain varieties historically used

in the county and looking for ways to incorporate the cultivation of grains by local farmers further. Farmers Melanie Olstad & Kevin Cunningham of Shakefork Community Farm in Carlotta have begun a grain CSA and are a part of a growing community of farmers working on this topic.[22]

Another sector that needs more research related to farm preservation would be an analysis of threats to prime agriculture lands, including sprawl, development and climate change (i.e. salt water intrusion, flood plains, etc.). One threat to long-term agricultural production relates to the average age of farm owners. The USDA 2007 Agriculture Census reports that the average age of county farmers is 58 years old.[23] An analysis of farmer demographics, barriers to new farmer entry, a survey of policies, and other means to support new and young farmers would benefit our Food Policy Council efforts. Currently University of California Cooperative Extension Farm Advisor Deborah Giraud is working on some of these issues.

Food Production Concept Framework

In researching agriculture production, the following concept framework helped to generate data and guiding questions (Figure 8 "Food Production Concept Flowchart"). The concept framework addressing food production can be used to generate questions and identify gaps within the specific food system sector. Each step of the chart can be used to ask and answer questions. These steps help to identify resource needs and action steps for the specific topic being investigated. Groups can follow the steps to develop research questions, outcomes and policy development.

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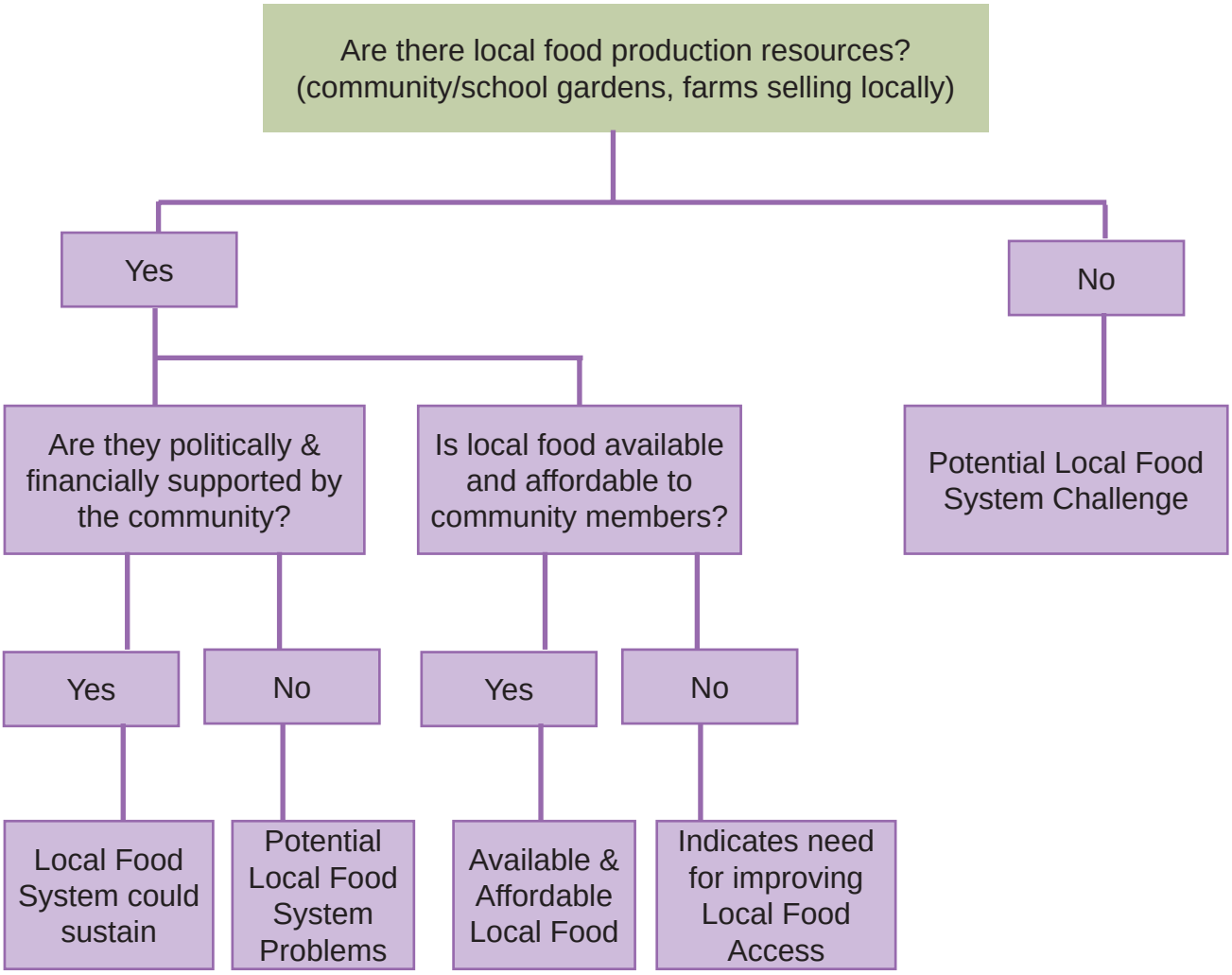
1 Humboldt County Department of Agriculture. Commissioners Report 2008. Pg 1-5. Retrieved May 23, 2010 (http://co.humboldt.ca.us/ag/pdf/2008cropreport.pdf).
2 Ibid.
3 Ibid.
4 Ibid.
5 Ibid.
6 United States Department of Agriculture. Agriculture Census of 2007:Humboldt County Profile. 2007. Retrieved May 19, 2010 (http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/California/cp06023.pdf).
7 Ibid.
8 Ibid.
9 Ibid.
10 North Coast Prosperity. The Mission of Prosperity. 2010. Retrieved May 28, 2010 (http://northcoastprosperity.com/).
11 North Coast Prosperity. Targets of Opportunity. 2007. Pg. 31. Retrieved June 10, 2010 (http://www.humboldtwib.com/Targets%2520FINAL%2520report%25202.16.07.pdf).
12 Ibid.
13 Prosperity North Coast. State of the Industry Report 2007: Specialty Agriculture. Pages 1-4. Retrieved May 19, 2010 (http://www.northcoastprosperity.com/files/webfm/contents/SpecAgSIR.pdf).
14 Prosperity North Coast. State of the Industry Report 2007: Dairy. 2007. Retrieved May 19, 2010 (http://www.northcoastprosperity.com/files/webfm/contents/DairySIR.pdf).
15 Prosperity North Coast 2007: Specialty Agriculture.
16 The North Coast Community Garden Collaborative. Garden Data, 2010 (www.reachouthumboldt.org/north-coast-community-garden-collaborative).
17 Ibid.
18 Humboldt County Office of Education. Humboldt County Schools and Districts. Retrieved June 9, 2010 (http://www.humboldt.k12.ca.us/schdist/index.php).
19 Ollar, Alexis. Phone conversations with 88 K-12 schools in Humboldt County. June 2010.
20 Ibid.
21 Ibid
22 Cunningham, Kevin. Personal communication. May, 2010.
23 United States Department of Agriculture. Agriculture Census of 2007:Humboldt County Profile. 2007. Retrieved May 19, 2010 (http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/California/cp06023.pdf).

Figure 8: Food Production Concept Chart



Source: Cohen, Barbara. 2002. Community Food Security Assessment Toolkit. E-FAN-02-013. IQ Solutions, Inc., for US Department of Agriculture, Economic Research Service. Pp 57. Modified by Ollar & Stubblefield 2010

Section 5.2

Processing, Distribution and Marketing

As consumer interest in buying local expands, stores, restaurants and institutions are looking to increase their purchases of local products. This requires scaling up local foods infrastructure to moving, aggregating, processing, and distributing through wholesale transactions.[1] Efficient and appropriately scaled local distribution is a challenge to the local food systems developing around the country, including Humboldt County.

Distribution is the network and process of getting food from the producing farm or factory to where it will be purchased or consumed. The typical way food gets to a retail outlet (such as a grocery store) or a food service provider (such as a restaurant), is through the use of a wholesaler. There are a limited number of wholesalers that journey to the North Coast to deliver food to a select number of retailers.

In addition to the conventional wholesale food distribution model, there are several alternative distribution pathways to get food directly from the farmer to the household, private business or institution. Direct marketing pathways enable consumers to get fresher food and develop relationships with the farmer, while also creating shorter distribution chains that are less resource-intensive and polluting.

This section reviews data on food processors and wholesalers, as well as options and marketing strategies for local food distribution. The following table identifies research questions that are key to the topic of processing, distribution and marketing. As indicated, some of the questions are included in this section of the Community Food Assessment. Some did not fit into the scope of this project, while others lacked existing data. All of the questions could benefit from future research.

Research Questions Included
Does the county have facilities for value-added processing?
How are locally produced foods being distributed?
What are the challenges to food distribution for the area?
How are locally produced foods being marketed?
Are local foods used by institutional food service locations, such as schools and prisons?
Research Questions Not Covered
How many commercial processors serve the area?
How many food distributors serve Humboldt County?
Are there food storage warehouses in the county?
Are locally produced foods sold through food retailers and restaurants?
What is the percentage of local food consumed in the county?

Locally Produced and Processed Products

Food processing is the manual or mechanized techniques used to renovate and transform raw food ingredients into food products for consumption. There are many locally grown processed and distributed food products in Humboldt County that add a unique character to the local food system. See Appendix 4: "Local Food Products Processed & Distributed in Humboldt County." These products highlight the amazing diversity of the food culture and dedication to localism. Of the processors operating, most import their raw ingredients from out of the area. The local food system would be strengthened if there were ways for local farmers and food processors to collaborate. Increased connections between food producers and processors would create further market opportunities for local farmers and increase capital.

Value Added Processing

Due to risk of contamination and illness, food processing for commercial sales is carefully regulated. Food processing at the small-scale level allows farmers and small business entrepreneurs to make a value-added product. A prime example of value being added to a product is jam. The fruit grower can reap more in sales from jam products than by selling the fruit alone. The jam's revenue outweighs the cost of processing it (i.e. kitchen labor, sugar, jars). Processing not only adds value to a raw agricultural product, but also extends its shelf life. Jams made in the summer can last throughout the winter, providing farmers with off-season earnings or home gardeners with year-long access to their harvest.

How Local Processing Works

With the interest in local foods growing, demand has gone up for certified kitchen facilities. Steve Gustafson, Consumer Protection Program Manager for the County's Environmental Health Division, states that local food growers come to his counter once or twice a month looking for certified kitchen locations.[2] The term is actually a misnomer, though still widely used. It is really the person making the product who gets approved, Steve explains. The kitchen facilities they are using, however, need to follow strict codes, but requirements vary depending on the product the individual is approved to make. Foodworks, located in Arcata, offers professional kitchen facilities where approved individuals can process foods. Schools, churches, granges and community centers are other institutions that are likely to have kitchen facilities that meet requirements (i.e. commercial grade equipment, ongoing facility inspection, and flooring material up to code, to name a few). St. Mary's Church in Arcata has been known to rent their kitchen facility out to small-scale food processors. In addition, the Bayside Grange is used for many community meals and its historical roots connect it to family-scale agriculture. Leaders at the Grange have looked into the process of upgrading their kitchen to meet commercial-grade code, but the cost of this is estimated to be around $10,000.[3] Even if the Grange were to do this, however, it would not be a "certified kitchen." Each individual processing in it would would need to apply for a permit if they were intending to sell their product. In order to increase access to kitchens for processing without building new facilities within the county, another option is to use restaurant kitchens on their off days. This type of arrangement would of course highly depend on the trust and relationship between the processors and restaurant.

A person can be permitted year-round for an annual fee of $732. Permit applications are approved at the Department of Health and Human Services, Environmental Health Division. Alternatively, small-scale farmers or seasonal entrepreneurs may only be interested in an eight month rate ($512) or a four month rate ($329). This is for individuals who wish to sell their processed goods direct to customers, at farmers' market, or over the internet. If the processed food is being sold to wholesalers, the food processor applies to the California Department of Public Health (CDPH). Individuals who are not interested in selling their product do not need to be approved. People in this category have still been looking for facilities in order to handle the volume of their harvest, or to realize the efficiencies in canning together with friends as a group, for example. Surprisingly, farmers selling directly at the farmers' market do not need to be certified nor process the food in permitted kitchen facilities. All the same, Environmental Health wants to know about them in order to weigh in with their expertise on the risk the item poses, and, in most cases, have some input on the process. Processed goods that are considered higher risk would not be allowed for sale in this manner. Despite the confusion caused by the misnomer of "certified kitchen," it seems clear to say that demand for processing facilities at a small- or medium-scale is greater than supply.

Wholesale Food Distributors

A wholesaler purchases large quantities of products and goods, and then distributes and resells the products to individual merchants. CCRP found only of a handful of wholesale distributors: SYSCO, Safeway Freight, United Natural Foods, Veritable Vegetable, Mike Hudson Distribution, and Schwan's. These distributors typically travel from the Bay Area to serve local and conventional food retailers.

This sector of the food system needs further research in order to better understand where food is coming from. One unanswered question of interest is "what percentage of our food is locally produced?" Knowing how many food wholesalers serve the region and what they bring will give a sense of how much food is being imported. Wholesalers and distributors bring a variety of foods in and out of the region, and are the link to the bounty of the agro-industrial food system.

Local Distribution and Storage

As the local food movement gains more consumer interest the need for local food distribution development is also growing. Community Alliance with Family Farms (CAFF) is a member based non-profit, working to build a movement of rural and urban people to foster family-scale agriculture that cares for the land, sustains local agriculture and promotes social justice. Humboldt County's chapter of CAFF is working to provide farmers with more distribution outlets, storage facilities, and local agriculture recognition and collaboration. CAFF's Market Development Coordinator Melanie Patrick has been working for the past two years to research and investigate more distribution routes, refrigerated storage facilities and food drop off sites to better serve farmers and their local buyers.

Currently, there are only a few organizations and businesses that distribute food within the county and out of the region to other retailers including North Coast Co-op, Food for People, Pro Pacific Foodservice, Valley Flower Vegetables, Atech Warehouse & Distribution, and local farmers who deliver direct to customers and retailers.[4] Pro-Pacific food service offers affordable food distribution, at one dollar a box if dropped off at their Eureka site, and is looking to add more distribution and activity in the local food market.[5] The North Coast Co-op has two trucks, one that is refrigerated and one that is not, and makes deliveries back and forth from the Arcata and Eureka stores. Atech Warehouse & Distribution is based in Eureka and distributes direct from point to point within 24 hours, for a rate of fifty dollars a pallet. Atech has expressed interest in working with local farmers and connecting further with local food production efforts.

Another distributor that is possibly looking to expand deliveries is Valley Flower Vegetables.[6] Currently they deliver to the Bay area during the height of the produce season. Food for People makes deliveries to 17 food pantry locations using an un-refrigerated truck.[7] These are a few of the local distribution options CAFF is continuing to work to develop.

Some storage possibilities identified by CAFF for locally-scaled aggregation and distribution needs are Clendenen's Cider refrigerated storage facility in Fortuna, Foodworks in Arcata and some Scotia storage facilities. Distribution with refrigerated drop-off sites remains one of the largest obstacles for the development of a local food infrastructure. The future growth of this sector will depend on market growth, consumer and producer interest and production shifts.[8]

Farm to Institution

Linking farmers to large-volume buyers such as schools, large stores and hospitals increases economic opportunities for local growers and boosts quantities demanded to a higher level. For instance, a school district serving multiple school sites will require larger deliveries of produce – not in the form of greater diversity necessarily, but needing each item in greater quantities. The increased volume could be met through the increased production on one farm, coordination of multiple farms, or a combination of the two. In addition, depending on food service facilities and staff, the institution may need the fruits and vegetables washed and chopped (light processing). A typical produce grower, accustomed to selling a smorgasbord of unprocessed products through direct marketing, who wants to expand into institutional sales is suddenly faced with not only increased field production but figuring out how to grade, wash, chop, package and transport the product in a refrigerated truck. That is, unless local distribution links are already in place.

Facilitated by CAFF, several institutions are purchasing directly from farmers, including Humboldt State University, Arcata School District and several charter schools. Mad River Community Hospital has taken the relationship one step closer by leasing land adjacent to the hospital for exclusively growing produce for their dining services. Each of these facilities has also written local preference into their greening and wellness policies.[9]

An institution's purchasing policies or purchasing agreements with other companies often create obstacles for sourcing local foods. An example was explained by CAFF's Melanie Patrick: "The obstacle that [the farmer] has found is a 'restriction contract' by larger distributors. Sysco, for example, requires 80% of food purchases to be made through their system to continue deliveries. This made it impossible for [the farmer] to sell directly to Humboldt County jail. He offered exactly the same price as Sysco for his abundance of potatoes but ended up donating it all to Food for People. The issue is will the county schools, hospitals, jails and stores purchase local when it is available? What needs to change so that they can purchase local when it is available during that 7-month season?"[10]

While institutional sales are a goal of local food system promoters, only a handful of growers, dairymen and ranchers have pursued them. It is clear that if institutional sales are going to be widely established it will require both policy change and enough farmers wanting to make production changes.

Local Food Marketing

The local food movement is intersecting with the development of marketing locally grown foods and food products. Local food products usually follow the process of direct marketing, by going direct from the farmer to the consumer. Direct marketing includes farmers' markets, community supported agriculture (CSA), agro-tourism, on-farm stores and roadside stands. While all these direct marketing outlets exist, more marketing devices are being constructed to connect consumers with local foods. Deborah Giraud, UC Cooperative Extension Farm Advisor for Humboldt County, is currently working to expand agro-tourism resources for marketing agriculture. Organizations and marketing campaigns like CAFF, Made in Humboldt, Buy Fresh Buy Local (BFBL), and Humboldt County Independent Business Alliance (HumIBA) are working to increase recognition of products made in the region.

The Buy Fresh Buy Local campaign is a project in collaboration with CAFF and Food Routes Network, nonprofit organization based in Pennsylvania.[11] The campaign's goal is to support sustainable food and farming systems by strengthening markets for local farmers in their regions.[12] Local chapters, like CAFF, provide outreach events, local food guides, educational materials, and branding materials to encourage consumers to

support local farmers and locally grown food. By marketing locally produced products through the campaign farmers receive direct benefits, while communities receive fresh and healthy food.

Another campaign working to market locally produced food and products is Made in Humboldt, run by the Humboldt County Economic and Community Development Division. Made in Humboldt showcases local businesses and products in order to strengthen the economy and recognize the unique character of the region.[13]

The Humboldt County Independent Business Alliance is composed of local businesses, organizations and community members with a goal to encourage residents to keep local dollars in the economy by supporting locally produced food, businesses, restaurants and organizations.[14]

A Local Food System Economy

What can local foods marketing and a re-localized food system do for a community's economy? A study from the state of Maine showed that shifting consumer purchases by 1% to locally grown products increased Maine farmers' income by 5%.[15] Another study found that if people in the central Puget Sound region around Seattle, Tacoma, and Bellevue, Washington, patronized businesses such as locally-owned restaurants and farmers' markets and shifted as much as 20% of their food dollars toward these local food businesses, that it would add an extra billion dollars into the region's economy.[16] Analysis shows spending dollars locally doubles the number of dollars that circulate in the community. Additionally, "Locally directed buying and selling connects the community's resources to its needs resulting in relationships that serve to restore the land and regenerate community."[17] One wonders what economic impact a shift in food dollars would create in the region.

It begs the question "how local are we already?" and "what's our capacity for eating more locally?" In Humboldt the number "10% local" is often thrown about but seems very high and needs further research. For a sense of comparison, in Sacramento "an estimated 233 farms in the region sell directly to local consumers. They account for about 2 percent of the farm economy."[18] Local food collaborators in the Sacramento area are aiming for that to shift to 10%. Humboldt, as mentioned above, already has many direct marketing and other "local foods" opportunities for consumers and there seems to be a demand for more. In recent years the North Coast Co-op has sponsored the Eat Local Challenge, with 630 people participating in 2009, signifying a strong enthusiasm for a more local diet.[19] The local produce sales to schools, restaurants and institutions facilitated by CAFF have averaged combined earnings of $20,000 per year to the participating growers.[20] These numbers suggest the inputs to the economy that might be seen from further development of such marketing relationships.

Food Distribution Concept Framework

In researching wholesalers and local distribution, the following concept framework helped to generate data and guiding questions (Figure 9 "Food Distribution Concept Flowchart"). The concept framework addressing food distribution can be used to generate questions and identify gaps within the specific food system sector. Each step of the chart can be used to ask and answer questions. These steps help to identify resource needs and action steps for the specific topic being investigated. Groups can follow the steps to develop research questions, outcomes and policy development.

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1 Day-Farnsworth, Lindsey, Brent McCown, and Michelle Miller. 2009. Scaling Up: Meeting the Demand for Local Food. UW-Extension Ag Innovation Center and UW-Madison Center for Integrated Agricultural Systems. Retrieved May, 2010 (http://www.cias.wisc.edu/farm-to-fork/scaling-up-meeting-the-demand-for-local-food/).

2 Gustafson, Steve. Humboldt County Environmental Health Division. Personal Communication with Danielle Stubblefield. June 1, 2010.

3. Ibid.

4 Patrick, Melanie. 2010. Presentation "Humboldt County Food Distribution" to the Food Security Forum, February 27, 2010. Community Alliance with Family Farmers.

5 Ibid

6 Ibid.

7 Ibid.

8 Ibid.

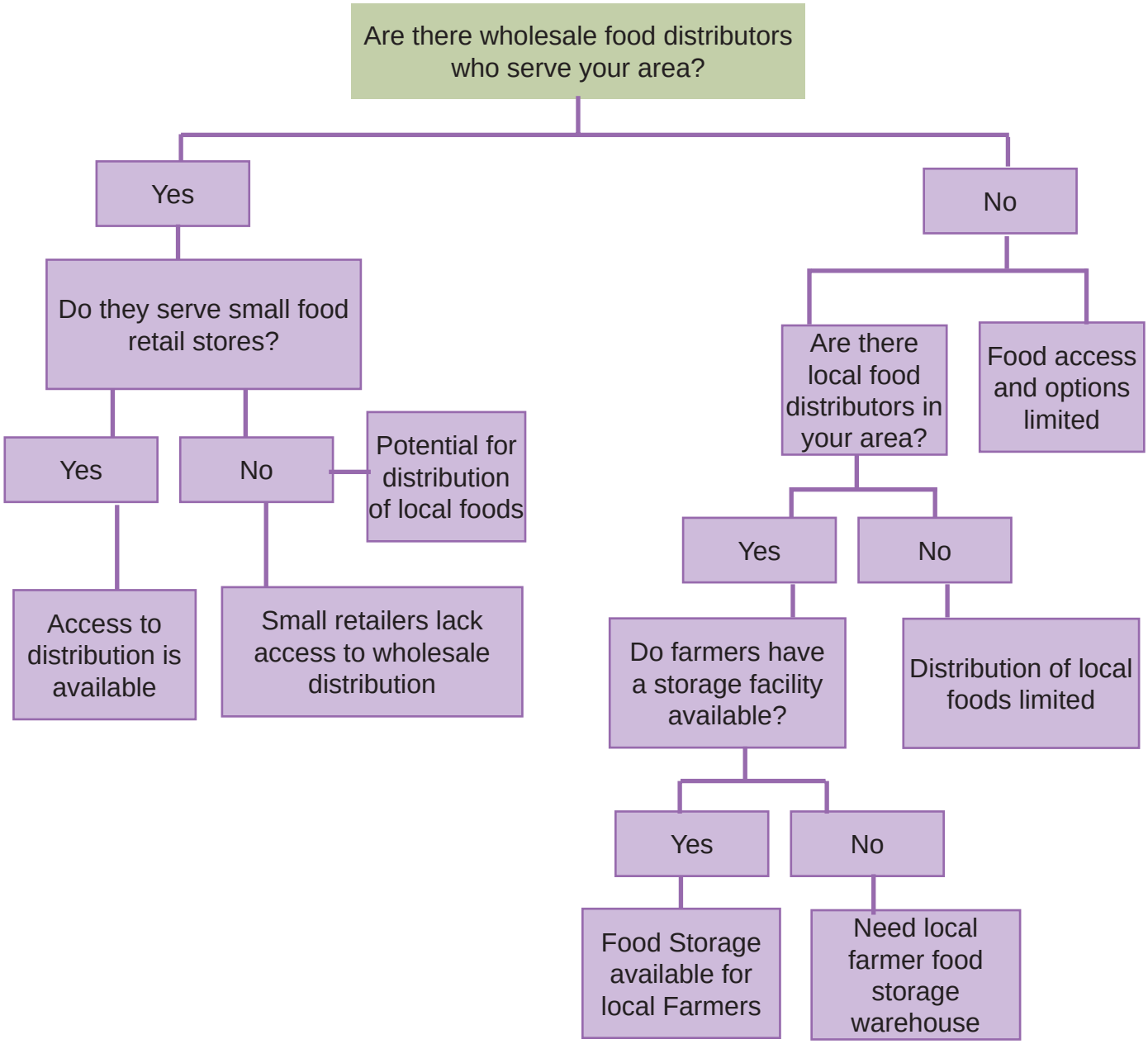
9 Solawetz, Kristyna. Cultivate, Coordinate Local Food Production. The Arcata Eye. March 6, 2010. Retrieved June 2010 (http://www.arcataeye.com).

10 Patrick, Melanie. 2010. "CAFF Distribution Report to Headwaters Foundation, January 2010." Community Alliance with Family Farmers.

11 Food Routes Network. Buy Fresh Buy Local. 2009 . Retrieved June 11, 2010 (http://www.foodroutes.org/buy-fresh-buy-local.jsp).

12 Ibid.

Figure 9: Food Distribution Concept Chart



13 Made in Humboldt. Products and People. Retrieved June 11, 2010 (http://humboldtmade.com/producers).
14 Humboldt Independent Business Alliance. Why Go Local? Retrieved June 11, 2010 (http://humiba.org/content/about-ibas).
15 Gandee, Jesse. November 2002. Economic Impact of Maine Food System and Farm Vitality Policy Implications. A Report to the Joint Standing Committee on Agriculture, Conservation, and Forestry. Second Regular Session of the 120th Maine Legislature.
16 DeWeerdt, Sarah. "Local Food: The Economics." World Watch July/August 2009. Retrieved February 2010 (www.worldwatch.org).
17 Sonntag, Viki. 2008. Why Local Linkages Matter. Sustainable Seattle.
18 Wasserman, Jim. Road to Recovery: Local foods spice up economic picture. Tuesday, Feb.16, 2010. The Sacramento Bee (http://www.sacbee.com/2010/02/16/2539377/local-foods-spice-up-economic.html).
19 Solawetz, Kristyna. 2010.
20 Patrick, Melanie. 2010. "Headwaters Foundation Three-Year Report." Community Alliance with Family Farmers.

Section 5.3

Socioeconomic Demographics and Food Insecurity

Poverty, food insecurity, and other obstacles to food access are indicators that can determine whether Humboldt County's agricultural production and food system are serving residents' needs. In addition to US Census data and other national and statewide data sets, this section includes qualitative and quantitative data from past CCRP studies addressing food insecurity.

The following table identifies research questions that are key to the topic of socioeconomic demographics and food insecurity. As indicated, some of the questions are included in this section of the Community Food Assessment. Some did not fit into the scope of this project, while others lacked existing data. All of the questions could benefit from future research.

Research Questions Included
Who are the people in the community?
What are local poverty rates and national poverty trends?
How many Humboldt County adults and children are living in poverty?
How does poverty relate to food security?
What are local food insecurity rates and national trends?
Where are the highest rates of food insecurity in Humboldt County?
What are the obstacles to food access in our region?
Research Questions Not Covered
What are food needs specific to our ethnic populations?

Population Demographics

Humboldt County is located on California's north coast and is officially designated as a nonmetropolitan (or rural) county.[1] With a population of approximately 130,000, it is the largest county in a region known as the "Redwood Coast." Poverty rates are high throughout the region. In 2008, 19.8% of the population was below the poverty line, which is well above the California average of 13.3%.[2]

The recession has brought job losses across all sectors of the economy. The county's unemployment rate, which has ranged roughly between 5 to 7 percent for 10 years, was in the double digits every month of 2009, reaching as high as 12% in March.[3] This has increased demand at food pantries, where needs are up, on average, 20-30%. At some pantries in the southern half of the county the demand has gone up by 200%.[4] With income being tightly linked to food budgets, the worsening economy has a direct impact on consumer participation in the food system.

Table 4: Census Population Data

Census General Population Data	Humboldt County	California
Population, 2009 estimate	129,623	36,961,664
Population change 2000 - 2009	2.5%	9.1%
Persons under 5 years old, 2008	7,777 / 6.0%	7.4%
Persons under 18 years old, 2008	25,924/ 20.3%	25.5%
Persons 65 years old and over, 2008	16,850/ 12.9%	11.2%
Land area, 2000	3,572.49	155,959.34
Persons per square mile, 2000	35.4	217.2

Source: US census Bureau State and County QuickFacts. Retrieved May 19, 2010 (http://quickfacts.census.gov/qfd/states/06/06023.html).

Table 5: American Community Survey

American Community Survey 2008	Estimate	Humboldt County	California	US
Median age		35.4	34.7	36.7
Population in labor force (16 years and over)	63,983	60.5%	64.8%	65.2%
Median household income		$40,515	$61,154	$52,175
Median family income		$52,755	$69,659	$63,211
Per capita income		$23,262	$29,405	$27,466

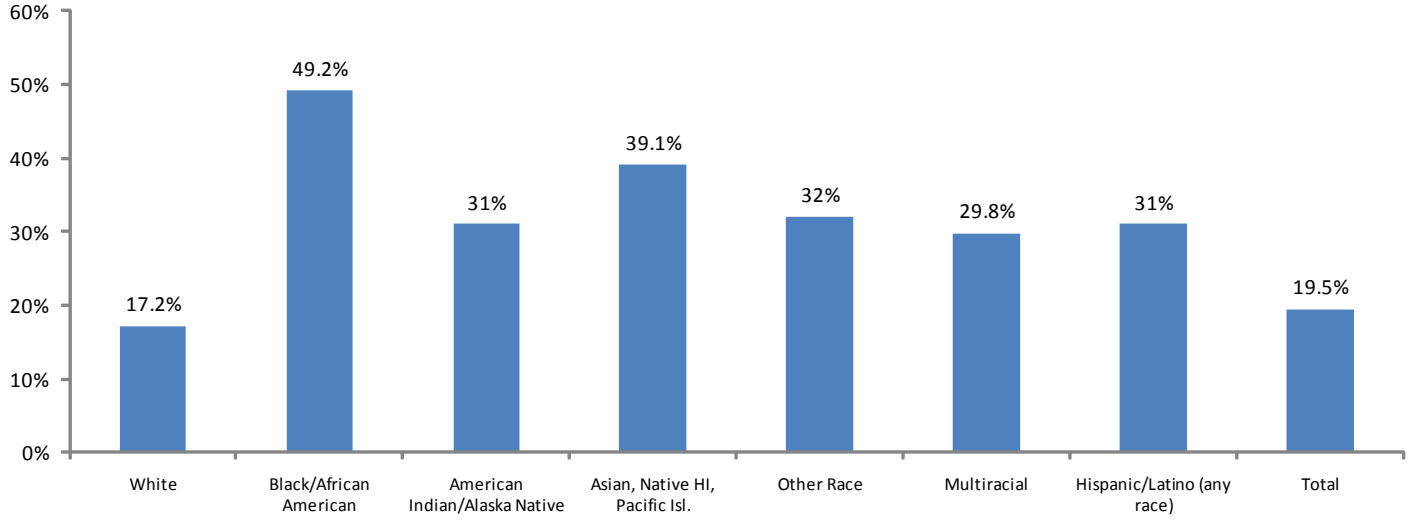
Source: 2006-2008 American Community Survey 3-Year Estimates. Humboldt County, CA Fact Sheet. Retrieved May 2010 (http://factfinder.census.gov).

Population Living in Poverty

Appendix 5, "Total Population in Poverty" is a map that portrays the total population in poverty according to the 2000 census. Though this data is ten years old, it still yields valuable information in its abilities to show areas of high poverty concentration. A revision of this data would be extremely beneficial as the new 2010 US Census data is published. The map shows that the areas with the highest poverty (29-44% of the total population) are the Hoopa Reservation, Arcata, and Eureka. In Northern Humboldt County, the areas surrounding the Hoopa Reservation, up through to the county line and down through Highway 96 also experience a great deal of poverty (23-28% of the total population). The majority of Southern Humboldt County experiences a poverty level of 17-22%. According to the 2000 US Census, our poverty level was 5% higher than the California state average.[5]

In order to gain a clearer picture of the population of the county that is living in poverty, it is important to consider the ethnic makeup of this population. According to the 2000 US Census approximately 19% of the population lives below the federal poverty level. However, this number changes quite substantially by ethnicity. Figure 10, "Poverty Rates by Ethnicity" shows this in greater detail. The Latino ethnic community, the largest minority group and also one of the fastest growing populations, deals with a poverty rate of 31%. American Indians, the second most populace minority group in the county, had a poverty rate of 39% in 2000. The ethnic group living with the highest level of poverty is the Black/African American community. Approximately 49% of this population lives below the poverty level. This is 32% higher than the White community, which also sees the least amount of poverty when compared to all other ethnicities. Though this data is 10 years old, it still yields important information. It would be very beneficial to the community to reassess this data when the new 2010 census data is published. However, this data has been important in communicating the population groups that are most at-risk for poverty today.

Figure 10: Humboldt County: Percent of Population below the Federal Poverty Level within each Race/Ethnicity, 2000



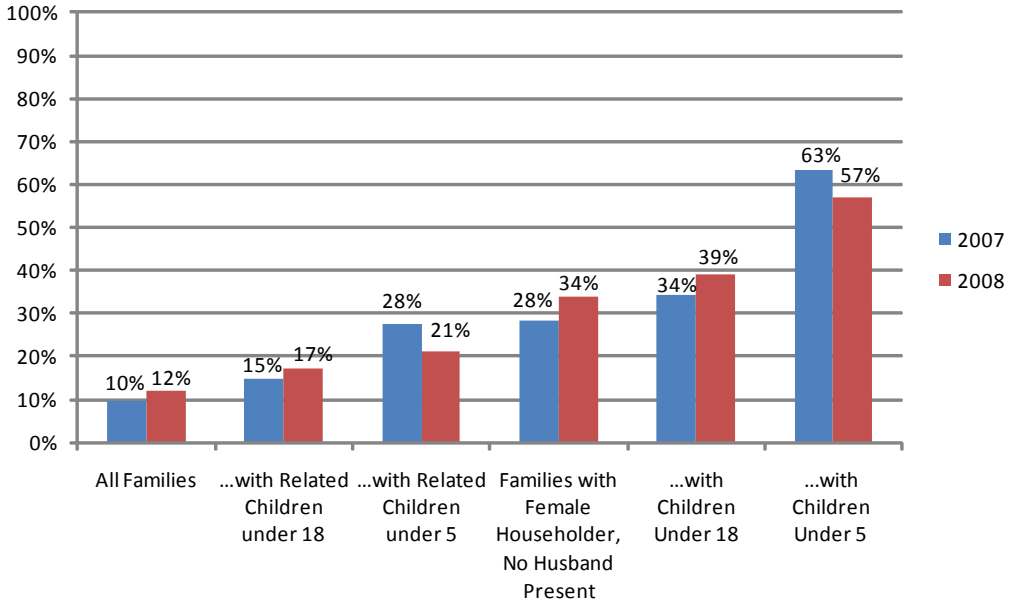
Race/Ethnicity	Total Population with Poverty Status Estimated in Humboldt County	Total Persons below Poverty Level in Humboldt County	Percent Population below Poverty Level in Humboldt County
White	104,541	18,021	17.2
Black/African American	798	393	49.2
American Indian/Alaska Native	6,931	2,147	31.0
Asian, Native Hawaiian and Other Pacific Islander	1,972	772	39.1
Other race	2,940	941	32.0
Multiracial	5,985	1,785	29.8
Hispanic/Latino	7,486	2,322	31.0
Total	123,167	24,059	19.5

Reproduced with permission from Jessica Van Arsdale, MD, MPH. Originally presented in "Rural Poverty and its Health Impacts: A Look at Poverty in the Redwood Coast Region," Humboldt State University: California Center for Rural Policy, 2008. Page 83. All numbers are estimates from U. S. Census Bureau, 2000, Summary File 3, Tables P159A-H.

The Hispanic/Latino category is not mutually exclusive. Hispanics or Latinos are people who classified themselves in at least one of the specific Spanish, Hispanic, or Latino census categories. People of Hispanic origin may also be of any race. The equation used to determine percent below the poverty level is: Percent population below poverty level= Total persons below the poverty level/Total Population with poverty status estimated.

Figure 11, "Poverty Estimates by Family Structure 2007 & 2008," displays how family make-up can influence poverty rates. In 2008, 12% of all families lived at or below the poverty line, which makes roughly 3,650 families. The graph shows that families with children under the age of 18 are likely to have a poverty rate around 17%. The family structure dealing with the most poverty is the female householder with related children below 5 years of age. In 2000, there were 833 families that had this specific structure, with 61% of them living at or below poverty level.[6] In 2008, it was estimated that 57% of the families with this structure are living in poverty. The 2010 Census will yield a new estimate to the actual number of single female-headed families with children, as this counting hasn't been made since 2000. This trend has the potential to greatly affect young children's access to fresh and healthy foods.

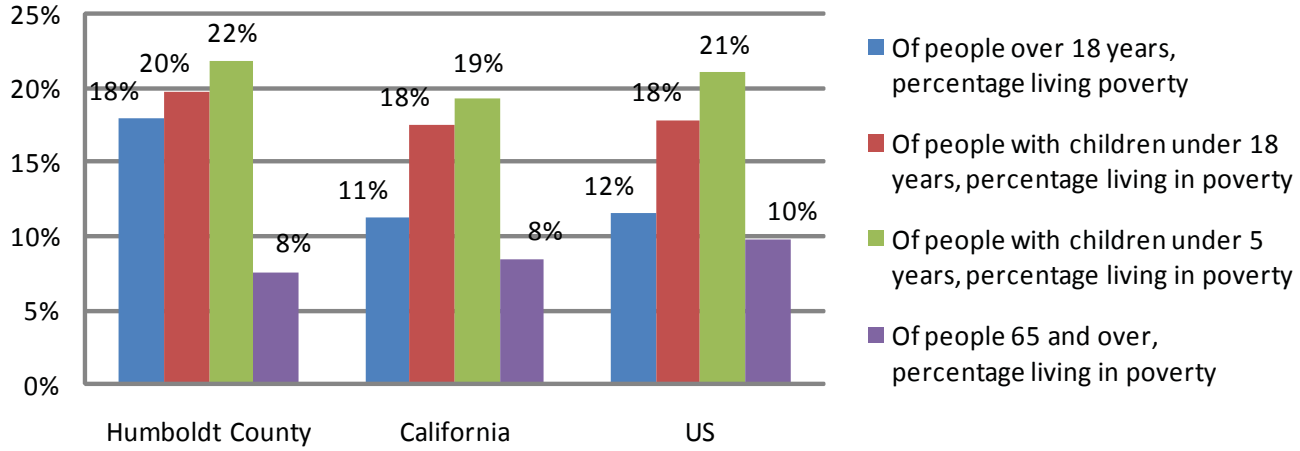
Figure 11: Humboldt County Poverty Estimates by Family Structure 2007 and 2008



Source: American Community Survey 2006 - 2008 Estimates and American Community Survey 2005 - 2007 Estimates.

Figure 12 portrays poverty by individual and age. This graph compares 2008 estimates of Humboldt County poverty levels to the state of California as well as the U.S. Overall we can see that Humboldt County has higher poverty levels than both California and the United States. This is true in every category except for individuals who are over the age 65. In this category the poverty level matches that of California and these numbers are both 2% lower than the national average (8% for California and Humboldt County versus 10% for the US).

Figure 12: Percent of Indviduals Living Below the Poverty Line, 2008 Estimates



This represents the total population of Humboldt County. Source: American Community Survey 2006 - 2008 Estimates.

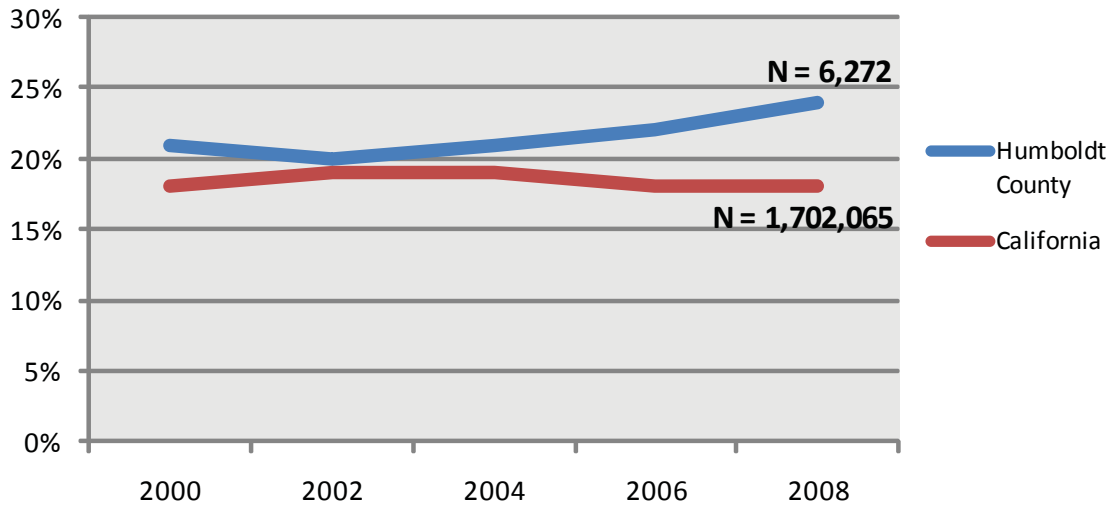
Children and Poverty

Figure 12 shows that individuals with children under 18 have a 20% poverty level. This is 2% higher than both the California average as well as the U.S. average. The highest level of poverty overall, at 22%, is amongst individuals with children under 5 years old. This is an important demographic to consider when addressing food access.

Figure 13 displays an eight-year trend between 2000 and 2008 of child poverty in Humboldt County as well as California. In this figure we can see that overall, local childhood poverty rates are higher than the state average. Since 2004 there is a noticeable trend that as California childhood poverty has lowered or stayed relatively stable, Humboldt County child poverty has increased, reaching its highest level in 2008. In 2008 the area saw a child poverty level of 24%. This is 6% higher than the state average at 18%.

In First 5's 2009 report *Healthy Children Ready for School: The Impact of First 5 in California's Northwest Region*, the organization points out that the federal poverty line does not apply to all regions and households equitably. For instance, the cost of living in Northern California is much higher than many other places in the country. In addition, the federal poverty income level does not consider the cost of childcare in determining a family's basic needs expenses. The report states in 2009 a two-parent family with two children in the county actually needed more than twice the income of the federal poverty level to meet their basic needs.[7]

Figure 13: Children (under age 18) in Poverty



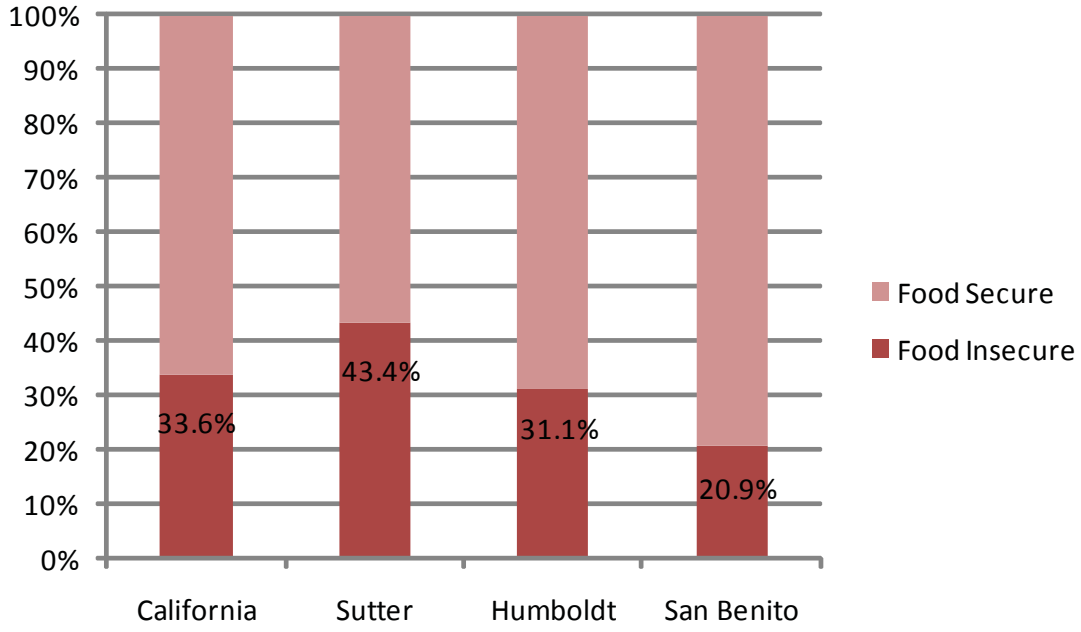
Source: US Census Bureau, Small Area Income and Poverty Estimates, State and County Data Files 2000-2008. Retreived May 2010 (http://www.census.gov/did/www/saipe/data/statecounty/data/index.html).

Food Insecurity

In California, county-level food security estimates are gathered through the California Health Information Survey (CHIS). Seven food security questions are asked, only of adults and only to those who respond as low-income. Many of them are identical to ones asked by the USDA in their national food security survey, such as "Please tell me yes or no: In the last 12 months did you or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?" and "In the last 12 months were you ever hungry but didn't eat because you couldn't afford enough food?" [8]

The latest CHIS data are from 2007, but due to conducting a low number of surveys in Humboldt County, the data are statistically unstable. Here combined results from 2005 and 2007 give us the most up-to-date information available through CHIS. This project looked at respondents who indicated they were below 185% of poverty income. As seen in Figure 14 "Pooled 2005 and 2007 Food Security/Insecurity Rates," 33.6% of low-income adults in the state of California were food insecure. Humboldt County fared slightly better, with 31.1% of low-income adults estimated as food insecure. The counties with the highest and lowest food insecurity rates, Sutter County and San Benito County respectively, are included in the graph to show the range of food security status throughout the state. In the same time period of 2005-2007, the average USDA rate of food insecurity amongst individuals below 185% of poverty level was 28.1%.[9]

Figure 14: Pooled 2005 and 2007 Food Security/Insecurity Rates Amongst Low-income Adults in California and Select California Counties



Source: CHIS, Food Insecurity Rates Amongst Adults with Income below 185% of Poverty Level Pooled 2005 & 2007 (http://www.chis.ucla.edu).

The portion of the population particularly at risk for food insecurity, and for whom poverty rates are greatest, are children. In 2008, 24.4% of the county's children lived in poverty – that's 6,272 kids (Figure 13). Just as poverty is linked to family structure, food insecurity also appears more commonly in households with children age five and under, particularly if they are led by a single parent. For example, 37.2% of US households with children under 18 years and headed by a single mother were food insecure[10] (See Appendix 6: "Prevalence of Food Insecure Households, 2007 and 2008").

Food Access and Security in Remote Rural Communities, 2009

Authors: Sheila L. Steinberg, Danielle Stubblefield and Dimitra Zalarvis-Chase.

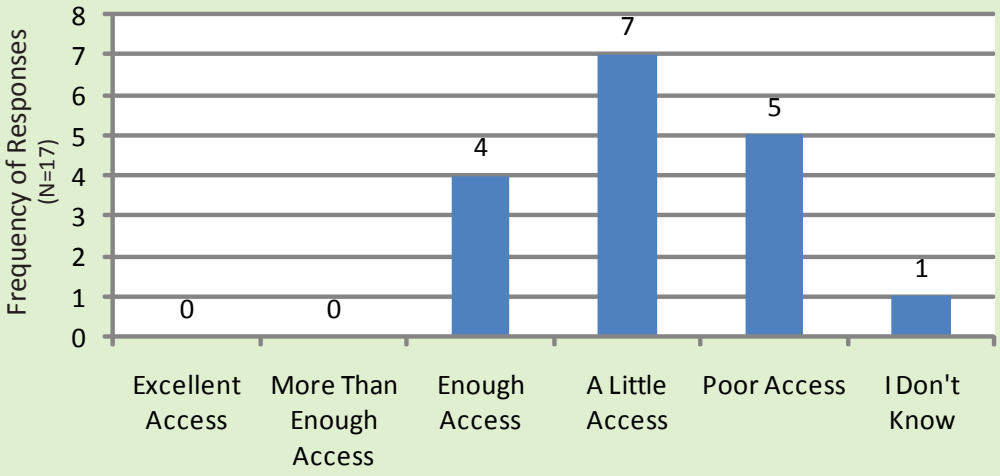
Methodology: In 2007 the California Center for Rural Policy completed a pilot study exploring food security and healthy food access. The research took place in Trinity, Humboldt, and Del Norte counties, so the results referred to below are regional. Seventeen qualitative key-informant interviews took place in fall and winter of 2007, sixteen conducted face-to-face and one over the phone. Nine of the key informants were from Humboldt County. Key-informants included social service providers, nutrition specialists, grocery store owners, school system employees, and farmers.

Findings: The interviews conducted for the Food Access and Security in Remote Rural Communities study give a deeper understanding of food insecurity, and in particular fresh and healthy food access, in the Redwood Coast Region. Hearing the words of key informants provides insight into the difficulties facing individuals who are in need of food assistance and details regarding community change opportunities.[11] The main themes that surfaced repeatedly were 1) the strong linkage between income and food security, 2) an enthusiasm for the role of education, and 3) the difference between food access in urban and rural settings.

Access to Fresh and Healthy Foods

Key informants were asked, "On a scale of 1-5 how would you rate your community's access to fresh and healthy foods? (1 = poor access, 2 = a little access, 3 = enough access, 4 = more than enough access, and 5 = excellent access) Please explain." Figure 15 displays their answers.

Figure 15: Rating Community's Access to Fresh and Healthy Foods



As can be seen on the chart, none of the seventeen key informants felt that their community had "Excellent" or "More than enough" access. The most common answer was "A little access," with "Poor access" and "Enough access" following. When asked to explain their rating, a range of reasons became evident. The below comments were selected from Humboldt County interviews to demonstrate some of the issues of concern as well as a perspective of hope:

- "The store that we do have is expensive and the selection is limited, and a lot of people can't afford to buy fresh vegetables."
- "In Eureka, a lot of people just don't have the money. Transportation and cost are the two most important issues."
- "I'd say 2 [a little access], because of the limited amount available at the store. The same things are not

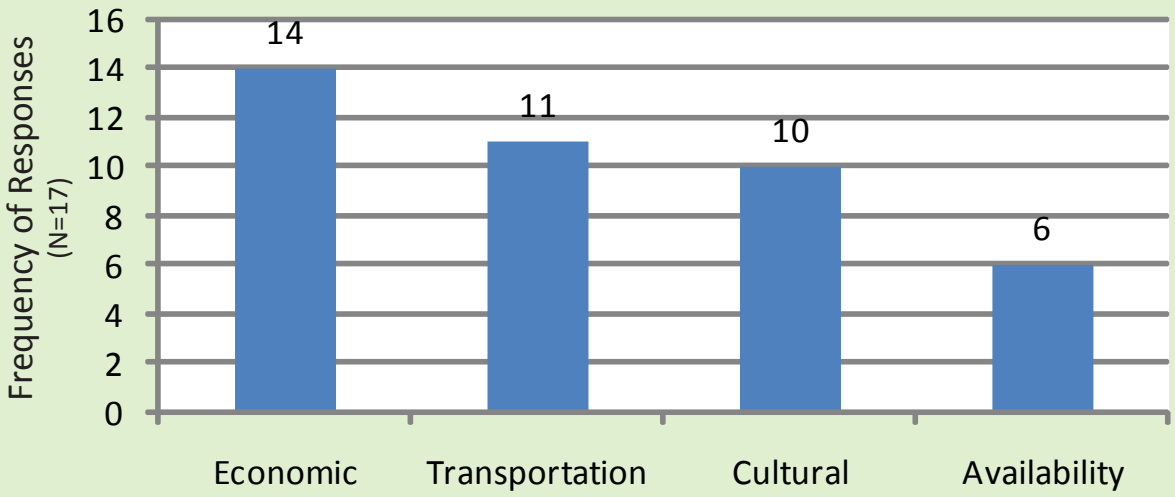
always available, so you can't count on them always having any particular food. This is true for both fresh food and canned food."

- "People my age, in their fifties, founded Los Bagels and the Co-op. UIHS started up in the '70s. The farmers' markets started in the late '70s. They were very small at first, but now they are bigger. You saw big changes in the 1970s. Access is growing. It could be better."

Obstacles to Healthy Foods

When asked "What are some obstacles that people face in getting access to healthy foods in their community?" the answers were grouped into four themes as seen in Figure 16.

Figure 16: Obstacles to Food Access by Theme



Theme	Description of Theme
Economic	Cost, money, price, lack of income, expensive, limited income, choosing what to fund, income level
Transportation	Cost of fuel, gasoline, cost of gasoline, upkeep of a vehicle, cost of running a car
Cultural	Educational resources, poor/healthy food choices, cultural values, not knowing proper eating habits, no home economic classes, not knowing how to cook
Availability	Availability, Store selection, stores don't carry it

Obstacles identified by eleven of the seventeen key informants fell under the common theme of 'Economic', which attests to the link between poverty and food insecurity. When discussing the financial obstacles, one interviewee* said, "Cost plays into it too. The processed foods aren't even cheaper out there. People are spending as much money on Mac-n-Cheese as they would on regular pasta and sauce, if it were available. The local choice isn't always the most economical. There is healthy and affordable food, but you really have to make a special effort."

Obstacles that related to the theme of 'Transportation' were the second most frequently cited, with 11 of the participants mentioning it. One person explained, "Transportation and lack of availability of good vegetables in the store in the winter."

Obstacles that were grouped under the "Cultural" category included education and cultural values. One key

* Please note that for this question and all of the others in this analysis that while the numerical results include responses given by all seventeen key informants, quotes were selected only from Humboldt County residents in order to reflect input and concerns regarding Humboldt's food system.

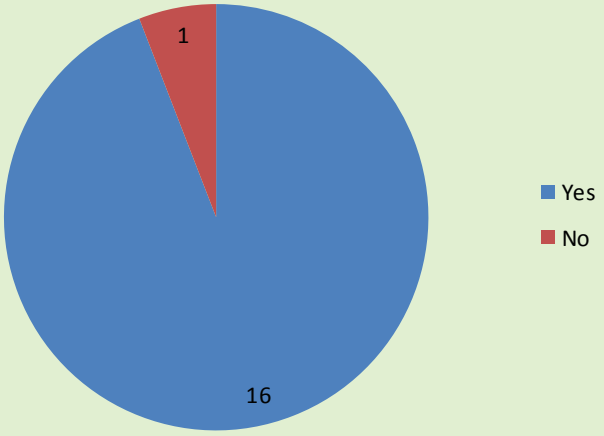
informant said, “There’s the issue of ‘norming,’ or education. People are making poor food choices with the money they have.” Another remarked, “I think education is one of the biggest obstacles, and not knowing proper eating habits. It’s not their fault. It’s passed on in the family. Kids grow up eating potato chips and twinkies, and we need to grab those kids and bring them to this farm to teach them how to like eating healthy. Schools were more involved in teaching about nutrition before.”

Six of the key informants felt that communities didn’t have sufficient availability of healthy foods as demonstrated by the statement, “People primarily shop at their local store, which is often just one step up from a convenience store. It’s hard to avoid processed foods and find fruits and vegetables in those places.”

The Impact of Geographical Differences

To gain more understanding regarding the differences between the remote regions versus the urban regions of the three counties, key informants were asked, “Is access to healthy food different for individuals in remote rural communities versus bigger towns?” As can be seen in Figure 17, there was a resounding “YES” from the majority, with only one person answering “No.”*

Figure 17: Opinion of Whether Access to Healthy Food was Different for Rural Areas versus Urban Areas



* Note that this ‘No’ response was not from a Humboldt County interview.

Selected comments from Humboldt County interviewees demonstrate the ways in which our remote geography plays a role in food access, reflecting issues of income, fresh food availability, transportation, and both opportunities and shortcomings in community resources.

- “Yes. You see a lot of families from the rural areas pulling together to come in and get food. Sometimes they don’t have enough space.”
- “Absolutely. My main examples are the Mattole Valley, Orick, and Hoopa. If you go look in those grocery stores and see what’s available, it’s pretty scary. The selection of fresh fruits and vegetables is pretty low and is really concerning. There’s a lot of processed food. But in those three places I mentioned, they have the climate and the soil to grown their own fruits and vegetables. But having access to land is a question.”
- “Yes, because of the sheer choice available to people. It depends on where you go, but for someone who lives on say Johnson Road, which is near Weitchepec, downstream on the Klamath, it’s really hard to get anywhere. Hoopa is the closest supermarket and that’s quite a ways. So it’s harder and takes more

effort to make healthy food choices in those communities. Ironically, those areas support some organic farms, but the food has to be sold at higher prices. Little stores out there could have some of that, but no one is really interested."

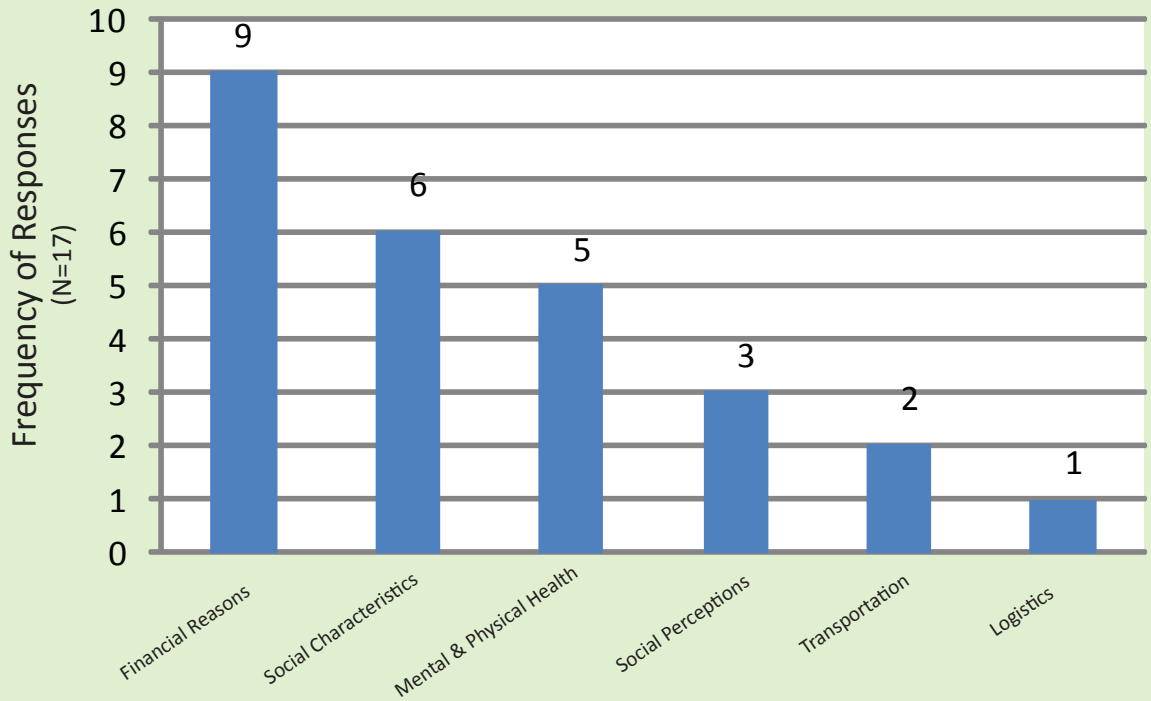
- "I think there's less surplus and donations from stores and restaurants to the [pantry]. We have less variety and less to draw from, except in the summer. In bigger towns, we would get day-old bread for example. It would be great if we had a certified community kitchen where we could can process, and store some of the food. It could be a cooperative or something. People don't always have kitchen facilities to store and process food, and the cost of propane is high."

Difficulties in Obtaining Enough Food

In order to better understand the perceived incidence of food insecurity and the reasons for it, informants were asked, "Do you know people who have difficulty in getting enough food for themselves or their families? Please explain."

Fifteen respondents answered "Yes," with one answering "No" and another I don't know." The stories and explanations given were analyzed for common themes, with six categories emerging. Figure 18 displays the frequency of the themes, with examples of each theme's content.

Figure 18: Discussion of Difficulties in Obtaining Enough Food



Theme	Theme
Financial Reasons	Job loss, job market, other financial priorities
Social Characteristics	Needy families, elderly, pregnant women, transients
Mental & Physical Health	Drug addictions, drug related issues, nutrition levels of commodities
Social Perceptions	Stigma, misconceptions, employed people
Transportation	Transportation, geographic isolation
Logistics	Income, immigration status

Financial reasons were cited most frequently, with nine of the respondents mentioning them. For example, one person said, "I've been noticing a trend with the elderly in that they have to make choices between medical care, utilities, and food. This is significant because a lot of our seniors aren't in a medical situation where they should be making those choices."

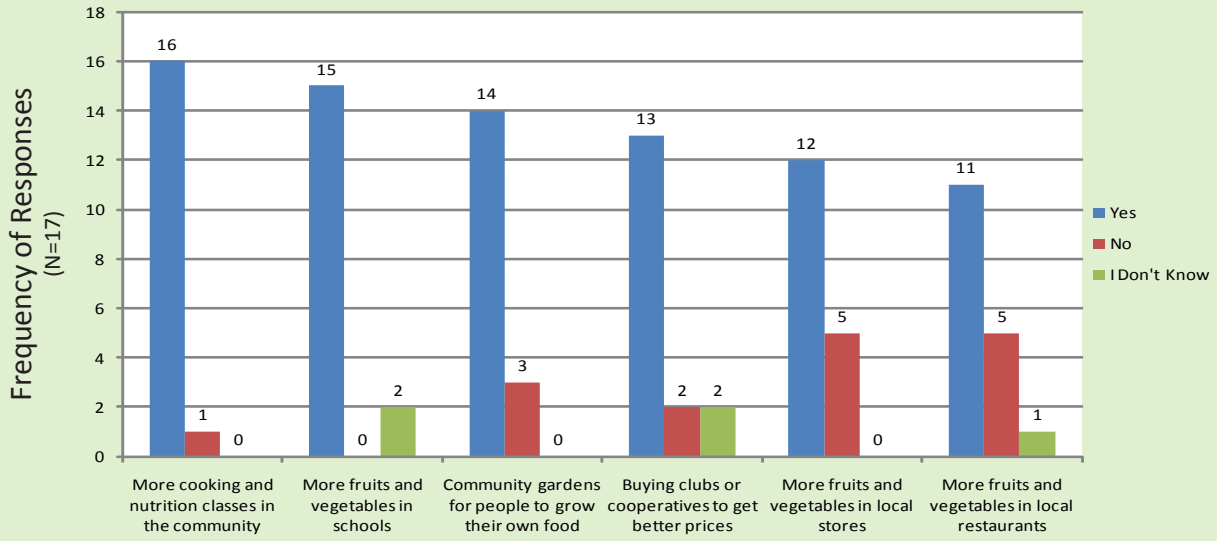
Other responses speak to the extent of food insecurity in our county and the locations where it is most prevalent, such as:

- "I do food stamp applications 5 to 10 times a week, and 50 percent or more of the families check 'yes' for the question, 'Will you run out of food in three days or less?' and that's after they already visited the food bank."
- "We started a program in Orick, and receiving emergency groceries once a month from us was a big deal for a lot of people. There are definitely pockets in our county where [not getting enough food] is routine."

Food System Improvements Needed in the Community

Informants were asked, "Which of the following are needed in your community?" from the following categories and could choose all that they felt applied. The frequencies of their responses reflects what are considered the greatest needs throughout our communities, as shown in Figure 19.

Figure 19: Frequencies of Respondent's Opinions of Whether Each Category is a Need in the Community



Cooking and Nutrition Classes

As can be seen, all but one respondent thought that more cooking and nutrition classes in the community were needed. Selected comments from Humboldt County residents included:

- "We could use more cooking classes in schools and have it be free for the kids. It's getting better, but out in the remote areas there are not as many classes. It's always needed, and it should be a community-based effort. If the community strives for healthy living, you maybe surprised what you find."
- "People often don't like the idea of a class. You sometimes have to provide education in a certain way, so that people don't know they are being educated. People need to develop the belief that in their culture healthy eating is the norm. But it is not yet normalized. We need to get the message out in different kinds of ways. How do we change behavior without people knowing?"

Fruits and Vegetables in Schools

The second greatest consensus amongst the respondents was that more fruits and vegetables were needed in schools. Fifteen cited this, saying actually very little about it, almost as though it didn't need to be explained. Answers from Humboldt residents ranged from, "Yes," "Yes, I'm sure that's needed," to "Absolutely."

Community Gardens

There was a strong interest in community gardens, with 14 individuals responding that it was a need in their community. Responses included:

- "This would be good particularly for people renting or who don't have much land. Gardens teach certain skills and give people expertise in something. This ultimately bridges people together and diminishes social isolation. In this context, healthy eating can become the norm because the community of people working at the garden could reinforce the norm and encourage people to make better choices."
- "There have been studies about community gardens in this area. According to my uncle, there was no serious Great Depression around here. The area was behind the redwood curtain, and there were gardens, deer, and salmon. We need to bring back home gardens. People at the Elder Center say that they always had gardens."
- A Humboldt resident from a rural town who said 'no' explained, 'That was offered once, but no one took them up on it. It was through the Healthy Start Program at the school. . . [But] you could do it on your own at home.'

Buying Clubs or Cooperatives

Thirteen key informants thought that buying clubs or cooperatives were needed in their communities, while four either didn't think so or didn't know. People expressed the following opinions:

- "It would be a good thing for the outlying areas in particular because of transportation costs. Look at the natural gathering places for people in those communities. Good vehicles for doing this would be family resource centers, senior lunch groups, playgroups or places where people are already congregating and are family friendly."
- "That gets at the issue of people being isolated. I think there's one somewhere. Co-ops of course, that would be ideal. Co-ops are the answer."

Fruits and Vegetables in Local Stores

Regarding more fruits and vegetables in local stores, twelve respondents agreed that it was a need and five thought that it wasn't. There was a common theme amongst some of the answers in regards to rural versus urban communities:

- "Yes, in outlying areas."
- "Yes, especially in the small stores, the rural stores."

Fruits and Vegetables in Local Restaurants

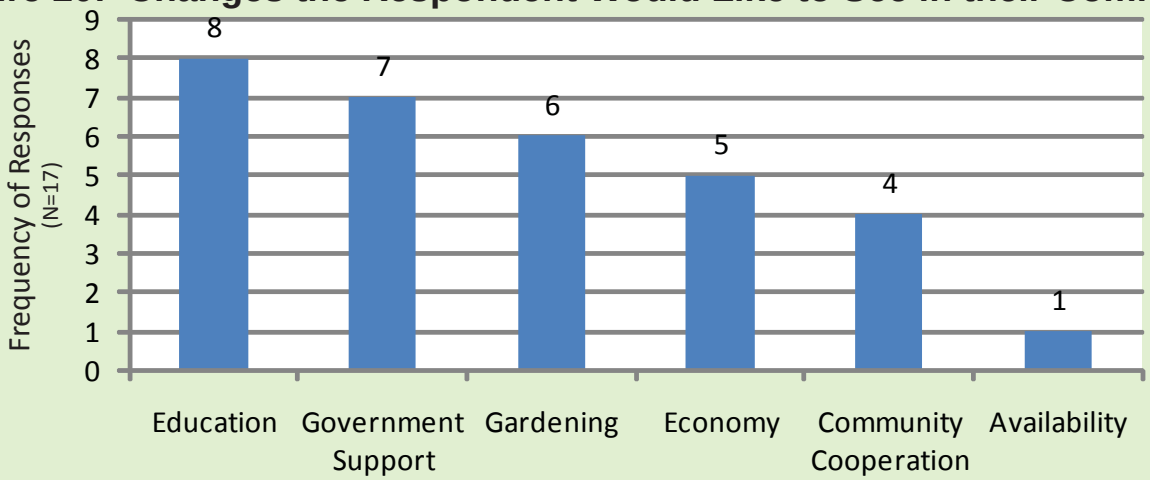
This category received the most split responses, with eleven saying "yes," five "no," and one "I don't know." A couple of the answers demonstrating the split are:

- "No. They probably have what they need."
- "Yes. It's hard to find a good salad bar around here."

Community Changes to Improve Food Access

All of the key informants saw opportunities for increasing access to fresh and healthy foods in their communities. Many inspiring and creative answers were shared when asked, "Are there any changes you would like to see in your community or region that would improve food access for people? Please explain." All seventeen of the interviewees answered yes, there were changes that they would like to see. The themes that emerged from their answers are shown in Figure 20 and described in the table.

Figure 20: Changes the Respondent Would Like to See in their Community or



Increase in all of these	Description of Category
Education	Community kitchen as learning place, cultural appreciation of nutritional foods, educate kids, fod prep classes with commodities
Government Support	Better roads for biking/walking, public transportation, better transportation, better roads, improve public transportation
Gardening	CSA's, community gardens, edible landscaping, more urban ag, diversify crops, more farms
Economy	Better economy, lower gas prices, living wages
Community cooperation	Buying clubs, coops
Availability	More produce to outlying areas

Changes suggested by Humboldt County key informants included the following:

- "I think that we need more CSAs and ways for low-income families to access them . . . Community kitchens as learning places are important. We have one at the Co-op but the access is very limited. We need more public gathering places where parent groups, etc., can meet and learn about food. . . A stronger economy is something else that is needed. We need to pass resolutions in the local government and have food security be part of the conversation."
- "My priority would be getting fresh fruits and vegetables to the outlying areas, whether that's through farmers' markets, growing one's own food, co-ops, or buying clubs. Half of the children in this county live in those outlying areas."
- "One of the most possible things would be if individuals started big gardens again. A lot of people living really remotely won't have access at affordable prices unless they grow more of it themselves. The biggest challenge there is reviving the appreciation for healthy foods and the interest and the motivation to make healthy foods a part of your life. There's a guy who was just here who loves the taste of fresh food from gardens. He has a really small yard and it's entirely garden."
- "A Senior Program would be great. Also we need more storage space . . . We don't want to freeze because of the electricity costs, but we'd like a large cool room or pantry. It wouldn't have to be here. But we'd like a certified cooperative kitchen where we could can and dry things."

Regional Food Access Network

As a final question, key informants were asked, "Would you, or someone in your organization, be interested in being part of a regional network working on food access issues?" All seventeen responded yes, indicating strong support for the formation of a network and a willingness to make the time and energy to participate.

Conclusions

The interviews conducted for the Food Access and Security in Remote Rural Communities study give insight into the many facets of food insecurity in the Redwood Coast Region. The stories and suggestions that key informants shared provide real-life experiences and observations that help to contextualize the statistics and flesh out complex issues.

A common theme seen throughout the data was finances. This was mentioned particularly frequently in relation to obstacles and difficulties in obtaining fresh and healthy foods. The other theme that appears most frequently is education, often including comments regarding cultural norms or values related to food. This theme is listed when discussing the obstacles to food access, but most often shows up as a recommended change or need in a community.

Another general theme emerging from the data was that of urban and rural differences. These differences frequently related to not only transportation needs, but to healthy food availability and community resources. On the other hand, it was mentioned several times in regard to climate, land access, and agricultural infrastructure that some rural areas of Humboldt County offer greater options than are available near urban centers.

Lastly, there was a strong and heartfelt interest in improving access to fresh and healthy foods that was indicated throughout the region. People were highly concerned and motivated to participate in a new network to share knowledge and support each other in seeking food access change.

CCRP Rural Health Information Survey, 2008

Authors: Jessica Van Arsdale, Launa Peeters-Graehl, Kali Patterson, Jenna J. Barry, and Adrianna Bayer

Methodology: The California Center for Rural Policy conducted a Rural Health Information Survey of adults residing in a four county area (Humboldt, Del Norte, Trinity, and Mendocino). The survey was mailed to 23,606 post office boxes in forty three different communities in the Redwood Coast Region, with an overall response rate of 12.7%, yielding 3,003 returned surveys. In Humboldt County, 931 surveys were returned. For sampling, all post offices with a low population density (<11 people per square mile) were selected. Post offices in higher density areas (≥ 11 people per square mile) were randomly selected. Due to random selection, in Humboldt County the cities of McKinleyville and Fortuna were included while the most populous coastal cities of Arcata and Eureka were not. As a result, in regards to Humboldt County, the survey speaks most strongly to rural and inland conditions.[12]

Findings: Findings from the survey show that rural poverty has numerous impacts on the health of these communities. Compared to respondents living at or above 300 percent of the federal poverty level, those living below the federal poverty level in the four-county area were:

- 5.3 times more likely to report an inability to get needed health care
- 5.2 times more likely to report a lack of transportation as a problem in meeting their health needs or those of their family
- 11 times more likely to report no vehicle in the household
- 8.4 times more likely to report no phone in their home
- 5.2 times more likely to have no health insurance
- 26.5 times more likely to experience very low food security

The survey's findings, especially in regards to food insecurity, show the need for more research and policy change in this area.

Very Low Food Security Linked to Poverty

The Rural Health Information Survey (RHIS) asked, "In the last 12 months were you or people living in your household ever hungry because you couldn't afford enough food?" Hunger is recognized by the USDA as an indicator of "very low food security." The RHIS survey, therefore, measured rates of very low food security in the Redwood Coast Region. Of respondents living below the poverty line, 29.2% indicated that they had experienced very low food security that year and in Humboldt County the rate was 30.2%[13] (See Appendix 7, page 4: "Investigating Very Low Food Security in the Redwood Coast Region").

In the USDA's Report *Household Food Insecurity in the United States, 2008*[14] 42.2% of households living at or below the poverty line were food insecure, with 19.3% of them indicating "very low food security." For a comparison of "low food security" and "very low food security," see "Defining Food Security" on page 13 of this report.

What are the Greatest Needs for Improved Food Access?

The RHIS study found that across the four counties, the overall rate of very low food security was 8.4%, and Humboldt County had a rate of 9.5%.[15] In 2008 the US rate of very low food security was 5.7%.[16] Further, as shown on the maps in Appendix 7 (Exhibits 12 and 13), within the county there are pockets with severe rates of very low food security. For instance Hoopa and Carlotta responded with a range of 10 –14% and Orick with a rate of 15 – 25%. Exhibit 13 of Appendix 7 provides a visual representation of poverty rates and food insecurity rates combined.

Food Insecurity and Children

The RHIS results also reflect the national findings that households with children under the age of 18 were significantly more likely to report incidences of hunger. In Humboldt County, households with children had a 13.8% rate of very low food security, versus 7.8% in households with no children.[17] In low-income households living below 200% of poverty, the rate of very low food security was 23% for households with children. To access the report for the region, please see Appendix 7: "Investigating Very Low Food Security in the Redwood Coast Region."

Transportation and Food Stores

There are two other RHIS findings that relate directly to the issue of food security in Humboldt County. In order to get to a food store in a rural setting, households need access to private transportation due to lack of local bus routes in those regions. In the Redwood Coast Region, only 3.5% of households answered "no" to the question, "do you or someone in your household have a vehicle?" However, amongst individuals living below the poverty line, 11.1% of them said "no." In Humboldt County 4.4% of respondents were lacking a household vehicle, but the rate for individuals living in poverty was 13.7%.

Regarding travel to food stores, the Rural Health Information Survey also asked, "How far do you live from the store where you normally buy food?" As can be seen on the map of the Redwood Coast Region (Appendix 8), some Humboldt County residents have a very long way to travel. In the towns of Honeydew and Orleans, residents responded that they drive an average of 40 – 60 miles to get to the store they prefer for their food shopping. Residents of Orick travel an average of 30-39 miles to buy their food, and residents of Willow Creek, Weott, Phillipsville, Alderpoint, and Whitethorn responded that they travel an average of 20-29 miles. Distances of this extent no doubt have an impact on the food shopping patterns and dietary habits of residents.

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1 U.S. Census Bureau 2000.
2 US Census Bureau, State and County QuickFacts: Humboldt County, CA. Accessed May 2010 (http://quickfacts.census.gov/qfd/states/06/06023.html).
3 Employment Development Department of California. Table "Historical Civilian Labor Force: Humboldt County." Accessed November 2009 (http://www.calmis.ca.gov/htmlfile/county/humbo.htm).
4 Anne Holcomb, Executive Director Humboldt County Food Bank, Food for People. Personal contact. Nov. 2009.
5 U.S. Census Bureau. 2000. Summary File 3, Profile of Selected Economic Characteristics. Accessed May 2010 (http://factfinder.census.gov/servlet/QTTable).
6 Ibid.
7 First 5 Association of California. The Impact of First 5 in California's Northwest Region. April 2009. Retrieved August 10, 2010 (http://www.f5ac.org/files/First%205%20Northwest%20Region%20Impact%20Report.pdf).
8 California Health Information Survey. UCLA Center for Health Information Research. Retrieved June 2010 (http://www.chis.ucla.edu).
9 Nord, Mark, Margaret Andrews and Steven Carlson. 2009. Household Food Security in the United States, 2008. ERR-83, US Department of Agriculture, Economic Research Service. Table 2, Pp10.
10 Ibid.
11. Steinberg, S. L., Danielle Stubblefield and Dimitra Zalarvis-Chase. 2009. Food Access and Security in Remote Rural Communities. Paper presented at the annual Rural Sociological Society Meeting. Madison, WI. July 30-August 3, 2009.
12 Van Arsdale, Jessica et al. 2008. *Rural Poverty and its Health Impacts: A Look at Poverty in the Redwood Coast Region.* Humboldt State University: California Center for Rural Policy.
13 Van Arsdale, Jessica and Jenna Barry. 2008. *Humboldt County Selected Findings from the Rural Health Information Survey, 2006: Access to Health Care and Food Security*. Humboldt State University: California Center for Rural Policy. Pp19.
14 Nord 2009. Table 2, Pp10.
15 Patterson, Kali and Jessica Van Arsdale. *Investigating Very Low Food Security in the Redwood Coast Region*. Humboldt State University: California Center for Rural Policy, 2008.
16 Nord 2009. Table 2, Pp10.
17 Van Arsdale, Jessica and Jenna Barry. 2008. Pp20.

Farm to Food Bank

In 2009, Food for People switched the model of their main food pantry to that of a "Choice Pantry." This new replica alters the traditional food pantry system to allow customers to have the independence to choose the food that they will use. This new food pantry system also greatly cuts down on food waste. Customers are given points that are allotted based on client income and household size. Every food item is allocated a specific number of points based on retail prices, size and current supply and demand of the products in the pantry. Foods are then grouped into color-coded categories (e.g., dairy, fruits, vegetables, grains, protein, combination and miscellaneous) based on the My Pyramid Food Guidance System. This new "choice" system gives customers the opportunity to be more proactive about their food shopping experience and leads to increased self-reliance and learning of nutritional information of foods.[1]

In February of 2010, Food for People started a pilot project to work with farmers to provide fresh produce for their Choice Pantry. Food for People contracted with six different farmers at $1,000 a piece. This funding has added production volume at each farm and also integrates local food producers into community food assistance. The six farms participating are Green Fire Farms, Hoopa; Neukom Family Farms, Willow Creek; Earthly Edibles, Blue Lake/Korbel; Camp Grant Ranch, Redcrest; Wild Rose Farm, Blue Lake; and G Farm, Freshwater.[2] To fund this project, the authors of Locally Delicious offered $3,000 from their earnings, and Food for People was awarded a "Care for the Poor" grant from St. Joseph's Health System to match the funds. Locally Delicious added the stipulation that food planted must be in addition to what the farmer was already doing, so as not to replace current volume or take away from the quantity of local foods sold at the farmers' market or the farmers other marketing outlets.

Food for People already had relationships with several farmers who had been generous donors to the food bank and approached them based on their familiarity with the crops they grew. The Food Bank considered many factors when deciding how to structure the Choice Pantry and what produce to supply their clients with. Some of the aspects they considered were nutrition, taste, produce with a longer shelf life and consumer familiarity. They wanted items their clients would know how to use, but also decided to include some lesser-known vegetables based on their nutritional value, such as kale. They will coordinate with their Education and Outreach Team to provide cooking classes featuring available produce to teach new cooking methods. For example, once a donation of rutabagas was not being used by clients, but a recipe and sampling of rutabaga fries made them popular. An example of the crops expected in 2010 are broccoli, tomatoes, kale, spinach, chard, zucchini/summer squash of all varieties, winter squash, cucumbers and musk melons (cantaloupes, honeydew, etc). There is already strong interest in the project and it is expected to continue in the coming years.

Reception from Food for People clients is anticipated to be positive. To date the food bank has had little control over fresh produce availability. They have relied on donations from grocery stores, gleaning, offerings from farmers and home gardeners, and summertime produce truckloads from the statewide Farm to Family program. The food bank's philosophy has always been to make fresh and healthy produce available, with as much as possible sourced from California. The new direct farm-to-food bank arrangement has greatly increased the amount of produce that is expected. In addition a Local Food Resource Coordinator position has been added to manage this project and locate further opportunities for gleaning throughout the county. Food for People hopes to have an ongoing source of fresh, healthy and local produce throughout this year and for years to come. For more information on Food for People's Choice Pantry and produce distribution, see Appendix 10 and 11.

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1. Barry, Jenna Jo. 2010. Food for People's Choice Food Pantries: The Power of Choice. Humboldt State University: California Center for Rural Policy.
2. Whitley, Jason. Local Food Resource Coordinator at Food for People. Personal communication, June 14 2010.

Section 5.4

Food Availability and Consumption Patterns

This section reviews data on the topic of food assistance and the availability and sources of local foods. There is a wide range of food assistance programs to help feed the food insecure members of the community. Federal food assistance programs bring thousands of dollars into the local economy every year and account for a large portion of the food services provided. Nationwide, fifty-five percent of all food-insecure households participated in one or more of the three largest federal food and nutrition assistance programs in 2008.[1]

This section examines how federal programs connect low-income consumers directly with locally produced fresh and healthy foods, such as at the Farmers' Market. The following table identifies research questions that are key to the topic of food availability and consumption patterns. As indicated, some of the questions are included in this section of the Community Food Assessment. Some did not fit into the scope of this report, while others lacked existing data. All of the questions could benefit from future research.

Research Questions Included
What federal food assistance programs are available to help people access food?
How do people obtain food assistance?
Are people participating in the food assistance programs?
Where are the food pantries?
How strong is free and reduced lunch program participation?
How can consumers find locally produced foods?
Are there farmers' markets?
Are there farm stands?
Are there community supported agriculture (CSA) opportunities?
How can low-income consumers access fresh and local produce?
Research Questions Not Covered
Is fresh produce available at grocery stores throughout the county?
What do we know about food shopping patterns?
Is there public transportation to grocery stores and food assistance?
What are other food-related transportation needs?

Food Assistance in the Community

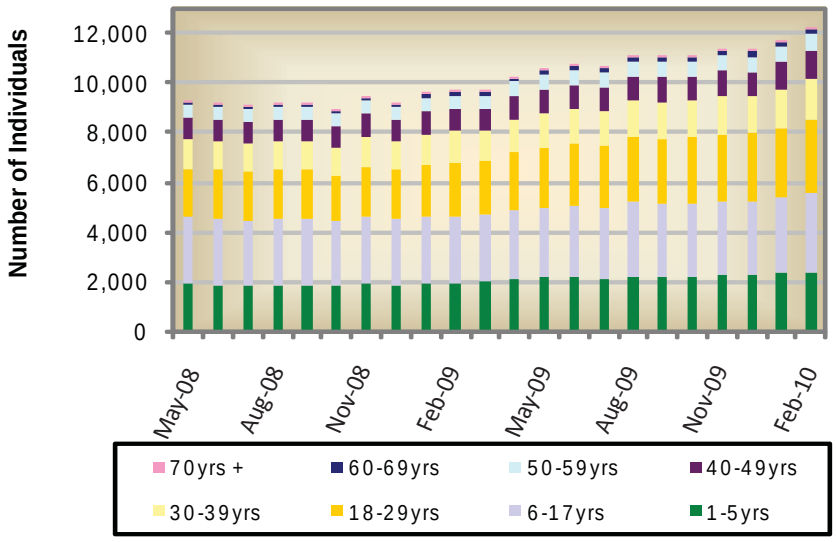
Currently 11,000 – 12,000 people a month are relying on assistance from the county's food bank Food for People, and 400 children a day are in need of their After School Snack Program.[2] Luckily there are many Humboldt-area organizations working to meet the emergency food needs of our low-income citizens, such that we won't detail them all here. Partnering with churches and other non-profits, Food for People services a network of 17 pantries with locations throughout the county. (see Appendix 9: "Food for People's Pantry Network" for a map of sites).

Supplemental Nutrition Assistance Program (SNAP)

The Supplemental Nutrition Assistance Program, formally known as the Food Stamp Program, is a food assistance program administered by the United States Department of Agriculture (USDA) which provides millions of Americans with food assistance each day. Eligible participants receive an EBT card with funds to purchase food at authorized food retailers and farmers' markets. Eligibility for participants is based on income, household size, and assets. As of February 2010, 39.6 million people were receiving SNAP benefits in the US. Eligibility for SNAP is determined by household incomes that are below 130% of poverty.[3]

SNAP plays a crucial role in access to food for low income individuals and families.[4] In Humboldt County, over the past two years, there has been a rise in participation in the program. According to the Food Stamp Policy Task Force, 2009-2010 saw the largest increase of 25%.[5] As of February 2010, there were over 12,000 individuals in the county receiving SNAP benefits, almost 50% of whom were children under the age of 18[6] (Figure 21 "Food Stamp Age Demographics"). Though there has been a large increase in participation in SNAP, there are still many more who are eligible for the program and local organizations are hard at work to increase enrollment. The California Food Policy Advocates estimated that based on Food Stamp expenditure calculations, full SNAP enrollment in the county could result in an additional $28 million dollars of economic activity.[7]

Figure 21: Food Stamp Age Demographics May 2008 to February 2010



Data Source: Interim Statewide Automated Welfare System (ISAWS) Ad Hoc Report (February 2010).

To increase SNAP enrollment a local collaborative, the Food Stamp Task Force, has formed with a goal to build a "stronger and healthier" community.[8] The task force has a newsletter to share current information on the issue of food assistance as well as a calendar of events where individuals can enroll or obtain more information about SNAP. The task force also encourages the use of SNAP for the purchase of fresh and healthy foods by informing people of the opportunity to use EBT cards at local farmers' markets — not only for fresh produce and local products, but to purchase plant starts for growing their own gardens.

Sign-up for the SNAP program has gotten easier. The face to face interviews that were previously a part of enrollment are no longer required, allowing for a much quicker application process.[9] There also is an online tool, C4Yourself, that allows individuals to fill out the application from any computer with internet access and to see their application status online. Table 6 shows how individuals can apply for SNAP:

Table 6: Supplemental Nutrition Assistance Program Application Sites

Where to Apply	Location
Garberville Outstation	727 Cedar, Garberville, CA, Phone (707) 923-2759
Hoopa Outstation	K'ima:w Medical Center 1200 Airport Road, Hoopa, CA, Phone (530)625-4251
Food for People food bank	307 W. 14th Street, Eureka, CA - Phone (707) 445-3166
Mobile Engagement Vehicles	Visits various rural and remote locations
Calling the Mail In line	269-3541 Food Stamp Application Packet will be mailed
C4yourself Website	*https://www.c4yourself.com/*
Family Resource Centers *Call for schedule of on-site assistance.*	*Blocksburg, Blue Lake, Bridgeville, Eureka, Fortuna, Loleta, Manila, McKinleyville, Orick, Petrolia, Redway, Rio Dell, Willow Creek*

Source: Beck, Connie. Humboldt County Dept. of Health & Human Services, Social Services Branch.

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

The WIC program provides federal funds to states for mothers and children who are considered at risk or low income. The program benefits are supplemental foods, health care referrals, nutrition education to eligible candidates, and referrals to other health and welfare social services. The program targets females who are of low-income status and are pregnant mothers, breastfeeding mothers, postpartum women, and with infants and children up to age five. The WIC program requires that retail stores are authorized in order for them to accept WIC coupons. There are 47,000 authorized retailers for the program. WIC serves approximately 45% of all infants born in the United States.[10] In some states WIC has implemented an EBT card similar to SNAP for ease of use and less stigma for users.

Locally, the WIC program is administered by two agencies: the Humboldt County Department of Health and Human Services (DHHS) and United Indian Health Services (UIHS). The WIC food packet value ranges from $60-$95 per month. This value is contingent upon the type of individual enrolled (i.e., woman, infant, or child), foods selected for purchase, and geographic location of the store where the item is purchased.[11] The program also provides numerous educational opportunities for individuals in the program including nutrition education, instructions in food preparation and tips for food shopping. Additionally, the program provides support for breast feeding mothers, including the loan of breast pumps for those in need.[12] There are over 3,000 WIC participants (see Table 7). According to Barbara Howe, Deputy Branch Director of Humboldt County Public Health, the department is working to enroll 500 more women, infants and children and the first step in accomplishing increased participation is by spreading the word about the program (see Appendix 12: "WIC Eligibility Guidelines").

Table 7: WIC Participation in Humboldt County for April 2010

Department of Health Enrollment Site/Participation		**United Indian Health Services** Enrollment Site/Participation	
Eureka	1,644	Potawot Health Village	507
Fortuna	885	Willow Creek	46
McKinleyville	384	Hoopa	177
Garberville	169	Fortuna	34
	Total:	3,866	

Source: Personal Communication, Barbara Howe, DHHS Public Health and Allison Aldridge, UIHS.

Farmers' Market Nutrition Program (FMNP) and Senior Farmer's Market Nutrition Program (SFMNP)

This program was created to offer fresh, locally grown fruits and vegetables to people already enrolled in WIC or Senior food assistance programs. The program is administered by Food and Nutrition Services and provides cash grants to state agencies. The program enables WIC and Senior FMNP participants to support local farmers. The program currently operates in 45 States, U.S. territories, and tribal organizations. People who can participate are women, children, and seniors 60 years or older. In 2009 2.2 million WIC participants received FMNP benefits and 809,711 seniors. In 2010 $20 million was appropriated by congress for the FMNP.[13] A farmer's market needs to be pre-approved by WIC in order to accept the coupons and redeem them (see Appendix 14: "Humboldt Farmers' Markets" for a list of markets that accept FMNP and SFMNP).

The Department of Health and Human Services received 500 booklets worth $20 each in coupons to be used at farmers' markets. These coupons were divided up between the four WIC clinics in the county by caseload. "The number of coupons available to local agencies has declined steadily and significantly over the past few years and this amount is the lowest allotment we have ever received," says Jim Sousa, WIC Project Director at DHHS. At UIHS, there were 250 FMNP booklets received, all of which have already been allocated. Staff asked WIC clients if they would use them or not and gave them only to those who responded that they would. Some clients had asked in advance when the FMNP coupons would arrive and were advised to come in early June in order to get them before they ran out.[14] There was definitely greater interest than supply at both WIC offices.

In California, the SFMNP runs May through November and is administered throughout the counties by their affiliated Area Agency on Aging. In the county this year, approximately 250 seniors will be given $20 worth of coupons that can be used at local farmers' markets. According to dietician Debbie Krzesni, in previous years Area 1 Agency on Aging received over 1,000 booklets that were worth $30 each, but cuts at the federal level reduced program funding and in addition the state of California made administration changes (basing allocation on county population instead of need). The SFMNP coupons can be used at the same markets that WIC approves and certifies for FMNP usage. This year Area 1 Agency on Aging will distribute them to their congregate meal site partners, trying to spread them out based on who can best use them (i.e. where the need is and where the eligible markets are). Seniors have to self-certify that they are eligible based on income (cannot exceed 185% of poverty level) and age must be over 60 years old.[15] If all 750 WIC participants who received the FMNP coupons use them, as well as the 250 SFMNP recipients, this could be a potential earning of $20,000 for local farmers.

National School Lunch Program (NSLP)

The National School Lunch Program (NSLP) provides school lunches for free or at a low cost to school children. Established in 1942 to aid in proper childhood nutrition, the lunches follow the USDA nutrition guidelines. The program offers over 101,000 non-profit private, public, and residential school programs, serving 30 million children each day of school in 2008. Schools that participate in the program are awarded cash subsidies and food commodities by the USDA. The USDA nutrition standards require that lunches provide 30% of the student's calories come from fat, less than 10% from saturated fat, and must include one third of the recommended dietary allowances of protein, vitamins A & C, iron, calcium and calories. Any child can purchase a meal through the NSLP or may qualify for free meals if the child's family income is below 130% of poverty level, and for reduced price meals if between 130-185%.[16]

County-wide, 7,536 students qualified for the Free and Reduced School Lunch Program in the fall of 2009.[17] Qualifying students are determined through a family application package or a Direct Certification List. State law recently mandated that all schools use this list, which identifies children who are already proven eligible through participation in other federal food assistance programs. Out of those students who qualified for NSLP, 68% participated in the program. According to the California Food Policy Advocates, an additional $1,726,972 in federal dollars could be obtained if the county saw full enrollment in the program. Humboldt's utilization of the program compares poorly, ranking 56th out of 58 counties in California.[18]

When looking at the NSLP usage of the various school districts (see Appendix 13: "Free and Reduced Lunch Program Enrollment"), the data obtained from the Humboldt County Office of Education shows Bridgeville has the highest participation rate — with approximately 89% of those who qualify in the school district participating in the program. Garfield School District has the lowest participation rate at only 33%, however this only accounts for 6 children. Fortuna High has a the second lowest participation rate — out of 528 children who qualify for the program only 34.8% of them actually participate. Although Appendix 13 data are from the Fall of 2009, due to the nature of school enrollment these numbers will change very little throughout the school year.[19] The overall highest enrollment in the county is the Eureka Unified School District with a total of 3,986 participants in Fall of 2009. However, these high numbers are due to district population and are not due to high participation rates. At Eureka Unified only 66.7% of the students who needed and qualified for the program actually participated. When looking at the percentage of the total student body of the districts who qualify for the assistance program, the school district with the highest rate is Peninsula, near Eureka. Within this school district, 83.9% of the student body qualifies for free or reduced lunches. This signifies a great deal of poverty within this school district.

School Breakfast Program (SBP)

In addition to the Free and Reduced Lunch Program, school aged children may also obtain food assistance through the School Breakfast Program (SBP). The program operates in the same fashion as the National School Lunch Program. Schools must serve breakfast that is free or at a discounted price to students that are eligible. In 2007, this program served 10.7 million students each day, and 8.5 million students received free or discounted meals across the nation.[20] In the county, there are approximately 2600 students enrolled in the SBP.[21]

Summer Food Service Program (SFSP)

The SFSP provides healthy and nutritious meals and snacks to students in low income areas during the summer months. The program is administered by the USDA. Sponsors that range from school districts, local government agencies, camps, and non-profit organizations coordinate the program. The sponsor group provides free meals at a central site such as a school or community center, and then receives payments from the USDA. Eligibility follows the same requirements as the NFLP and SBP, serving children of low income families below 185% of poverty level.[22]

Locally, the largest sponsor of SFSP is Food for People. They have built partnerships with existing summer recreation programs such as the Boys and Girls Clubs. In summer of 2009, 13,307 meals were served, typically as a sack lunch to roughly 350 children. This number is up from 12,760 meals in 2008. The increase is expected to continue for summer of 2010, with partnerships expanding from 15 sites to 17.[23]

In addition to Food for People, the Summer Food Service Program has regularly been administered by five other groups in the region: Hoopa Tribal Council, Wiyot Tribe, Blue Lake Rancheria and the Upward Bound Programs at Humboldt State University and College of the Redwoods.[24]

Food Distribution Program on Indian Reservations (FDPIR)

FDPIR is a federally administered program by the Food and Nutrition Services and the USDA. An Indian tribal organization or a state agency then administers the program locally. Currently 271 tribes receive benefits through the program. The program ships food commodities to local tribes, and also provides nutrition education benefits to tribal recipients. In order to be eligible for the program at least one member of the family must be from a federally recognized tribe, low income, and be recertified every 12 months. The USDA offers recipients 70 different products to pick from. In 2007, 86,622 tribal members participated nationally in FDPIR.[25]

Locally, FDPIR is administered through two groups: the Hoopa Tribal Council's Food Distribution and the Yurok Tribe Social Services Food Distribution Program. The Yurok serve 81 households through seven dropoff sites and roughly 200 households are served at the Hoopa pickup site. Keith Hostler manages the food packaging and distribution in Hoopa. Hostler's observation is that the need for FDPIR has remained fairly consistent in recent years. He pointed out that the foods offered through the program are designed to serve families dealing with issues of obesity, diabetes, and other prevalent health problems amongst American Indians. For this reason they have fewer salts and sugars than typical commodity supplies.[26]

Indians participating in the FDPIR are not allowed to enroll in the SNAP (Food Stamps) program at the same time. When the FDPIR program was created decades ago, it was brought to the US government's attention that Indians living on remote reservations couldn't utilize Food Stamp services to access food assistance the way that urban residents could. Additionally, though individuals may have been eligible and enrolled in Food Stamps, issues arose because the food stamp program wasn't appropriate to the American Indian's food culture and diet. As an outcome of this original mission, to serve the remote reservations, Indians living in towns with a population over 10,000 aren't allowed to enroll in FDPIR. Some feel that this is an outdated and unfair exclusion, as SNAP doesn't specifically provide foods selected for healthfulness, and also because individuals can be "termed out" of SNAP but not FDPIR.

Nutrition Services Incentive Program (NSIP):

The Nutrition Services Incentive Program (NSIP) is a USDA program administered by Area Agencies on Aging and Tribal organizations that are working to provide congregate meals or deliver meals to older adults.[27] The USDA provides funds to buy food or provides USDA foods to be used for the preparation of congregate or delivered meals. This program plays an important role in the access of food for older adults. Area 1 Agency on Aging is the largest administrator in the county. Table 8 shows some of the locations that provide this service.

Table 8: Area 1 Agency on Aging Nutrition Services Incentive Program (NSIP) Meals: July 2008- June 2009

Organization	Number of Home Delivered Meals	Number of Congregate Meals	Address	Phone
Healy Senior Center	3,660	3,027	456 Briceland Way Redway, CA 95560	707-923-2399
K'ima:w Medical Center	1,314	1,583	Hoopa Sr. Center Loop Rd Hoopa, CA 95546	530-625-4834
Humboldt Senior Resource Center	51,607 Numbers cumulative from their 3 locations	42,547 Numbers cumulative from their 3 locations		
Eureka Dining Center			1910 California St. Eureka, CA 95501	707-443-9747
Arcata Dining Center			321mm Park Way Arcata, CA 95521	707-825-2027
Fortuna Dining Center			2130 Smith Ln Fortuna, CA 95540	707-725-6245

Source: Krzesni, Debbie. Dietician, Area 1 Agency on Aging. Personal communication May 3, 2010.

Finding Locally Produced Foods

The freshest foods, which often make them healthier than anything canned, frozen or even sitting on a shelf for a week, are local ones. To purchase local foods, where does a consumer start? There are many alternative markets that specialize in locally produced fresh and healthy food options. Farmers markets, roadside food stands, on site farm sales, and community supported agriculture groups are just a few options that residents can utilize. Within this report we have identified the locations for these alternative markets by providing addresses, times of operation, and markets that accept federal food assistance resources.

Federal food assistance recipients now have an increased array of options to help them participate and shop in local alternative food markets. Allowing recipients to use WIC or EBT resources gives individuals access to fresh and healthy food options while also benefiting the local farmer and the economy. In 2008, $20 million in

revenue was generated to farmers through the use of EBT or WIC resources across the United States.[28] In 2009 at the North Coast Growers Association's Saturday market 437, customers utilized EBT resources and spent a total of $8,631.[29] The average number of EBT customers at each market was 13, spending a combined average of $262. See Table 9 for monthly and year totals. For more information regarding farmers' market locations, hours of operation, and acceptance status of WIC and EBT, see Appendix 14: "Humboldt Farmers' Markets."

Table 9: EBT Usage at Arcata Plaza Saturday Farmers' Market, 2009

Month*	# EBT Customers	Total Monthly $
April	38	727
May	58	1241
June	44	923
July	36	619
August	92	1657
September	59	1375
October	73	1355
November	37	734
Total=	437	$8,631

Source: Bramble, P. North Coast Growers Assoc.
* Note: The number of Saturday markets in any given month ranged from three to five, based on the calendar and other events taking place on the Arcata Plaza.

Community Supported Agriculture

Community Supported Agriculture (CSA) is a new take on an old initiative in farming, which is a shared commitment between local farmers and community members, building upon local agriculture and community stewardship. CSA's originated in the 1960's in Switzerland and Japan, due to consumers wanting safe food direct from the source.[30] The United States and Europe started CSA's in the 1980's, and since then they have been gaining more attention nationwide in rural and urban areas.[31] In the United States there are approximately 2,500 CSA's.[32] At the time of this study, there are 8 CSA's that serve Humboldt County. Members of a CSA make a pledge to a farm operation in support of the products produced on site, and pay a membership fee for those products. By having community members, farmers receive capital in advance and consumers receive better prices on locally grown food. CSA's either deliver directly to the consumer or have pickup sites for members. This farming initiative puts the consumer in direct contact with the producer, which enhances food knowledge and community cohesion (See Appendix 15: "Humboldt County CSA Table").[33]

On-Site Farm Stands

Throughout Humboldt County as the summer season approaches farms and local individual agriculture entrepreneurs start to set up road side fruit and vegetable stands. These stands are another outlet for acquiring fresh, healthy, and delicious foods. These temporary establishments allow local farmers and entrepreneurs to make extra capital, and serve different communities by setting up around the stand in different regions. Many of the on farm sales and roadside stands are also accepting WIC and EBT resources. This allows federal food assistance recipients even more local food options, while adding more investment to the local farmer and economy. Since on-site farm stands are a seasonal venture and move locations, we are still looking to quantify the number of stands in the region. Table 10 shows a sampling of farm stands with general locations and hours. Appendix 16: "Humboldt Local Produce Availability Chart" informs consumers of what produce items are in season at different times of the year.

Table 10: Humboldt County Farm Stands

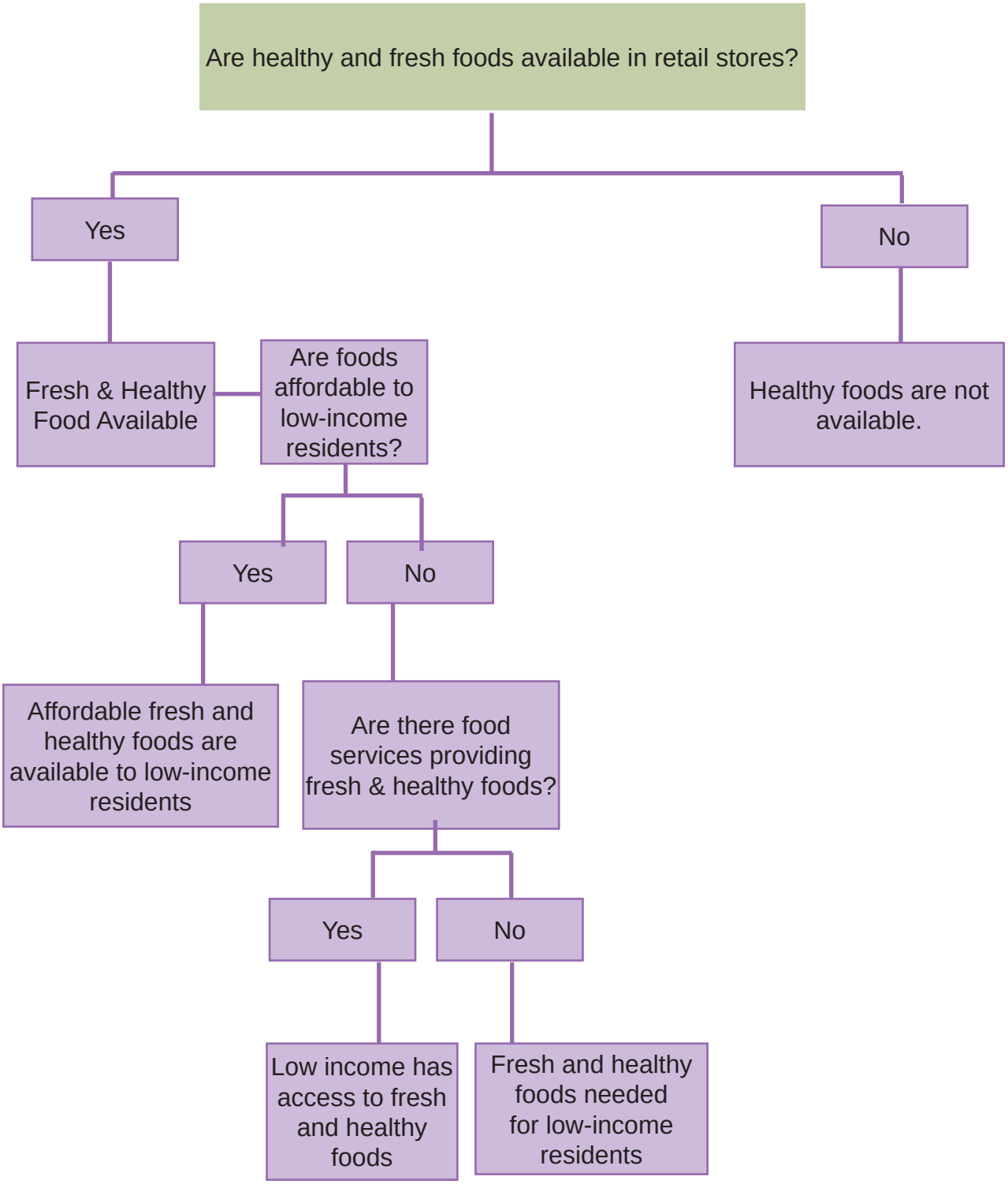
Farm Name	Location/Contact	Operation Times WIC/EBT
Clendenen's Cider Works	96-12th Street Fortuna, CA 95540 (707) 725-2123 Clif@clendenenscider works.com	August-February
Southern Humboldt Community Garden	934 Sprowl Creek Rd Garberville, CA 95542 (707) 223-4996 John solarisfinley@yahoo.com	August – November Accepts WIC
Corn Crib	Avenue of the Giants Pepperwood, CA 95565 (707) 786-9240 Jean	August 15-October Everyday sometimes closed on Monday
Flood Plain Produce	31117 Avenue of the Giants Pepperwood, CA 95565 (707) 7232-4330 Holly & Mel Krebb hollisruth@asis.com	July-August Everyday Call Ahead they Live on Site
High Oak Organic Farm	Shelter Cove Rd P.O. Box 309 Whitehorn, CA 95589 (707) 986-7481 hioak@asis.com	August- October Call ahead
McIntosh Farm Country Store	1264 Giuntoli Lane Arcata, CA 95521 (707) 822-0487	August-November Everyday M-F 7-4 Sat-Sun 10-4
Saechao Strawberries	Eel River Drive (Kenmar Exit) Fortuna, CA 95540 (707) 845-3930	May-July Open depending on amount of produce for certain days Call ahead
Redwood Roots Farm	Farm stand in Bayside PO Box 793 Arcata, CA 95518	Tuesday & Thursday 12-7 or by Appointment
Trinity Valley	2443 HWY 96 Willow Creek, CA 95573 (530) 629-3200	Monday-Sunday 8-6 April-October Accepts Fresh Farm Fruits & Vegetables 2 Dollar Vouchers
Seasonal stands (temporary)	Set up in parking lots, at road intersections, and other opportune locations around the county.	

Source: Community Alliance with Family Farmers. Buy Fresh Buy Local Food Guide. Retrieved July 2010 (http://guide.buylocalca.org/PDFs/CAFF_humbolt_08.pdf).

Fresh Food Availability and Affordability Concept Framework

In the development of our research on fresh food availability, the following concept framework helped to generate data and guiding questions (See Figure 21: "Fresh Food Availability & Affordability Concept Chart"). The concept framework addressing fresh food availability should be used to generate questions and identify gaps within the specific food system sector. Each step of the chart can be used to ask and answer questions. These steps help to identify resource needs and action steps for the specific topic being investigated. Groups can follow the steps to develop their own research questions and outcomes for assessment. The chart can be used for diverse interests within the food assessment process, and for a final development of policy.

Figure 21: Fresh Food Availability and Affordability Concept Chart



Source: Cohen, Barbara. 2002. Community Food Security Assessment Toolkit. E-FAN-02-013. IQ Solutions, Inc., for US Department of Agriculture, Economic Research Service. Pp 50. Modified by D. Stubblefield and A. Ollar, 2010.

Rural Latino Project, 2008

Authors: Dr. Sheila Lakshmi Steinberg, Marian Strong, Nanette Yandell, and Adriana Guzman.

Methods: This report studied Latinos in the Redwood Coast Region from three counties: Mendocino, Humboldt and Del Norte. From March through September of 2006 key-informant interviews were conducted with 54 adults. Responses from the interviews were noted and analyzed for trends and themes.

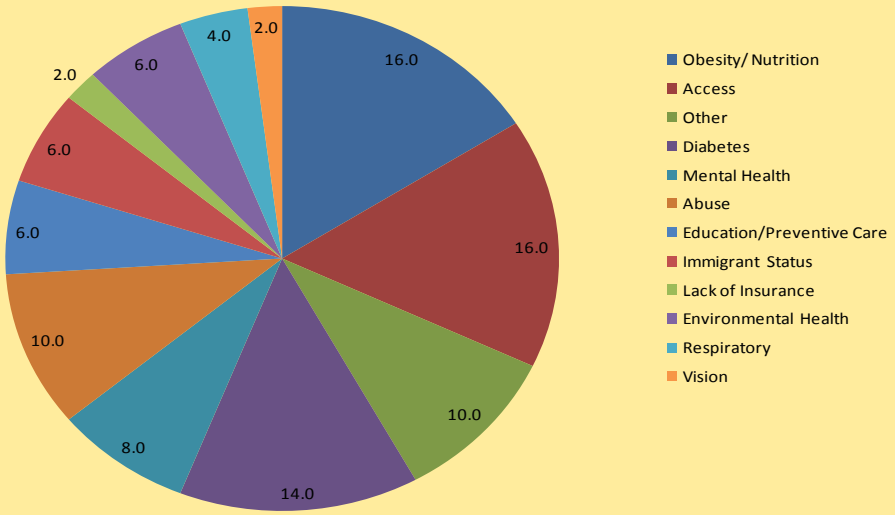
Findings: The study assessed many questions regarding Latino health needs and how they attend to these needs, looking at factors that affected health such as language, nutrition, and economics. There are three findings of particular interest that give insights to how Latinos, the largest minority group in Humboldt County and fastest growing ethnic group in the population, relate to our local food system.

Factors Influencing Health

When asked, "What are some of the things that affect the health of Latino people in your community?" the theme that emerged the highest for the three county region, with a 14.9% frequency rate, was "Nutrition/ Exercise." In Humboldt County respondents answered "Language/Immigration status" first, at a rate of 16.7%, but that was followed by 14.8% saying "Nutrition/Exercise."[34] A comment from one Humboldt County respondent was, "Come from nine months in Mexico. Very thin come here and gain so much weight, then try to starve themselves later. School provides crappy food. That is why eating disorders." Another said, "Bad diet, bad food choices, too much junk food, not enough physical activity, not enough exercise...turns into cultural diabetes (big in Latinos). Not a lot of people jog — there is a health club, need membership, should be more of a health club, membership is expensive, people can't afford it."

A similar question asked, "Of the health issues in your area, which do you feel are most important?" Figure 22: "Health Issues of Most Importance to the Latino Community, Humboldt County," shows the categories to choose from and the frequency of the responses for Humboldt County. The main health issues that key informants felt were important were "Obesity/Nutrition" and "Access," each accounting for 16% of the responses. Access included language barriers, transportation, access to care, economics, lack of resources, bilingual services, poverty, and hunger. An interviewee said, "Nutrition is most important. Cultural characteristics go with diet; hight fat, high carbohydrates, lead to hypertension, medical diabetes."

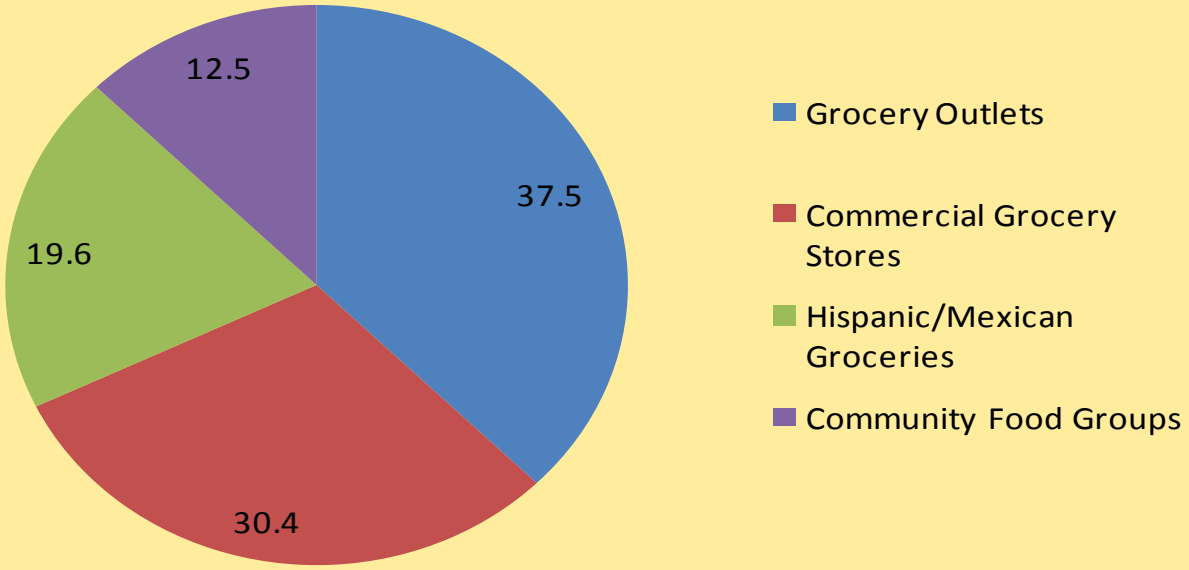
Figure 22: Health Issues of Most Importance to the Latino Community, Humboldt County



Source: Steinberg, Sheila L. et al. 2008. Rural Latino Project Final Report. Humboldt State University: California Center for Rural Development.
*For more detail on specific categories mentioned in graph please see the CCRP Rural Latino Report.

The third finding of interest regarding the Latino community's utilization of the food system is the analysis of where they go for food services. Asked as, "Where do members of the Latino community most often obtain the following types of goods and services," with "Food/Groceries" as a category choice. The majority of key informants in Humboldt County said "Grocery Outlets," with a selection rate of 37.5% (see Figure 23: "Where Latinos go for Food Services in Humboldt County").

Figure 23: Where Latinos go for Food Services in Humboldt County



Source: Steinberg, Sheila L. et al. 2008. Rural Latino Project Final Report. Humboldt State University: California Center for Rural Development.
*For more detail on specific categories mentioned in graph please see the CCRP Rural Latino Report.

Transport to Food Concept Framework

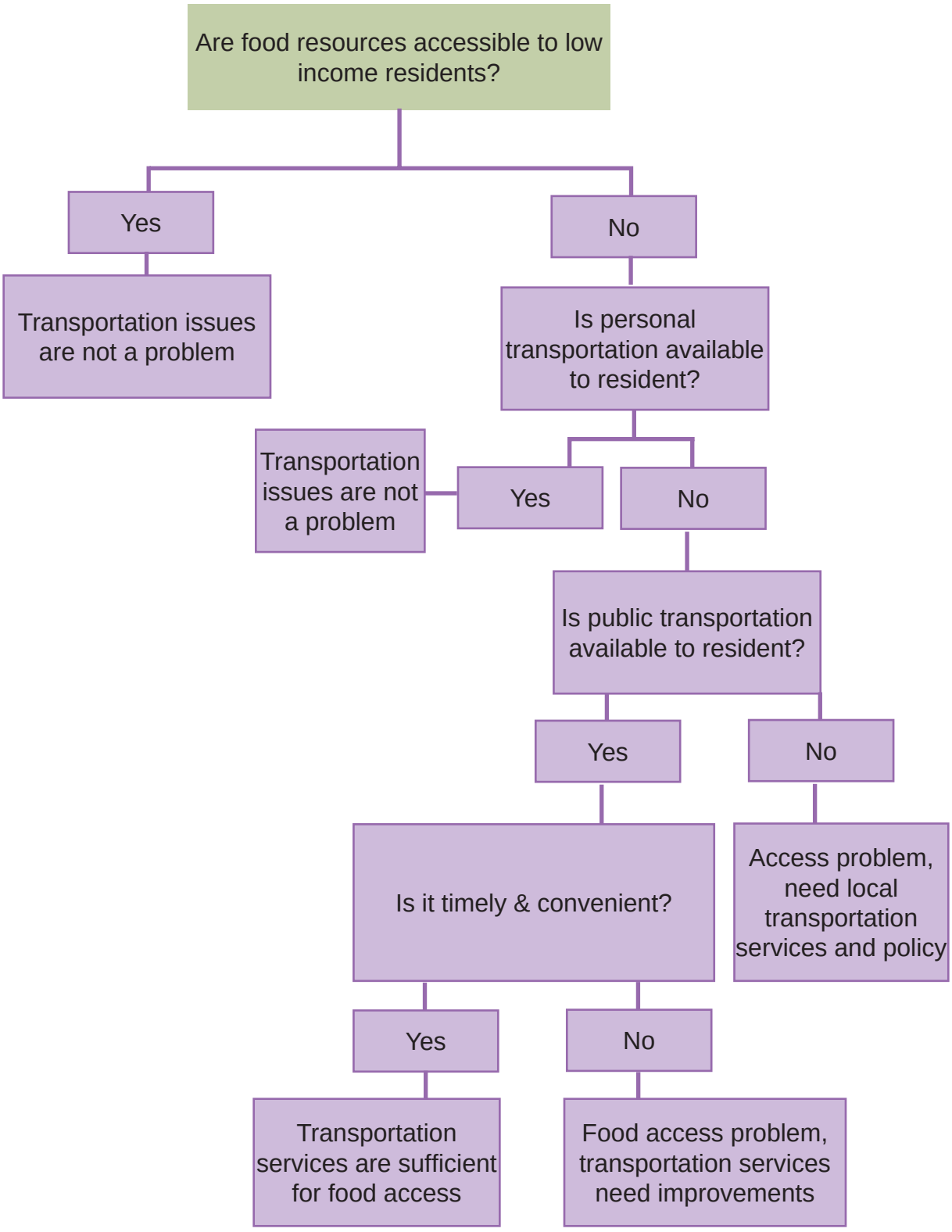
Transportation to food stores can play a major role in an individual's access to fresh and healthy foods. This food access indicator needs further research and investigation to local barriers to food access due to transportation challenges. The following framework chart was developed to help generate guiding questions to further research transportation to food stores (See Figure 24: Transport to Food Stores Chart). The concept framework addressing transportation barriers should be used to generate questions and identify gaps within the specific food system sector. Each step of the chart can be used to ask and answer questions. These steps help to identify resource needs and action steps for the specific topic being investigated. Groups can follow the steps to develop their own research questions and outcomes for assessment. The chart can be used for diverse interests within the food assessment process, and for a final development of policy.

Future Research: Transportation and Food Access

Humboldt County has many geographic challenges – population clusters are small and rugged terrain makes transportation and access to services difficult. The isolation of many rural towns and lack of market competition results in limited grocery store selection, high prices, and few lower cost alternatives. Research has found that differences in access to food stores can significantly affect both the prices households face and their average food costs, with low-income rural populations typically facing the highest food prices.[35]

Transportation is a major determining factor in an individuals access to food. They are dependent on friends, family and public transportation for obtaining food, whether it be at a store, a food pantry, or the supplies to grow their own food.

Figure 24: Transport to Food Concept Chart



Source: Cohen, Barbara. 2002. Community Food Security Assessment Toolkit. E-FAN-02-013. IQ Solutions, Inc., for US Department of Agriculture, Economic Research Service. Pp 45. Modified by D. Stubblefield and A. Ollar, 2010.

Future Transportation Research Questions
Number of individuals with no vehicle
Number of individuals living >0.5 mi to a store with no vehicle
Do urban bus routes travel between low income neighborhoods and grocery stores?
Do geographically isolated communities have transportation to towns with full grocery stores?
Bus routes to SNAP enrollment sites?
Bus routes to food banks and pantries?
Public transportation for seniors?
What are non-motorized transportation options (i.e. walk, bike etc.) to community stores?

1 Nord, Mark, Margaret Andrews and Steven Carlson. 2009. Household Food Security in the United States, 2008. ERR-83, US Department of Agriculture, Economic Research Service. Pp2.
2 Food for People, "Food Notes" Newsletter, Fall 2009. Retrieved January 2010 (http://www.foodforpeople.org/Newsletters/Food%20Notes%20Fall%202009.pdf).
3 United States Agriculture. Supplemental Nutrition Assistance Program (Snap). Retrieved May 27, 2010 (http://www.fns.usda.gov/snap/ and http://www.fns.usda.gov/snap/faqs.htm).
4 United States Department of Agriculture. Retrieved June 4th 2010 (http://www.fns.usda.gov/fns/services.htm).
5 Food Stamp Task Force. 2010. "Food Stamp Participation Rates Soar." Food Stamp Task Force News, May 2010. Pp 3.
6 Humboldt County Department of Health and Human Services. 2009. Integrated Progress and Trends Report. Eureka CA. (Also available at http://co.humboldt.ca.us/HHS/Administration/)
7 California Food Policy Advocates. 2010 Humboldt County Nutrition and Food Insecurity Profile. Accessed June 2010 (www.cfpa.net).
8 Food Stamp Task Force 2010.
9 Beck, Connie. Humboldt County Department of Health & Human Services, Social Services Branch. Program Manager II. Personal communication May 2010.
10 United States Department of Agriculture. Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Retrieved May 26, 2010 (http://www.fns.usda.gov/wic/aboutwic/wicataglance.htm).
11 Howe, Barbara. Humboldt County Department of Public Health and Social Services, Public Health Branch Deputy Branch Director. Personal Communication. May, 10 2010.
12 Humboldt County Department of Health and Human Services. Retrieved June 7, 2010 (http://co.humboldt.ca.us/HHS/PHB/Women%2CInfantsAndChildren.asp).
13 United States Department of Agriculture. WIC and Seniors Farmers Market Nutrition Program. Retrieved May 26, 2010 (http://www.fns.usda.gov/wic/FMNP/FMNPfaqs.htm) and (http://www.fns.usda.gov/wic/SeniorFMNP/SFMNPmenu.htm).
14 Bishop, Barbara. WIC supervisor, UIHS. Personal communication June 21, 2010.
15 Krzesni, Debbie. Dietician, Area 1 Agency on Aging. Personal communication May 3, 2010.
16 United States Department of Agriculture. National School Lunch Program. Retrieved May 26, 2010 (http://www.fns.usda.gov/cnd/lunch/AboutLunch/NSLPFactSheet.pdf).
17 California Department of Education Free and Reduced Meal Claims: Humboldt County. 2010.
18 California Food Policy Advocates. 2010 Humboldt County Nutrition and Food Insecurity Profile. Accessed June 2010 (www.cfpa.net).
19 Prescott, Linda. Humboldt County Office of Education. Personal Communication May, 3 2010.
20 United States Department of Agriculture. School Breakfast Program. Retrieved May 26, 2010 (http://www.fns.usda.gov/cnd/breakfast/AboutBFast/SBPFactSheet.pdf).
21 California Food Policy Advocates. 2010 Humboldt County Nutrition and Food Insecurity Profile. Accessed June 2010 (www.cfpa.net).
22 United States Department of Agriculture. Summer Food Service Program. 2010.Retrieved May 26, 2010 (http://www.fns.usda.gov/cnd/summer/).
23 Nieto, Andy. Child Nutrition Programs Coordinator, Food for People. Personal communication May 12, 2010.
24 Prescott, Linda. Humboldt County Office of Education. Personal Communication May, 3 2010.
25 United States Department of Agriculture. Food Distribution Program on Indian Reservations. Retrieved May 22, 2010 (http://www.fns.usda.gov/fdd/programs/fdpir/about_fdpir.htm).
26 Hostler, Keith. Hoopa Tribal Council, Food Distribution. Personal communication, May 5, 2010.
27 United States Department of Agriculture about NSIP. Accessed June 16, 2010 (http://www.fns.usda.gov/fdd/programs/nsip/about_nsip.htm).
28 United States Department of Agriculture. Farmers Market Nutrition Program Facts. 2009. Retrieved June 12, 2010 (http://www.fns.usda.gov/wic/FMNP/FMNPfaqs.htm#1).
29 Bramble, Portia. North Coast Growers Association EBT Use at the Saturday Market Arcata. 2010.
30 DeMuth, Suzanne. 1993. Community Supported Agriculture (CSA): An Annotated Bibliography and Resource Guide. USDA. Retrieved June 11, 2010 (http://www.nal.usda.gov/afsic/pubs/csa/csadef.shtml).
31 Ibid.
32 Local Harvest. Community Supported Agriculture. Accessed May 2010 (http://www.localharvest.org/csa/).
33 DeMuth, Suzanne. 1993.
34 Steinberg, Sheila L. et al. 2008. Rural Latino Project Final Report. Humboldt State University: California Center for Rural Development.
35 Kaufman, Phil. "Rural Poor Have Less Access to Supermarkets, Large Grocery Stores.' Rural Development Perspectives. Vol. 13, No. 3.

Section 5.5

Last Stop: Waste and Recycling

Food recycling is a series of activities where discarded food materials are collected, sorted, processed and converted into other materials, such as compost, and used in the production of new products. Before food is discarded, surplus food can first be donated and used by shelters and other food assistance providers. Some of the largest generators of food and organic waste products are farms, produce centers, food processors, supermarkets, school cafeterias, restaurants, hospitals, and large community or activity events. In 2004 the University of Arizona documented that over 40% of food grown in the United States is thrown away and wasted. Forty percent of food would cost approximately 100 billion dollars annually.[1]

This section highlights some of the food waste statistics for Humboldt County, and current resources for solid waste utilized by the region. Recommendations for reducing food waste are compiled by the U.S. Environmental Protection Agency, followed with diagrams for reduction and the U.S. waste generation categories. The following table identifies research questions that are key to the topic of socioeconomic demographics and food insecurity. As indicated, some of the questions are included in this section of the Community Food Assessment. Some did not fit into the scope of this project, while others lacked existing data. All of the questions could benefit from future research.

Research Questions Included
What percent of the waste stream in Humboldt County is food waste?
Nationally, what sectors are the largest food waste producers?
What are current county waste stream practices?
What are the environmental and economic costs associated with our waste stream?
What waste management options do we have?
Research Questions Not Covered
What food waste composting services are available in Humboldt County?
What are residents in Humboldt County doing with food waste?
What are farmers, restaurants, and business doing with food waste in Humboldt County?
Are there programs promoting home composting, recycling and trash reduction?
What is the estimated cost of food waste in Humboldt, compared to U.S.?

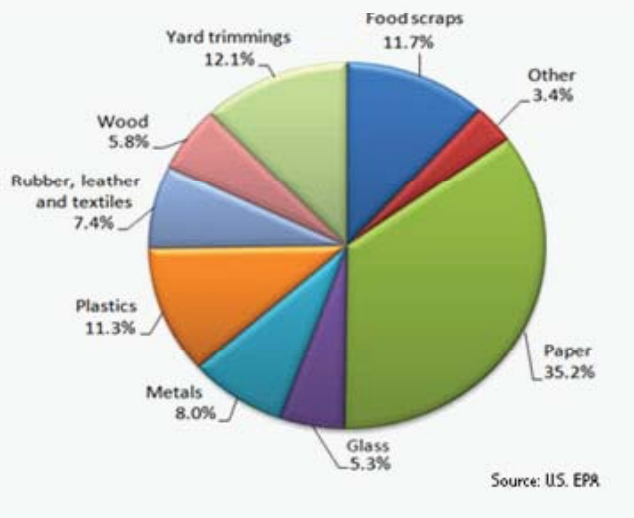
Food Waste

The food waste category constitutes the single largest component of the waste stream. Based on 2004 estimates by the California Integrated Waste Management Board,* food waste in the county represents 20%, or 11,345 tons/year, of household waste and 34.3%, or 30,310 tons/year, of business waste disposed.[2]

Humboldt County does not have any active landfills and instead hauls between 80,000 - 100,000 tons of solid waste per year to two out-of-county landfills located near White City, OR and Redding, CA. These sites are 204 and 170 miles away, respectively, and to haul this amount of waste requires roughly 4,800 trips a year.[3]

* Now known as Department of Resources, Recycling and Recovery (Cal Recycle).

Figure 25: US Waste Generation by Category



Source: US EPA. Retrieved May 28, 2010 (http://www.epa.state.oh.us/ocapp/food_scrap/food_scrap.aspx).

Current waste management practices incur high costs. Juliette Bohn, Program Analyst at HWMA writes, "A significant portion of the cost of waste disposal is tied to the fuel costs. Therefore, when the cost of diesel fuel increases, the cost of waste disposal also rises. Processing food waste locally will help to minimize the County's vulnerability to fuel price fluctuations and increases over time."[4] The long distances driven to landfills also come at a high environmental cost, with roughly 2,200 pounds of CO_2produced per trip. Another environmental impact of disposing food waste in landfills is the off-gassing of methane (CH_4), a powerful greenhouse gas with 25 times climate forcing potential as CO_2.[5]

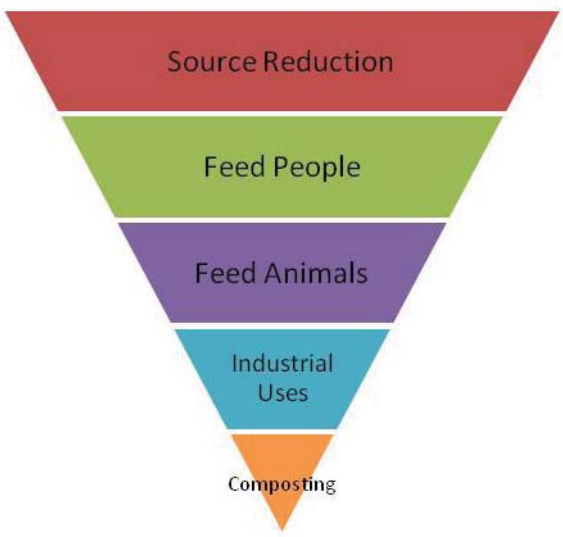
As of 2009, the cities of Eureka, Fortuna, Ferndale, and Rio Dell were not in compliance with AB 939, a state law mandating that by the year 2000 California cities and counties each divert 50% of their waste stream away from the landfill. In addition, Assemblymember Wesley Chesbro has introduced bill AB 479 to require a 75% diversion rate by 2020. For these reasons, along with the current economic and environmental costs of the long-distance disposal methods, the Humboldt Waste Management Authority is looking into alternative options for managing the county's food waste stream. One option the agency has been considering is the development of a Food Waste Digester. Food waste has a high energy content, making it a potential source of renewable energy. A 10,000 ton per year food waste digester facility could generate over 2,500 MWH per year or provide enough renewable energy to serve up to 350 homes a year.[6] In addition, a digester would prevent the release of methane into the atmosphere and will produce a nutrient-rich soil amendment as a byproduct.

Food Scrap Management

The U.S. Environmental Protection Agency reports that the average American throws away 1.3 lbs of food waste each day. [7] In order to lessen the impact of food waste in our landfills the EPA recommends composting, converting food scraps to animal feed, and preventing the generation of food scraps. The U.S. EPA has developed a food waste recovery hierarchy, showing how to use excess food waste.

- Source Reduction- minimize amount of food used, in order to generate less waste.
- Feed People-Donate excess food to community outreach organizations, shelters and the needy.
- Feed Animals- Provide excess food to farmers to feed animals
- Industrial Uses –Use fats for rendering and foods for animal feeding
- Composting – convert food waste into rich soil, so new food products can be grown.

Figure 26: Food Waste Recovery Hierarchy



Source: US EPA. Retrieved May 28, 2010 (http://www.epa.state.oh.us/ocapp/food_scrap/food_scrap.aspx).

What can be done to Minimize Food Waste and Residuals?

- **Practice Food Source Reduction:** restaurants, businesses, and institutions can do a waste audit. By

determining the percentage of food waste thrown in the trash, businesses can then minimize that percentage by looking at how much food is ordered, donating surplus foods, and exploring portion control at restaurants to minimize food waste.

- **Hierarchy of the Three R's: Reduce, Reuse, Recycle.** Many food related items such as bottles and wrappers end up in the recycling and waste stream. Consumers should "Re-think" their food purchases and look for items with less packaging, try to reuse as much as possible, and recycle all that they can.[8]
- **Impose Trash Disposal Fees:** Many food companies spend large sums of money on waste disposal. By composting food waste the food system is more sustainable and saves businesses money in disposal fees, and food waste is being regenerated in the food system.
- **Be known as a Green Business:** The Green Restaurant Association (GRA) works with business to change their environmental impact by consulting and certifying the business to implement sustainable measures such as composting and recycling.[9]
- **Establish Composting Programs:** Many areas around the country have successful composting pick up services. Farmers, business, and residents could utilize a food waste pick up service and have a regional or city composting site. San Francisco and Santa Cruz both have successful green waste recycling programs implemented as part of the city trash and recycling pick up service.
- **Food Recovery:** Food that is about to expire or be thrown away can be recovered by donating food items to shelters or community organizations. Food Runners is an example of a non-profit volunteer based organization in San Francisco that picks up food from restaurants, markets and other outlets and donates the food to outreach organizations and shelters. They deliver at least 10 tons of food per day, providing roughly 2,000 meals, just from food that was going to be wasted and thrown away.[10]

1 Jones, Timothy. Half of US Food Goes to Waste. Retrieved May 2010 (http://www.foodproductiondaily.com/Supply-Chain/Half-of-US-food-goes-to-waste).
2 CalRecycle County Waste Stream Profiles, Humboldt. Retrieved May 2010 (http://www.calrecycle.ca.gov/Profiles/County/CoProfile1.asp).
3 Bohn, Juliette, Carlos Chavez, Karen Sherman and Patrick Owen. "Food Waste Diversion and Utilization in Humboldt County." Humboldt Waste Management Authority. Retrieved May 2010 (www.hwma.net/counter.php).
4 Bohn et al. 2010.
5 Food Digester Project presentation, Humboldt Waste Management Authority website. Retrieved May 2010 (http://www.hwma.net/fwpres.pdf).
6 Ibid.
7 U.S. EPA. Food Scrap Management. Retrieved May 2010 (http://www.epa.state.oh.us/ocapp/food_scrap/food_scrap.aspx).
8 Poklemba, Allison, Education Program Manager, Arcata Community Recycling Center. Personal communication. June 5, 2010.
9 Green Restaurant Association. Retrieved November 2009 (www.dinegreen.com).
10 Food Runners. 2010 (www.foodrunners.org).

Section 5.6: Primary Data

Rural Food System Mapping: Public Participation GIS

Micro Themes

This section presents the primary data collected from the March 11, 2010 Food Policy Council Task Force meeting. In that meeting, CCRP presented information on food security and models for food policy councils. Additionally, we conducted a public participation GIS exercise. In this exercise, groups of 5-7 meeting participants gathered around maps to mark their answers to several questions regarding food systems in Humboldt County. Participants were asked to mark their answers to various questions on the maps. Participants were asked, "In thinking about food security and our regional food system, please identify positive things that are happening and who or what group is doing them. What is good/positive about this region?" and "In thinking about food security and our regional food system, please mark on the map things that are needed and where they need to happen." A total of 23 micro themes emerged from analysis of data collected during the Public Participation Geographic Information System (PPGIS) activity which included 35 meeting participants. **The term micro-theme means an initial theme that emerged from the data.** Figure 27 presents the frequencies of these themes.

Figure 27: Micro Theme Frequency

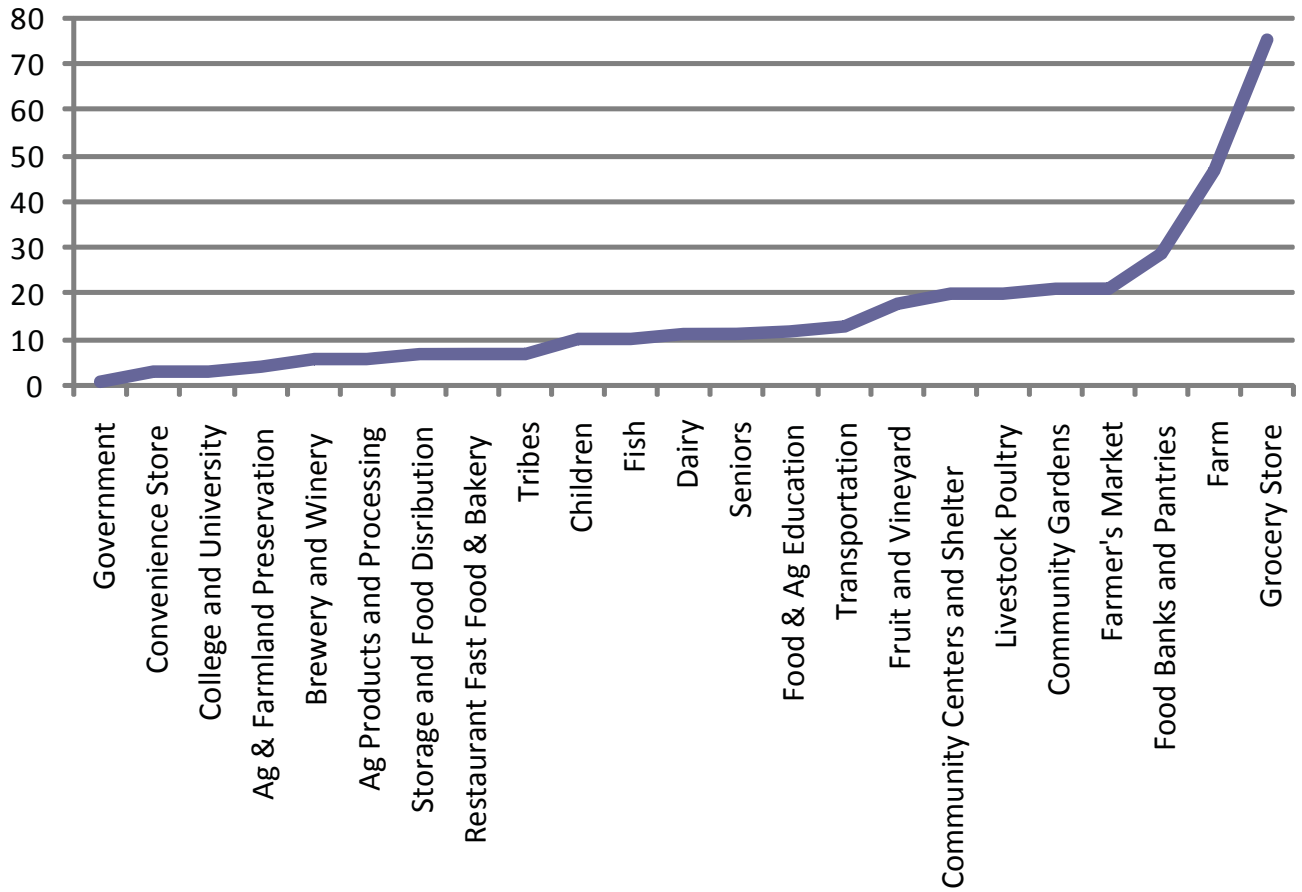


Table 11 presents a coded description of the 23 micro themes. The descriptions were derived through a careful review of the written comments meeting participants provided on the maps. Each group of 5-7 people worked on two maps, one representing Northern Humboldt County and one representing Southern Humboldt County. Themes were developed from similar topics that were repeated across the maps. From these themes frequencies could be obtained to identify the top themes, or themes that arose most often for meeting participants.

From the above 23 themes, overall frequencies were tabulated (see Figure 27: "Micro Theme Frequency"). As can be seen the top seven themes that emerged were Community Centers and Shelter, Livestock/Poultry, Community Gardens, Farmer's Market, Food Banks and Pantries, Farm, and Grocery Store. In total, these themes accounted for 64% of the responses and include both strengths and needs of the community. Figure 28: "Top Seven Food System Micro Themes" is a map that displays this data spatially.

With the exception of the category Community Centers and Shelter, the top themes consist of either the production of or the distribution of food. These categories appeared most frequently throughout the county as both needs and strengths (See Tables 12 and 13 for further details on Food Strengths and Needs). The theme Grocery Store, with a frequency of 75, was the most mentioned theme. Meeting participants focused either on the presence or absence of grocery stores. One participant wrote that Fields Landing "Need(s) markets with quality food." This type of comment was common for rural towns.

A pattern appeared in the data between smaller, more rural towns and bigger cities. In the smaller communities, a need for more fresh produce, quality food and overall access to groceries was identified. In contrast, in the larger communities such as Eureka and Arcata, grocery stores were often listed as strengths. This implies that many of the small-town rural residents are experiencing a lack of healthy food access.

Table 11: PPGIS Micro Theme Definitions from March 11, 2010 PPGIS Meeting

Map Themes	Coded Description of Themes
Grocery Store	Ray's, Safeway, Wildberries, Food Co-ops, 3 Corners Market, Murphy's, Small "Mom and Pop" stores, Natural Food Stores, Discount Food Stores, Need for More Grocery Stores
Farm	Local Farms, Organic Farms, Family Farms, Local Commercial Farms, Other Farming, Need for More Farms, Water Issues
Food Banks, Food Pantries/ Food Assistance	Food for People Pantry, Endeavor, St. Vincent De Paul, Ray's Food Pantry, Food Pantries Run by Churches, Community Center Food Pantries, Local Food Banks Throughout County where food is given to those in need, Food Networks, Food Stamps
Farmers' Market	Farmers' Markets from Throughout County, Seasonal Farmers' Markets, Arcata Plaza Farmers' Market, McKinleyville Farmers' Market
Community Gardens	Community Gardens, Community Garden Collaborative, WIC Community Garden, CRC Community Garden, Church Community Gardens, Mad River Hospital Garden
Livestock/poultry	Horses, Cattle, Grass Fed Beef, Goats for Meat, Chickens, Eggs, Sheep, Poultry Collaborative, Livestock Yard
Community Centers and Shelter	Extreme Weather Shelters, Homeless Shelters, Community Centers, Van Duzen Grange- Pancake Breakfasts and potlucks for Community
Fruit/Vineyard	Orchards, Blueberries, Apples, Grapes, Peaches, Surplus of Fruit in area
Transportation	Need for Transportation County Wide, Public Transportation, Transportation difficulties in rural areas, No transportation on late hours and weekends, Roads Closed Due to Slides/Weather
Food/Ag Education	Arcata Educational Farm, Phillips House Garden (demo garden installed as a workshop), Need for More Food Education, Co-op Cooking Classes, Food demos/cooking at Teenship Center, Food Publications, Food Culture
Seniors	Senior Dining, Senior Brown Bag Lunches, Senior Food Delivery, Healy Senior Center, Senior Transportation to Resources
Dairy	Dairy Cows, Goat Milk, Dairy Production, Loleta Cheese Factory, Cypress Grove
Fish	Fishing, Fishing Industry, Fish Preservation, Fish Brothers, Fresh Fish, Fishing Fleets, Fish Processing
Children	After School Program, UPS Transport Summer Kids Lunch to South Humboldt, Eureka Schools Loss of Kitchens, Backpack for Kids Program, Backpacks, Prepackaged Lunches in Schools, Hot lunch program
Tribes	Tribal Hunting, Tribal Fishing, Salmon Canning for Elders, Tribal Commodities, Potowot
Restaurant, Fast Food, and Bakery	Various Fast Food Restaurants (i.e., McDonalds, Burger King, Taco Bell), Taco Trucks, Bakery in Ferndale, Bakery in Whitehorn, Local Bakery
Storage and Food Distribution	SYSCO, Swans Truck, Need for food Distribution from Southern Humboldt to Northern Humboldt, Need for Better Food Distribution Plans, Local Food Distribution, County Wide Need for Food Storage, Refrigeration Warehouse, Storing Facilities, Warehousing
Ag Products / Processing	Local Commercial Food Products, Salsa, Need for Processing Center (Mobile or Stationary), Need for Community Canning Facility, Bee Keeping
Brewery/Winery	Local Beer, Local Brewery, Lost Coast Brewery, Six Rivers Brewery, Wineries, Redwood Cellar, Phelps Ranch, Local Vineyards, Need for More Vineyards
Ag/Farmland Preservation	Prime Agricultural Land, Unused Agricultural Space/Farm Land, Pressure to Develop on Lands, Threatened Agricultural Land, Risk of Farmland Conversion, Land Trusts
College and University	Humboldt State University, College of the Redwoods, HSU buying Local, Education, College of the Redwoods Expanding Agricultural Program, HSU not Supporting Food/Gardening
Convenience Store	Convenience Store
Government	Government/Systemic Barriers (Laws, Zoning, etc) to Selling and Producing Food, Legal issues/ lawsuits with giving out food products

Figure 28: Top Seven Food System Micro Themes

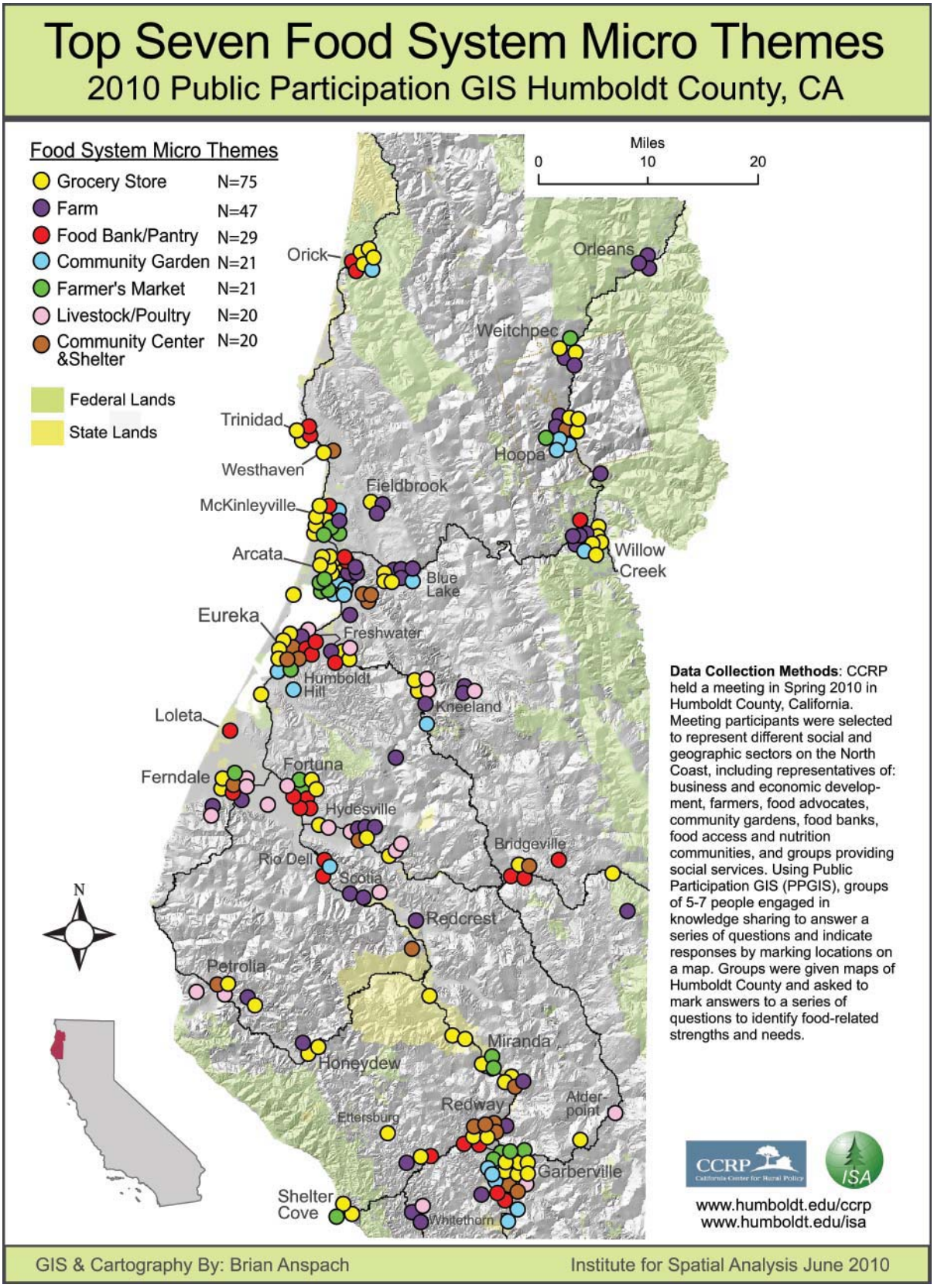
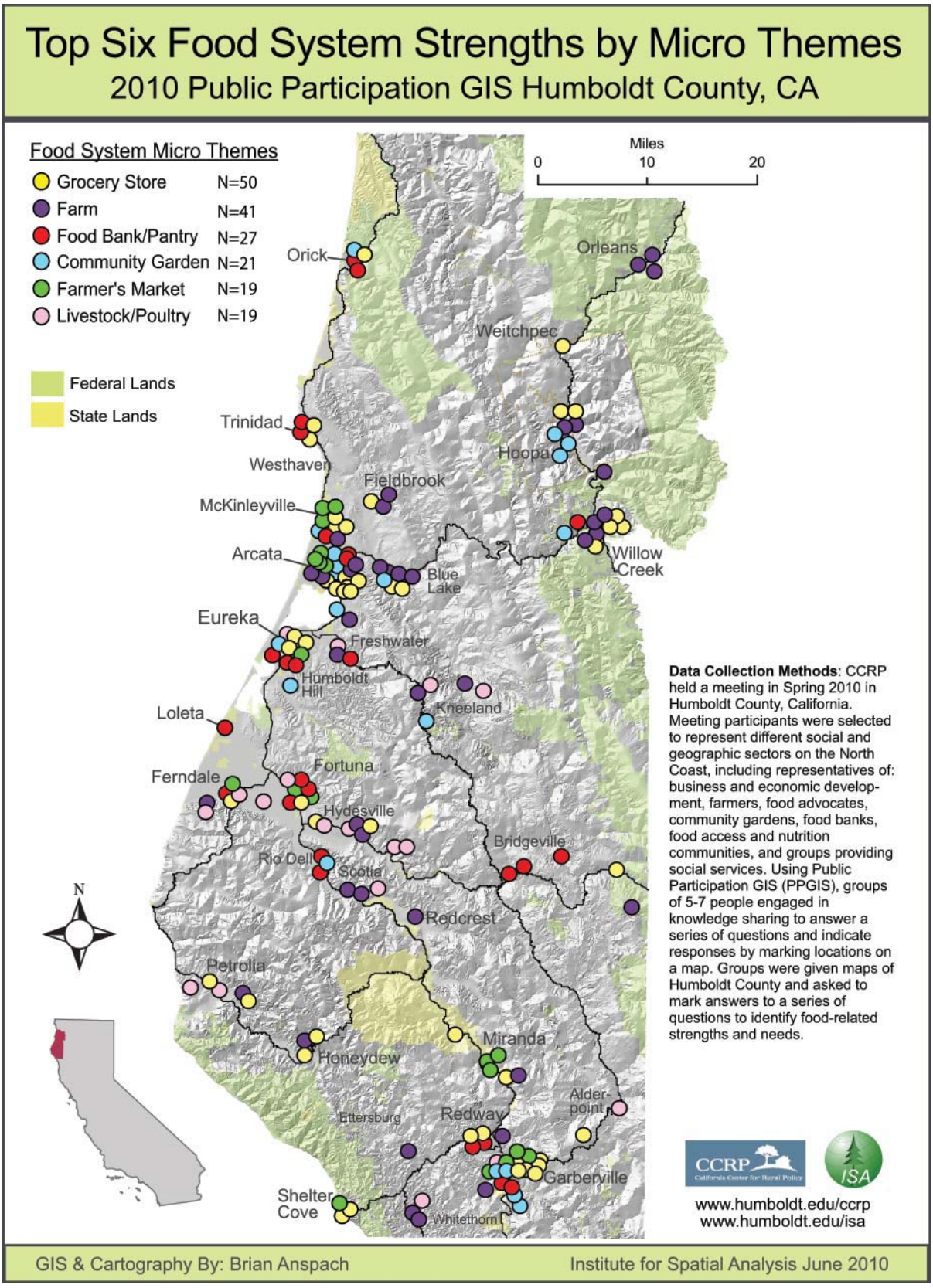


Figure 29: Top Six Food System Strengths by Micro Themes



Micro Theme Strengths

Figure 29: "Top Six Food System Strengths by Micro Themes" is a map that portrays the location of the top six micro themes that were listed as strengths from the PPGIS exercise. The top six micro theme strengths are Grocery Store, Farm, Food Banks/Food Pantries and Food Assistance, Community Gardens, Farmers' Market, and Livestock/Poultry. A definition of the top six themes is presented in Table 12: "Top Six Thematic Strengths and Coded Description of Themes."

By reviewing strengths alone, one can identify geographic clusters and patterns of strengths. Food system strengths are fairly evenly distributed between the north and south with clusters in more populated areas such as Arcata, Eureka, McKinleyville and Garberville, and in some rural places like Ferndale, Willow Creek and the Hoopa Reservation.

Some of the comments regarding food system strengths on the Hoopa Reservation involve community gardens. For example, one participant wrote that a "new community garden [was] starting." The strengths were related to farming and community gardens occurring in the area as well as access to grocery stores. However, other strengths that were listed were strengths such as "heat," and "water." The discussion of these types of basic necessities is exclusive to this geographic location and is not present in any other area throughout the county.

Table 12: Top Six Food System Micro Theme Strengths for Humboldt County. This table represents the top six thematic strengths in the county.

Top Six Thematic Strengths	Coded Description of Themes
Grocery Store	Ray's, Safeway, Wildberries, Food Co-ops, 3 Corners Market, Murphy's, Small "Mom and Pop" stores, Natural Food Stores, Discount Food Stores, Need for More Grocery Stores
Farm	Local Farms, Organic Farms, Family Farms, Local Commercial Farms, Other Farming, Need for More Farms, Water Issues
Food Banks, Food Pantries/ Food Assistance	Food for People Pantry, Endeavor, St. Vincent De Paul, Ray's Food Pantry, Food Pantries Run by Churches, Community Center Food Pantries, Local Food Banks Throughout County where food is given to those in need, Food Networks, Food Stamps
Community Gardens	Community Gardens, Community Garden Collaborative, WIC Community Garden, CRC Community Garden, Church Community Gardens, Mad River Hospital Garden
Farmers' Market	Farmers' Markets from Throughout County, Seasonal Farmers' Markets, Arcata Plaza Farmers' Market, McKinleyville Farmers' Market
Livestock/Poultry	Horses, Cattle, Grass Fed Beef, Goats for Meat, Chickens, Eggs, Sheep, Poultry Collaborative , Livestock Yard

Micro Theme Needs

Figure 30, "Top Six Food System Needs by Micro Themes," is a map that portrays the top six food needs as identified by meeting participants. The top six themes are Storage and Food Distribution, Children, Agricultural Products and Processing, Community Centers and Shelter, Transportation and Grocery Store. The definition of these themes can be found in Table 13. Comments related to the top six food system needs in the community range in topic and include comments such as "no food distribution centers like Food Works in Arcata" which was attributed to the Redcrest area. Another comment focused on the need for a "local canning facility" which was written in the Garberville area. Again in Figure 30, the theme of Grocery Store emerges as the most mentioned theme. Emphasis has been taken off of the production of food products through farms, gardens and livestock, as seen in the Top Six Food System Strengths map, and more emphasis has been placed on social needs such as programs for children as well as transportation issues and a need for community shelters.

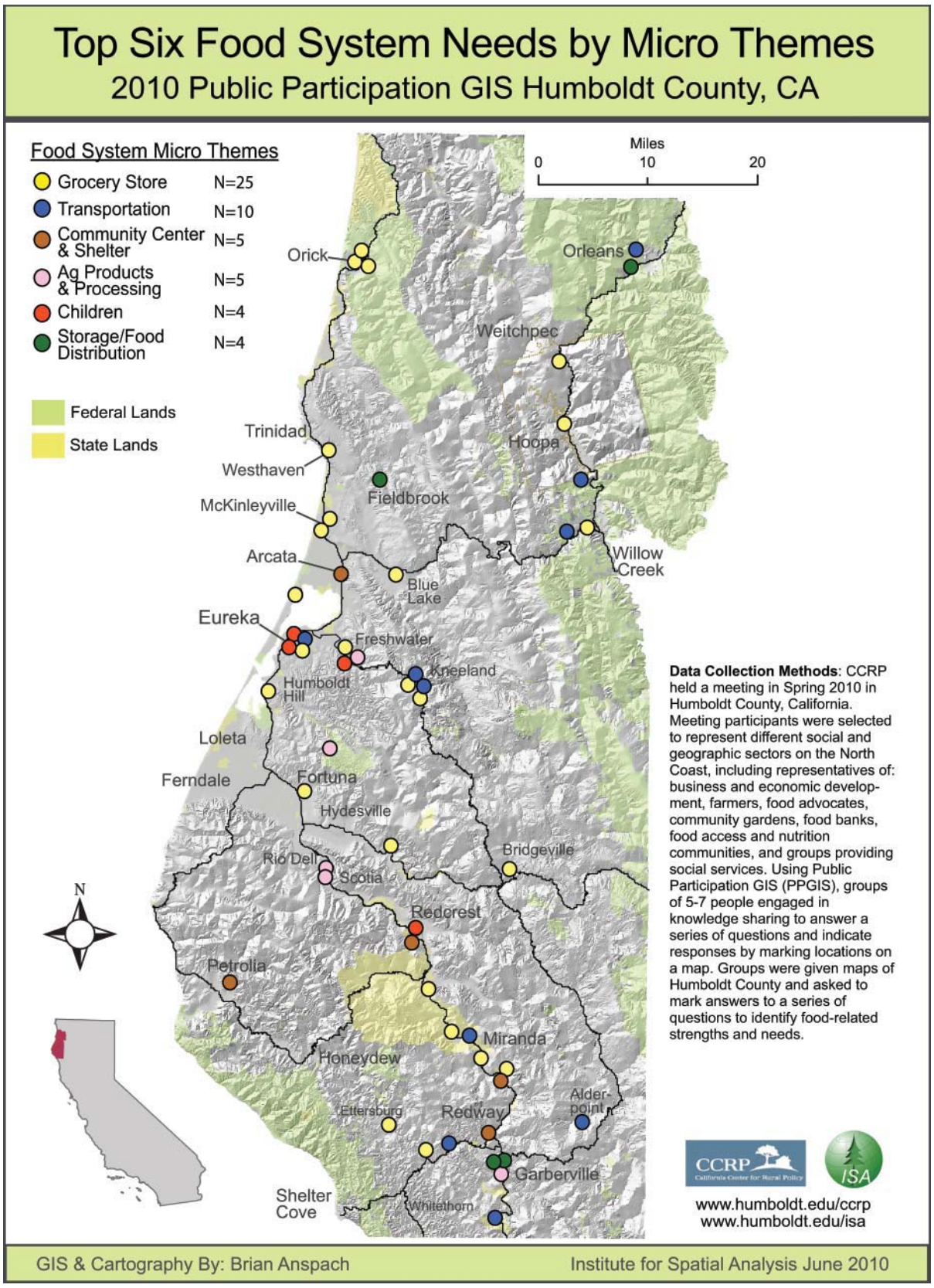
An examination of food-system needs listed across various geographic areas suggests a spatial pattern. In the more populated areas needs are largely related to obtaining more local food and better grocery stores. For example, one participant wrote that McKinleyville has a "lack of local foods." In the less populated areas the needs are primarily related to the need for access to fresh foods as well as the overall need for food and personal transportation. About Eureka a participant wrote that there is a need for "transportation on weekends and evening for people who are working entry level jobs." Another participant wrote that in the town of Orick it is "hard to buy fresh food."

There is also an overall need for more grocery stores in the smaller, less populated areas. Comments such as "no real food" and "need grocery store" can be attributed to locations such as Freshwater, Briceland and Orick. These comments are common throughout the data. In Bridgeville, one participant wrote that there was "no grocery," another participant wrote that in Weott the "grocery store closed, the only one that had been serving community." Comments such as these have highlighted a need for more grocery stores in smaller, rural communities throughout the county.

Table 13: Top Six Food System Micro Theme Needs for Humboldt County

Top Six Thematic Needs	Coded Description of Themes
Grocery Store	Ray's, Safeway, Wildberries, Food Co-ops, 3 Corners Market, Murphy's, Small "Mom and Pop" stores, Natural Food Stores, Discount Food Stores, Need for More Grocery Stores
Transportation	Need for Transportation County Wide, Public Transportation, Transportation difficulties in rural areas, No transportation on late hours and weekends, Roads Closed Due to Slides/Weather
Community Centers and Shelter	Extreme Weather Shelters, Homeless Shelters, Community Centers, Van Duzen Grange- Pancake Breakfasts and potlucks for Community
Agricultural Products / Processing	Local Commercial Food Products, Salsa, Need for Processing Center (Mobile or Stationary), Need for Community Canning Facility, Bee Keeping
Children	After School Program, UPS Transport Summer Kids Lunch to South Humboldt, Eureka Schools Loss of Kitchens, Backpack for Kids Program, Backpacks, Prepackaged Lunches in Schools, Hot lunch program
Storage and Food Distribution	SYSCO, Swans Truck, Need for food Distribution from Southern Humboldt to Northern Humboldt, Need for Better Food Distribution Plans, Local Food Distribution, County Wide Need for Food Storage, Refrigeration Warehouse, Storing Facilities, Warehousing

Figure 30: Top Six Food System Needs by Micro Themes



Macro Themes

In order to obtain a broader picture of food issues in Humboldt County, the aforementioned 23 themes were coded into six larger themes which were termed macro themes. These larger themes are described in Table 14. Twenty-three individual micro-level themes were coded into six macro themes. The macro-themes were developed to present a broad overarching view of food related issues in Humboldt County.

Patterns emerge when looking at Figure 31: "Food System by Macro Theme." This map accounts for both strengths as well as needs. Food production is the number one macro theme which includes farms, fruit, vineyards, fish, livestock/poultry and dairy. All of the themes are seen to occur across the geographic region of Humboldt County, but there are some trends to note. In the Orick area there is a cluster of dots that represent Services/Food Assistance and Food Retail. These are the only two themes that occur in this geographic area which indicates agreement on the importance of these two themes. In Orick, Services/Food Assistance occurs only as a strength and Food Retail occurs as a need with one occurrence of it being listed as a strength. Additionally, in the Garberville area the theme Services and Food Assistance emerged was mentioned with high frequency (the Garberville area accounts for 13% of all occurrences of the Services/Food Assistance theme county wide). As can be seen on previous maps, the Hoopa Reservation has received a great deal of attention from meeting participants. When analyzing the various macro codes in the Hoopa area, it appears that there are issues relating to every theme except that of Processing and Distribution.

Table 14: Food System Macro Theme Definitions for Humboldt County

Macro Theme	Definition of Macro Theme (Collapsed Overall Themes)
Food Production	Farm, Fruit / Vineyard, Fish, Livestock/Poultry, Dairy
Knowledge/Policy	College and University, Government, Transportation, Food/Ag. Education, Ag./Farmland Preservation
Services/Food Assistance	Food Banks and Pantries, Community Centers and Shelter, Community Gardens
People	Seniors, Children, Tribes
Food Retail	Grocery Store, Convenience Store, Farmer's Market, Brewery/ Winery, Restaurant, Fast food and Bakery
Processing and Distribution	Ag. Products/Processing, Storage and Food Distribution

Figure 31: Food System by Macro Theme

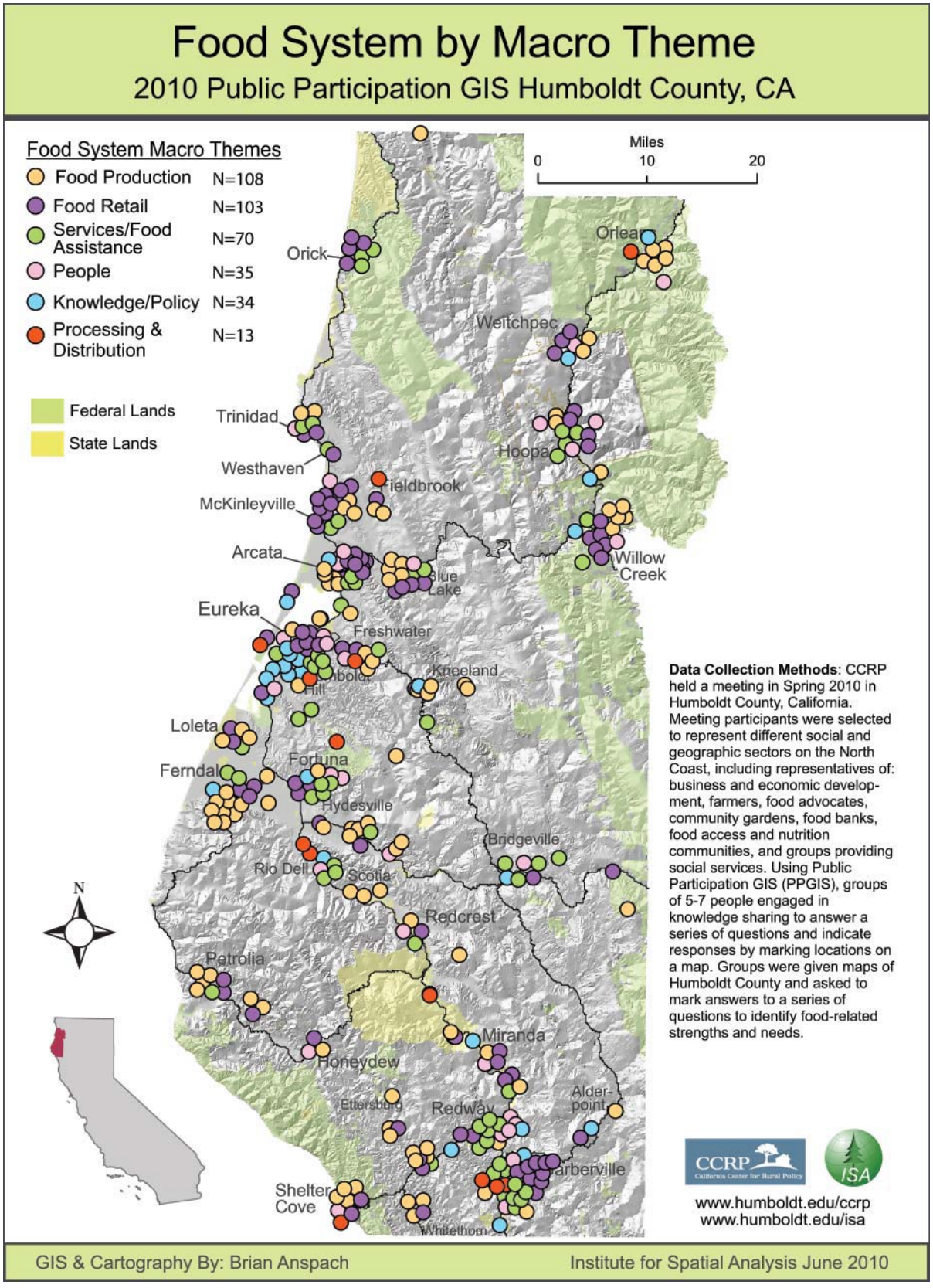
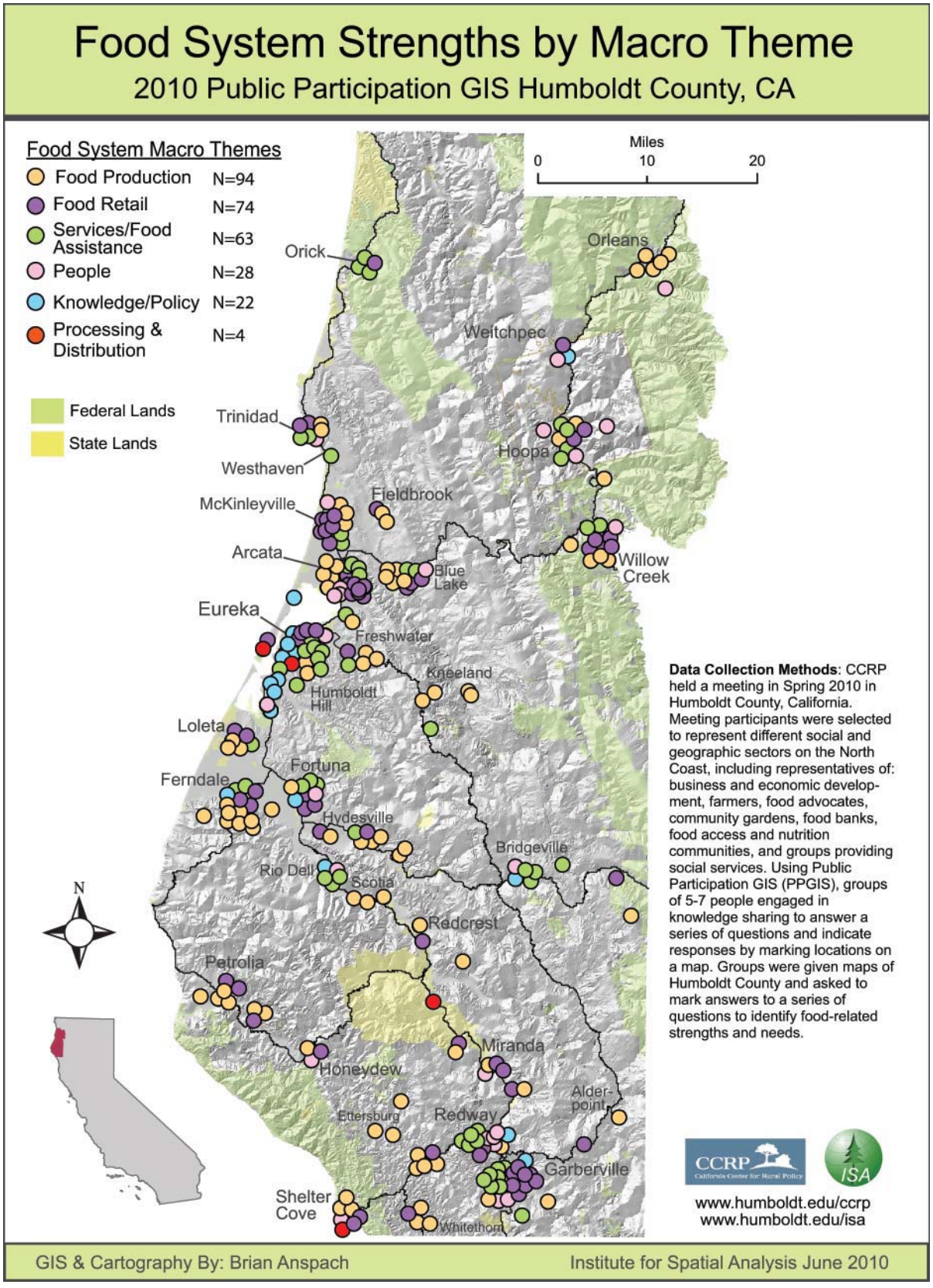


Figure 32: Food System Strengths by Macro Theme



Macro Theme Strengths

Figure 32: "Food System Strengths by Macro Theme" shows the broader strengths as they relate to food in our area. This map displays a trend of Food Production in Ferndale, Orleans, Arcata, Blue Lake, Willow Creek, Petrolia, Shelter Cove and the Eel River valley. This appears to be a great strength of these regions. When looking at the Garberville/Redway area, many of the strengths relate to Services and Food Assistance. This trend can be seen in the Eureka area as well. However, in the Eureka area Food Retail is also listed as a strength. Another interesting trend to note is the strength of Food Production in the Orleans area as it is the only thematic strength listed in this area. This is an indication that strengths are sometimes easier to highlight in the smaller, rural communities because they clearly stand out.

Macro Theme Needs

A great deal can be learned from the various types of needs identified throughout the county. Figure 33, the map of the macro thematic needs in Humboldt County, illustrates the needs as they were seen by the March 11, 2010 meeting participants. In the Orick area it is clear that there is a need for Food Retail. This is the only need identified in this area. The data shows that this is also true for the Hoopa Reservation area. Additionally, when looking at the Garberville/Redway area there is a need for Food Processing and Distribution in the area. There are also trends that appear to be issues county wide. The data shows that there is a need for Food Retail in the rural areas of the county as well as a need for Processing and Distribution. This map is an important part of identifying geographically based food needs from a macro theme perspective.

Overall Food System Strengths and Needs

Figure 34: "Overall Food System Strengths and Needs" is a map of all of the individual strengths and needs identified by the meeting participants, not grouped into any themes. Organizing the data in this manner allows better identification of where the overall food needs and food strengths exist geographically. Findings from the PPGIS exercise suggest that a greater number of food strengths or positive things about food exist (N=284) than food needs (N= 78). The strengths are identified by a blue dot and the needs by a red dot on the map.

When looking at Figure 34 we see that both food system strengths and food system needs occur throughout the county. Larger sized cities and towns (Arcata, Eureka, Ferndale and Garberville) received a greater number of comments in general related to both needs and strengths. However, an interesting pattern that can be observed is that there were also numerous comments made about various small communities throughout Southern Humboldt, as compared to the larger gaps in the North. Trinidad is a town where only strengths were listed, not any needs.

The overall strengths associated with the community show clusters in the more populated towns such as Eureka and Arcata (see Figure 35: "Overall Food System Strengths"). There are also clusters located throughout Southern Humboldt, around Ferndale/Loleta and around the Hoopa Reservation and Willow Creek. These indicate areas that are important to the food system. Strengths do appear across various locations in the county including both remote and more populated areas.

Figure 36: "Overall Food System Needs" portrays all of the food system needs as identified by the March 11, 2010 meeting participants. This map shows that there are food related needs throughout the county. As seen in the past maps, there is a higher concentration of points located in higher density areas (Eureka, Arcata and

Figure 33: Food System Needs by Macro Theme

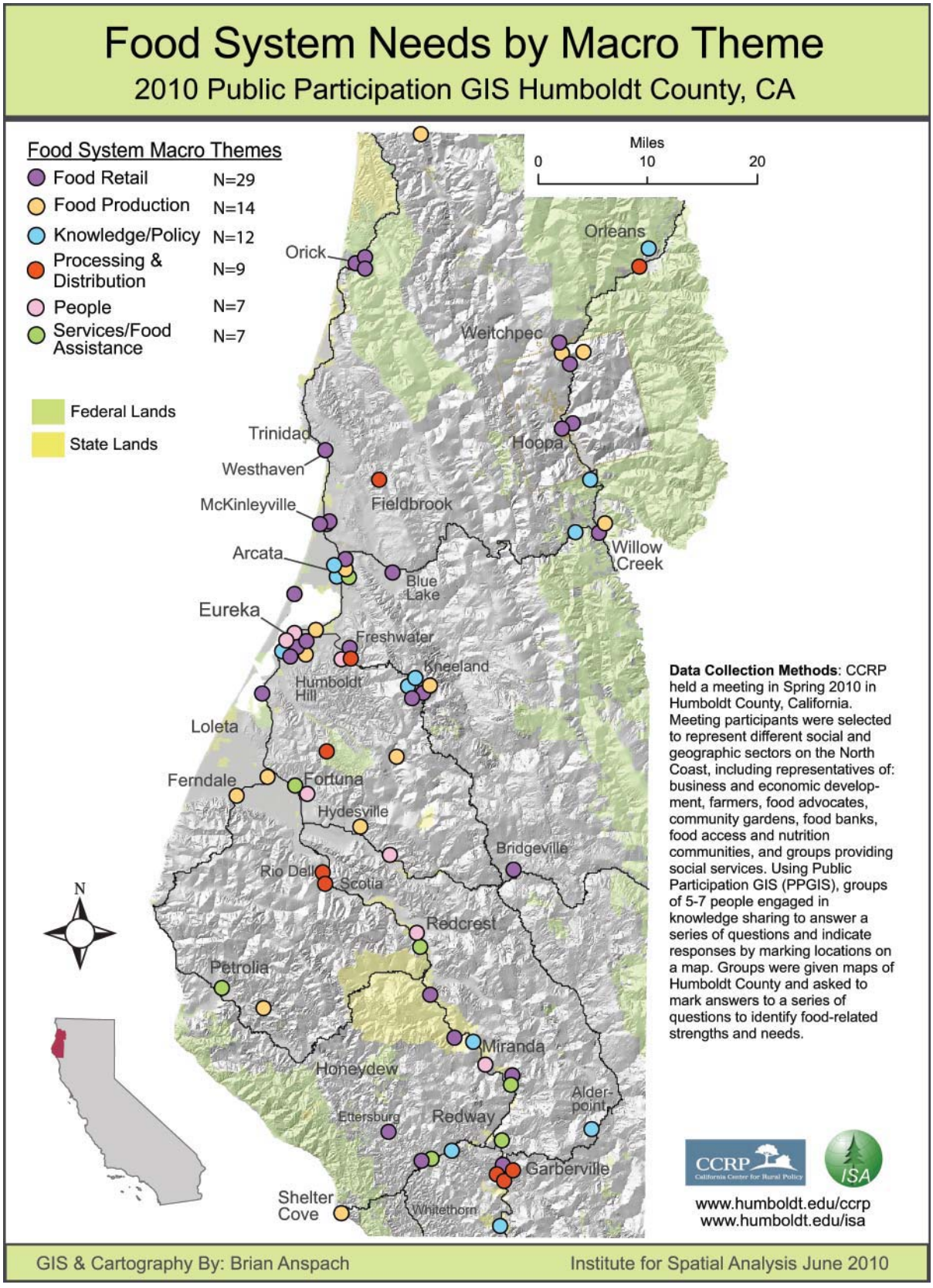


Figure 34: Overall Food System Strengths & Needs

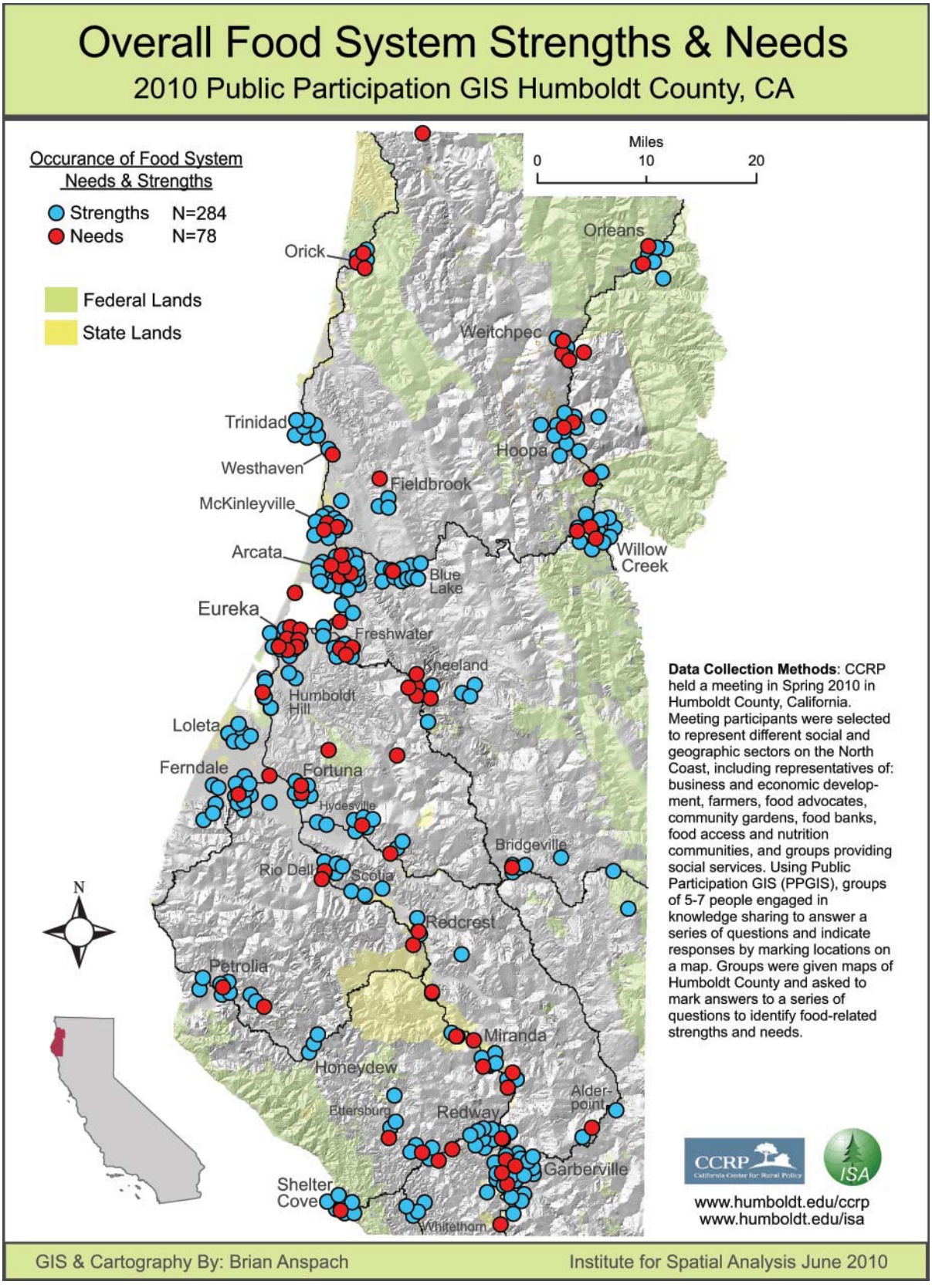


Figure 35: Overall Food System Strengths

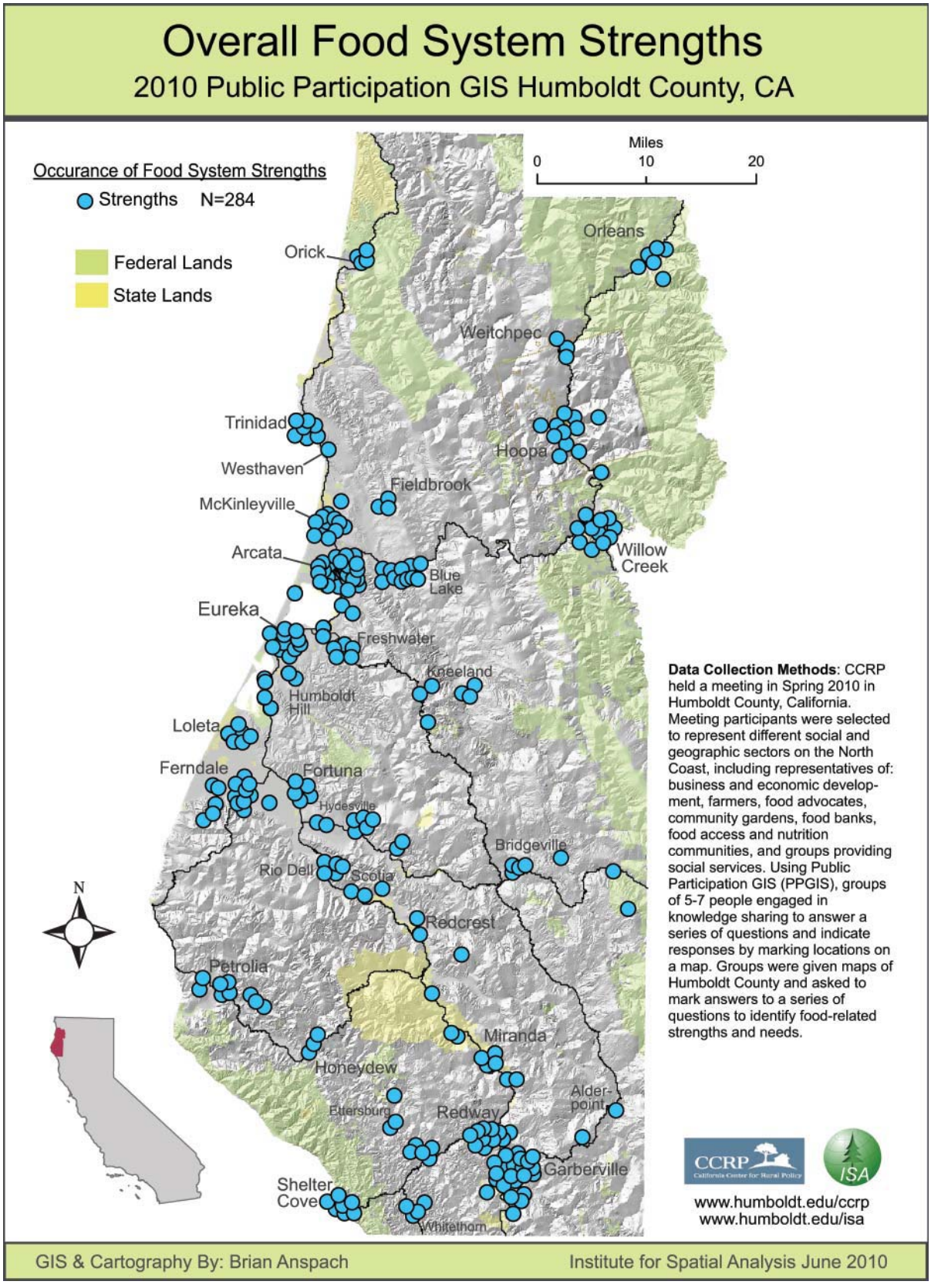
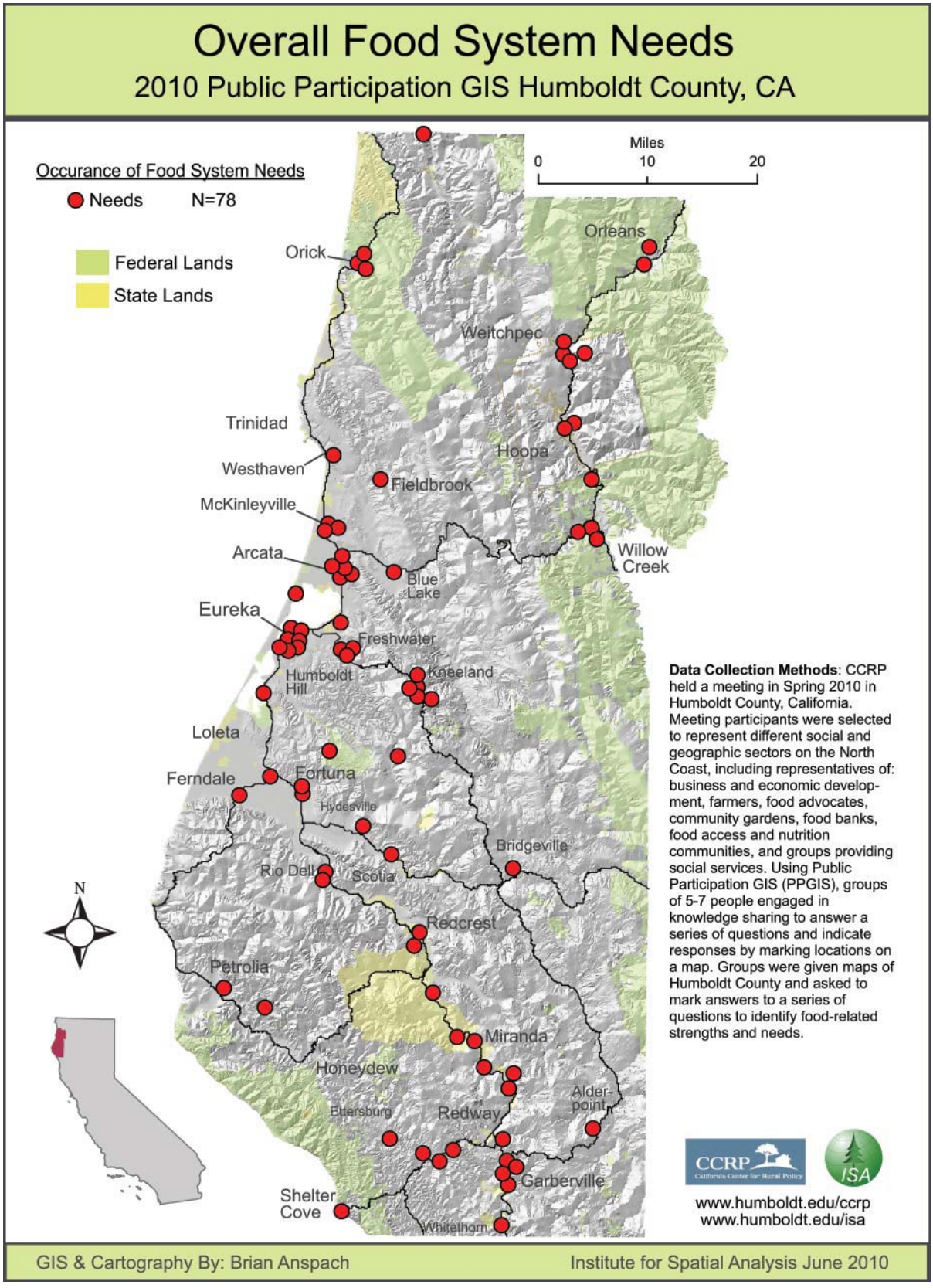


Figure 36: Overall Food System Needs



Garberville area). When looking at Figure 36 as a whole, needs were identified throughout the county.

Conclusion to Map Section

In conclusion, it is important to note that the primary data presented here is not definitive. It is merely a snapshot in time that represents the thoughts and opinions of meeting participants. In choosing meeting participants residents from around the county and from different sectors of the community were involved. As this project progresses further CCRP will be able to further groundtruth the findings with the larger population to make sure they are in line with the general public opinion. More research needs to be conducted in this area to further investigate the spatial distribution of food related strengths and needs for the North Coast and related counties.

Findings from the PPGIS session indicate that residents of Humboldt County observe both food system strengths and needs. They also are keenly aware of the differences that emerge between smaller remote rural communities and larger, more densely populated towns and cities. CCRP is hopeful that findings from this exercise can inform future food related efforts in Humboldt County.

Section 6

Policy and Program Models

Policy and program models from other regions in the United States may be applicable to Humboldt County's food system.

Food Policy Councils

A community's food system determines the foods that end up in schools, neighborhood grocery stores, and hospitals. For this reason communities throughout the country are seeing citizens groups coming together to learn more about their food system and advocate for its improvement. One of the most common ways to do this is through the development of a Food Policy Council.

Food Policy Councils are made up of stakeholders in the food system, be they consumers, farmers, processors, or citizens concerned with issues of food security. The first one was formed twenty-five years ago, but approximately fifty have formed in the past decade.[1] Agricultural policies and food policies have historically been viewed through separate lenses, seeing them as disparate arenas. There is no government body, at the local, state, or federal level, that oversees the entire food system. It is through the creation of forums such as Food Policy Councils that citizens have been able to engage with elected officials and regard the food system in its entirety. In this way they can address the food system as a whole and see opportunities for making changes every step of the way. Some Food Policy Councils work formally within government at the state or city level, but many others remain grassroots entities.

"Fueled by research, innovative policies, and grassroots energy, the movement to expand access to healthy foods and create a sustainable, equitable food system can provide a springboard for public action and local activism."[2] Food Policy Councils are just such a place from where research, planning, collaboration, and action can take place.

A Food Policy Council can help strengthen local community capacity through improving existing human capital (skills) on food policy issues while simultaneously strengthening the social capital (social networks) of the region. Community capacity is a community's ability to achieve its goals, which can also be termed community strength.[3] Social capital is an important factor that determines the strength and success of a community. The extent to which a community possesses strong social capital depends upon the degree of communication and interaction within the community.[4] Social networks are essential to developing and maintaining the strength of a community.[5,6] Social networks illustrate the various individual skills and abilities and forms of community interaction that occur within the geographic area of the community.[7,8,9] Through facilitating dialogue, sharing knowledge and networking, a Food Policy Council helps build community capacity and social capital.

Boston Bounty Bucks & Double Value Coupon Program

In 2008, the Boston Bounty Bucks program was introduced in Boston, Massachusetts by Mayor Thomas M. Merino. The program is designed for federal food assistance SNAP (previously known as Food Stamps) recipients to receive twice the value of their food stamp "dollars" when purchasing foods at local farmers' markets. Shoppers receive a $20 value when they spend at least $10, doubling the amount of fresh produce they can purchase.[10] In 2008 over 82,000 Boston residents received SNAP benefits, but only a handful of farmers' markets accepted them.[11] The number of farmers' markets in Boston that accepted SNAP EBT cards (Electronic Benefit Transfer) in 2007 was one, in 2008 it grew to seven, and by 2009 it was fourteen. Now in 2010 the program has spread across the country as the Double Value Coupon program, running in 12 states and the District of Columbia with 60 farmers' markets participating. The states involved in the Double Value Coupon program are: California, Connecticut, Florida, Georgia, Illinois, Maryland, Massachusetts, Michigan, New York, Rhode Island, Vermont and Virginia.[12]

The Funding for Boston Bounty Bucks (BBB) was provided by grants from the Massachusetts Department of Agricultural Resources (MDAR) and Wholesome Wave, a non-profit working to make food systems around the country sustainable. Other funding since the first year of the project came from the City of Boston's Fresh Food Fund, Project Bread, and Farm Aid.[13] The City of Boston and The Food Project are the original co-sponsors of BBB. The Food Project is a non-profit organization working to strengthen the local food movement. The Food Project is leading the advocacy and ground work for the BBB and getting the word out to low income Massachusetts residents, particularly in neighborhoods near the farmers' markets. With project funding they have provided farmers' markets with technical assistance regarding Point of Sale terminals that enable the use of EBT cards, city permits, and reporting requirements for EBT systems. The combined redemption value of SNAP benefits from the 14 Boston Farmers' Markets totaled $21,000.

The programs mentioned above are an excellent model of federal agencies and non-profits working together to provide more low income individuals with access to healthy food. For many SNAP recipients shopping at farmers' markets is too expensive. With programs like Boston Bounty Bucks and Double Value Coupon, SNAP recipients are able to buy fresh produce while supporting the local farm economy.

Sacramento Community Food Hub

The Sacramento Community Food Hub is an inventive model working to bring locally grown produce to Sacramento-area consumers. While many local farmers are adept at direct marketing (farmers' markets, farm stands, etc.), it is difficult for them reach mainstream consumers or supply larger institutions such as hospitals, school districts and grocery chains. By coordinating produce aggregation and marketing, the Food Hub can enter standard wholesale and distribution markets serving the area. The program is being steered by the Community Alliance with Family Farms (CAFF) and Soil Born Farms, with additional grant funding by the United States Department of Agriculture.[14]

Soil Born Farms is recruiting local farmers to join the Food Hub and offers technical assistance in field management and harvesting practices to aid farmers in making the switch from direct marketing to wholesale. Participating farmers drop off produce at the Hub where it is aggregated and labeled – both with their farm's label as well as the Food Hub's "Buy Fresh Buy Local" label. The facility has cleaning and processing capabilities so the produce can also be shipped in ready-to-use bags that some institutions, such as schools and hospitals, prefer.[15] Food buyers (stores, restaurants, etc.) receive a "pick sheet" of produce offerings broken into categories based on both geography and production style (i.e. "50-mile," "sustainably grown" or "200-mile organic").[16] Pricing varies according to category, and Hub leaders are looking for ways to offer subsidized prices to businesses in poorer neighborhoods and to institutions (such as Sacramento City Unified School District) that are serving low income populations. While marketing local produce to retailers and institutions, Hub partners seek to build knowledge about reasons for purchasing local foods and the social, environmental and economic benefits it brings to the residents of the Sacramento area.

To fund this local foods endeavor, grants from the California Endowment and USDA Community Food Projects currently cover the non-profits costs of CAFF and Soil Born Farms. Purchases from clients pay for the for-profit side of the Food Hub, including the light processing and packing. A five cent mark up on every box that moves through the packing facility will eventually cover marketing expenses as business picks up after the first couple of years, hopefully taking away the need for further grants. In addition, farmer recruitment and technical assistance costs will go down in the same period as enough farmers are brought on board.[17]

For further examples of local food distribution systems The University of Wisconsin Madison generated a report entitled "Scaling Up: Meeting the Demand for Local Food" detailing eleven case studies of local food entrepreneurs from across the country. The case studies highlight a diversity of local food distribution business models, lessons to learn from, and challenges within local foods marketing. The report details innovations and solutions within various processing- and distributing-related arenas such as product quality, seasonality, supply and demand, food origins, supply infrastructure, and capital and capacity development.[18]

South Shasta Healthy Eating Active Communities Collaborative

Southern Shasta County is working on a collaborative effort to get youth, schools, neighborhoods and the health care sector more unified in healthy lifestyles and county policies. The Healthy Eating Active Communities Collaborative (HEAC) is working to better the health and wellbeing of residents in South Shasta. Project goals are to develop a school district wellness policy, boost physical education standards, improve physical and nutrition practices for after school programs, promote livable and walkable communities, initiate policies to provide locally grown foods at schools, preserve agricultural land from development, promote smart growth, build trails and bike paths and improve access to health care providers.[19]

The visioning for the project started in 2005 and implementation has gone through many different strategy phases. Over 140 community members and 180 high school students participated in the visioning project and helped to implement new health and wellness programs for the community. The project has exceeded expectations and accomplished many of the goals listed above through new neighborhood, school and health care policies.[20] Some of the accomplishments were new school district lunch services offering healthy fresh foods and healthy cooking workshops at the high school. For after school and community health, South Shasta expanded activity options in the parks and recreation department and conducted Geographic Information System trails assessment led by students to improve trails and access. The county also worked with local health care providers to change clinical practice by conducting a Body Mass Index measurement.[21] The HEAC Collaborative demonstrates a good example of multiple entities working together to carry out county-wide food system changes, offering lessons in collaboration and policy implementation.

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1 Community Food Security Coalition, Food Policy Councils Retrieved March 2010 (http://www.foodsecurity.org/).
2 Shak, Linda, L. Mikkelsen, and S. Chehimi. 2010. Recipes for Change: Healthy Food in Every Community. By PolicyLink for the Convergence Partnership Fund of the Tides Foundation. Pp 10.
3 Luloff, A. E. 1990. Communities and social change: How do small communities act? In American Rural communities. A. E. Luloff and L. E. Swanson(eds.), 214–227. Boulder, CO: Westview Press.
4 Putnam, Robert D. 2001. Bowling Alone: The Collapse and Revival of American Community. New York: Simon and Schuster.
5 Zekeri, Andrew, Kenneth P. Wilkinson and Craig R.Humphrey. 1994. "Past Activeness, Solidarity, and Local Development Efforts." Rural Sociology 59(2): 216-235.
6 Wilkinson, Kenneth P. 1991. The Community in Rural America. Boulder, Co: Westview Press.
7 Ibid.
8 Luloff 1990.
9 Seshan, Sheila L. 1996. Land Use Change and Community Involvement: A Lancaster County Case Study. PhD Dissertation, The Pennsylvania State University. Department of Agricultural Economics and Rural Sociology. University Park, PA.
10 Ryan, Andrew. 2009. Vouchers Double value of Food Stamps at Boston's Farmers' Markets. Boston Globe. Retrieved June 22, 2010 (http://www.boston.com/news/local/breaking_news/2009/06/vouchers_double.html).
11 Ibid.
12 Double Value Coupon Program. Retrieved June 22, 2010 (http://wholesomewave.org/what-we-do/double-value-coupon-program/).
13 United States Department of Agriculture. 2010. Boston Bounty Bucks. Retrieved June 22, 2010 (http://www.fns.usda.gov/snap/ebt/pdfs/fm/Boston.pdf).
14 Weintraub, Daniel. 2010. The Conversation: Hub Seeks to Fill Gap from Farm to Table. The Sacramento Bee. Retrieved June 22, 2010 (http://www.sacbee.com/2010/03/28/2636826/the-conversation-hub-seeks-to.html).
15 Ibid.
16 Harrison, Shawn. Soil Born Farm, Executive Director. Personal Communication. May 28, 2010.
17 Ibid.
18 Day-Farnsworth, Lindsey et al. 2009. Scaling Up: Meeting the Demand for Local Food. UW-Extension Ag Innovation Center and UW-Madison Center for Integrated Agricultural Systems. Retrieved May, 2010 (http://www.cias.wisc.edu/farm-to-fork/scaling-up-meeting-the-demand-for-local-food/).
19 Healthy Eating Active Communities. South Shasta Healthy Eating Active Communities Collaborative. Retrieved June 22, 2010 (http://www.healthyeatingactivecommunities.org/grantee_showcase1_6.php).
20 Ibid.
21 Ibid.

Section 7

Conclusions and Recommendations

This Community Food Assessment covers a broad range of topics, examines a variety of secondary data sources and also includes primary research and analysis. Our recommendations are intended to spark conversation and consideration. We hope they help inform area agencies, policy makers and organizations, as well as the newly forming Food Policy Council, so that action can be taken on these important issues within our food system.

STRENGTHS

Food production, farms and direct marketing are significant strengths.
Humboldt County has a strong foundation of agriculture with farms diverse in size and products. Specialty agriculture has been identified as a sector of economic growth and we have a significant number of farmers participating in direct-marketing. There are many locally grown, processed, and distributed food products, adding unique character to the local food system and local branding efforts are working to build consumer interest. These are several of the key ingredients necessary to a strong local food system.

Our food system benefits from strong food assistance and food pantry services.
We have the foundation of a strong food pantry system that is serving communities in need throughout the county. Our research found there is a strong network of people wanting to improve food access and multiple cases of collaboration between food assistance providers. Many agencies, organizations and individuals have made it a priority to work on food security issues, with a growing focus on providing fresh and healthy food options.

There is a growing interest in expanding local foods distribution and processing.
Consumer interest in local agricultural products is increasing. Currently, however, there is a lack of appropriately scaled infrastructure to meet the distribution need in regards to networks, storage and transportation. There is also an unmet demand for small- and medium-scaled processing facilities for value-added production. While these needs exist, they signify an opportunity for entrepreneurs and new market developments.

Nearly 50% of Humboldt County schools have gardens.
This came as a surprise to us after calling every single K-12 school in the county. Many of the school gardens are small, but most are for food. This is a positive indication that the interest and infrastructure is out there for helping kids get hands-on food systems education.

A small shift in local consumption can make a big difference in farm incomes and local economic growth.
As interest grows and consumption raises demand for local products, not only will there be new opportunities for our agricultural producers, but also for the infrastructural suppliers whom they rely on and the retail outlets selling local products. These economic findings indicate that local purchasing is a win-win situation for farmers and their communities.

NEEDS

Fresh and healthy foods are not consistently available in our geographically isolated communities.
This shortcoming came up frequently across data sources. Some small communities experience seasonal inconsistencies while others lack variety or quality at their local store on a regular basis. In some areas retail produce isn't available at all.

Women and children are at greatest risk for experiencing poverty and food insecurity.
Our review confirmed over and over the link between poverty and food insecurity. Families with children, and in particular families led by a single female, have a higher prevalence of food insecurity than any other family

structure. Access to fresh and healthy foods provides kids an essential foundation for a healthy life.

Affordable healthy foods are needed in all communities.
Cost is an obstacle to purchasing fresh and healthy foods in big and small towns alike, and food access is an issue across the diverse geography of the county. Meat, dairy, and fresh produce are typically the more expensive food items in a person's diet. Interviews found economic reasons as the number one obstacle to fresh and healthy food access in both urban and rural areas.

More food stores and improved transportation are top food system needs.
Proximity of food stores and transportation options to reach the stores are key ingredients to food access. Regions of Humboldt County, particularly southern and geographically isolated areas, lack these key infrastructural pieces of the food security puzzle. One place of note is Orick, which was mentioned multiple times as needing more food access options and stands out for its high rates of food insecurity and poverty.

Food is a significant proportion of our waste stream and needs to be addressed.
Food waste constitutes the single largest component of the waste stream. Our current waste disposal practices come at high economic and environmental costs and are unsustainable. The community could work more closely with HWMA on this important issue and assist the agency as it seeks environmental alternatives.

Purchasing policies make it difficult for farmers to sell to institutions.
Bringing our local food system to the next level will need to involve sales to institutions: jails, hospitals, schools, and chain retail stores. Purchasing contracts these institutions have with other companies can limit the amount of local sourcing they are able to do. Learning about the various purchasing policies that institutions currently have will aid in targeting potential markets and needed policy changes.

Our agricultural leaders need more support and research.
Farmers are busy working their land and keeping their businesses solvent. It will benefit our local economy and community health to increase purchases of local agricultural products. Several early adopters are breaking ground with new staple crops and making new local market linkages, but the weight of building a local food system shouldn't rest entirely on their shoulders. Increased assistance and collaboration by for-profit and non-profit partners can help with on-farm innovation, crop transitions and building market opportunities.

RECOMMENDATIONS

Based upon our research of the county's food system, we would suggest the exploration of policy options for the following:

Target areas of low enrollment to increase use of federal food assistance programs.
Federal food programs offer a baseline safety net to alleviate the effects of poverty and food insecurity on people's lives. Enrollment rates and eligibility numbers offer some indicators regarding the presence of food insecurity in our communities. For example, free and reduced lunch numbers help us look at needs and usage at the school district level. School districts with the highest eligibility rates for free and reduced lunches, reaching up to 85%, indicate a high level of need amongst their students. The percentage of those eligible students actually participating in the meal program, however, can be as low as 33%, representing poor utilization of this federal resource. Enrollment in programs like SNAP and WIC can similarly be compared with known poverty rates and other indicators of food insecurity. Action and resources should be targeted toward the communities that show the greatest need.

Federal food assistance programs are a win-win situation because increased enrollment brings federal dollars into our local economy. Usage by WIC clients and seniors of the Farmers' Market Nutrition Program coupons, a very small federal food assistance program, can account for $20,000 to local farmers in 2010. However, schools and senior centers are often not fully compensated for the price of meals under the federally-sponsored programs that they offer. This requires further funding at the local level and may be a disincentive for them to encourage greater usage of the program.

Create a locally appropriate food culture.
Once a love for fresh and healthy foods is established, individuals will seek them out. Some people have grown up in households where nearly everything comes out of a package, so they don't even know that fresh vegetables taste great, let alone how to prepare them. Income has a huge impact on what a person purchases, but packaged foods don't necessarily come at a cost savings. In an example provided by one interviewee, "With four bucks you could buy a box of Cheerios or five pounds of oatmeal." Our research found 'Education' to be a recurring theme, both as an obstacle to fresh and healthy food access and as a tool to achieve access.

Starting in the schools and extending into the community, we must create a culture of healthy eating. More opportunities are needed for individuals to develop hands-on gardening skills, learn about nutrition, gain techniques for smart shopping on a budget, and experience the pleasures of cooking with fresh produce. Historically programs and agencies have offered such trainings and experienced low enrollment. Alternative, peer-based and hands-on methods can provide new tactics for sharing these skills. The growth in school gardens is a good sign that educators and students are taking an interest in learning about food systems and healthy eating. As food awareness becomes a national trend, we must build upon the interest generated to offer new types of food education. What we eat, how we acquire our food and who we eat with are all aspects of food culture, not only affecting our personal health but also building relationships. A locally appropriate food culture would consider the norms, practices and ethnicities of all of the people who live in the county. A strong food culture leads to healthier individuals and communities.

Connect the low-income community to fresh and nutritious foods.
We should seek ways to provide healthy food access through food assistance programs serving our low-income constituents and targeted community efforts. Locally produced (typically organic) foods are usually too pricey for this sector of the population, yet they are also the most healthful and offer the most economic return to our communities. Food assistance programs such as the farmers' market coupons (FMNP) are in greater demand than supply, suggesting that further forms of assistance in paying for local farm products would be welcomed. Food for People's contracts with farmers are an excellent local example that can be reproduced at other food pantries, as is United Indian Health Services reduced-price garden produce for its clients.

The Double Value Coupon provides a national example of connecting federal food assistance SNAP recipients with farmers' market produce. In Eugene, Oregon, the 'That's My Farmer' program links low-income consumers with farms offering weekly produce basket CSA's (Community Supported Agriculture subscriptions) at subsidized prices paid for by a community fund.[1] National Farm to School programs bring local foods into school cafeterias for standard, free, and reduced-price meals. Another model of interest, City Fresh, brings reduced-price CSA and farmers' market style produce stands into underserved communities.[2] Community gardens are a way for individuals to grow their own fresh foods and learn from fellow neighbors.

While our research found finances to be the main obstacle to obtaining fresh and healthy food, access was also impacted by proximity of stores and the availability of healthful foods in a community's stores. Store owners must make their stocking decisions based on their bottom line, so it is up to the community to work with them to identify means by which they can increase affordable produce offerings. New corner store initiatives offer models and tools with which to do this, including land-use policies to influence store locations.[3]

Work with ethnic populations on food issues.
Latinos and American Indians are the two largest non-white populations living in Humboldt County. According to census data, we know that both groups experience higher rates of poverty than their white peers, with the Hoopa Reservation measuring the highest rates in 2000. We also have indications that issues of food access are greater in our county's more remote areas, which is where a large percentage of American Indians reside.

Another important factor not to be ignored are the food customs of the ethnic populations in the county. Both Latinos and American Indians have unique food cultures, many aspects of which have been negatively impacted by such factors as immigration and environmental degradation. For example, in the case of our local tribes, water quality issues on the Klamath River have diminished salmon populations, a staple in their traditional

diet. To better understand the food system needs and food cultures of these two groups, more collaboration and research with them is needed. Diverse cultural norms and practices must be considered, honored and incorporated into food system analysis and planning.

Conduct more research regarding the price and availability of foods offered at stores throughout the county.

A survey of grocery stores would assess the availability and affordability of food in retail outlets across the county. This would provide details regarding prices in urban and geographically isolated communities to detect possible differences between the two. It would also help to identify areas with limited access to fresh and healthy foods.

Look to national models of locally-scaled food processing and distribution.

The need for expanded local food distribution is not just developing in Humboldt County, but all around the country. There are new resources available to learn from, such as 'Scaling Up: Meeting the Demand for Local Food.'[4] It is a shared societal interest to have our schools and hospitals serve fresh and healthy foods, but it is too much of a burden on nonprofits to fill all the missing gaps in our local infrastructure to make these institutional relationships possible – more for-profit and economic development collaboration is needed.

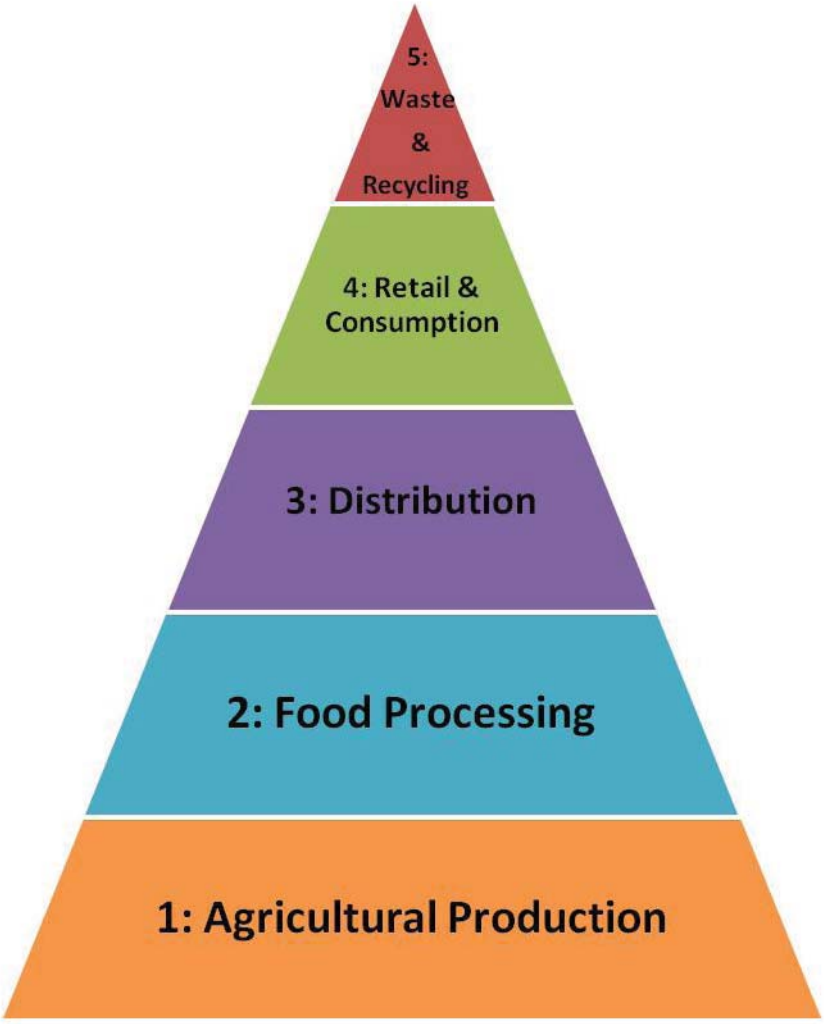
Learn how other areas with successful projects gauged interest by farmers, food purchasers, and consumers and eventually gained participation by all. The Sacramento Community Food Hub described above provides one model to learn from, as does GROWN Locally in Northeastern Iowa. This 22-member cooperative came together nine years ago to reduce competition and work together to meet the needs of institutional buyers.[5] These collaborations faced similar food system demands and issues as ours and provide us with insights into potential solutions.

1 Willamette Farm and Food Coalition. That's My Farmer. Retrieved June 2010 (http://www.lanefood.org/thats-my-farmer.php).
2 City Fresh. Sign up for Shares. Retrieved June 2010 (http://cityfresh.org/sign-shares).
3 Burtness, Dayna. 2009. Healthy Food for All: Healthy Corner Store Strategies from Across the United States. Institute for Agriculture and Trade Policy.
4 Day-Farnsworth, Lindsey et al. 2009. Scaling Up: Meeting the Demand for Local Food. UW-Extension Ag Innovation Center and UW-Madison Center for Integrated Agricultural Systems. Retrieved May, 2010 (http://www.cias.wisc.edu/farm-to-fork/scaling-up-meeting-the-demand-for-local-food/).
5 Day-Farnsworth 2009. Pp11.

Section 8

Appendix

Appendix 1: Five Sectors of the Food System



Created by Stubblefield, Danielle. 2010. Concepts from Unger, Serena and Heather Wooten. A Food Systems Assessment for Oakland, CA: Toward A Sustainable Food Plan. Oakland Mayor's Office of Sustainability and UC Berkeley. May 24, 2006. Retrieved February 2010 (http://oaklandfoodsystem.pbworks.com).

Appendix 2: Humboldt County Community Gardens

Humboldt County Community Gardens	
Name	Location
Arcata Community Garden	11th and J (670 11th Street), Arcata, CA
Blue Lake Community Farmers	Mad River Grange, Hatchery Rd, Blue Lake, CA
Fortuna Community Garden	2132 Smith Lane (Christ Lutheran Church), Fortuna, CA
Fortuna Healthy Garden	Northeast corner of Loop Road and Rohnerville Road, Fortuna, CA
Garden Of Eatin'	716 South Avenue (Calvary Lutheran Church), Eureka, CA
Grace Good Shepherd Church Garden	Hiller Road, Mckinleyville, CA
Henderson Community Garden	800 West Henderson Street, Eureka, CA
Kin Tah Te Community Garden	located on land owned by the school district, Hoopa, CA
Manila Family Resource Center Garden	Manila Family Resource Center, Manila, CA
Mateel Community Garden	Redway, CA
Mckinleyville Community Garden	Gwin Rd (Behind Rooney Children's Center at 1621 Gwin Rd, in Pierson Park), Mckinleyville, CA
Mckinleyville Family Resource Center Garden	McKinleyville Family Resource Center, Mckinleyville, CA
Orick Community Garden	Orick Elementary School, Orick, CA
Our Garden	Ville de Valle, Arcata, CA
Potawot Community Food Garden	1600 Weeot Way, Arcata, CA
RCAA Demonstration Gardens	6th & 'T' Streets, Eureka, CA
Rio Dell Community Garden	Off Rio Dell Avenue, on Rio Dell Baptist Church land, Rio Dell, CA
Southern Humboldt Community Park/Farm	934 Sprowl Creek Rd, Garberville, CA
Unity Garden	California and 15th Streets, Eureka, CA
Wabash Street Garden	Wabash & 'F' Streets, Eureka, CA

Source: North Coast Community Garden Collaborative .2010 (www.reachouthumboldt.org/north-coast-community-garden-collaborative.com) and Southern Humboldt Community Park and Farm. 2010 (www.sohumpark.org).

Appendix 3: Humboldt County School Gardens

Humboldt County School Gardens		
School District/Name	Approx. Size of Garden	How School Uses Garden
Arcata Elementary School District		
Arcata Elementary School K-5	300 sq. ft	Afterschool Program
Union Street Charter School K-5	3 raised flower beds 12x3	Classes
Sunny Brae Middle School 6-8	300 sq ft	Science Classes & Afterschool Program
Coastal Grove Charter School K-8	400 sq. ft	Classes participate
Fuente Nueva K-5	400 sq. ft	Shares with Coastal Grove
Big Lagoon Union Elementary School District		
Big Lagoon School K-8	300 sq. ft	
Blue Lake Union Elementary School District		
Blue Lake School K-8	10x10 bed	Classes & Afterschool Program
Bridgeville Elementary School District		
Bridgeville School K-8	600 sq. ft	Classes & Afterschool Program
Cuddeback Elementary School District		
Cuddeback Elementary School 3-6	20x30	Afterschool Program
Eureka Unified School District		
Alice Birney School K-5	30x40 6 raised beds	Each class has own bed & Afterschool program
Winzler Children's Center	1 raised bed	At Alice Birney, classes
Zane Middle School	10x10	Afterschool Program
Ferndale School District		
Ferndale Elementary School K-8	5 raised beds: 1 8x8 and 4 20x4	Classes & cook and eat food
Fieldbrook School District		
Fieldbrook School K-8	5 8x8 flower beds	Classes & Afterschool Program
Fortuna Union Elementary School District		
Fortuna Middle School 5-8	8x8 bed	Afterschool Program
South Fortuna Elementary School K-4	Small raised bed	3rd grade class
Freshwater School District		
Freshwater School K-6	4 Raised Beds	Classes
Garfield School District		
Garfield School K-6	1000 sq. ft 8 raised beds	Classes, each have own beds
Green Point School District		
Green Point School K-8	Raised bed 20x20	Two classes participate
Hydesville School District		
Hydesville Elementary School K-8	4 5x5 beds	During Summer School
Jacoby Creek Charter School District		
Jacoby Creek Charter School K-8	1500 + sq.ft	Classes and Afterschool
Klamath-Trinity Joint Unified School District		
Captain John Continuation High School	Shares with Two Rivers and Rivers Edge	
Hoopa Valley Elementary	Flower beds 2 8x8	Classes

Humboldt County School Gardens cont.		
School District/Name	Approx. Size of Garden	How School Uses Garden
Hoopa Valley High School	8x12 raised bed	Gardening Club
Trinity Valley Elementary	50x70 raised bed	Service Learning Project
Weitchpec Elementary	2 5x5 beds and 10 pots with herbs and vegetables	Classes
Kneeland School District		
Kneeland School K-8	6 raised beds in 20x15	3 Classes
Maple Creek School District		
Maple Creek K-8	4x12 raised bed	Classes
Mattole Unified School District		
Honeydew School K-6	4 raised flower beds 5x5	Afterschool Program
Mattole School K-8	3 raised beds	Classes
Mattole Triple Junction High School	2000 sq ft with green house and pond	Classes and Afterschool Program
Mckinleyville Union School District		
Dow's Prairie School	20 small raised beds	Kindergarten class
McKinleyville Middle 6-8	half acre	Elected class for 7th and 8th
Northern Humboldt Union HSD		
Six Rivers Charter High School	4 raised beds	Classes, Afterschool, and Cafeteria
Orick Elementary School District		
Orick School K-8	20x20 raised bed	Classes, Resource Center, and Community
Pacific Union School District		
Pacific Union School K-8	6 raised beds	Classes
Trillium Charter School K-5	5 raised beds	Classes
Peninsula Union School District		
Peninsula School K-8	15x30 raised bed	Classes and Afterschool Program
Rohnerville School District		
Ambrosini School K-8	10 raised beds	Afterschool program
South Bay Union School District		
Pine Hill School K-6	30x 25 raised bed	Afterschool Program
South Bay School K-6	30x40 raised bed	Classes and Afterschool program
Southern Humboldt Unified School District		
Agnes Johnson School K-7	4 raised beds, small greenhouse	Classes
Casterlin School K-8	2 garden areas: 6 beds 6X10 courtyard 4 2X6, 12 half barrels	Classes and nutrition classes
Redway School K-7	A few small raised boxes	Classes
Trinidad School District		
Trinidad Elementary School K-8	4 raised beds 4x20 and green-house	Classes and Afterschool Program

Source: Ollar, Alexis. Phone conversations with 88 K-12 schools in Humboldt County. Created June 9, 2010 (http://www.humboldt.k12.ca.us/schdist/index.php).

Appendix 4: Local Food Products Processed & Distributed in Humboldt County

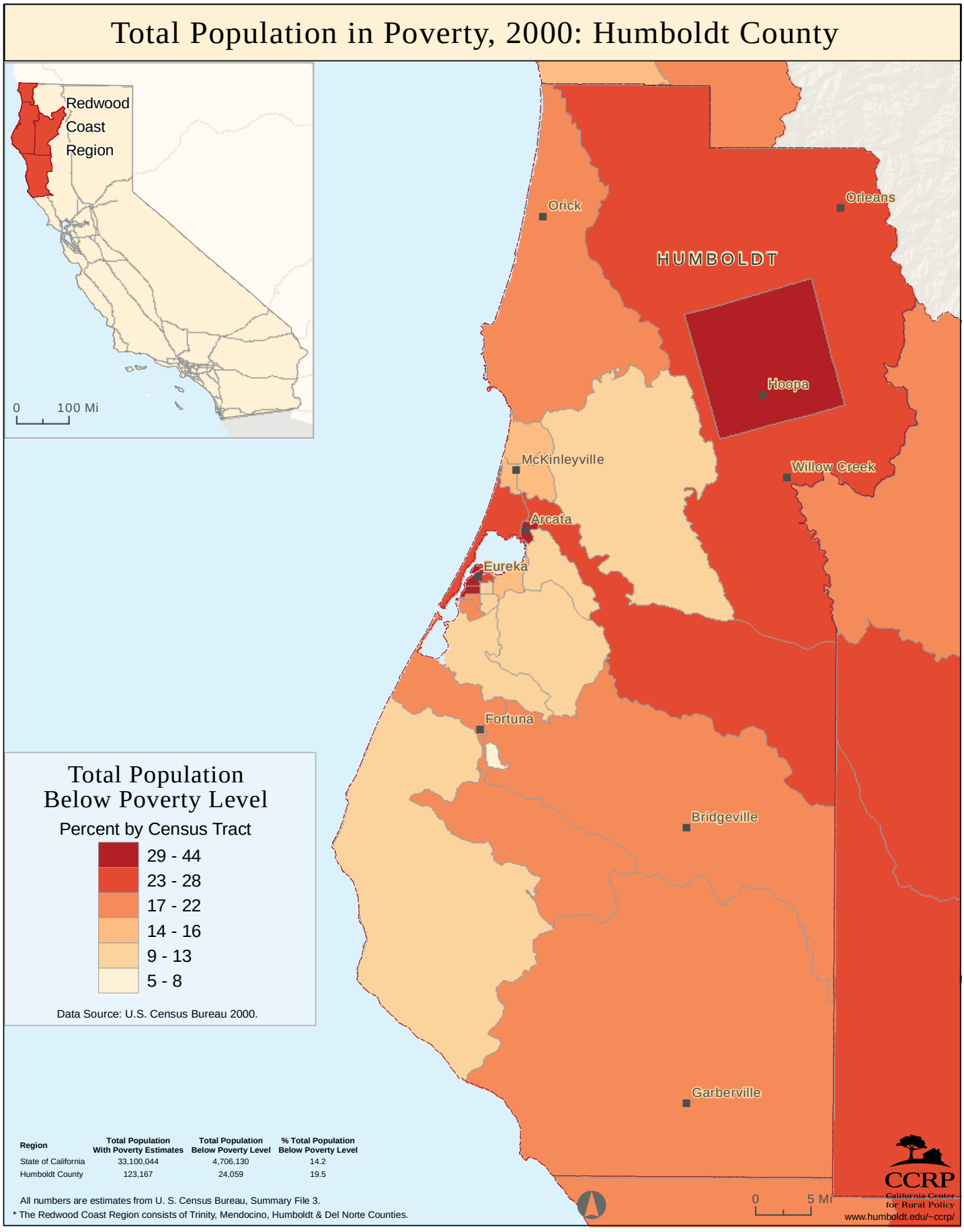
Local Food Products Processed and Distributed in Humboldt County*			
Name	**Location**	**Product Type**	**Food Miles to Eureka**
Aqua Rodeo	Eureka, CA	Oysters/Seaweed	1
Barbata Honey Farms	Eureka, CA	Honey	8.5
Barry's Theatre Cookies	Arcata, CA	Cookies	9
Bayside Roasters	Eureka, CA	Coffee	2.5
Big D Ranch	Eureka, CA	Honey	9
Briceland Vineyards	Redway, CA	Wine	80
Brio Breadworks	Arcata, CA	Bread	9
Cabot Vineyards	Orleans, CA	Wine	57
Calhoun's	Arcata, CA	Barbeque Sauce	9
Cap'n Zach's Crab House	Blue Lake, CA	Dungeness Crab	2-89
Casa Lindra	Arcata, CA	Salsa	9
Coates Vineyard	Orleans, CA	Wine	57
Cypress Grove	Arcata, CA	Cheese	6.5
Eel River Brewery	Fortuna, CA	Organic Beer	15
Eel River Organic Beef	Hydesville, CA	Organic Beef	18
Elk Prairie Vineyard	Myers Flat, CA	Wine	58
Feral Family Farm	Arcata, CA	Wheatgrass & Sunflower Sprouts	16
Fish Brothers	Blue Lake, CA	Smoked Albacore Tuna	2-89
Fruitwood Farm	Orleans, CA	Pears	85
Franz	Eureka, CA	Breads	2
Gourmet Dog Biscuit Co.	Orick, CA	Dog Treats	42
Heartfelt Foods	Arcata, CA	Dog Treats	9
Henry's Olives	Eureka, CA	Olives	2
Humboldt Bay Coffee	Eureka, CA	Coffee	0.5
Humboldt Creamery	Fortuna, CA	Dairy Products	17
Humboldt Grass Fed Beef	Fortuna, CA	Beef	10
Humboldt Honey	Fortuna, CA	Honey	18
Katy's Smokehouse	Blue Lake, CA	Fish	2-89
Laceys (Desserts On Us)	Arcata, CA	Cookies	9
Larrupin'	Trinidad, CA	Barbeque and Mustard Sauce	22

Local Food Products Processed and Distributed in Humboldt County			
Name	**Location**	**Product Type**	**Food Miles to Eureka**
Loleta Cheese Co	Loleta & Ferndale, CA	Cheese	13
Los Bagels	Arcata, CA	Bagels	7
Lost Coast Brewery	Eureka, CA	Beer	0.5
Lost Coast Vineyards	Petrolia & Hoopa, CA	Wine	50
Mad River Brewing Co.	Blue Lake, CA	Beer	10.7
Mazzotti's	Eureka, CA	Salad Dressing and Sauces	1
Monastery Creamed Honey	Whitethorn, CA	Honey	82
Muddy Waters Coffee Co.	Eureka, CA	Coffee	0.5
Neukom Family Farms	Willow Creek, CA	Produce	48
New Moon Organics	Shively, CA	Produce	36
Nonna Lena's	Eureka, CA	Pesto Sauces	2
North Bay Shellfish	Arcata, CA	Oysters	9
Old Growth Cellars	Petrolia, CA	Wine	7
Planet Chai	Arcata, CA	Chai Tea	9
Rita's	Eureka, CA	Salsa and Burritos	1
Riverbend Cellars	Myers Flat, CA	Wine	59
Six River Brewery	Mckinleyville, CA	Beer	12
Sweet Mama Janisse	Eureka, CA	Sauce	1
Tofu Shop	Arcata, CA	Tofu	12
Tomaso's	Blue Lake, CA	Salad Dressing, Salsa and Sauces	11
Violet Green Winery	Freshwater, CA	Wine	6
Warren Creek Farms	Arcata Bottoms & Blue Lake, CA	Produce	9-13
Weitchpec Chile Co.	Blue Lake, Ca	Chile Sauces	16
Wild Rose Farm	Blue Lake, CA	Produce	17
Wildflower Specialty Food	Arcata, CA	Salad Dressing	8
Wild Planet	McKinleyville, CA	Fish	13
Willow Creek Farm	Willow Creek, CA	Produce	49
Winnett Vineyards	Willow Creek, CA	Wine	50

Source: North Coast Co-op. "Trust Your Source," Accessed May 26, 2010 (http://www.northcoastco-op.com/healthy.htm#Trust) and Made in Humboldt California. "Selection of Humboldt Businesses." Retrieved May 27, 2010 (http://www.humboldtmade.com/humboldt-businesses).

*Table is a partial list of local food products, and will need future research and recommendations.

Appendix 5: Total Population in Poverty, 2000: Humboldt County



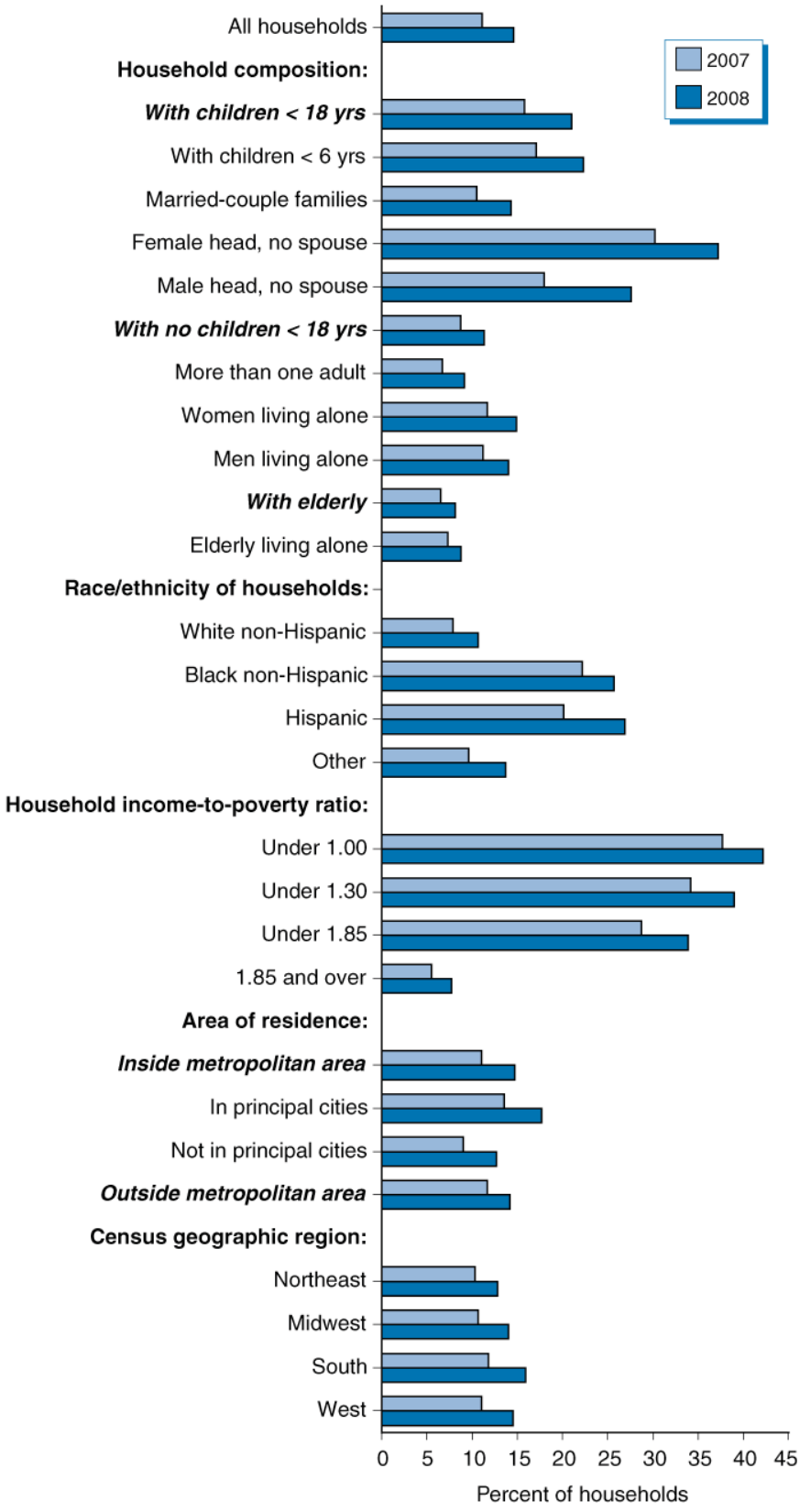
Region	Total Population With Poverty Estimates	Total Population Below Poverty Level	% Total Population Below Poverty Level
State of California	33,100,044	4,706,130	14.2
Humboldt County	123,167	24,059	19.5

All numbers are estimates from U. S. Census Bureau, Summary File 3.
* The Redwood Coast Region consists of Trinity, Mendocino, Humboldt & Del Norte Counties.

Appendix 6: Prevalence of Food Insecurity, 2007-2008

Figure 3

Prevalence of food insecurity, 2007 and 2008



Source: Calculated by ERS based on Current Population Survey Food Security Supplement data, December 2007 and December 2008.

Note: In the figure "Prevalence of food insecurity, 2007 and 2008" Nord uses the terminology "Household income-to-poverty ratio" with numbers "Under 1.00," "Under 1.30" and "Under 1.85." A ratio of "1.00" means income at the federal poverty level for that year. In this report we use percentage as opposed to ratio, instead reflecting these three categories as "below poverty line," "below 130% of poverty" and "below 185% of poverty." To clarify further, "185% of poverty" would mean the federal poverty income plus 85% of that income. The term "low-income" is considered 200% of the poverty line, or double the poverty income. In 2010 the federal poverty income for one person is $10,830 and for a family of four is $22,050.

May 2008 Research Brief

Investigating Very Low Food Security in the Redwood Coast Region

CCRP
California Center for Rural Policy

By Kali Patterson and Jessica Van Arsdale, MD, MPH

The prevalence of very low food security in the Redwood Coast Region is more than 2 times the prevalence in California.

Very low food security is a measure of severe food insecurity resulting in reduced food intake, disrupted eating patterns or hunger.[1] Food insecurity is associated with numerous poor health outcomes including: obesity, diabetes, heart disease, high blood pressure and poor cognitive, academic and psychosocial outcomes.[2-5]

Results from the Rural Health Information Survey, 2006, indicate that there are disparities in very low food security in the Redwood Coast Region.

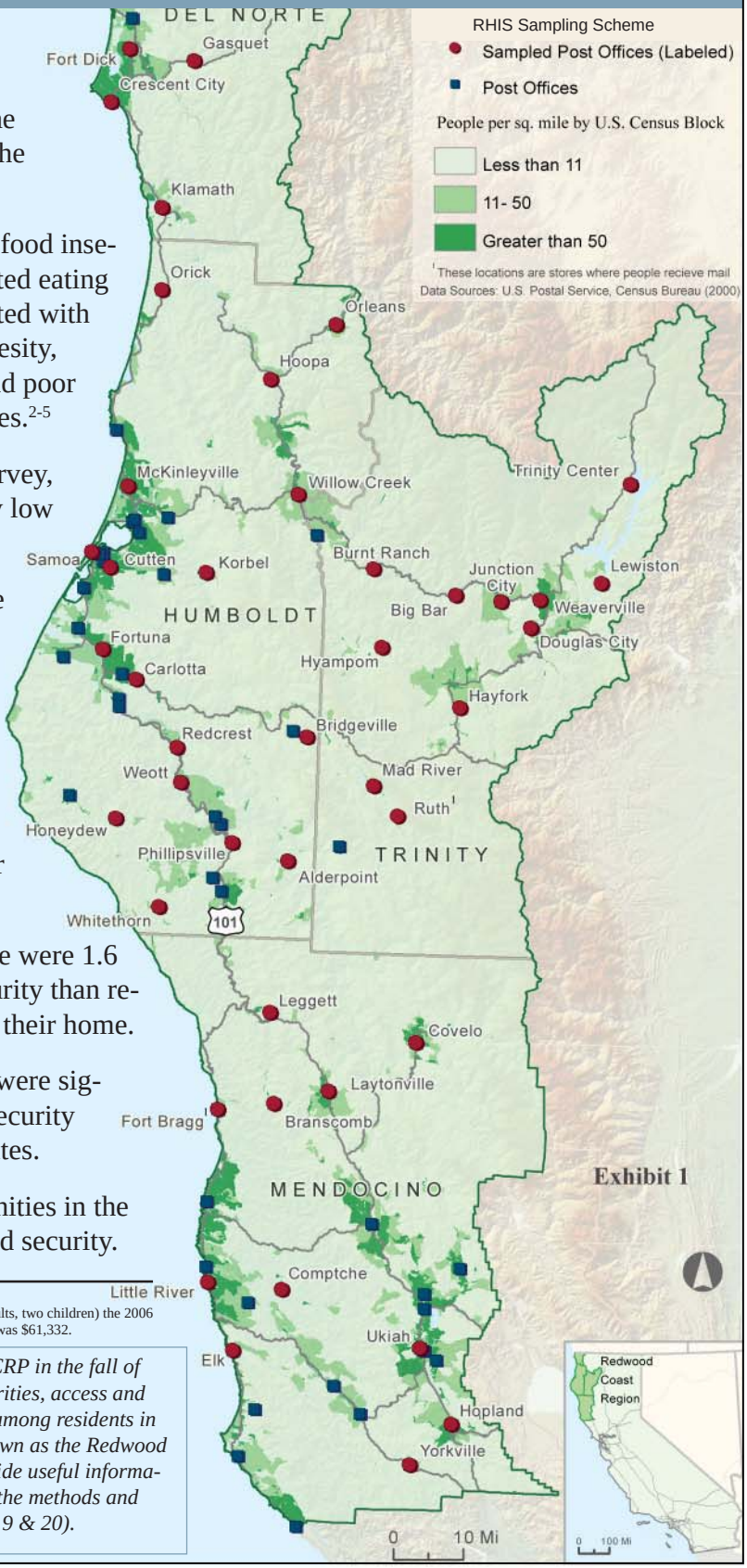
Respondents with very low food security were significantly more likely to report poor health and depression compared to respondents without very low food security.

Households with incomes below the federal poverty level (FPL)* are clearly disadvantaged with up to 29% reporting very low food security compared to 1.1% of households at or above 300% FPL.

Respondents with children living in their home were 1.6 times more likely to report very low food security than respondents who did not have children living in their home.

Respondents who were young and non-white were significantly more likely to have very low food security compared to respondents without these attributes.

Up to 25% of respondents from some communities in the Redwood Coast Region reported very low food security.



* The Federal Poverty Level (FPL) varies by household size. For a family of four (two adults, two children) the 2006 Federal Poverty Level (100% FPL) was $20,444, 200% FPL was $40,888 and 300% FPL was $61,332.

The Rural Health Information Survey was conducted by CCRP in the fall of 2006. The purpose of the survey was to assess health disparities, access and utilization of healthcare, and other determinants of health among residents in Del Norte, Humboldt, Trinity and Mendocino counties (known as the Redwood Coast Region - Exhibit 1). The goal of the survey is to provide useful information for planning and policy development. A description of the methods and sample demographics is at the end of this report (Exhibits 19 & 20).

What is "Very Low Food Security"?

Food security refers to access by all people at all times to enough food for an active, healthy life. If an individual or household has limited or uncertain access to adequate food they are considered to be food insecure. A household can be further classified as having high food security, marginal food security, low food security or very low food security (Exhibit 2). [1,6]

Very low food security occurs when household members are unable to adequately feed themselves due to economic deficiencies or lack of resources. This results in reduced food intake or disrupted eating patterns. Household members with very low food security may experience hunger because they are unable to afford enough food.[1]

Exhibit 2: Definitions of Terms

Food Security

High Food Security: No reported indications of food access problems or limitations.

Marginal Food Security: One or more reported indications- typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake.

Food Insecurity

Low Food Security: Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.

Very Low Food Security: Reports of multiple indications of disrupted eating patterns and reduced food intake.

Source: USDA-ERS[6]

Assessment of food security is a complex process. The USDA's annual food security survey uses up to 18 different questions to assess food security and this is considered the gold standard for research in the field.[1] The Rural Health Information Survey used one question to assess for a severe level of food insecurity. This brief examines food security status by focusing on responses to the following question: ***"In the last 12 months were you or people living in your household ever hungry because you couldn't afford enough food?"*** Respondents who answered "yes" were considered to have very low food security. This type of single question screening measure has been found to be an accurate and reliable way to identify hungry families.[7]

Why Study Food Insecurity? The Link to Health & Obesity

A consistent relationship between food insecurity and poor health status has been demonstrated across a wide range of literature. Numerous studies have shown that individuals living in food insecure households are more likely to report poor physical and mental health than those living in food secure households.[8] Research suggests that food insecurity is related to increased risk for health problems such as obesity, diabetes, heart disease and high blood pressure.[2,3,8]

Research has shown an association between food insecurity and obesity or overweight in adults and children.[2,9] While causal relationships between food insecurity and obesity are difficult to establish, there are several associations that may account for this seemingly paradoxical relationship. Studies have found that food insecurity is associated with lower quality diets, inadequate nutrient intake and reduced consumption of fruits, vegetables, meat and dairy products with increased consumption of cereals, sweets and added fats. [10,11,12] Research indicates that people who have unpredictable availability of food will tend to overeat when food is available and over time this pattern can result in weight gain.[13] When food intake is periodically inadequate the body may undergo physiologic changes making it more efficient at storing calories as fat.[14]

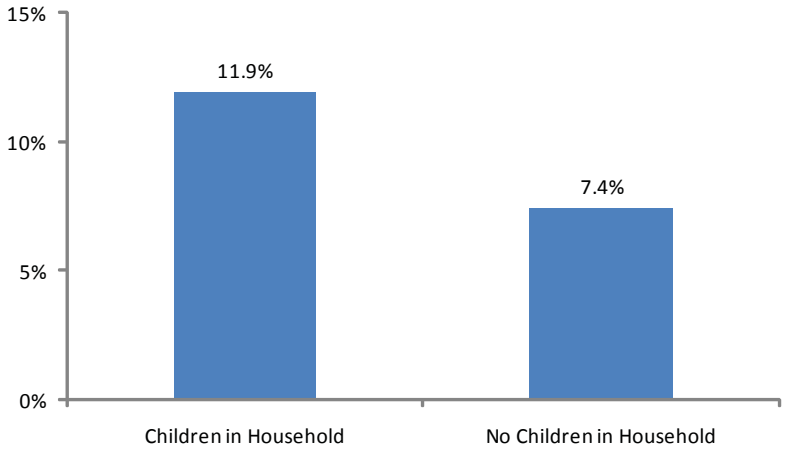
Very Low Food Security: Households with Children are at Risk

Respondents with children living in their home were 1.6 times more likely to report very low food security than respondents who did not have children living in their home.

Of the respondents who live in households with children under 18 years of age, 11.9% reported very low food security compared to 7.4% of respondents who do not have children in their household. Although small, this difference is statistically significant (Exhibits 3 & 4; also see page 7, "What does it mean to be statistically significant?").

Analysis comparing counties did not show a significant difference between counties with respect to percentage of respondents with children in the household and very low food security.

Exhibit 3: Very Low Food Security by Households with Children Under 18 (n = 2,902)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Exhibit 4: Number of Respondents Who Experienced Very Low Food Security by Children in Household

Children in Household		Very Low Food Security	
	Frequency	Frequency	%
No	2186	161	7.4
Yes	716	85	11.9
Total	2902	246	8.5

Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Why Study Food Insecurity? The Link to Children's Health

Children appear to be particularly vulnerable to the negative effects of food insecurity. Children living in food insecure households tend to have poor cognitive, academic and psychosocial outcomes.[5] Food insecure children are more likely to have "fair or poor" health and are more likely to require hospitalization early in life compared to food-secure children.[15] Infants and toddlers from food-insecure households tend to be more likely to experience developmental risk than those from food-secure households.[16]

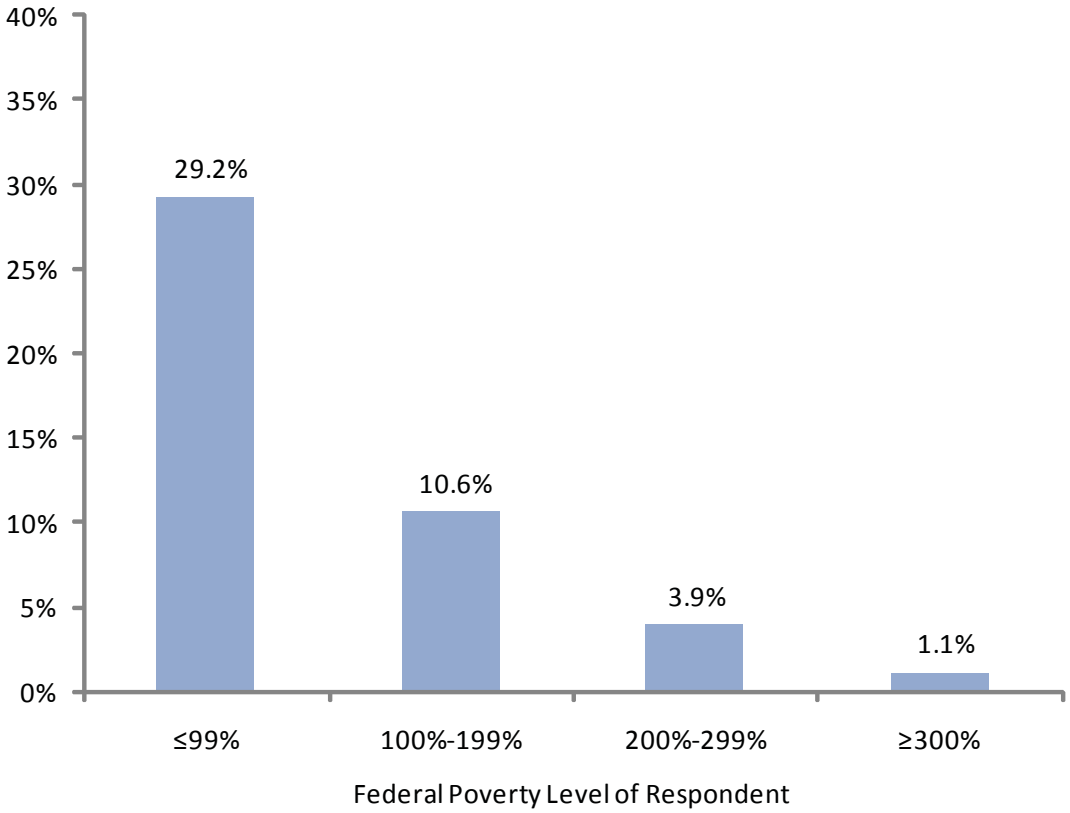
Determining the populations at risk for food insecurity in our communities is important for developing programs and policies aimed at improving health. Assessing and monitoring food insecurity over time can help determine if conditions are improving.

Very Low Food Security: The Impact of Poverty

Respondents living in households below 100% poverty were 26.5 times as likely to experience very low food security as those living at or above 300% poverty.

There was a clear trend in very low food security with respect to poverty. Of the respondents below the federal poverty level, 29.2% reported having very low food security. As the socioeconomic level increased food security improved with only 1.1% of respondents who were at or above 300% FPL reporting very low food security (Exhibit 5 & 6).

Exhibit 5: Very Low Food Security by Federal Poverty Level of Respondents (n = 2,537)



*The lowest % of FPL is the poorest household

Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Exhibit 6: Number of Respondents Who Experienced Very Low Food Security by Federal Poverty Level

Federal Poverty Level		Very Low Food Security	
	Frequency	Frequency	%
≤99%	407	119	29.2
100%-199%	635	67	10.6
200%-299%	489	19	3.9
≥300%	1006	11	1.1
Total	2537	216	8.5

Source: Rural Health Information Survey, 2006, California Center for Rural Policy

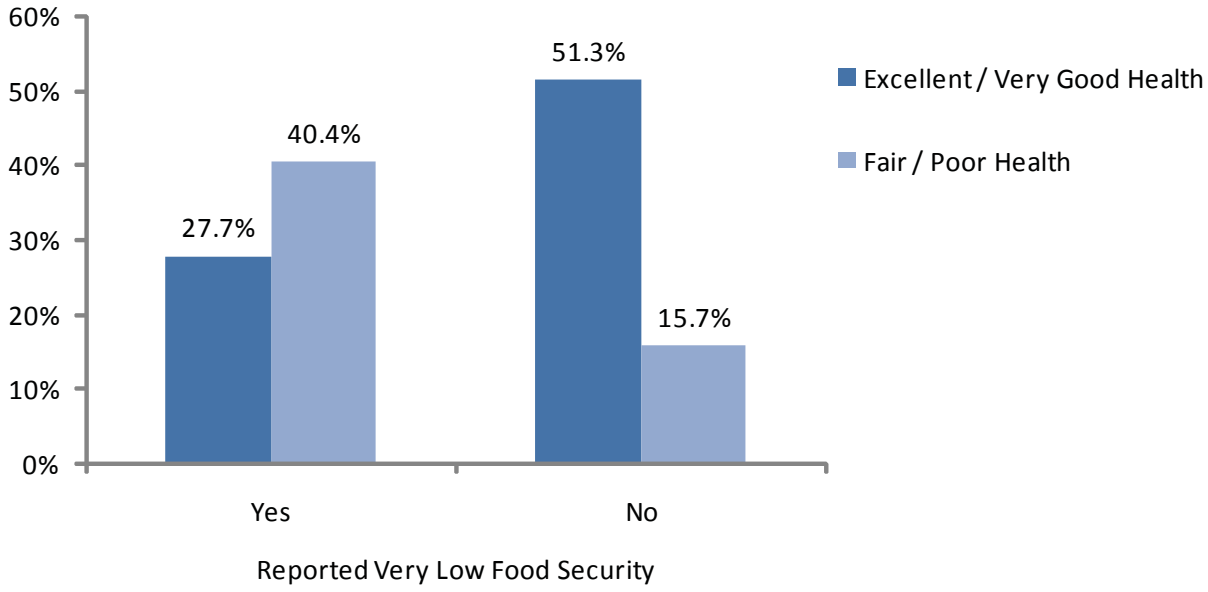
Very Low Food Security: Impact on Health and Well-being

Respondents with very low food security were 4.5 times more likely to report poor perceptions of general health and 7.8 times more likely to report feeling continuously depressed compared to respondents who did not experience very low food security.

An association was found between very low food security and respondents' perceptions of general health. Of the respondents living in households with very low food security, 40.4% reported poor or fair health compared to only 15.7% of respondents without very low food security (statistically significant differences) (Exhibits 7 & 8).

Significant differences were also found for respondents who reported excellent or very good health. Of the respondents with very low food security, 27.7% reported very good or excellent health. In contrast, respondents without very low food security were significantly more likely to report very good health or excellent health (51.3%) (Exhibits 7 & 8).

Exhibit 7: Perceptions of General Health by Very Low Food Security (n = 2,881)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Exhibit 8: Perceptions of General Health and Very Low Food Security

	Perception of General Health					
Reported Very Low Food Security	Excellent	Very Good	Good	Fair	Poor	Total
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Yes	17 (6.9)	51 (20.8)	78 (31.8)	57 (23.3)	42 (17.1)	245 (100)
No	360 (13.7)	992 (37.6)	869 (33.0)	315 (11.9)	100 (3.8)	2636 (100)
Total	377 (13.1)	1043 (36.2)	947 (32.9)	372 (12.9)	142 (4.9)	2881 (100)

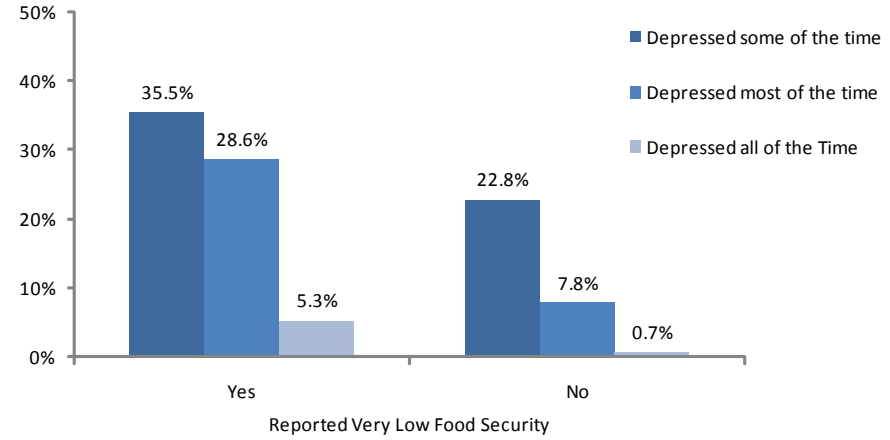
Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Very Low Food Security: Impact on Health and Well-being *cont.*

Very low food security is also associated with more frequent feelings of sadness or depression. Respondents with very low food security were significantly more likely to report feeling sad or depressed "some," "most" or "all of the time" than respondents without very low food security.

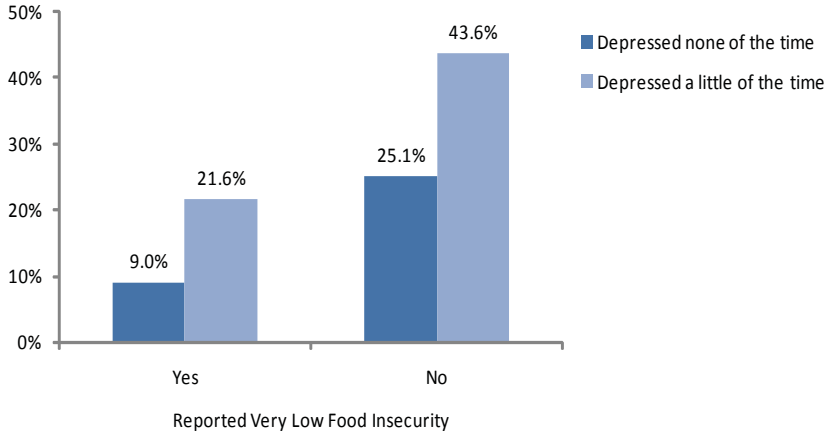
Additionally respondents with very low food security were less likely to report feeling sad or depressed "a little" or "none" of the time compared to respondents without very low food security (Exhibits 9, 10 & 11).

Exhibit 9:
Feeling Sad or Depressed "Some," "Most" or "All" of the Time by Very Low Food Security (n = 2,877)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Exhibit 10:
Feeling Sad or Depressed "None" or "A Little" of the Time by Very Low Food Security (n=2,877)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Exhibit 11: Feeling Sad or Depressed and Very Low Food Security

	Depression					
Reported Very Low Food Security	None of the Time	A little of the time	Some of the time	Most of the time	All of the time	Total
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Yes	22 (9.0)	53 (21.6)	87 (35.5)	70 (28.6)	13 (5.3)	245 (100)
No	661 (25.1)	1148 (43.6)	601 (22.8)	204 (7.8)	18 (.7)	2632 (100)
Total	683 (23.7)	1201 (41.7)	688 (23.9)	274 (9.5)	31 (1.1)	2877 (100)

Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Very Low Food Security: The Impact of Place

In some communities, up to 25% of respondents have very low food security.

While there were not significant differences in very low food security between counties (Del Norte 10.1%, Humboldt 9.5%, Trinity 6.6% and Mendocino 8.5%), analysis on a sub-county level revealed drastic differences between communities. Depending on the community, very low food security ranged from 2% to 25%. The GIS maps on pages 8 & 9 show the percent of respondents with very low food security in each sampled community. As would be expected, the census tracts with higher poverty rates tend to have higher percentages of respondents reporting very low food security (Exhibits 12 & 13).

No significant differences in very low food security were found between respondents living in different population densities (<11 people per square mile 7.5%; 11-50 people per square mile 10.7%; >50 people per square mile 7.9%).

Food Insecurity: Why Study Place?

Determining which communities have high levels of food insecurity can help target policies and programs aimed at alleviating food insecurity. Knowing the level of food insecurity for an entire county is useful, but it does not help the county to prioritize the areas with the greatest need.

Monitoring food insecurity in communities over time can help determine if programs and policies are making a difference.

What does it mean to be statistically significant?

Whenever comparisons are made between groups there is always the possibility of finding a difference simply by chance. In research we like to find “true” differences and not differences that have occurred by chance. By convention, most researchers use a *P*-value of <.05 to determine if a difference is significant. This means there is less than a 5% probability that the difference observed has occurred by chance alone.

Exhibit 12:

CCRP Rural Health Information Survey:

Percent of Respondents With Very Low Food Security[1], 2006

Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

DEL NORTE
Fort Dick
Gasquet
Crescent City
Klamath
Orick
Orleans
Yreka
Hoopa
McKinleyville
Willow Creek
Trinity Center
Korbel
Burnt Ranch
Junction City
Lewiston
Samoa
Cutten
HUMBOLDT
Big Bar
Weaverville
Fortuna
Hyampom
Douglas City
Carlotta
Hayfork
Redding
Bridgeville
TRINITY
Redcrest
Mad River
Weott
Honeydew
Ruth
Red Bluff
Phillipsville
Alderpoint
Whitethorn
Leggett
Covelo
Laytonville
Fort Bragg
Branscomb
MENDOCINO
Little River
Comptche
Ukiah
Elk
Hopland
Clearlake
Yorkville

Percent of Respondents With Very Low Food Security

- 15 - 25
- 10 - 14
- 8 - 9
- 6 - 7
- 3 - 5
- 0 - 2
- Low sample size[2]

Public Lands

- National Forests, National & State Parks

[1] Data derived from RHIS survey question (31): In the last 12 mo. were you or people living in your household ever hungry because you couldn't afford enough food?
Percentages are shown for survey respondents of each sampled post office.

[2] Post offices with less than 20 survey resposes were not included in analysis due to statistical instability.

GIS and Cartography: R. Degagne (2007)
Data Sources: ESRI; U.S. Postal Service; CCRP Rural Health Information Survey 2006.

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Exhibit 13:

CCRP Rural Health Information Survey:

Percent of Respondents With Very Low Food Security[1], 2006

Study Methods: The Rural Health Information Survey (RHIS) was conducted by the California Center for Rural Policy in the fall of 2006. A total of 23,606 surveys were mailed to a random sample of post office box holders in the four counties of Del Norte, Humboldt, Trinity and Mendocino. The total number of returned surveys was 3,003 for an overall response rate of 12.7%.

Percent of Respondents With Very Low Food Security

- Low sample size[2]
- 16 - 25
- 11 - 15
- 9 - 10
- 6 - 8
- 3 - 5
- 2

Total Population Below Poverty Level

Percent by Census Tract

- 29 - 44
- 23 - 28
- 17 - 22
- 14 - 16
- 9 - 13
- 5 - 8

Data Source: U.S. Census Bureau 2000.

[1] Data derived from RHIS survey question (31): In the last 12 mo. were you or people living in your household ever hungry because you couldn't afford enough food?

Percentages are shown for survey respondents of each sampled post office.

[2] Post offices with less than 20 survey resposes were not included in analysis due to statistical instability.

GIS and Cartography: R. Degagne and N. Ramirez (2008)
Data Sources: ESRI; U.S. Postal Service; CCRP Rural Health Information Survey 2006.

DEL NORTE
HUMBOLDT
TRINITY
MENDOCINO
Fort Dick
Gasquet
Crescent City
Klamath
Orick
Orleans
Hoopa
McKinleyville
Willow Creek
Korbel
Samoa
Cutten
Burnt Ranch
Junction City
Lewiston
Big Bar
Weaverville
Trinity Center
Fortuna
Carlotta
Hyampom
Hayfork
Douglas City
Bridgeville
Redcrest
Weott
Mad River
Ruth
Honeydew
Phillipsville
Alderpoint
Whitethorn
Leggett
Covelo
Laytonville
Fort Bragg
Branscomb
Little River
Comptche
Ukiah
Elk
Hopland
Clearlake
Yorkville
Yreka
Redding
Red Bluff
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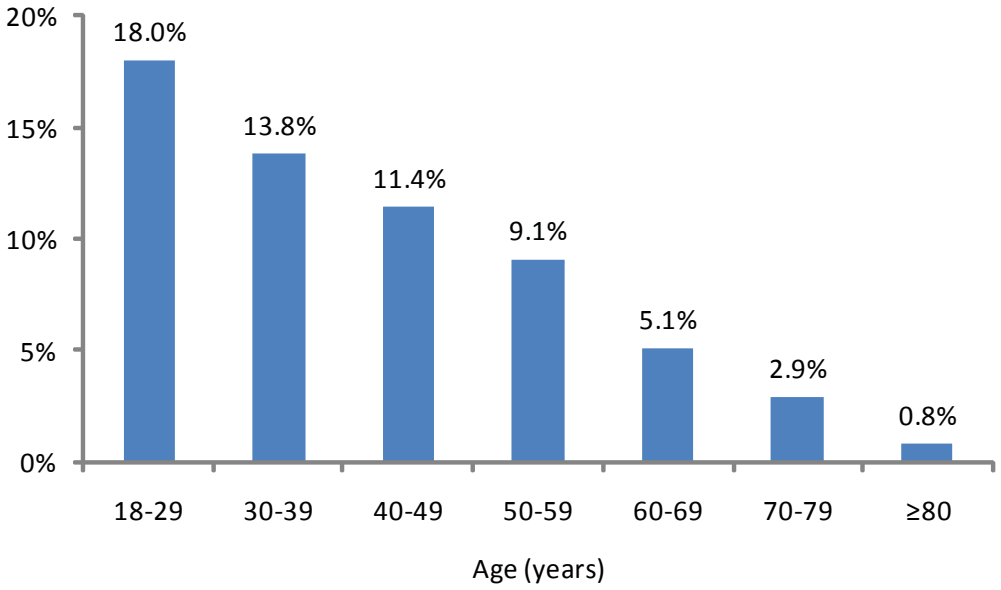
Very Low Food Security: The Impact of Age

Respondents below the age of 65 were nearly 3 times as likely to experience very low food security as those who are 65 or older.

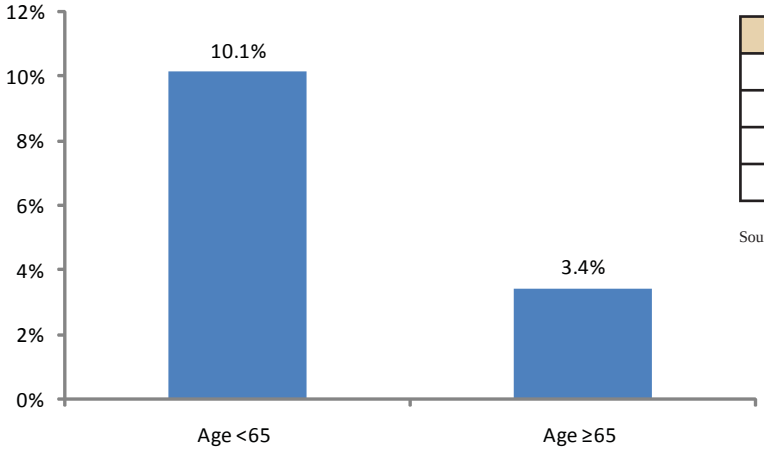
The younger the respondent the more likely they were to experience very low food security. Of the respondents who were 18-29 years old, 18% experienced very low food security compared to 0.8% of respondents who were 80 years or older. There is a linear relationship suggesting that as one gets older the chance of experiencing very low food security decreases (Exhibit 14). Of the respondents who were below 65 years of age, 10.1% reported very low food security, which is significantly higher than the 3.4% of respondents 65 years or older who reported very low food security (Exhibits 15 & 16).

Exhibit 14: Very Low Food Security by Age (n = 2,858)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Exhibit 15: Very Low Food Security by Age (<65 or ≥65) (n = 2,858)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Exhibit 16: Number of Respondents Who Experienced Very Low Food Security by Age

Age		Very Low Food Security	
	Frequency	Frequency	%
<65	2161	218	10.1
≥65	697	24	3.4
Total	2858	242	8.5

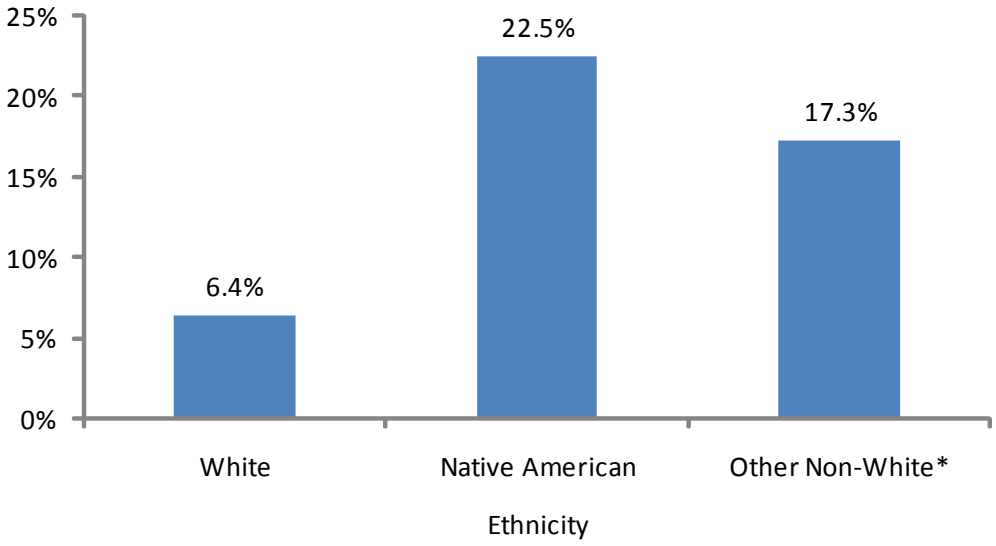
Source: Rural Health Information Survey, 2006, California Center for Rural Policy

Very Low Food Security: The Impact of Ethnicity

Non-white respondents were 2.9 times more likely to experience very low food security compared to white respondents.

Of the Native American respondents, 22.5% reported very low food security. Of the other non-white respondents (includes African American, Latino/a, Asian, Multi-racial and other)*, 17.3% reported very low food security. There was no significant difference between Native American and other non-white respondents with respect to very low food security, however these groups were significantly more likely to report very low food security compared to white respondents (6.4%) (Exhibits 17 & 18).

Exhibit 17: Very Low Food Security by Ethnicity (n = 2,887)



Source: Rural Health Information Survey, 2006, California Center for Rural Policy

*Respondents were able to classify their ethnicity as White, African American, Latino/a, Asian, Native American, Multi-racial, or Other. Due to a small number of respondents in several of the categories, comparisons were made between White, Native American, and Other Non-White respondents (includes African American, Latino/a, Asian, Multi-racial and other).

Exhibit 18: Number of Respondents Who Experienced Very Low Food Security by Ethnicity

Ethnicity		Very Low Food Security	
	Frequency	Frequency	%
White	2438	157	6.4
Native American	142	32	22.5
Other Non-White*	307	53	17.3
Total	2887	242	8.4

Source: Rural Health Information Survey, 2006, California Center for Rural Policy

*Other Non-White includes African American, Latino, Asian, Multi-racial and "other"

Discussion

There are clearly disparities in food security in the Redwood Coast Region.

Poverty appears to be the main determinant of very low food security. All of the variables found to be associated with very low food security are also associated with poverty. In this sample, there was a significantly higher chance of living below the FPL if the respondents were under the age of 65, non-white ethnicity, with children in the household and living in a low population density area (≤50 people per square mile). Of all these variables, the only one that did not show a significant association with very low food security was population density. This suggests the possibility that despite higher poverty rates in lower population density areas people living in these areas are finding means to decrease their chance of experiencing very low food security.

Compared to the nation and California it appears that the Redwood Coast Region has a much higher prevalence of households with very low food security. The 2006 Current Population Survey Food Security Supplement found 4.0% of households in the nation with very low food security. [1] For 2004-06 it is estimated that 3.7% of the households in California had very low food security.[1] This is significantly less than the 8.4% of respondents in the Redwood Coast Region reporting episodes of very low food security.

Households with children in the Redwood Coast Region also have a higher prevalence of very low food security (11.9%) compared to the nation (4.3%). [1] This is concerning given the numerous poor health outcomes associated with low food security.

As the price of food increases, it is likely that the food security situation will worsen, so it will be important for communities to collaborate on both short and long-term solutions.

Join us online...

Please join us in an on-line discussion about food security in our region.

Contribute to the living document by commenting on the research findings, sharing innovative programs and discussing policy implications. To read comments and post your own, please visit our website, www.humboldt.edu/~ccrp.

Join us in the community...

The California Center for Rural Policy will continue to share research results with the community through briefs, reports and meetings.

We plan to engage the community in dialogue about potential solutions and policy recommendations to address identified problem areas.

We hope you will join us as we work together to improve health in our region.

If you would like to receive information from CCRP please contact us to get on our mailing list:

California Center for Rural Policy
(707) 826-3400
ccrp@humboldt.edu

Join us in collaboration...

CCRP welcomes opportunities to collaborate with community partners for more in-depth research on this topic.

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This research was intended to give a snapshot of the level of very low food security in the Redwood Coast Region. If there is interest from the community, CCRP can collaborate with community partners to seek funding for more in-depth research on this topic.

Methods and Demographics

Exhibit 19: Methods

The Rural Health Information Survey was conducted by the California Center for Rural Policy in the fall of 2006. The purpose of the survey was to assess health disparities, access and utilization of healthcare, and other determinants of health among residents in rural Northern California with the goal of providing useful information for planning and policy development.

A four-page self-administered survey was developed by project administrators at CCRP. The survey instrument was based on existing surveys (Behavioral Risk Factor Surveillance Survey, California Health Interview Survey, Canadian Community Health Survey and Mendocino Community Health Survey). New questions were developed as needed to inquire about areas of rural health not previously explored, such as access to transportation, phones, computers and Internet as well as skills for responding to emergency medical situations.

A total of 23,606 surveys were mailed to a random sample of adults residing in the four counties of Humboldt, Del Norte, Trinity and Mendocino. The sampling strategy employed the use of a Geographic Information System (GIS) to map the population density for Zip Code Tabulation Areas (ZCTA)[17] with an overlay of the locations of post offices. All of the post offices in low population density areas (<11 people per square mile) were selected (total post offices = 24; total post office boxes = 8165). Post offices located in higher population density areas (≥11 people per square mile) were randomly selected (total post offices = 19; total post office boxes = 15,441) (Exhibit 1).

The total number of returned surveys was 3,003 for an overall response rate of 12.7%. A total of 2,950 surveys provided usable responses for analysis. Responses were analyzed with SPSS version 14.0. Chi Square was used to test for differences between groups with a *P*-value less than .05 considered statistically significant. When multiple comparisons were made adjustments were made to account for alpha inflation.

Sample Demographics are presented in Exhibit 20.

A total of 41.4% of the sample lives in a low-income household (<200% FPL).

Exhibit 20: Sample Demographics

Characteristics	Frequency	Percent
Federal Poverty Level[18]		
≤99% Poverty	416	16.2
100%-199%	645	25.2
200%-299%	491	19.2
≥300%	1009	39.4
Total	2561	100
Ethnicity		
White	2459	84.2
African American	7	0.2
Latino/Latina	34	1.2
Asian	13	0.4
Native American	148	5.1
Multiracial	173	5.9
Other	87	3.0
Total	2921	100
Gender		
Female	1882	64.1
Male	1053	35.9
Other	2	0.1
Total	2937	100
Age (mean = 55.3)		
18-29	173	6.0
30-39	240	8.3
40-49	455	15.7
50-59	930	32.2
60-69	656	22.7
70-79	310	10.7
≥ 80	126	4.4
Total	2890	100
County of Residence		
Del Norte	421	14.3
Humboldt	880	29.8
Trinity	940	31.9
Mendocino	705	23.9
More than 1 of above	4	0.1
Total	2950	100

Source: Rural Health Information Survey, 2006, California Center for Rural Policy.

Limitations: This study provides information about the respondents of the survey and does not necessarily describe the population in general. However, this is the largest study ever conducted in this rural region of California.

References

1. Nord M, Andrews M, Carlson S. Household Food Security in the United States, 2006. ERR-49, U.S. Dept. of Agriculture, Econ. Res. Serv. November 2007. <http://www.ers.usda.gov/publications/err49/err49.pdf> accessed April 15, 2008.
2. Martin K, Ferris A. (2007), Food insecurity and gender are risk factors for obesity. J Nutr Educ Behav. 2007;39:31-36.
3. Seligman H, Bindman A, Vittinghoff E, Kanaya A, & Kushel M. Food insecurity is associated with diabetes mellitus: results from the national health examination and nutrition examination survey (NHANES) 199-2002. Society of Internal Medicine. 2007;22:1018-1023.
4. Vozoris N, Tarasuk V. Household food insufficiency is associated with poorer health, Journal of Nutrition. 2003; 133:120-126. <http://jn.nutrition.org/cgi/content/full/133/1/120 > accessed April 14, 2008.
5. Alaimo K, Olson CM, Frongillo EA Jr. Food insufficiency and American school-aged children's cognitive, academic, and psychosocial development. Pediatrics. 2001;108(1): 44-53.
6. USDA-ERS < http://www.ers.usda.gov/Briefing/FoodSecuritylabels.htm> accessed April 15, 2008.
7. Kleinman RE, Murphy JM, Wienke KM, Desmond MS, Schiff A, Gapinski JA. Use of a single-question screening tool to detect hunger in families attending a neighborhood health center. Ambulatory Pediatrics. 2007;7(4): 278-284.
8. Stuff J, Casey P, Szeto K, Gossett J, Robbins J, Simpson P, Connell C, Bogle M. Household food insecurity is associated with adult health status, Journal of Nutrition. 2004;134(9):2330-2335. < http://jn.nutrition.org/cgi/content/full/134/9/2330 > accessed March, 23 2008.
9. Casey PH, Simpson PM, Gossett JM, Bogle ML, Champagne CM, Connell C, Harsha D, McCabe-Sellers B, Robbins JM, Stuff JE, Weber J. The association of child and household food insecurity with childhood overweight status. Pediatrics. 2006; 118(5): e1406-13.
10. Champagne C, Casey P, Connell C, Stuff J, Gossett J, Harsha D, McCabe-Sellers B, Robbins J, Simpson P, Weber J, Bogle M. Poverty and food intake in rural America: diet quality is lower in food insecure adults in the Mississippi delta, Journal of the American Dietetic Association. 2007;107(11):1886-1894. <http://www.sciencedirect.com/science/article/B758G-4R02VG4-7/1/28dacd438fa83957ed9df84eca4b76ff > accessed March 26, 2008.
11. Kirkpatrick SI, Tarasuk V. Food insecurity is associated with nutrient inadequacies among Canadian adults and adolescents. The Journal of Nutrition. 2008;138(3): 604-12.
12. Darmon N, Ferguson EL, Briend A. A cost constraint alone has adverse effects on food selection and nutrient density: An analysis of human diets by linear programming. The Journal of Nutrition. 2002;132:3764-3771.
13. Townsend MS, Peerson J, Love B, Achterberg C. Food Insecurity is positively related to overweight in women. The Journal of Nutrition. 2001;131: 1738-1745.
14. Dietz WH. Does hunger cause obesity? Pediatrics. 1995;95: 766-767.
15. Cook JT, Frank DA, Berkowitz C, Black MM, Casey PH, Cutts DB, Meyers AF, Zaldivar N, Skalicky A, Levenson S, Heeren T, Nord M. Food insecurity is associated with adverse health outcomes among human infants and toddlers. The Journal of Nutrition. 2004; 134(6): 1432-8.
16. Rose-Jacobs R, Black M, Casey P, Cook J, Cutts D, Chilton M, Heeren T, Levenson S, Meyers A, Frank D. Household food insecurity: associations with at-risk infant and toddler development, Pediatrics. 2008;121(1):67-72. < http://www.pediatrics.org/cgi/content/full/121/1/65 > accessed April 2,2008.
17. Generalized area representations of U.S. Postal Service (USPS) ZIP Code service areas. Simply put, each one is built by aggregating the Census 2000 blocks, whose addresses use a given ZIP Code, into a ZCTA which gets that ZIP Code assigned as its ZCTA code. Source: U.S. Census Bureau <http://www.census.gov/geo/ZCTA/zcta.html.>
18. Poverty Thresholds obtained from U.S. Census Bureau, "Poverty Thresholds 2006" <http://www.census.gov/hhes/www/poverty/threshld/thresh06.html> accessed May 2007.

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- Undergraduate Student Research Assistants: Kali Patterson, Jenna Barry, Dawne Abdul Al-Bari, Katie Camarata, Rose Urich, Ruthie Maloney, Liz Hannig, Nanette Yandell, Sadie LaBrie, Jillian Jackson, Julie Newby-Wadsen, Jean Sebastien Pradel, Juliet Thrapp
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- Advisory Board: Gary Blatnick, Cathy Larsen, Ann Lindsay, Herrmann Spetzler, Howard Stauffer, Santiago Simental, Terry Supahan, Phyllis Webb
- Rollin Richmond, PhD, Humboldt State University President & Denice Helwig, Special Assistant to the President
- Consultants: Kathleen E. Moxon, CAO/Director of Programs, Humboldt Area Foundation; Connie Stewart
- Layout & Graphics: Kristina Bollmann
- Web Developer: Joshua Eckroth

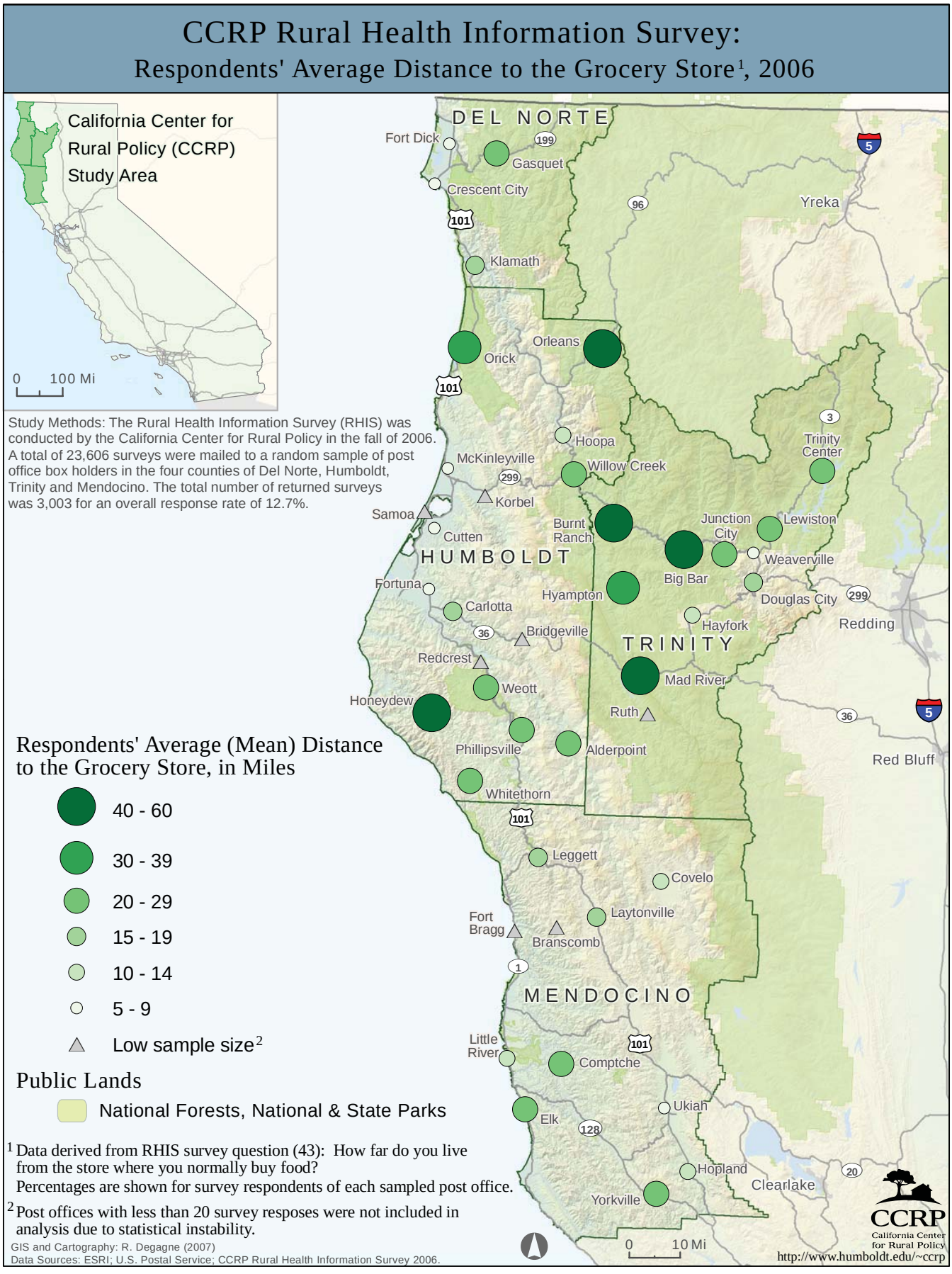
About the Authors

Kali Patterson, BA is a research assistant at the California Center for Rural Policy at Humboldt State University. Her current research interests include public/rural health, stress management and prevention, preventive health, psychoneuroimmunology, and heath psychology. Kali has just completed her undergraduate degree in psychology and plans to pursue a graduate degree in clinical health psychology.

Jessica Van Arsdale, MD, MPH is the Director of Health Research at the California Center for Rural Policy, Humboldt State University and a practicing physician at United Indian Health Services Potowat Health Village, Arcata, California. She was born and raised in northern Mendocino County (yes it is true, she was born in a potato chip truck).

She received her bachelor's degree from the University of California, Berkeley and her Medical Degree from the University of California, San Francisco. She completed a residency in Family Medicine and Preventive Medicine at Oregon Health and Science University and concurrently completed a Masters in Public Health at Portland State University.

Appendix 8: RHIS Respondents' Average Distance to the Grocery Store, 2006



Food for People's Pantry Network

Orick Community Resource Center
120918 Hwy 101
Orick, CA 95555

Blue Lake Grange & Community Resource Center
Grange: 110 Hatchery Road
CRC: 111 Greenwood Avenue
Blue Lake, CA 95525

Trinidad Town Hall
409 Trinity Street
Trinidad, CA 95570

Willow Creek Community Resource Center
38883 Hwy 299
Willow Creek, CA 95573

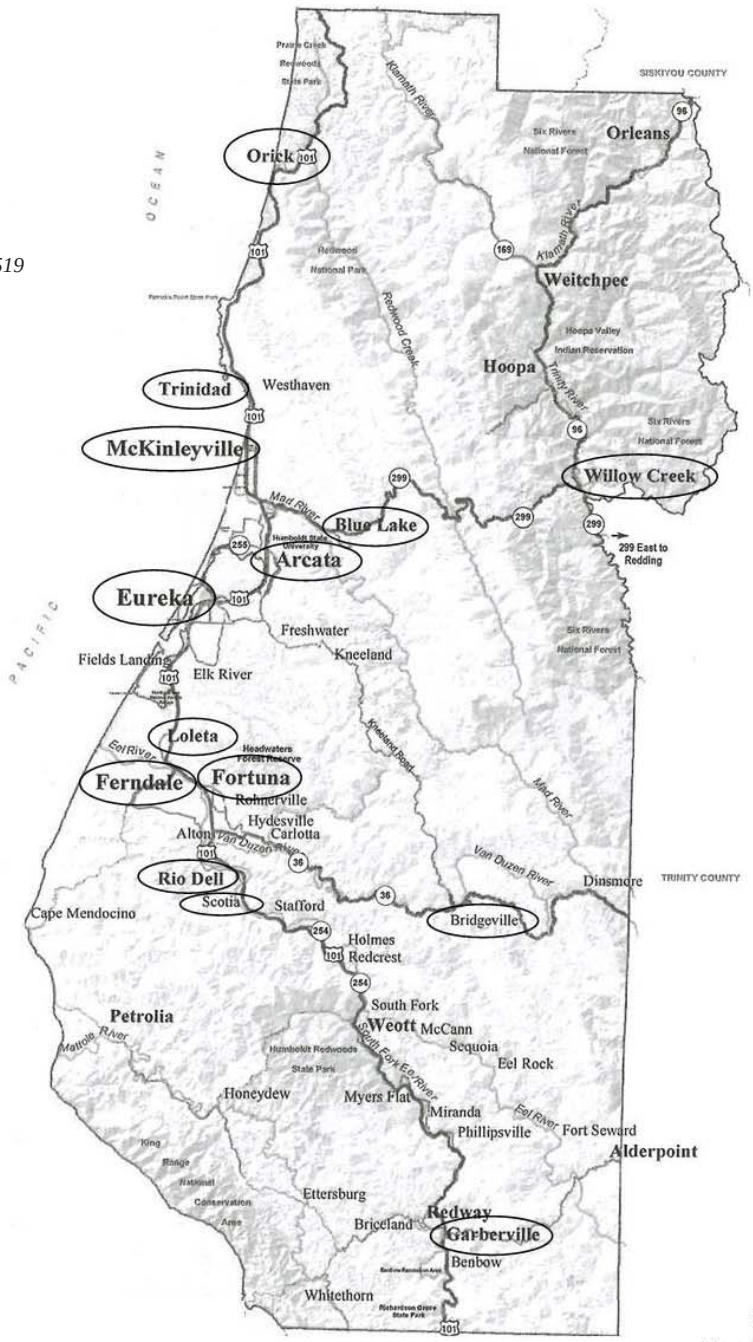
Grace Good Shepherd Church
1450 Hiller Road
McKinleyville, CA 95519

North Coast Resource Center
501 9th Street
Arcata, CA 95521

Food for People
304 W. 14th Street
Eureka, CA 95501

Arcata Seniors
Arcata Community Center
321 Community Park Way
Arcata, CA 95521

St. Vincent de Paul
528 2nd Street
Eureka, CA 95501



Humboldt Senior Resource Center
1910 California Street
Eureka, CA 95501

Bridgeville Community Center
38717 Kneeland Road
Bridgeville, CA 95526

Ferndale Community Church
712 Main Street
Ferndale, CA 95536

Loleta Community Church
228 Church Street
Loleta, CA 95551

Rio Dell Church of Christ
325 2nd Avenue
Rio Dell, CA

St. Joseph's Pantry Shelf
2292 Newburg Road
Fortuna, CA 95540

Scotia Union Church
402 Church Street
Scotia, CA 95565

Garberville Presbyterian Church
437 Maple Lane
Garberville, CA 95542

County map courtesy of Humboldt County
Community Development Services, GIS Department
Pantry data provided by Food for People, Inc.
June 2010

Appendix 10: Food for People Choice Pantry Fact Sheet

Food for People, Inc.
The Food Bank for Humboldt County
307 W. 14th St.
Eureka, CA 95501
(707) 445-3166
(707) 445-5946 fax
www.foodforpeople.org

Choice Pantry Fact Sheet

Food for People switched to a Choice Pantry model of food distribution beginning October of 2009. Up until then, Food for People operated like most traditional food pantries, providing clients with pre-packaged food boxes holding a predetermined allotment of items. In contrast, and as the name suggests, *choice* pantries allow a certain level of selection regarding what food items clients, or *shoppers*, receive. They are often also referred to as "supermarket-style pantries" because they are designed to mirror a more traditional shopping experience.

Choice pantries typically have shelving units similar to what one would see in a grocery store, shopping carts that can be maneuvered through the shopping area and a checkout system that closely resembles the checkout aisle at a grocery store. Food for People's goal is to create a comfortable, familiar, and dignified shopping experience. Shoppers will be able to choose foods that meet their families' dietary or cultural needs, with no unwanted food going to waste. The choice pantry model will also open up new opportunities for nutrition education.

Benefits of the choice pantry model

- ***Increased respect:*** Offering clients a variety of choice provides a more meaningful service that allows shoppers to tailor their selections based on preferences and cultural or dietary needs.
- ***Increased dignity:*** An atmosphere of participation and choice lends dignity to a process that is difficult and humbling for many of our neighbors and friends.
- ***Refined means of food acquisition:*** Tracking which food items are in highest demand and which items are left on the shelf helps Food for People to adjust USDA commodity orders and focus food drives accordingly.
- ***Increased efficiency:*** Shoppers will leave only with what they have chosen. This creates a more efficient use of limited resources that will not be wasted or given away. In addition, Food for People is switching to reusable bags for shopping and will kick off this transition by providing shoppers with a free reusable bag on their first visit to the new Choice Pantry. Food for People welcomes donations of clean reusable cloth bags to pass on to our shoppers for the future, since it is likely that shoppers will need several.
- ***A shopping experience based on balanced nutrition:*** The Rainbow of Choice point system will guide shoppers as they select types and quantities of food, and will be used in the same manner as prices and money would be used at a grocery store. The point system is based on the USDA MyPyramid Food Guidance System to teach shoppers about nutrition as they make selections for an appropriate balance of foods from each food group. This point system will also create rewarding opportunities for food bank volunteers to learn and promote key nutrition concepts.
- ***Increased opportunity for nutrition education:*** Cooking demonstrations, taste tests and free recipe cards featuring available fresh produce and Choice Pantry shelf items will introduce shoppers to healthy ideas and cooking tips for good nutrition. Just like in a traditional supermarket, shoppers can decide whether they would like to select the ingredients to recreate these healthy recipes.

What else is changing at Food for People?

- ***Extended shopping hours:*** A choice pantry requires a slower pace and reducing or eliminating crowding and waiting time. With this comes the benefit of serving folks in a more calm and personal environment. Food for People will be increasing its number of shopping days and hours.
- ***Pre-scheduled appointments:*** Allowing appointments to be made in advance allows a household to plan ahead for a time that works best with its schedule, and allows us to take more time with each call.
- ***Special hours for working households and families with children:*** We will offer Saturday morning hours one time each month to serve working households who would otherwise be unable to access us during the weekdays.

How to access Food for People's Choice Pantry:

- ***Call Food for People for an appointment:*** Shoppers can call to make a pre-scheduled appointment for the shopping day and time that works best for them. Food for People starts taking appointments for the entire week beginning every Monday. Shoppers can call any day of the week to schedule an appointment.

- ***Hours for the Choice Pantry:***
  Tuesdays: 10 am – 3 pm
  Wednesdays: 10 am – 3 pm
  Thursdays: (2nd and 4th Thursdays only) 10 am – 4 pm
  Fridays: 10 am – 4 pm
  Saturdays: (3rd Saturday only for working households) 9 am – 12 pm

- ***Income Guidelines:***

Household Size	Monthly Household Income
1	$1,354
2	$1,821
3	$2,289
4	$2,756
5	$3,224
6	$3,691
7	$4,159
8	$4,626
9	$5,094
10	$5561
Over 10	Add $468 each

For more information about our choice pantry contact Food for People (707) 445-3166

Appendix 11: Food for People Produce Distribution

Garberville Produce Distribution 2009

Date	# households	# persons	Total # pounds produce	Total Non-produce	Grand Total
5/12/09	38	125	6,370	454	6,824
6/9/09	67	143	5,587		5,587
7/14/09	64	195	7,378	589 (bread)	7,967
8/11/09	60	165	2,578	1,267 (bread, candy)	3,845
9/8/09	76	171	2,000	1,246 (bread, dairy)	3,246
10/13/09	49	127	5,693	728 (bread, tortilla chips)	6,421
Totals:	**354**	**926**	**29,606**	**4,284**	**33,890**
Averages/Mo.	**59**	**154**	**4,934 lbs.**	**714 lbs. non-produce**	

Redway Produce Distribution 2009

Date	# households	# persons	Total # pounds produce	Total Non-produce	Grand Total
5/12/09	52	243	6,750		6,750
6/9/09	79	339	5,587		5,587
7/14/09	61	269	7,529	772 (bread)	8,301
8/11/09	59	271	2,188	1,341 (bread, candy)	3,529
9/8/09	76	279	4,022	1,319 (bread, dairy)	5,341
10/13/09	37	226	3,393	728 (bread, tortilla chips)	4,121
Totals:	**364**	**1,627**	**29,469**	**4,160**	**33,629**
Averages/Mo.	**61**	**271**	**4,912 lbs.**	**693 lbs. non-produce**	

Eureka Produce Distributions 2009

Date	# households	# persons	Total # pounds produce	Total non-produce	Grand Total
5/21/09	238	813	6,792	796	7,588
6/18/09	257	788	8,598	512	9,110
7/23/09	245	726	7,130	201 (bread)	7,331
8/20/09	269	818	7,511	1,044 (bread, dairy)	8,555
9/17/09	214	749	5,920	1,817 (bread, dairy)	7,737
10/22/09	232	682	4,592	3,348 (bread, chips, dairy)	7,940
Totals	**1,455**	**4,576**	**40,543**	**7,718**	**48,261**
Averages/Mo.	**243**	**763**	**6,757**	**1,286**	**8,044**

Note that non-produce items typically include bread, baked goods and occasionally dairy products and non-food items such as tissues, toilet paper, etc. We also distributed plastic vegetable steaming bags provided by Donate Don't Dump at one of the markets.

Produce Market Totals May-October:

	Produce	Non-produce	Produce & Non-produce	Persons
Garberville:	29,606 lbs.	4,284 lbs.	33,890 lbs.	926 persons
Redway:	29,469 lbs.	4,160 lbs.	33,629 lbs.	1,627 persons
Eureka:	40,543 lbs.	7,718 lbs.	48,261 lbs.	4,576 persons
Grand total:	**99,618 lbs.**	**16,162 lbs.**	**115,780 lbs.**	**7,129 persons**

Note: We are hoping to implement a monthly Fortuna Produce Market in 2010 to serve Eel River Valley residents.

Appendix 12: WIC Income Eligibility Guidelines 2009-2010

On March 6, 2009, a Notice announcing revised WIC Income Eligibility Guidelines was published in the Federal Register. The adjusted income eligibility guidelines are used by State agencies in determining the income eligibility of persons applying to participate in the WIC Program. WIC State agencies must implement the new guidelines on July 1, 2009. However, WIC State agencies may implement the revised income guidelines at the same time States implement revised income eligibility guidelines for the Medicaid Program. On January 23, 2009, the U.S. Department of Health and Human Services (HHS) published its annual update of the poverty guidelines (74 FR 4199). The HHS guidelines are used by a number of Federal programs, including WIC and the Medicaid Program, as the basis for determining and updating program income eligibility limits.

To be eligible on the basis of income, applicants' gross income (i.e. before taxes are withheld) must fall at or below 185 percent of the U.S. Poverty Income Guidelines. The guidelines for WIC are shown below.

WIC Income Eligibility Guidelines
(Effective from July 1, 2009 to June 30, 2010)

48 Contiguous States, D.C., Guam and Territories					
Persons in Family or Household Size	**Annual**	**Monthly**	**Twice-Monthly**	**Bi-Weekly**	**Weekly**
1	$20,036	$1,670	$835	$771	$386
2	26,955	2,247	1,124	1,037	519
3	33,874	2,823	1,412	1,303	652
4	40,793	3,400	1,700	1,569	785
5	47,712	3,976	1,988	1,836	918
6	54,631	4,553	2,277	2,102	1,051
7	61,550	5,130	2,565	2,368	1,184
8	68,469	5,706	2,853	2,634	1,317
Each Add'l Member Add	+$6,919	+577	+289	+267	+134

Appendix 13: Free & Reduced Lunch Program Enrollment for Humboldt County School Districts

School District	Total School Enrollment Fall 2009*	# of Children Qualified for Free & Reduced Lunch	% Qualified for Free & Reduced Lunch	% Participating of those who Qualify
Northern Humboldt Union	1664	322	19.4%	**31.7%**
Garfield	58	6	10.3%	**33.3%**
Fortuna High	1166	528	45.3%	**34.8%**
Mattole	44	33	75.0%	**45.5%**
Klamath-Trinity	1045	831	79.5%	**52.4%**
Jacoby Creek	424	52	12.3%	**58.7%**
Ferndale Unified	501	107	21.4%	**59.8%**
Rohnerville	670	319	47.6%	**61.8%**
Hydesville	155	60	38.7%	**65.0%**
Scotia	219	147	67.1%	**66.0%**
Eureka Unified	3986	2543	63.8%	**66.7%**
Peninsula	31	26	83.9%	**67.3%**
Freshwater	320	91	28.4%	**68.1%**
McKinleyville	1165	637	54.7%	**69.3%**
Fieldbrook	115	38	33.0%	**69.7%**
Blue Lake Union	151	76	50.3%	**70.4%**
Orick	24	20	83.3%	**72.5%**
Arcata SD	644	333	51.7%	**74.9%**
Cuddeback	130	62	47.7%	**78.2%**
South Bay	421	280	66.5%	**78.8%**
Pacific Union	525	266	50.7%	**79.9%**
Cutten	562	218	38.8%	**80.3%**
Rio Dell	322	239	74.2%	**82.6%**
Fortuna Elem.	711	497	69.9%	**84.1%**
Loleta	116	99	85.3%	**86.9%**
Bridgeville	37	28	75.7%	**89.3%**

* Fall 2009 is the September and October 2009 average.

Source: Linda Prescott, A. Ybarra and D. Stubblefield 2010. Data from California Department of Education, Free & Reduced Meal Claims: Humboldt County 2010.

Appendix 14: Humboldt Farmers' Markets

Accept FMNP:	Accept EBT:	Farmers' Market	Address	Organization and Contact
Yes	Yes	Arcata Co-Op CFM June to October Tuesday 3:30pm-6:30pm	8th & I Streets Arcata	North Coast Growers Association Portia Bramble director@humfarm.org (707) 441-9999
Yes	Yes	Arcata Plaza CFM April - November Saturday 9AM - 2PM	Arcata Plaza between G, H, 8th, & 9th Streets	
Yes	Yes	Henderson Center CFM June to October Thursday 10AM- 1PM	F St. between Henderson & Russ, Eureka	
Yes	Yes	McKinleyville Shopping Center CFM June to October Thursday 3:30-6:30 PM	1520 City Center Rd. parking lot, McKinleyville	
Yes	Yes	Old Town Market Eureka CFM June to October Tuesday 10AM- 1PM	F St. between 1st & 3rd St., Eureka	
Yes	No	Fortuna CFM May-October Tuesday 3PM-6PM	10th St. off of Main, Fortuna	Fortuna Certified Farmers' Market Hollis Krebb hollisruth@asis.com (707) 722-4330 Steve Roper, (707) 986-7230 forestlakes@att.net
Yes	No	Garberville Market CFM Fridays 11am-3pm, May through October	Located on Church Street next to the town square, Garberville	Southern Humboldt Farmers' Market Everett King (707) 986-7230 stamps@whitethorn.com Site contact: De-Anne Hooper 707-247-3509 hooperconsult@gmail.com
Yes	No	Shelter Cove Market CFM Tuesdays 11am-3pm, May through October	Located next to the Marina, Shelter Cove	Site Contact: Charlotte Grigsmiller 707-986-7229
Yes	No	Miranda Market CFM Tuesdays, 1pm-5pm, May through October	Located on the Avenue of the Giants, near the Miranda Post Office	Site Contact: Toni Stoffel 707-943-3025 email: 40acrewood@asis.com
Yes	No	Ferndale Market CFM Saturdays 10am-1pm, May through October	Located next to the Victorian Inn at the end of Main St., Ferndale	Site Contact: John Laboyteaux 707-923-2670 email: helenthemelon@earthlink.net
Yes	Soon	Potawot Community Food Garden CFM Serving clients of UIHS	1600 Weeot Way, Arcata	United Indian Health Services Alison Aldridge alison.aldridge@crihb.net (707) 825-4098

Source: Stubblefield, D. 2010.

Appendix 15: Humboldt County Community Supported Agriculture

Humboldt County Community Supported Agriculture			
Name	Location	Contact	Community Served/ Membership
Bayside Park Farm	Old Arcata Road Arcata, CA 95521	(707) 822-7091 baysideparkfarm@cityofarcata.org www.cityofarcata.org/rec	*Serving: Northern Humboldt County* Membership: 20+ weeks, $400 for a full share, or $250 for a 1/2 share.
College of the Redwoods Sustainable Agriculture Farm	409 Shively Flat Rd Shively, CA 95565	(707) 845-6977 franz-rulofson@redwoods.edu	*Serving: Humboldt Bay and surrounding communities* Membership: $400 for a full share, or $250 for a 1/2 share.
Deep Seeded Community Farm Eddie Tanner, farmer	PO Box 4380 Arcata, CA 95518	(707) 825-8033 deepseeded@gmail.com www.ArcataCSA.com	*Serving: Northern Humboldt County* Membership: 30 weekly pick-ups from late May until Christmas, $720 ($24 a week).
Earthly Edibles Family Farm Ed Cohen, farmer	PO Box 5184 Arcata, CA, 95518	(707)822-8841 ravenslurch@hotmail.com	*Serving: Humboldt Bay and surrounding communities* Membership: 22 weekly pickups from May through November. $500 for a full share, or $300 for a 1/2 share.
Green Fire Farm Linda Hildebrand & Grady Walker, farmers	Hoopa, with Eureka and Arcata pickups on Tuesdays	(530) 625-1667 greenfire@asis.com	Membership: 25 weekly boxes at $475-525, sliding scale ($19- $21 a week). $50 deposit required, full payment due by first pick up.
Pierce Family Farm Margarite Pierce, farmer	Orleans, with a pickup spot in Arcata on Wednesdays	530-627-3320 piercefarm@toast.net	*Serving: Northern Humboldt County* Membership: $396 for a full share of 18 weeks. $50 deposit required with full payment due in June
Redwood Roots Farm Janet Czarnecki, farmer	P.O. Box 793 Arcata, CA 95518	(707) 826-0261 www.RedwoodRoots.com	*Serving: Hydesville to Trinidad and everywhere in between* Membership: 5 months plus winter u-pick crops available, $450-$550 per share, sliding scale. Pick up is at the farm in Bayside on Tuesdays and Fridays, 2:30-6:30.
Shakefork Community Farm Kevin Cunningham, farmer	7914 State Hwy. 36 Carlotta, CA 95528	(707) 834-5001 Shakeforkcommunityfarm@gmail.com	*Serving: Humboldt County* Membership: $450 per share which includes 8-10 distributions of 8-12 lbs. of whole grains and specialty flours. Distributions occur monthly from Redwood Roots Farm on Bayside Road, and shareholders are responsible for making our monthly pick-ups.
Windborne Farms Grain CSA/Co-op Jennifer Greene, farmer	Scott Valley (near Yreka).	Humboldt Coordinator Fawn Scheer fawn.scheer@gmail.com	Members of the “coastal co-op” receive 15 pounds of grains monthly for 10 months, for $300 a year

Source: Local Harvest, Community Supported Agriculture Humboldt County, retrieved May 23, 2010 (www.localharvest.org) and personal communication.

Appendix 16: Humboldt Local Produce Availability Chart

Humboldt Local Produce Availability Chart

www.caff.org/humboldt

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Artichokes					X	X	X	X	X	X		
Arugula				X	X	X	X	X	X	X	X	
Asparagus					X	X	X	X				
Basil						X	X	X	X	X	X	
Beets, red & gold						X	X	X	X	X	X	
Bok choy	X	X	X	X	X	X	X	X	X	X	X	X
Broccoli							X	X	X	X	X	X
Cabbage				X	X	X	X	X	X	X	X	X
Carrots					X	X	X	X	X	X	X	X
Cauliflower							X	X	X			
Chards-rainbow	X	X	X	X	X	X	X	X	X	X	X	X
Chives						X	X	X	X	X	X	
Cilantro				X	X	X	X	X	X			
Collard greens						X	X	X	X	X	X	
Corn, yellow & white							X	X	X	X		
Cucumbers						X	X	X	X	X		
Eggplant							X	X	X			
Garlic					X	X	X	X	X	X	X	X
Green Beans							X	X	X	X		
Kale varieties	X	X	X	X	X	X	X	X	X	X	X	X
Leeks	X	X	X	X	X	X	X	X	X	X	X	X
Lettuce varieties				X	X	X	X	X	X	X		
Mustard Greens					X	X	X	X	X	X		
Napa Cabbage	X	X	X	X	X	X	X	X	X	X	X	X
Onions-yellow or red						X	X	X	X	X	X	
Parsley					X	X	X	X	X	X	X	X
Peas, sugar snap					X	X	X	X	X	X		
Peppers-green, red, yellow							X	X	X	X		
Potatoes-red, Yukon, russet							X	X	X	X	X	X
Pumpkins									X	X	X	
Radishes				X	X	X	X	X	X	X		
Spinach								X	X	X	X	X
Squash-zucchini, crookneck						X	X	X	X	X		
Squash, winter varieties								X	X	X		
Tomatoes							X	X	X	X		
Turnips, Rutabaga	X				X	X	X	X	X	X	X	
Apples									X	X	X	
Bartlett Pears							X	X	X			
Blackberries								X	X	X		
Blueberries							X	X	X	X	X	
Figs								X	X	X		
Grapes									X	X	X	
Kiwis								X	X	X		
Peaches							X	X	X			
Plums							X	X	X			
Pluots							X	X	X			
Raspberries						X	X	X	X	X		
Strawberries						X	X	X	X	X		

CAFF
Community Alliance with Family Farmers

BUY FRESH BUY LOCAL

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- David Lippman, Gen. Manager, North Coast Co-op
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Join us in the community...

The California Center for Rural Policy will continue to share research results with the community through briefs, reports and meetings. We plan to engage the community in dialogue about potential solutions and policy recommendations to address identified problem areas. We hope you will join us as we work together to improve health in our region. If you would like to receive information from CCRP please contact us to get on our mailing list: (707) 826-3400 or ccrp@humboldt.edu

Join us in collaboration...

CCRP welcomes opportunities to collaborate with community partners for more in-depth research on this topic.

The California Center for Rural Policy at Humboldt State University is a research center committed to informing policy, building community, and promoting the health and well-being of rural people and environments.

Humboldt State University
California Center for Rural Policy
1 Harpst Street
Arcata, CA 95521
(707) 826-3400
www.humboldt.edu/ccrp
ccrp@humboldt.edu

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