



A

Community Food Assessment for Del Norte County and Adjacent Tribal Lands



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Executive Summary

The direct connection between a healthy community and healthy food makes it critical to understand the Del Norte and Adjacent Tribal Land's food system. A food system includes all of the people and processes that are involved in taking food from seed to table. The quality, cost and availability of the foods in every community – at stores, schools and hospitals – are determined by the food system serving it.

This Community Food Assessment is a profile of Del Norte and Adjacent Tribal Land's (DNATL) current food system and examines how it is serving the community. The Assessment is a tool for many stakeholders – consumers, farmers, retailers, organizations and policy-makers. In particular, it can provide baseline information for the newly formed DNATL Community Food Council as they begin to work towards food system improvements.

The research was conducted by the California Center for Rural Policy (CCRP) as part of the California Endowment's Building Healthy Communities Initiative. For the Assessment, CCRP gathered existing data and spoke with key participants regarding the sectors of DNATL's food system. It aims to share examples of the creative ways people are addressing food insecurity, increasing access to healthy foods and developing a more localized food system.

After careful review of the research, the Assessment has the following conclusions and recommendations for DNATL's food system.

Strengths

- CalFresh participation is highest in the state and a new Market Match program helps the low-income afford farmers' market produce.
- The majority of DNATL's schools and communities have vegetable gardens.
- Direct farmer-to-consumer sales have shown tremendous growth and grocers indicate enthusiasm for carrying local food products.
- The coastal and Klamath River fisheries are a robust source of food production.
- Farmers selling locally show strong camaraderie. Collaboration between businesses and organizations working on food access and local food issues has resulted in a Community Food Council.
- Model programs and leadership offer strong promise in food waste diversion.

Weaknesses

- There is a lack of participants in, and diversity of, the food-producing agricultural sector.
- Poverty and risk of food insecurity are discouragingly high for children, for people of two or more races and in households led by a single mother.
- Food assistance programs cannot always meet the needs of the food insecure, and the working poor face additional hurdles.
- Locally grown or produced foods and locally caught fish are offered at limited times and locations; access is particularly challenging for remote residents.
- Processing and transportation of local foods is limited.
- Small grocers serving outlying communities are not able to consistently offer fresh and healthy foods.

Recommendations

- Expand programs that increase fresh and healthy food access for low-income consumers.
- Investigate new models such as community-supported fisheries to increase fresh fish sales.
- Implement food system improvements that also increase employment and income in the community.
- Utilize new sources of financial assistance to help local small grocers provide fresh foods.
- Foster more advocates for local agriculture and build relationships between consumers and farms through public engagement.
- Disseminate and encourage local food system knowledge, self-reliance and peer-based education.
- Conduct further research as needed to benefit the area's food system.

Section 1

Project and Organization Background

This Community Food Assessment is part the Building Healthy Communities initiative of The California Endowment. The California Center for Rural Policy has conducted this food assessment to establish baseline data regarding the Del Norte and Adjacent Tribal Land's food system and to provide a holistic overview of its components and how they are linked. It aims to share examples of the creative ways people are addressing food insecurity, increasing access to healthy foods and developing a more localized food system.

The California Center for Rural Policy (CCRP) 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.



Research Team

Lead researcher on this project was Danielle Stubblefield, Community Food Systems Analyst at CCRP. Danielle conducted all of the research, writing and design of the Community Food Assessment. Project supervision, editing and policy input was provided by Connie Stewart, Executive Director of CCRP. Angela Glore, Director of Food Programs at Community Assistance Network and Melissa Jones, CCRP's Health Policy Analyst, helped with edits, conclusions and recommendations.

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 the area's current food system and an examination of how well that system is serving the community. There is a growing interest in taking stock of food production resources 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 neighbors who rely on food assistance. Compiling baseline profiles now, at the outset of the Building Healthy Communities initiative, also serves as a tool in evaluation later, so that measurements of progress and improvements can be made.

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. 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.

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

Section 2

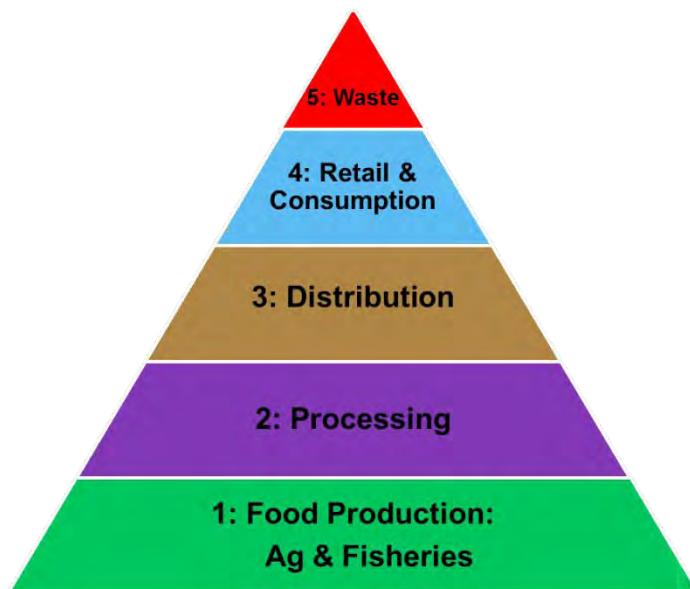
Topic Background

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, focus has increased on the role that the overarching food system plays in 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 and can be broken down into the five sectors: 1) agricultural and fisheries production, 2) processing, 3) distribution, 4) marketing and consumption and 5) waste (see figure below, “5 Sectors of the Food System”). The availability, cost, transport miles, and quality of foods are all linked to these processes, which have far-reaching impacts. The natural resources and human energy used in getting food from farm to table is extensive.

5 Sectors of the Food System



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 miles² 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.

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:^{*}

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.

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>).

* Cohen, Barbara. 2002. Community Food Security Assessment Toolkit. E-FAN-02-013. IQ Solutions, Inc., for US Department of Agriculture, Economic Research Service. Pp3.

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 scheme 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?

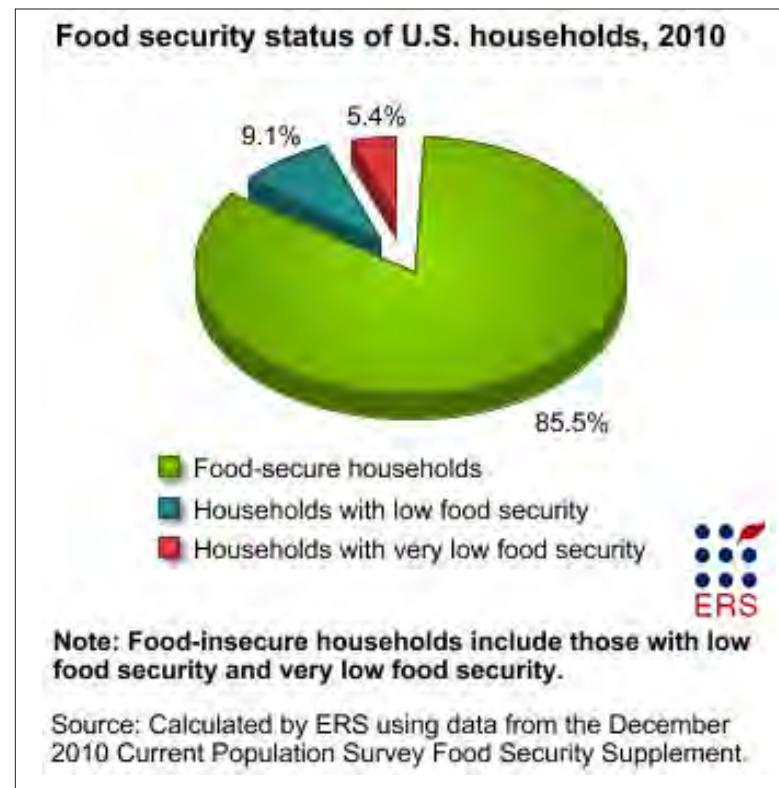
As defined by the Seattle King County Acting Food Policy Council in Washington state, “Equitable food access means that all people, regardless of ethnicity, geography or economic status, can produce, procure and/or eat good food.”⁴

Food Insecurity

The way food access has been examined in the United States is through a measure of household food security, defined as 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 nationwide food security data are from 2010 (see figure below, “Food security status of US households, 2010”).

The USDA Economic Research Service conducting the annual survey found that 85.5% of US households were food secure. 14.5% of households (17.2 million) faced food insecurity at some point in 2010, either unable to provide, or uncertain of having, enough food for all household members.⁷ The nation’s level of food security dropped dramatically between 2007 and 2008 but has remained relatively consistent since. The years 2008 – 2010 have been the most bleak since the national survey was instituted in 1995.

The figure below (next page), “Prevalence of food insecurity, 2010” examines household characteristics associated with a higher prevalence of food insecurity. As could be expected, rates of food insecurity are highest, at 40.2%, in households with incomes below the poverty level (\$22,113 in 2010 for a family of four).⁸ Households with children are more likely to be food insecure than households without, and the younger the child the harder it is for parents to earn enough money to meet living expenses. For example, households with no children had a



food insecurity rate of 11.7%, households with children under 18 years had nearly double the rate at 20.2%, and households with children under six years had a slightly higher rate of 21.8%. Households with children headed by a single mother had an alarmingly high rate of food insecurity at 35.1%, and households headed by a single father had a rate of 25.4%.⁹

Prevalence of food insecurity, 2010



Note: In the figure "Prevalence of food insecurity, 2010" the term "Household income-to-poverty ratio" is used 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. This report uses 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 2011 the federal poverty income for one person was \$10,890 and for a family of four it was \$22,350.



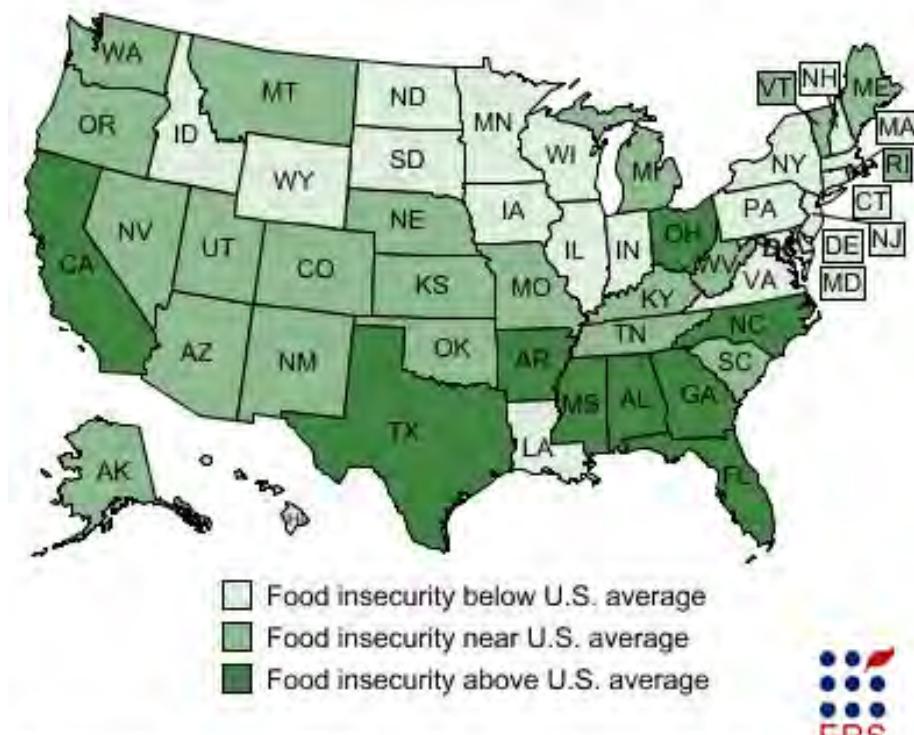
Source: Calculated by ERS using data from the December 2010 Current Population Survey Food Security Supplement.

In total, there were 16.2 million children in households experiencing food insecurity in 2010 in the US. Multiple studies have demonstrated that children in food insecure households have poorer health and higher risks of development problems than children in otherwise similar food secure households.¹⁰ Adults in food insecure households try to shield children from disrupted eating patterns. However, for families experiencing the worst

level of food insecurity, when intermittent hunger exists, children felt it too in roughly 1%, or 386,000, US households.¹¹

As seen in the figure above, “Prevalence of food insecurity 2010,” race and ethnicity also are factors in the prevalence of food insecurity. Latino households, at 26.2%, and Black households at 25.1%, both had higher rates than the national average. California as a whole was less food secure than most of the other states across the nation, as seen in map below. While the nation had an average food insecurity rate of 14.6% between 2008 - 2010, California had a rate of 15.9%.¹²

Prevalence of food insecurity, average 2008-10



Source: Calculated by ERS based on Current Population Survey Food Security Supplemental data.

- 1 Feenstra, G. Local food systems and sustainable communities. Amer J of Alternative Agr. 1997;12 (1):28-34.
- 2 Hendrickson, J. Energy Use in the US food system: A summary of existing research and analysis. Center for Integrated Agricultural Systems, UW-Madison. <http://www.cias.wisc.edu/wp-content/uploads/2008/07/energyuse.pdf>. Published 1996. Accessed June 14, 2010.
- 3 Answers.com. What is food access. http://wiki.answers.com/Q/What_is_food_access. Accessed June 5, 2010.
- 4 Seattle King County Acting Food Policy Council. Strategic Planning Framework. http://king.wsu.edu/foodandfarms/AFPC/AFPC_Strategic%20Framework_051209_FINAL.pdf. Published 2009. Accessed February, 2010.
- 5 Nord, Mark, Margaret Andrews and Steven Carlson. Household Food Security in the United States, 2008. ERR-83, US Department of Agriculture, Economic Research Service. November 2009. Pp2.
- 6 Stuff, Janice et al. Household Food Insecurity is Associated with Adult Health Status. J of Nutr. 2004;134 (September):2330 – 2335. <http://jn.nutrition.org/cgi/reprint/134/9/2330>. Accessed in June, 2010.
- 7 Coleman-Jensen, Alisha, Mark Nord, Margaret Andrews, and Steven Carlson. Household Food Security in the United States in 2010. ERR-125, U.S. Dept. of Agriculture, Econ. Res. Serv. September 2011.
- 8 Ibid.
- 9 Ibid.
- 10 Nord, Mark. Food Insecurity in Households with Children: Prevalence, Severity, and Household Characteristics. EIB-56, U.S. Dept. of Agriculture, Econ. Res. Serv. September 2009.
- 11 Coleman-Jensen 2011.
- 12 Ibid.

Section 3

Food Production: Agriculture and Fisheries

Del Norte County is the northernmost county along California's coastline, with adjacent tribal lands extending along the Klamath River into Humboldt County. The area is rural, with most of the land area made up of state or national forests and private timber holdings. Agricultural production is dominated by the floriculture and dairy industries. More farmers are growing produce each year, however, and the value of direct sales from farmers-to-consumers is increasing at an astounding rate.

The rich fisheries off of Del Norte's coast provide a source of sea-based food production, important to both the local food system and the economy through exports. Salmon runs on the Klamath River and other coastal tributaries continue to be a valuable cultural and dietary resource for the tribes as they have for centuries. Although small compared to production agriculture and commercial fishing, not to be missed in their contributions to the area's food resources are the numerous backyard gardens and orchards, a growing network of community and school gardens, and traditional wild foods gathering.

This section will examine the food products produced in the region by analyzing crop sales, fish landing data, and community- and school-garden information. 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 food 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 Covered:

- How many farms are in the area, and on how many acres?
- What crops and foods are produced in the area, and which are the most popular?
- How many farms are producing for export versus local markets?
- Where are community and school gardens, and how many are there?
- How many fishermen are in the area?
- What species of fish are caught the most and bring in the highest value?
- How much fish is exported versus sold locally?

Research Questions Not Covered:

- How easy, or difficult, is it for tribal members to gather traditional foods (i.e. due to private landownership, habitat loss, etc.)?
- How has land use changed since the recession began in 2008?



Agricultural Overview

In Del Norte County there were 85 farms in 2007, utilizing 18,168 acres (see Table 1). In 2009, the overall value of agricultural production in the county was \$40,147,977.¹ This value includes many non-food items,

Table 1: General Agricultural Characteristics, Del Norte County

	2007	2002	% Change
Number of Farms	85	89	-4.5
Land in Farms	18,168 acres	13,356 acres	+36.0
Proportion of County Land in Farms	2.8%		
Average Size of Farm	214 acres	150 acres	+42.7
Mrkt Value of Products Sold	\$32,508,000	\$21,347,000	+52.3 ^A
Value of agricultural products sold directly to individuals for human consumption			
# farms	9	13	-30.8
\$ value	\$51,000	\$12,000	+325 ^A
Income from agri-tourism and recreational services			
# farms	4	0	
\$ value	\$45,000	0	

^A Dollars not adjusted for inflation

Source: 2007 Census of Agriculture. Del Norte County Profile and Tables 2, 6 and 8. http://www.agcensus.usda.gov/Publications/2007/Full_Report/index.asp. Accessed April 27, 2011.

such as timber and flowers, as well as other items related to food production but not edible in themselves, such as hay and silage. When the categories of Timber Products and Nursery Crops are removed to calculate a closer measure of food-related agricultural sales, the total value of production amounts to \$25,447,046. In 2009 there were four organic growers registered.²

Farmers and Farm Earnings

With only 85 farmers, in relative terms Del Norte County is a place of very few farms. Only four other counties in the state have fewer farmers.³ Per-farm earnings suggest that that the majority of the farms are small-scale producers. While the average market value of products sold per farm amounts to \$382,445,⁴ a deeper look at per farm earnings shows this value to be misleading. A total of 51 farms, amounting to 60% of Del Norte's producers, report the market value of their agricultural sales to be less than \$5,000 a year (see Figure 1). Another 17 farms earn between \$5,000 – \$50,000, a range where farmers transition from being what is known as "hobby farmers" to "career farmers," meaning one is earning their living from their

Historical Del Norte Farm Survey

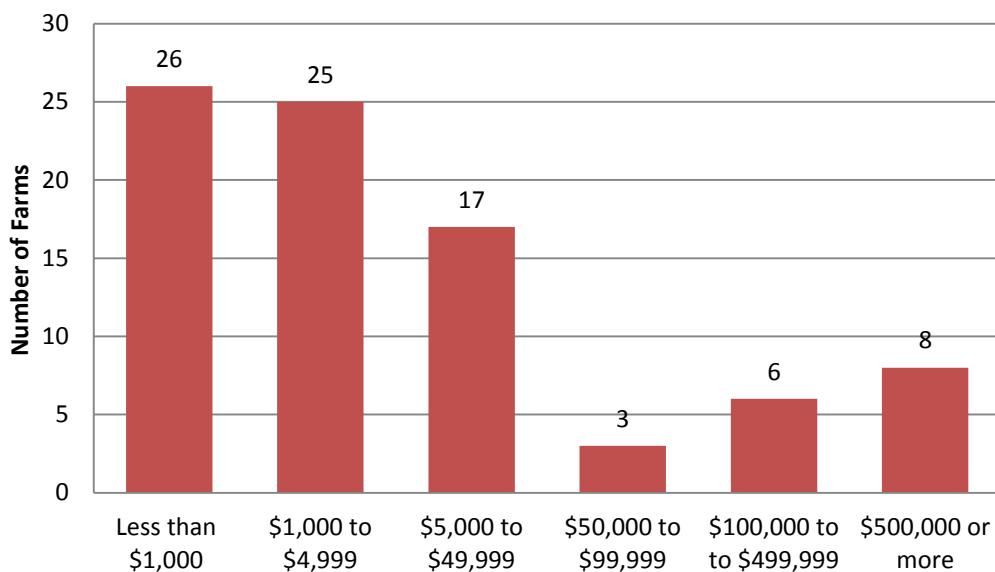
The number of farms in the County of Del Norte, State of California, as shown by the preliminary count of returns of the 1945 census of agriculture was 308, as compared with 247 in 1940 and 237 in 1935. This was announced today by William M. Simonsen, supervisor for the 1945 farm census in the Second California Census District with headquarters at Santa Rosa, California.

The total land in farms in Del Norte County, according to the preliminary 1945 census count was 43,120 acres as compared with 39,158 acres in 1940, and 44,145 acres in 1935. Average size of farms shown in the preliminary 1945 census for Del Norte County was 140, as compared with 159 acres in 1940, and 186 acres in 1935.

In announcing the 1945 census totals of farms and land in farms in Del Norte County, Supervisor Simonsen pointed out that the figures are preliminary and subject to correction. Final figures will be announced from Washington.

~ compiled by Nita Phillips

Figure 1: Number of Farms per Earnings Bracket, Market Value of Products Sold

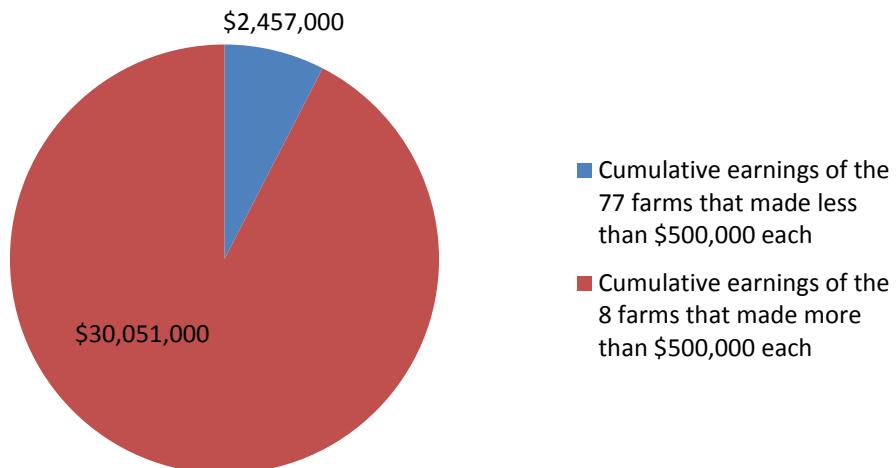


Source: Table 2: Market Value of Agricultural Products Sold Including Direct Sales. 2007 Census of Agriculture. http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1_Chapter_2_County_Level/California/st06_2_002_002.pdf. Retrieved April 29, 2011

agricultural operation.* Indeed, 37 farmers report farming as their primary occupation. The eight operations with agricultural sales of more than \$500,000 earned a combined total of \$30 million in 2007. This means that just under \$2.5 million, as shown in Figure 2, was earned by the remaining 77 farmers.⁵ Another way to see it is that about 9% of the farms make 92% of the earnings.

As seen in Figure 3, Number of Farms by Size, 45 of the 85 farms include less than 50 acres, and only seven farms run on more than 500 acres.⁶ The Agricultural Census also shows that Del Norte County principal operators' average age is 56 years old and males outnumber females 65 to 20. The largest number of farm operators (meaning owners, managers or other decision-makers) in 2007 were white (143), but 18 were

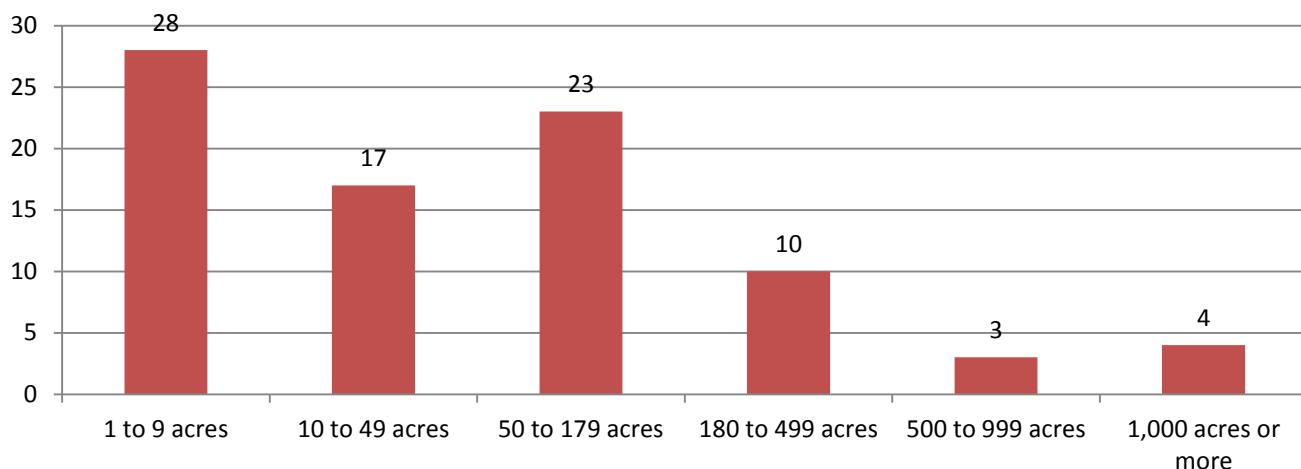
Figure 2: 2007 Market Value of Products Sold Grouped by Earnings Bracket



Source: Table 2: Market Value of Agricultural Products Sold Including Direct Sales. 2007 Census of Agriculture. http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1_Chapter_2_County_Level/California/st06_2_002_002.pdf. Retrieved April 29, 2011

* Please note this is just the 'market value of agricultural products' and not a farmer's total earnings.

Figure 3: Number of Farms by Size, 2007



Source: Table 1: County Summary Highlights. 2007 Census of Agriculture. http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_001_001.pdf. Accessed April 27, 2011.

American Indian, four were Asian, three Latino and one Black.⁷

Top Agricultural Products

Table 2 below shows that in 2007 approximately half of Del Norte's agricultural earnings came from milk and other dairy products. Nationwide milk prices have plummeted, however, and the Agricultural Commissioner's 2009 report indicates that dairy sales were down to \$12.8 million in 2008 and further to \$10 million in 2009.⁸ The only other significant industry in sales is the category of nursery/floriculture which is composed of products such as Easter Lily bulbs, cut ferns, flowers and bedding plants. Its earnings remained more consistent between 2007 and 2009, as the value of sales dropped only from \$12.9 to \$11.7 million.⁹ In 2007 there numbered 14,651 cattle and calves in the county, with sales valued at just over \$3 million.¹⁰

Figure 4 gives a visual representation of the data, making apparent the dominance of the top three commodity groups over the others, many of which become indiscernible in the doughnut chart due to their relative size. In addition, some commodity groups have so few producers that the Agricultural Census does not report their value in order to protect their privacy. This is the case with "Other crops and hay" and "Vegetables, melons, potatoes, and sweet potatoes."



* These comparisons between the Census of Agriculture and the Agricultural Commissioner's annual Crop Report assume that the commodity groups are defined similarly between the two agencies. Some products, such as mushrooms and cut Christmas trees, are counted differently, but none of these had proportionately significant sales.

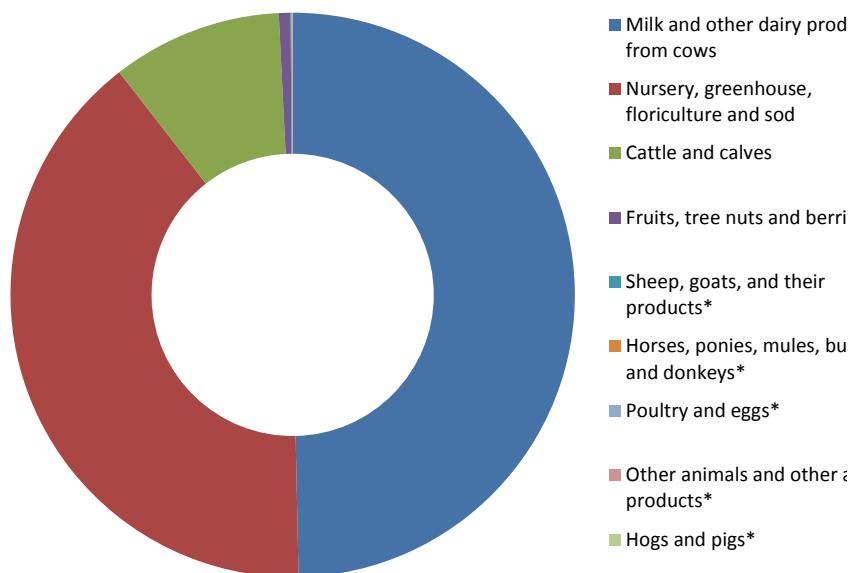
Table 2: Value of Sales by Commodity Group, 2007

Commodity Group	Value
Milk and other dairy products from cows	\$16,127,000
Nursery, greenhouse, floriculture and sod	\$12,924,000
Cattle and calves	\$3,164,000
Fruits, tree nuts and berries	\$217,000
Sheep, goats, and their products	\$18,000
Horses, ponies, mules, burros, and donkeys	\$8,000
Poultry and eggs	\$6,000
Other animals and other animal products	\$4,000
Hogs and pigs	\$3,000
Vegetables, melons, potatoes, and sweet potatoes	(D)
Other crops and hay	(D)

(D) Withheld to avoid disclosing data for individual farms

Source: County Profile: Del Norte County, California. 2007 Census of Agriculture. http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/California/cp06015.pdf. Accessed April 27, 2011.

While the sales of items such as vegetables, fruits, hogs, nuts, poultry and eggs are not heavy hitters in regards to Del Norte County's agricultural earnings, they are of key importance to local food systems and food access. The Agricultural Commissioner's 2009 Crop Report combines sales of honey, silage, hogs, eggs and other products under Miscellaneous, with sales valued at \$1,664,800 in 2009. Fruit and vegetables sales were also combined, amounting to \$83,600 in 2008 and growing to \$109,000 in 2009.¹¹ The number of farmers selling

Figure 4: Value of Sales by Commodity Group, 2007

* Indiscernible in doughnut chart. See values in Table 2.

Source: County Profile: Del Norte County, California. 2007 Census of Agriculture. http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/California/cp06015.pdf. Accessed April 27, 2011.

vegetables grew from three to five between 2002 and 2007, and all five harvested for fresh market sales.¹²

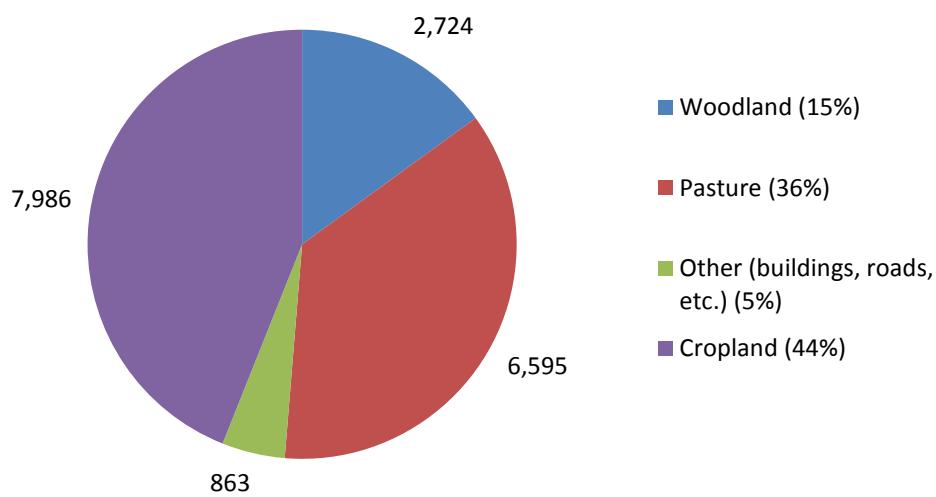
Land Use

Del Norte County has a land area of 644,078 acres, 2.8% of which is in farmlands.¹³ Approximately 469,130 of the county's acres are part of Six Rivers National Forest,¹⁴ accounting for 73% of the land mass. The portion of Redwood National and State Parks within the county is 131,983 acres, or approximately another 20% of the land mass.¹⁵ The agricultural and food production landscape of Del Norte is influenced by the fact that 93% of the land is under governmental ownership. All the same, between 2002 and 2007 there was a 36% increase in farmland acreage.¹⁶

In Figure 5 below the largest proportion of agricultural lands are shown to be cropland, which is somewhat misleading as more than half, or 4,543 of those acres,¹⁷ were used only for pasture or grazing. However, technically they were on land "that could have been used for crops without additional improvement,"¹⁸ so therefore are categorized as cropland. The second largest land use is pasture, accounting for 6,595 acres, as can be expected with the large dairy and livestock industries.

Table 3 shows agricultural products ranked according to their size and not their sales value (measured by acreage for crops and head count for livestock). The greatest single use of farm acreage is for forage - land used for all hay and haylage, grass silage, and green chop – amounting to 2,835 acres.¹⁹ It can be assumed that this acreage goes hand in hand with the dairy and cattle industries discussed above.

Figure 5: Agricultural Acreage by Land Use Type



Source: Table 8: Farms, Land in Farms, Value of Land and Buildings, and Land Use. 2007 Census of Agriculture. http://www.agcensus.usda.gov/Publications/2007/Full_Report/index.asp. Accessed July 5, 2011.

Bulbs, corms, rhizomes and tubers are planted on 278 acres and are the second largest use of farm land in the County. Out of all of California's 58 counties, it is the second highest acreage devoted to these crops in the state. In fact, only six other counties in the entire US have more acreage devoted to bulbs, corms, rhizomes and tubers. While the number of acres used for "Other floriculture and bedding" is undisclosed, it seems significant given that it also ranks second highest compared to other California counties and tenth in the US.²⁰ This data indicates that the nursery industry in Del Norte is not only large in comparison to other agricultural production

on the North Coast, but in comparison to the rest of the state and nation.

Direct Sales

When one is looking for a measure of foods grown in a community and then consumed there, direct sales are the closest indicator. Direct sales are defined by the Census of Agriculture as “the value of agricultural products

Table 3: Top Crop and Livestock Products, 2007

Crop (acres)	Acreage / Number	CA rank out of 58 counties	U.S. rank out of 3,141 counties
Forage	2,835	42	2,607
Bulbs, corms, rhizomes and tubers	278	2	7
Floriculture crops	61	21	126
Nursery stock	(D)	38	(D)
Other floriculture and bedding	(D)	2	10
Livestock (number)			
Cattle and calves	14,651	38	1,680
Layers	372	52	2,360
Horses and ponies	171	55	2,898
Sheep and lambs	126	53	2,227
Goats, all	94	51	2,603

(D) Withheld to avoid disclosing data for individual farms

Source: County Profile: Del Norte County, California. 2007 Census of Agriculture.

http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/California/cp06015.pdf. Accessed April 27, 2011.

produced and sold directly to individuals for human consumption from roadside stands, farmers' markets, pick-your-own sites, etc.”²¹ Ken Meter, a leading national researcher in the connection between communities and their food systems, says, “For me, one of the key indicators of the growth of interest in community-based foods is the rapidly rising sales of food direct from farmers to consumers.”²²

When Meter compared national direct farm sales from 2002 and 2007, he found they rose from \$812 million to \$1.2 billion.

When adjusted for inflation, that represents an increase of 30% in just five years.²³ In the same time period direct farm sales in Del Norte County grew from \$12,000 to \$51,000, representing a whopping 325% increase (though not adjusted for inflation).

Interestingly the number of farms participating in direct sales went down in this same time period, however, from 13 to nine (see Figures 6 and 7).²⁴ This suggests that venues like farmers' markets and CSAs (Community Supported



Local produce for sale

Figure 6: Del Norte Direct Farm Sales, 2002 - 2007

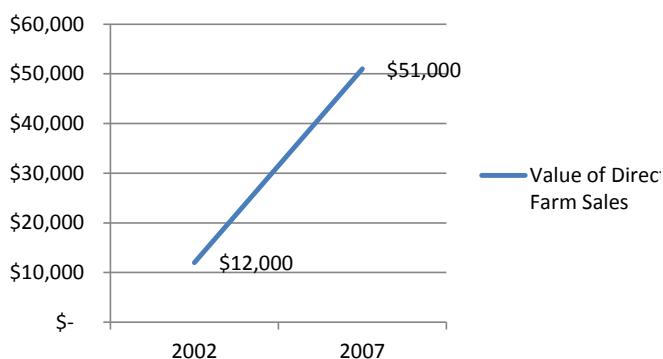
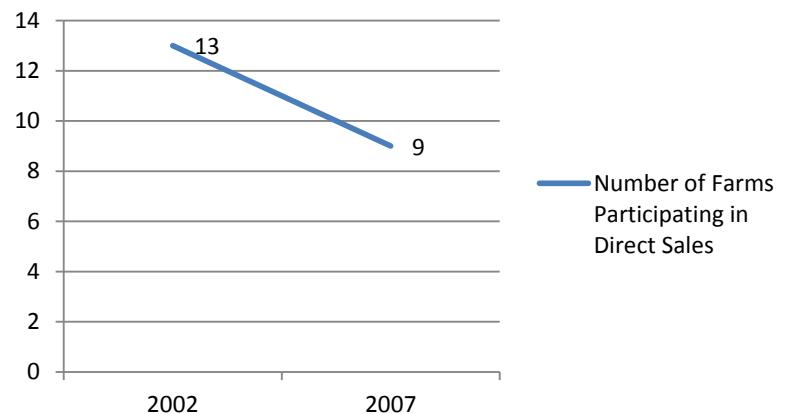


Figure 7: Del Norte Farms Selling Directly to the Public, 2002 - 2007



Source (both): Table 2: Market Value of Agricultural Products Sold Including Direct Sales. 2007 Census of Agriculture. http://www.agcensus.usda.gov/Publications/2007/Full_Report/index.asp. Accessed Nov 1, 2011.

Agriculture) are increasing in popularity to make up the increase in the total quantity and value of items sold.

Community and School Gardens

In Del Norte County there are 16 schools, 15 of which have a school garden – an impressive 94%. They range in size and in the level of use by the students. Eight are part of the Network for a Healthy California and are part of a garden-based nutrition education curriculum, discussed further in “Section 6: Food Access.”

A community garden is a single piece of land that is gardened by a collective group of people and community residents. Families that may otherwise not be able to afford the expense of fresh produce can grow it in their community garden plot. As important as community gardens are for their nutritive foods, they are equally important for the relationship-building they create within the community. There are nine community gardens in Del Norte County and Adjacent Tribal Lands located in Crescent City, Klamath, Gasquet and the Smith River Rancheria. Each of the gardens is unique, some offering individual plots to garden members, while others work as one large collective plot.

Community Assistance Network (CAN), a nonprofit faith-based organization that works on food assistance and workforce development in the area, manages four of the Crescent City gardens and co-sponsors a fifth with the First 5 Family Resource Center. CAN’s goal is to provide low-income individuals with space to grow their own produce.²⁵ In Gasquet a new garden was planted in 2011, sponsored by the school PTO and First 5.

Several tribal communities also have gardens. The Klamath Community Garden was started on a large vacant lot by two neighbors several years ago and



since then has become a resource to the school and community.

The Smith River Rancheria has one small garden located near the tribal offices that is maintained by employees. A second community garden was established in 2011 on their Maintenance Department grounds. The department tends the garden for the use of rancheria members. Members were asked at the beginning of the year what types of crops they wanted put in. All are welcome to help in the garden and invited to harvest what they need at any time. In the case of particularly bountiful crops, as with this year's green beans, the Maintenance staff harvested them and brought them to Tribal Council meetings to help distribute. The rancheria

Table 4: Community Gardens

Name of Garden	Location	Agency & Contact Information
Peterson Park Community Garden	D Street at Sixth, Crescent City	CAN, 707-464-9190
Seventh Day Adventist Community Garden	Corner of Northcrest and Madison, Crescent City	CAN, 707-464-9190
Wellness Center Garden	Del Norte County Wellness Center, at Washington and Northcrest, Crescent City	CAN, 707-464-9190
Elk Valley Community Garden	Elk Valley Road, Crescent City	CAN, 707-464-9190
First 5 Children's Garden	Family Resource Center, Pacific Avenue, Crescent City	CAN, 707-464-9190
Gasquet Community Garden	Mountain School, Gasquet	Mountain School, 707-457-3211
Klamath Community Garden	Maple Avenue, Klamath Glen	Klamath River Early College of the Redwoods 482-1737
Smith River Rancheria	Community Garden, at Gilbert Creek on maintenance grounds	Rancheria Maintenance, 707-487-9255
	Garden near Tribal Offices	Tribal Offices, 707-487-9255

also has a small garden as part of their Head Start program for the children to learn, play and eat from.²⁶

Traditional Food Gathering

Of cultural and dietary significance to all of the American Indians in the area are wild foods. Ranging from elk to salmon and from wild mushrooms to “swamp” or “Indian” tea, multiple animals and plants endemic to the area are still used by the Yurok, Resighini, Elk Valley and Smith River tribes. Human population growth and ecological impacts have taken a toll on their habitats and bounty. Specific foods and further discussion on traditional harvesting techniques are in Section 6 of this report.

North Coast Fisheries Overview

The North Coast coastline and its many rivers offer another source of food production for the area's residents – fish and seafood. These foods, and salmon in particular, have been an important part of the Yurok and Tolowa peoples' diets for thousands of years. The modern day commercial fishing industry became a mainstay for the economy after railroads and Highway 101 opened up marketing opportunities in the early 1900's. With the decrease in logging operations in the 1960's and 70's, when 90% of the redwoods were cut, fisheries became an ever more important industry.²⁸

The North Coast fisheries, made up of ports in Mendocino, Humboldt and Del Norte counties, have seen fishing activity decline since 1981.²⁹ The number of boats used across the North Coast fisheries peaked at 2,550 in

Case Study: Ocean Air Farms

One of the only farms producing an array of fresh fruits and vegetables for direct markets is Ocean Air Farms. Owners Julie Jo Ayer Williams and Paul Madeira began the farm in 2006. They are now in their 5th year of full-time farming, and the demand for their products continues to grow. Gross sales have gone up 25% every year. They now own 11 acres on two properties and lease another three. Approximately 10 acres are tilled row crops and the rest used for animals and buildings.

Ocean Air offers a Community Supported Agriculture

(CSA), where members subscribe for a season's worth of vegetables that they pick up from the farm once a week. However, Paul feels that they don't need to stick to the traditional CSA model and has been looking for new ways to expand the farmer-to-consumer relationship.²⁷ In 2010 they began offering a Market Membership – a model where individuals pay \$200, \$250, \$300 or \$400 at the beginning of the calendar year and then get to use that credit, plus 10%, at Ocean Air's farmers' market booth throughout the season. Paul says it works great for him because, "I'm dying in April and May, when I still have nothing to sell, but I've been investing in the year's crop for months already." This way \$200 in January allows him to cover expenses in the early months, and the consumer is happy to redeem it for \$220 worth of great summer produce in the months ahead. In 2010 Ocean Air offered the Market Membership to 15 people, and in 2011 to 25.

"Really, the CSA model can be anything – it is about the consumer supporting the farmer when they need it." In return, he feels the farmer owes it to his or her members to make the farm's bounty accessible. Many households can't use a whole basket's worth of produce every week, so he's thinking about offering customizable CSA baskets through online ordering.

Paul also sees how important their farm is to the community. He said people would come up to him at the farmers' market, just needing to converse with someone about the values of healthy, local food. The demand was so strong for making the community connection that Ocean Air Farm decided "to go with it". They do four farmers' markets a week, two in Crescent City and two in Brookings, OR. They are frequently interviewed by the local media, and he now writes a column in the paper once a month. All of the attention has caused him and Julie Jo to be very transparent, provide a monthly newsletter and post photos online in order for people to follow their story.

Paul says there is a definite need for more farmers in Del Norte County. He is seeing agricultural properties for sale as both the horticulture and dairy industries face difficult national markets. He believes there is a lot of opportunity for new farmers in produce and direct marketing.



Photo source: Ocean Air Farms, Fort Dick, CA

1981 and by 2005 dropped to 500 or fewer.³⁰ Since 2003 there has been an average of 108 buyers purchasing the fish and seafood brought in on the boats across the region. Crabs are the only growing commercial fishery, with landings in 2003, 2004 and 2006 that hadn't been met since 1947 except once (in 1982). However, while crab pot values and landings increased by 59% and 74%, respectively, the number of boats participating in the catch declined by 31%.³¹

Crescent City Port and Harbor

Crescent City was named after its crescent-shaped beach and became the key port of entry for supplies throughout the gold rush era of the mid-to-late 1880's.³² Crescent City Harbor began as a "Citizen's Dock" to support local fishing in the 1950's. The tsunami of 1964 destroyed most of the harbor's development, but by the 1970's it was expanded and built anew along with two processing plants.³³ Today only one is used, but the Crescent City Harbor District and multiple businesses (marine repair, ice, gas, etc.) provide infrastructure and services to support commercial and recreational fishing.³⁴

In Crescent City there are roughly 100 vessels based at the port. The majority are crabber/ trollers. The fishermen typically participate in multiple fisheries and more than 75% of them fish for crab.³⁵

In *California's North Coast Fishing Communities: Historical Perspective and Recent Trends* Pomeroy et al. report about Crescent

City that, "Relative to the long term (1981-2007), average annual total fishing activity has decreased in recent years (2003-2007) in terms of landings (-44%), ex-vessel value (-4%), boats(-57%), trips (-48%) and buyers (-15%)."³⁶



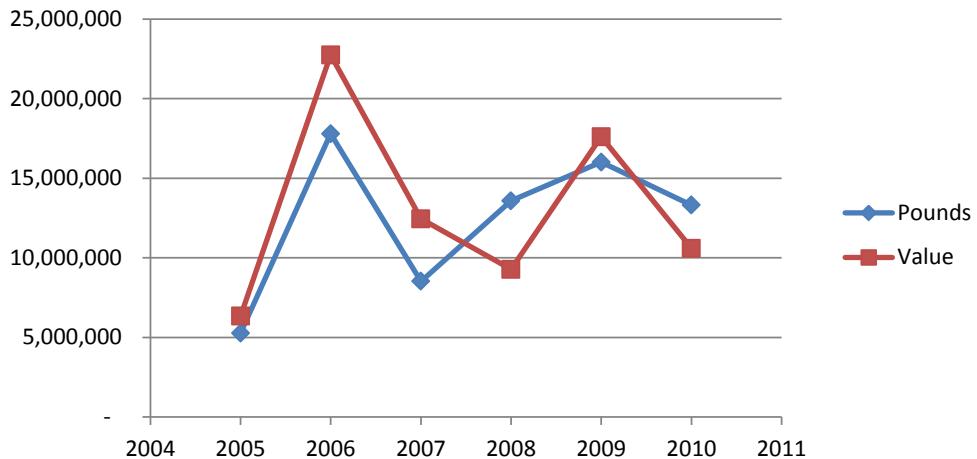
Eureka Area Catch and Trends

California fishing ports are divided by the California Fish and Game into nine areas, of which the "Eureka Area" is the northernmost and contains the Crescent City Harbor. Within the Eureka Area, Crescent City was the highest yielding port in 2010, bringing in approximately 13.3 million pounds of fish, crustaceans and mollusks.³⁷ The value of the 2010 catch was nearly \$10.6 million. Between the years 2005 to 2010, catch value ranged from \$6.3 million to \$22.7 million (see Figure 8) and in all but two years it was the highest yielding port in the Eureka Area.

The other ports that make up the Eureka Area along with Crescent City are Eureka, Trinidad, Fields Landing and Shelter Cove. The two biggest months in 2010 for fish landings for the area combined were May (7,055,636 lbs, mostly Pacific Whiting) and December (4,418,226 lbs, mostly Dungeness Crab).³⁸ The two slowest months for fishermen in 2010 were November and March, each with less than 1 million pounds landed. Crab season for 2011 was delayed and started on January 16 of 2012 – the first time in over a decade that it has pushed past its normal December start date.³⁹ This is just one example of how the "on" and "off" months can fluctuate from year to year depending on the health of the fisheries, weather and other factors.

Table 5 and Figures 9 and 10 below show the species of fish and crustaceans that bring in the biggest earnings to fisherman in the Eureka Area ports. More pounds of crab were landed than anything else, and their value-per-pound keeps them an attractive crop for fisherman. Other key species in the area's fisheries are sablefish, shrimp, Dover sole and albacore tuna.⁴⁰

Figure 8: Crescent City Harbor Commercial Landings, by Pounds and Dollar Value



Source: California Commercial Landings, 2005-2010. Table 16. <http://www.dfg.ca.gov/marine/fishing.asp>. Accessed Nov 25, 2011.

Future of Commercial Fishing

The overall decline in commercial fishing from Crescent City's port has led to business closures and

Table 5: Eureka Area 2010 Top Commercial Fish Landings

Species	Value	Pounds
Crab, Dungeness	\$13,510,741	6,597,464
Sablefish	\$2,908,162	1,339,403
Shrimp, ocean (pink)	\$1,274,496	3,904,052
Sole, Dover	\$1,119,837	3,489,281
Tuna, albacore	\$1,030,239	963,016

Source: Final California Commercial Landings for 2010. Dept of Fish and Game, Sept 6, 2011. Table 15 . <http://www.dfg.ca.gov/marine/fishing.asp>. Accessed Nov 25, 2011.

Figure 9: 2010 Eureka Area Landings, Top 5 Species by Value

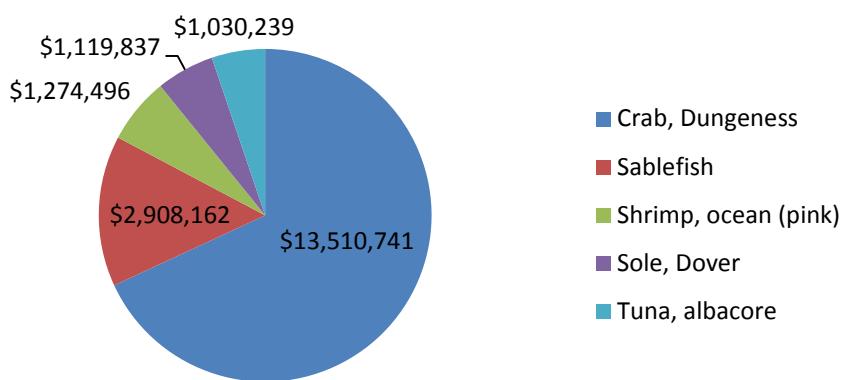
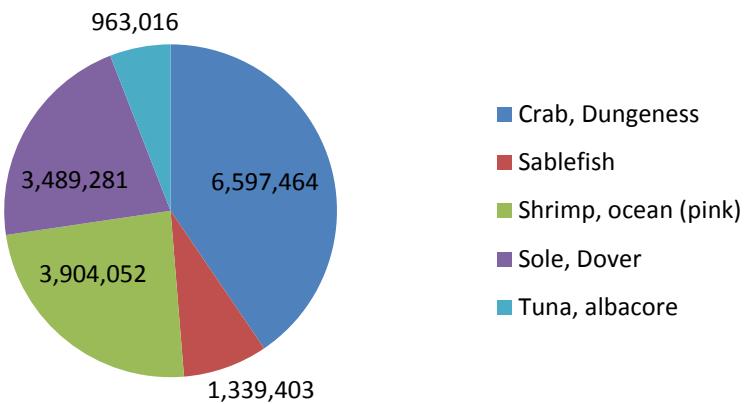


Figure 10: 2010 Eureka Area Landings, Top 5 Species by Catch Weight



Source (both): Source: Final California Commercial Landings for 2010. Dept of Fish and Game, Sept 6, 2011. Table 15 . <http://www.dfg.ca.gov/marine/fishing.asp>. Accessed Nov 25, 2011.

consolidated services.⁴¹ Harbor infrastructure has deteriorated with reduced revenues, compounded by damage from the recent tsunami in March of 2011. However, in the short term the Harbor Commission worked hard throughout the fall of 2011 to have dredging complete and the ruined docks replaced by temporary ones in time for the heavy boat traffic and demands of crab season.⁴²

In stakeholder interviews conducted by Pomeroy et al.,⁴³ participants in the North Coast fisheries identified issues and challenges they saw facing their communities in the coming years:

- Fishermen were worried about reductions in some of the North Coast's major fisheries, including salmon and groundfish (especially rockfish). As fish populations go down, so does local infrastructure. The success of local ports relies on a diversity of activity, kept stronger by multiple fisheries and seasons.⁴⁴
- Reliance on a single fishery (in this case crab), makes the port and affiliated services and economy "vulnerable to changing resource, regulatory and market conditions."⁴⁵ For example, this year's delay in crab season had a huge impact on the Christmas holiday budgets of local fishermen.⁴⁶
- Rising operating costs for gas, boat maintenance, gear and insurance present a growing challenge for fishermen. At the same time, landings prices are remaining the same or declining. "The reduction in fishing opportunities and activity has resulted in the loss of fish houses (vertically integrated buyers capable of processing fish from multiple operations) in several ports and reduced demand for goods and services that these businesses provide," writes Pomeroy.⁴⁷

Pomeroy's findings are regional, but Harbormaster Richard Young says they largely apply to Crescent City as well. In regards to the first point above, he is quick to point out that the decline in the various species are all for different reasons and no assumptions should be made about the overall health of the waters off of Del Norte's coast.⁴⁸ In the case of groundfish, he points out that various species swim together – some of which are thriving, and some of which are protected. Due to fishing techniques, however, neither can be caught. Either a change in gear technology that allows for more species-specific fishing, or the recovery of the protected species' populations, would open up a profitable fishery.

Regarding Pomeroy's second point, Young says that crab prices did open at record levels in January, shifting fishermen's income peak from December/January to January/February. "Like farmers, it is good to diversify. You could have a bad year with a certain crop, so it is good to have alternative crops that also bring in money".⁴⁹

Regarding rising operating costs, Young points out that the value-per-pound of seafood landed at Crescent City is higher than any other port in the state.⁵⁰

Salmon Fishing and Tribal Rights

Oceanic salmon fisheries are named by region, with the waters off of Del Norte falling in the Klamath Management Zone (KMZ). The allowable ocean salmon fishing season dropped dramatically between the 1980's and 90's from nine months down to four, and sometimes none at all.⁵¹ The species of particular concern are the fall run Chinook and coho. For the Chinook, the ocean recreational fishing season was only ten days in 2009 and was never opened at all in 2008.⁵² The coho were listed as a threatened species under the Endangered Species Act in 1997, which was reviewed and reaffirmed as recently as August 2011.⁵³

For the Yurok Tribe, all of the fish species in the lower Klamath River are of cultural, nutritional or ecological importance.⁵⁴ The Tribe has established collaborative co-management relationships with state, federal and tribal agencies to safeguard the various fisheries, as many of the important species also spend part of their life cycle in the ocean, including Chinook and Coho salmon, steelhead, Pacific lamprey, eulachon, coastal cutthroat, and green sturgeon.⁵⁵

The Yurok Tribe* has its own allocation of the salmon catch, separate from non-tribal commercial and recreational fisherman access. However, salmon fishing rights were a hard-won battle and took a long time in coming. Less than 35 years ago heavily armed Federal Agents enforced a ban on Yurok people from commercial or subsistence fishing. That ban was only lifted 25 years ago, in 1987.⁵⁶

* The Hoopa Tribe has fishing rights as well; these are not included in the discussion of this report.

Tribal fishing rights have been a contentious battle in many parts of the United States and are beyond the scope of this report. This will just present a brief summary relating specifically to Klamath salmon and the Yurok Tribe, as salmon are a key food resource of high nutritional as well as cultural significance to the all of the tribes in the Del Norte and Adjacent Tribal Land area.

When a flood in 1861 forced the closure of the military fort on the Klamath Reservation (today represented by the Resighini Rancheria), the state of California declared the reservation abandoned and claimed control of fishing rights. Decades of controlled fishing permits ensued, at first allowing tribal members to fish for their own use but eventually that was even withheld. In 1969 when a Yurok fisherman, Raymond Mattz, had his gill nets confiscated, he took his case to court. It took until 1973 when the Supreme Court finally declared that federal laws protected Indian rights to traditional fishing areas and that states could not supersede that right.⁵⁷

In 1977 the lower 20 miles of the Klamath River were opened to Yurok subsistence and commercial fishing, only to be closed again in 1978. When the Indians protested, the US responded with an aggressive show of Federal Special Agents, BIA and National Park officers. Commercial fishing rights were withheld under a ‘Conservation Moratorium’ until 1987. After many negotiations, a 30% allocation of the year’s catch was allocated to the Yurok under a 5-year agreement. In 1993 it was agreed that the Yurok and Hoopa tribal members had rights to 50% of the allowable harvest.⁵⁸ Each year, once sustainable harvest amounts are determined, the 50% allocated to the tribes is then split 80% to the Yurok and 20% to the Hoopa.

Unfortunately years of low salmon populations have since followed, as a result of degradation from land and water management activities. Current ocean fisheries management is overseen by the Pacific Fisheries Management Council, the inriver recreational fishery is regulated by the State of California, and river tribal fisheries are regulated by the Hoopa Tribal Council and the Yurok Tribal Council. The Tribes now have full management authority over them, which involves tasks such as the setting of allocation limits based on run predictions and the regulations for quotas, closures and gear.⁵⁹

Current records show that in 2008 the Yurok Tribe’s fall Chinook harvest brought in nearly \$985,000 for a commercial harvest of 12,500 fish. For that year’s subsistence harvest roughly 8,500 fall Chinook were caught.⁶⁰ Table 6 below shows harvest allocations had increased by fall 2011, with a commercial catch of 14,237 fish and a combined subsistence catch of 13,000.⁶¹

Table 6: Preliminary 2011 Harvest Data, Fall Chinook*

Fall Chinook	Quotas	Harvest	Remaining
Estuary Commercial	14,500	14,237	263
Lower River Subsistence	9,000	5,864	3,136
Upper-Klamath	3,000	2,123	877
Elders	1,000	1,000	0
Reserve	357	0	357

* NOTE: Preliminary Data. Yurok Tribal estimated harvest through October 23, 2011 for all areas.

Source: *Preliminary Harvest Data, Fall Chinook*. Reports and Publications: Harvest Management Division, Fisheries Dept., Yurok Tribal Council. <http://www.yuroktribe.org/departments/fisheries/fallharvest.htm>. Accessed Feb 1, 2012.

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Section 4

Processing, Distribution and Marketing

Some foods are processed extensively before consumption, while others are not at all: for example, a corn dog versus an apple. 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 delivery and sales from the vendor or through the use of a wholesaler.

In addition to the conventional food distribution model, there is also direct marketing. This is when the food passes directly from the farmer (dairyman, fisherman, etc.) to the consumer. Direct marketing pathways enable consumers to get fresher food and develop relationships with the producer, while also creating shorter distribution chains that are typically less resource-intensive and polluting (due to packaging and transportation miles, for example).

This section provides a listing of locally grown and processed foods and examines how food is distributed throughout the Del Norte County and Adjacent Tribal Lands area. It will also provide information about direct marketing opportunities and the impact of localizing food systems on a region's economy. The following list 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 Covered:

- Does the community have value-added processing locations?
- What foods are locally processed?
- What are obstacles and opportunities for local and regional food distribution?
- Are any restaurants or institutions such as schools, jails or hospitals using local foods?
- Where can one find direct markets such as farmers' markets, farm stands and community supported agriculture (CSA)?
- How do local food systems impact local economies?

Research Questions Not Covered:

- How much food is imported and exported from the area?
- What percentage of food consumed is locally produced?

A Sense of Place through Foods

Locally grown and processed food products add unique character to a local food system. These products can highlight the variety of food cultures within the area and teach consumers about the specific "terroir." Terroir is a French term that can be loosely translated into "sense of place." It was originally used by producers of tea, wine and coffee to indicate the special characteristics that the soil, weather conditions and agricultural practices of a particular region impart on the resulting food and beverage products.¹

Some processed foods that Del Norte County and the Adjacent Tribal Lands are known for are Rumiano Cheese, Borges Family Creamery milk, Alber Seafoods, Alexandre Kids pork and Paul's Famous Smoked

Salmon. Aside from these, research for this report has not identified other food products that are processed in the area, whether for local consumption or for export. Typical food products exported remain in their unprocessed form: bulk milk, cattle for beef, unprocessed seafood, eggs, etc. Within the County and Tribal Lands, there are only a few products available at stores or farmers' markets. See Table 7 for a list of locally available foods, both processed and unprocessed.

Table 7: Locally Grown or Processed Foods for Local Markets

Business Name	Product Type
Produce	
Annie Mack's Family Produce	Produce
California Natural Oceans	Greens
Del Norte Farms	Produce
LaVonna's Herbals	Herbs
Ocean Air Farms	Produce, Herbs
Dairy	
Borges Family Creamery	Milk
Rumiano Cheese	Cheeses
Meat, Fish and Eggs	
Alexandre Kids	Eggs and Pork
California Natural Oceans	Fish
Ocean Air Farms	Variety meats
Vita Cucina	Sausage
Paul's Famous Smoked Salmon	Smoked salmon
Prepared Foods	
Annie Mack's Family Produce	Wheat grass, Juice, Sandwiches
Bouncing Berry Farms	Jam
LaVonna's Herbals	Flavored Oils
Moreno's Tamales	Tamales
Salsa Suzy	Tamales, Salsa
The Dutch Gardener	Cilantro Pesto, Sauces
Vita Cucina	Soup

This list is a first attempt at pulling together all of the products grown and processed in Del Norte County and Adjacent Tribal Lands. Please call CCRP at 707-826-3400 to add businesses and items not listed.

Value Added and Small-Scale Processing

Food processing is the manual or mechanized techniques used to transform raw food ingredients into food products for consumption. 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.

Local Processing

Often a bottle-neck for value added processing is the availability of commercial kitchens. Due to risk of contamination and illness, food processing is carefully regulated. In order to sell their jams or salsas through direct marketing such as farmers' market, individuals need to be certified by Environmental Health staff at the county's Department of Public Health.*²

Certification (for non-farmers) involves qualification by the individual, but also qualifying kitchen specifications and commercial-grade appliances. A home kitchen won't do. For this reason, kitchens that can meet requirements for processing various foods are frequently called certified kitchens – a misnomer, since it is the person being certified and not the kitchen. Brian McNally, Environmental Health Specialist, says there are approximately 180 licensed kitchens in the county.³ Yet most of these are restaurants and not easily available to the small-scale food processor. Schools, churches, grange halls and community centers are other institutions that have licensed kitchen facilities. The two sites found that rent out their commercial kitchens are the Del Norte Senior Center and the Fort Dick Grange, though it is likely there are more.

Surprisingly, farmers selling directly at the farmers' market do not need to be certified nor process the food in permitted kitchen facilities, as there is an exception made for farmers who grow their own raw products. Processed goods that are considered high risk (low-sugar or low-acid foods such as meats, vegetables or beans) would still need to be certified, however.⁴

It is not clear if there is an unmet demand for licensed kitchen space in the area or not. Ron Phillips, manager of the Saturday Crescent City Farmers' Market, hears from people who would like to start small food processing enterprises, but can't find a kitchen.⁵ Brian McNally at Environmental Health says that he gets very few calls from people looking into certification, and the most interest he ever sees is at the farmers' market meeting he presents at annually, where 2-3 people will ask about it. It seems that this is where the demand lies. Another facility will soon open up to those affiliated with the market – as part of an effort to educate and promote farmers' market produce through cooking demonstrations on site, Rural Health Services was awarded a grant to build a mobile certified kitchen unit. When the unit is not in use for market purposes, it will be available for small-scale food processors to rent.⁶

Fish Processing and Marketing

In terms of fish processing capacity, the Crescent City harbor contains two processing facilities. One is currently in use (Alber) and the second one, says Harbormaster Young, is in need of extensive renovation. The Harbor District is hoping to find a tenant and would work with them to assist in the repairs.⁷

In 2010 Pomeroy et al. reported that, "Local fish receiving and processing capacity consists of six buyers with receiving stations at the harbor and one on-site receiver/processor, which processes some crab and groundfish on-site; however, most of the raw catch is shipped out of the area. Some buyers and fishermen (through off-the-boat and other direct sales) sell small amounts of crab, groundfish and albacore seasonally."⁸

Alber Seafoods processes mostly crab, salmon, tuna and bottomfish such as Dover Sole and Black Cod.⁹ Alber's doesn't have a retail storefront, but will sell fish to people who ask. "If I've got it and it's not spoken for, I'll sell you as much as you want," says Brigg Lindsey, the company's Plant Manager. However, the majority of their product is spoken for. Alber's headquarters, where marketing is managed from, is at Fisherman's Wharf in San Francisco. After processing, most of the Crescent City catch is trucked down there. Some orders are sent out directly from their Crescent City office, including sales to Ray's Food Place

* If processors want to sell their food products at stores (retail), then they need certification by the California Department of Food and Agriculture.

in Crescent City and nearby Brookings, OR. “You would think right here on the coast you could get anything coming out of the ocean, but usually it’s pre-sold and tagged for someone else,” says Brigg.¹⁰

Indeed, a common community complaint is the lack of local access to the bounty being landed at the docks. A survey of 30-40 consumers indicated a very strong interest in a Community Supported Fishery (CSF) model.¹¹ The idea behind CSF’s is that a handful of buyers commit to purchases with just one fisherman, therefore the fisherman receives a better price for his catch, and the consumers receive the freshest fish for their money.¹² The group is continuing discussions and seeking a fisherman with whom to start the CSF. Community Supported Fisheries are an example of direct marketing, discussed later in this section.

A proposed new fish market, Top Blue Marine, is planning to open in Crescent City, specializing in selling live fish. They are also looking to create a new live-fish export market to Asia for certain species that are plentiful off of Del Norte’s coast but are less desirable to American consumers, such as hagfish, which is considered a delicacy in South Korea, China and Japan.¹³ The market’s establishment is still tentative.

The Yurok Economic Development Corporation (YEDC) is in the process of building a value-added fish processing plant in Klamath. The facility will be able to fillet, smoke or flash freeze the fish. It will be the fourth Native American owned fish processing plant on the West Coast. Other tribes from out of state have already contacted the YEDC to discuss contracting with them for processing their salmon.¹⁴ The plant is being designed to handle at least 15,000 fish a year. The YEDC hopes to sell their product locally, regionally and internationally; in particular, the roe will be sold to European and Asian markets.¹⁵

Food Distributors

After processing, the next sector in any given food system is distribution. Where does most of the food sold in local stores come from? Some vendors make their own deliveries, while others go through distributors. For example, food processors including FritoLay, Peperidge Farm, Nabisco and Little Debbie provide direct store delivery to the grocers who carry their products. Dave Swingley, Store Manager at Shop Smart in Crescent City, explains that several of them (such as Pepsi and other soda, beer and chips brands) make deliveries from Eureka, in Humboldt County. Others are delivered by larger trucks to storage sites in Crescent City where local delivery drivers pick them up to make their rounds between stores. Shop Smart has roughly 30 DSD (direct store delivery) providers, some who deliver once a week, others five times, and others on demand as called.¹⁶ Some of the locally owned and produced products that provide DSD are Borges Family Creamery, Alexandre Kids, Rumiano Cheese and Alber Seafoods.

The other way stores receive foods is through wholesale distributor. A wholesaler purchases large quantities of products, and then distributes and resells them to individual merchants. For instance Shop Smart receives trucks from Super Value, whose warehouse is located in Portland, OR. The hauler is an independent trucking company who contracts with Super Value and C & K Markets (the owner of Shop Smart and Ray’s stores).¹⁷ Safeway, on the other hand, has their own warehouses and makes deliveries in their own Safeway trucks. Some of the other distributors serving stores in the Del Norte and Adjacent Tribal Lands area are Veritable Vegetable, NorCal Produce, United Natural Foods and ProPacific Fresh.

Upon examination it becomes apparent that the transportation of food from processors to retailers is a complex, interdependent network that includes large, national companies as well as small, local independent business owners.

Local and Regional Distribution

As yet, distribution chains have not developed for local goods. The few farmers and processors who deliver to local stores each do so individually, investing in their own transportation needs. ProPacific Fresh, a northern California distribution company with a base in Eureka, is the only business with refrigerated trucks to take contracts. Tom Boylan, Manager at Harvest Natural Foods in Crescent City, says there is a lot of consumer

enthusiasm for several brands of Humboldt County made salsas, sauces and jams. However, aside from Tofu Shop products that come through ProPacific Fresh, no other brands make it to Crescent City.¹⁸

As local and regional distribution is expanded, further transportation options will grow. For example, when Joey Borges transports his milk down to Humboldt County, he sometimes backhauls.¹⁹ With the costs of trucks and fuel and the long distances between rural communities, it typically pays to take advantage of cargo space both ways. As more goods and services begin to move about on a local and regional scale, distributors will be looking for products to backhaul.

Marketing Local Foods

As mentioned above, there are not many foods produced in Del Norte County and the Adjacent Tribal Lands. If the few products that are available are to set an example, however, it appears that the retail climate is receptive. Tom at Harvest Natural Foods explains that most of the locally made products that micro-entrepreneurs bring into his store tend to be bath and beauty products, such as soaps and salves. He's enthusiastic about carrying locally produced foods and would welcome more. "Anytime anyone has something local, I say 'yeah, bring it in,'" Tom says. Occasionally the store gets produce items from Ocean Air farms and in the summertime small farmers' market vendors will bring in the produce they didn't sell, but the store hasn't found anyone who can provide produce consistently.²⁰

Tom sees that being in a small community can be helpful when it comes to marketing a new product. "People hear through word of mouth that it is good so they come to try it out, and also they want to help support each other." For example, he was one of the first places to carry Borges Creamery milk. "It took a little while, then it really caught on and Joey needed to come by three times a week to deliver."²¹

The interest in locally produced foods was echoed by Dave Swingley, Store Manager at Shop Smart. Shop Smart is part of C&K Markets based in Brookings, Oregon. They are a small grocery store chain that only serves Oregon and parts of Northern CA. They consider "local" as part of their identity and encourage their stores to bring in local foods. Dave says that a vendor, such as Borges Family Creamery, is asked to make their presentation and bring their product to the company's headquarters so that it can be sampled, and then after it is approved it is up to the individual stores if they would want to carry it.²² This model is in contrast to many other large grocery chains which seek uniformity at all of their stores, in which case corporate headquarters would only approve products that could be offered at hundreds of stores. This requires a volume beyond the capacity of most family-sized farms or small scale processors.

Speaking about Borges' milk Dave says, "It's a good way for him to break into the market, it gives a chance for local vendors to get bigger." When asked if there were any local produce vendors who had approached him, Dave said there hadn't yet been anyone producing on a scale that made it feasible. "It's always zucchini – people come in with five pounds and ask if we want to buy it." While five pounds isn't enough to make it worth the gardener's time (for the process and paperwork of becoming an authorized vendor) or the market's time, Dave said he understands about seasonality. He would be happy to work with someone who could only provide him a product for several weeks. "They could bring it in; we'd set up a display featuring it's a local product and promote it."

In the Del Norte area C&K Markets owns Shop Smart and both of the Ray's (Crescent City and Smith River). Combined with Harvest Market and potentially some of the other smaller, rural stores, this makes at least four grocery stores of varying sizes that say they would welcome locally produced foods. What makes retail sales difficult, however, points out UCCE Farm Advisor Deborah Giraud, is that farmers have to sell at wholesale prices.²³ The wholesale market frequently works better for large-volume



Borges Family Creamery Products

single-product producers, as opposed to diversified small-scale ones.

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 quantity. The increased volume could be met through the increased production on one farm, coordination of multiple farms, or a combination. 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 processing and distribution links are already in place.

An institution's purchasing policies or purchasing agreements with other companies often create obstacles for sourcing local foods. For example, it is common for Sysco to have a policy that 80% of an institution's foods must be purchased through them in order to receive deliveries.²⁴ Research for this report did not find any institutions that were purchasing foods from local farms. However, there are a few restaurants, such as the Requa Inn, that make a point to buy local products as often as they can.

Direct Marketing

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. As mentioned in the Food Production section of this report, despite the low

Table 8: Direct Marketing Opportunities for Del Norte and Adjacent Tribal Land Consumers

Market Type	Name	Times / Season	Location	Contact
Farmers' Market	Saturday Certified Farmers' Market	Saturdays, June - Nov	Crescent City, Del Norte County Fairgrounds	Ron Phillips at Rural Human Services 707-464-7441
	Wednesday Farmers' Market	Wednesdays, June - Oct	Crescent City, Clock-tower parking lot, corner of 3 rd and K streets.	Paul Madeira, 707-616-1632
CSA (Community Supported Agriculture)	Ocean Air Farms	Call for details	Fort Dick, CA	707-616-1946
	OtterBee's Farm & Fungi	Call for details	Brookings-Harbor, OR	541-813-1136
On-site farm sales	Borges Creamery	Call for details	Smith River, CA	707-487-0470
	Alexandre Kids (eggs)	Call for details	Crescent City, CA	707-487-1000
	Blueberry Hill Farms	July & August	Crescent City, CA	707-464-4344

number of farmers participating in direct marketing in the area, sales went up 325% between 2002 and 2007.²⁵

Table 8 lists the known direct marketing opportunities available. Other seasonal road-side produce stands may pop up as entrepreneurs bring items (such as strawberries, cherries, etc.) from other regions, but their changing locations and inconsistency make them impossible to list.

Farmers' Market

Two farmers' markets exist in the area, the largest at the Del Norte County Fairgrounds in Crescent City on Saturdays from 9:00am – 1:00pm. A total of 12 vendors are approved to sell produce, herbs, bread, meat, vegetable starts and eggs at the market, though during most of the season there is an average of 4-5 food vendors at each market. There are additional arts and crafts vendors.²⁶

Often farmers' market foods are more expensive than those found at supermarkets, but Manager Ron Phillips of Rural Human Services estimates the prices are competitive with local stores. Since 2010 CalFresh (commonly known as Food Stamps) participants have been able to use their EBT cards at the Saturday market as well. This program allows these low-income consumers to be part of the community event and build producer-to-consumer relationships that direct markets foster.

A second farmers' market also operates in Crescent City

on Wednesdays from 11:00am – 3:00pm. The market is sponsored by the Chamber of Commerce and held downtown at 3rd and K streets. It is a smaller market, not a Certified Farmers' Market, with only one large produce vendor, 2-3 home gardeners, a baker and some crafters. Paul Madeira of Ocean Air Farms sells at the market and is also the manager. He says that the community has embraced the market and he's seen it grow in recent years. He's hoping to attract more producers and increase variety, though he says, "it is the typical 'chicken and the egg' of small farmers' markets – you need more customers in order to ask more farmers to commit, but until there is a stable diversity of product it is hard to attract more shoppers."²⁷ CalFresh is not currently accepted at the Wednesday market, but there is ongoing discussion about changing that.

Community Supported Agriculture (CSA)

CSA's are a new take on an old principle of farming: a shared commitment between local farmers and their community members. CSA's originated in the 1960's in Switzerland and Japan, but took until the 1980's to form in the United States and Europe.²⁸ Their popularity has grown nationwide in rural and urban areas with approximately 2,500 CSA's across the United States in 2010.²⁹ Members of a CSA pay a subscription fee at the beginning of the season and in return receive a specified number of shares. These shares can be weekly or monthly and in whatever quantity is agreed to. The typical CSA farm grows a variety of produce, but meat, grain and dairy operations have also adopted the CSA model of direct marketing.

With CSA's, farmers receive capital in advance of their growing costs and consumers receive farm-fresh products, frequently at lower prices than farmers' markets or farm stands. Inherent in the arrangement is the risk that the consumer is taking along with the farmer – if the weather or another unexpected incident ruins the crops, then both parties will equally have lost out. On the other hand, unexpected bounty will also be reaped by both. This marketing initiative puts the consumer in direct contact with the producer to build relationships. As CSA members frequently pick up their shares at the farm, it also helps introduce individuals and families to



daily life on the farm and increases their understanding of food production.

Two CSAs serve Del Norte County and Adjacent Tribal Lands. Ocean Air Farms, as described in the Food Production section, is located in Fort Dick. Just over the border in Oregon is OtterBee's Farm and Fungi that serves northern Del Norte communities (see Table 8 for details).

On-Site Farm Sales

One way to become more familiar with an agricultural operation and to acquire fresh and delicious foods is to purchase them directly on-site. While no farms in the area have a roadside farm stand set up for consumers, there are three that will sell products from their farm: eggs from Alexandre Kids and milk from Borges Creamery. Blueberry Hill Farms outside of Crescent City has U-pick blueberries in July and August (see Table 8 for details).

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%.³⁰ 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.³¹

Analysis shows spending dollars locally – on any goods and services – 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.”³² One wonders how many Easter Lily bulbs area residents need. What economic and agricultural impacts would a shift in food dollars make in the Del Norte County and Adjacent Tribal Lands area?

It is not within the scope of this report to determine what percent of the area's food is “local” or what is the capacity for eating more “locally,” though they are relevant questions. 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.”³³ Local food collaborators in the Sacramento area are aiming for that to shift to 10%. Such a goal may or may not develop in the DNATL area, but in the meantime food dollars spent at locally-owned food businesses and on locally grown foods will continue to build relationships and the economy one delicious bite at a time.

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Section 5

Community Demographics

The previous sections looked at the foods grown, processed and distributed throughout Del Norte County and Adjacent Tribal Lands. This section begins to look at the intersection between the foods and the consumers – who is buying and eating that food? Factors such as geography, ethnicity and income play a strong role in determining the foods individuals have access to, their preferred diets, and their need for food assistance services.

Poverty, food insecurity and other obstacles to food access are indicators that can show whether an area's agricultural production and food system are serving residents' needs. This section includes information from US census data, tribal census data and other state and national data sets.

The following list identifies research questions that are key to the topic of community demographics relating to food security. 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 people live in Del Norte County?
- What are the federally recognized Tribal Lands within and adjacent to the county?
- How many people live on the rancherias and reservations?
- What are local poverty rates compared to state poverty?
- How does poverty relate to food security?
- Where are the highest pockets of poverty within the area?
- What are household characteristics of poverty and food insecurity?

Research Questions Not Included

- What are exact rates of food insecurity for the DNATL area?

Geography and Brief History

Del Norte County is located on California's north coast and is officially designated as a nonmetropolitan, or rural county.¹ The largest population hub is Crescent City, with an urban service area of approximately 15,000 people. In 2010 the county had a population of 28,610.² Before the arrival and settlement of European descendants, the area contained numerous American Indian villages, particularly along the Klamath River and Pacific Coast.³ The two predominant tribes in the area were Yurok and Tolowa. Discovery of gold in the mid-1800's brought an influx of white settlers and had a devastating impact on the tribes due to disease, armed conflicts and forced relocations. While estimates of population are wide ranging and controversial, it is estimated that 50 – 90%^{4,5} of the Indian population died in California in the 19th Century, and the northern coast was no exception.

Today the sovereign nations of the Smith River and Elk Valley Rancherias (both Tolowa) lie within the Del Norte County borders, while the Resighini Rancheria and Yurok Reservation (both Yurok) extend into Humboldt County along the Klamath River. In this report the Yurok Reservation and Resighini Rancheria are often referred to as Adjacent Tribal Lands.

Table 9: Del Norte & Adjacent Tribal Lands: 2010 Population Race/Ethnicity

2010 Census Demographics	Del Norte County		Adjacent Tribal Lands (Census block group 060230101.022)		Del Norte County Plus Adjacent Tribal Lands	
	Number	Percent	Number	Percent	Number	Percent
Total Population	28,610	-	457	-	29,067	-
Population Reporting One Race	27,312	95.5%	437	95.6%	27,749	95.5%
White	21,098	73.7%	119	26.0%	21,217	73%
American Indian and Alaska Native	2,244	7.8%	311	68.1%	2,555	8.8%
Black or African American	993	3.5%	1	0.2%	994	3.4%
Asian	965	3.4%	3	0.7%	968	3.3%
Native Hawaiian and Other Pacific Islander	32	0.1%	0	0%	32	0.1%
Some Other Race	1,980	6.9%	3	0.7%	1,983	6.8%
Population Reporting Two or More Races	1,298	4.5%	20	4.4%	1,318	4.5%
American Indian and Alaska Native Population alone or in combination	3,118	10.9%	330	72.2%	3,448	11.9%
Hispanic/Latino (of any race)*	5,093	17.8%	59	12.9%	5,152	17.7%

*Hispanic/Latino origin may be of any race. Ethnic origin is considered to be a separate concept from race.

Data Sources: All data is from the U.S. Census, 2010. In order to obtain the numbers for the specific geographic areas online software from ESRI was used (www.esri.com/ba). Prepared by Jessica Van Aarsdale, MD, MPH Director of Health Research, CCRP.

Per Table 9, Del Norte County today is predominantly populated by Whites, at 73.7%. The second largest population group, representing 17.8%, is Latino by ethnicity, which can include any race. People of American Indian or Alaskan Native descent make up 10.9% of the county's population. This is in contrast to the tribal lands adjacent to the county, where 72.2% of the population is of American Indian descent.

The following statistics are about Del Norte County alone and relate to household and community

characteristics that influence healthy food access and food security. Some will be discussed in more detail on the following page, but, for example, car ownership is a key factor in rural areas regarding transportation to a grocery store or food pantry.

Table 10: Del Norte County Individual and Household Characteristics

Characteristics	Number (Percent)
Population, 18 yrs and over	22,271
Population, children	6,640
Population, 65 yrs and over	3,913
Total households	9,655
Family households with children under 18 yrs	2,405
Female householder, no husband present, with children under 18 yrs	881
Households receiving Supplemental Security Income (SSI)	930 (9.6%)
Households enrolled in CalFresh in last 12 months	1,184 (12.3%)
Households with no vehicles available	736 (7.6%)
Median household income	\$39,840
Mean household income	\$52,578
Percent of population over 25 yrs that has an associate's degree, bachelor's degree or higher	22.5%
Percent of population 16 years and over that is unemployed	8.6%

Source: U.S. Census Bureau, 2007-2009 American Community Survey. http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=05000US06015&-qr_name=ACS_2009_3YR_G00_DP3YR5&-context=adp&-ds_name=&-tree_id=3309&-lang=en&-redoLog=false&-format=

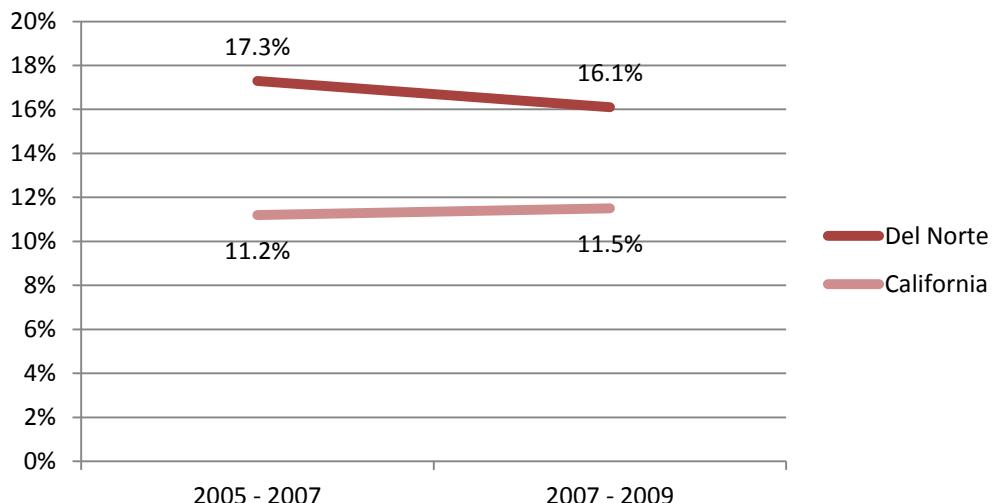


A new community garden

Population and Poverty

Both locally and nationally, poverty is the chief cause of food insecurity. Figure 11 shows Del Norte County poverty rates for adults. It was estimated in 2009 that individuals 18 years and over had a poverty rate of 16.1%, as compared to the California rate of 11.5%.⁶ Between 2007 and 2009 there was an improvement in the number of adults living in poverty.

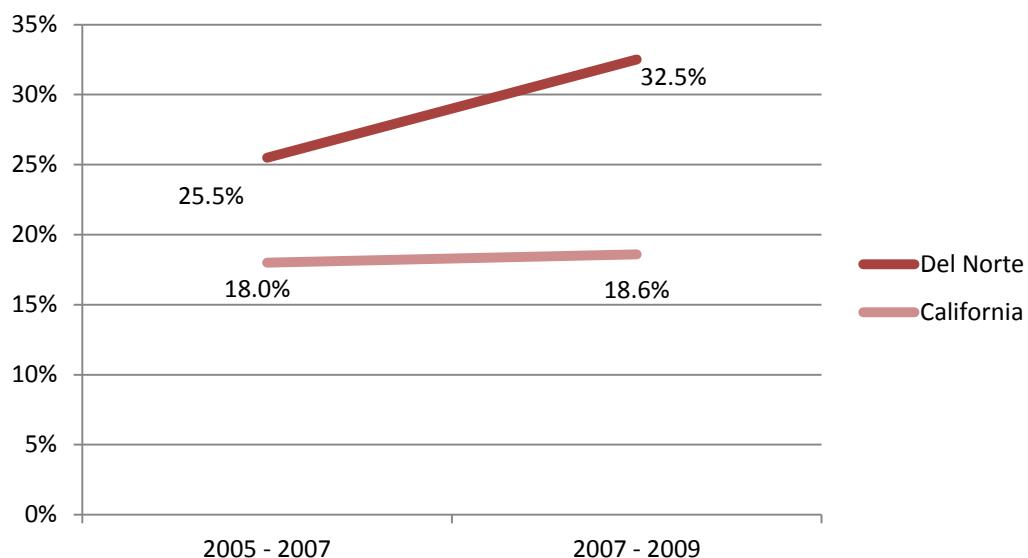
Figure 11: Percentage of Adults (18 years and over) Living in Poverty



Source: U.S. Census Bureau, American Community Survey. Selected Economic Characteristics: 2005 – 2007 and 2007 – 2009.

Showing a worrisome trend, it is estimated that poverty has increased from 25.5% in 2007 to 32.5% in 2009 for children under 18 years old (see Figure 12). The poverty rates for both time periods are significantly higher than the state rates of 18% in 2007 and 18.6% in 2009.⁷ In fact, Del Norte had the highest rate of child poverty estimated in 2009 out of all California counties.⁸

Figure 12: Percentage of Children (under 18 years) Living in Poverty

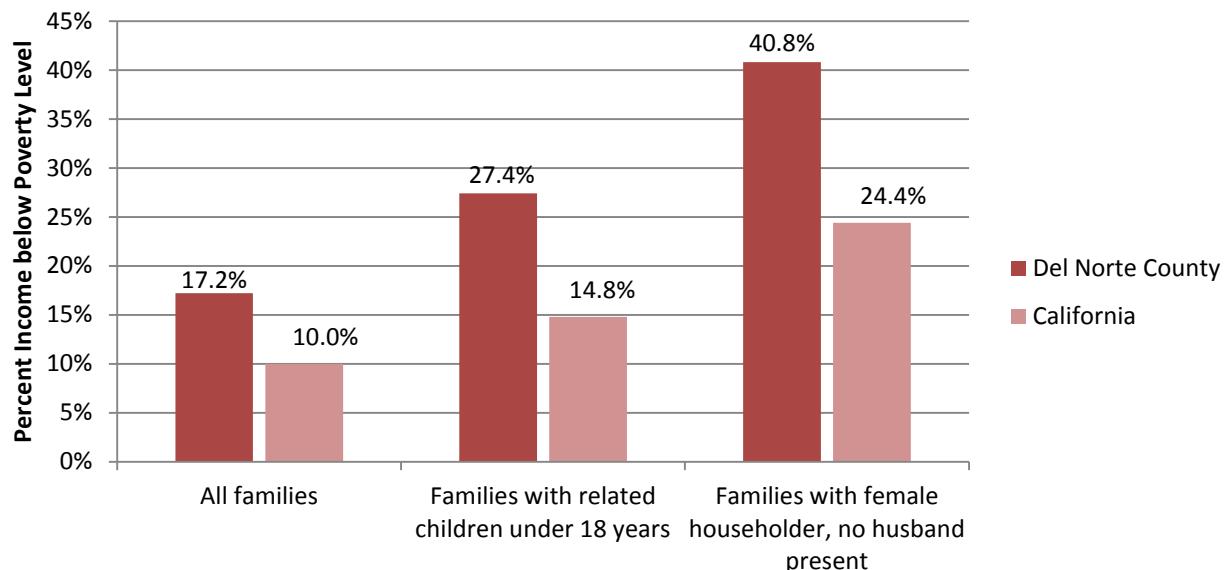


Source: U.S. Census Bureau, American Community Survey. Selected Economic Characteristics: 2005 – 2007 and 2007 – 2009.

Family structure also plays a role in poverty, as shown in Figure 13. A total of 17.2% of all families, or roughly 1,055 families, were estimated to be living in poverty in 2009. However, in the case of families with children under the age of 18, it is estimated that as many as 27.4% were poor.⁹ For families with younger children, the rate goes up even higher.

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 US. In addition, regarding families with young children, the federal poverty income level does not consider the cost of childcare in determining a family's basic needs expenses. The report states that 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.¹⁰

Figure 13: Percentage of families whose income in the past 12 months is below the poverty level.



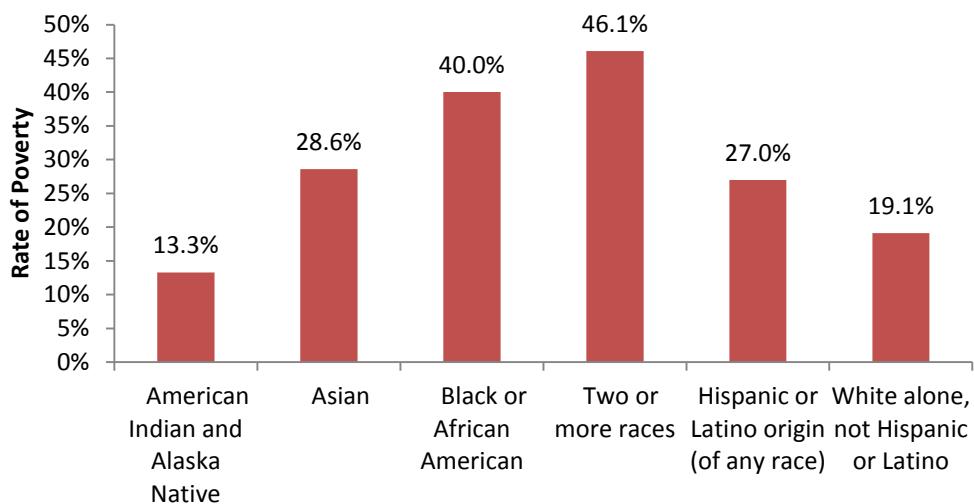
Source: U.S. Census Bureau, 2007-2009 American Community Survey. California and Del Norte County Selected Economic Characteristics.

Single parenthood is another factor that often puts families in poverty. Figure 13 above shows that single mothers in Del Norte County in 2009 faced a staggering 40.8% poverty rate. This is nearly double the state rate of 24.4%. Understanding these demographics helps to illuminate where food insecurity is likely to be and can direct organizations' outreach to individuals who are most in need of food assistance services.

Race, Ethnicity and Poverty

Compared to the overall poverty rate for the county (20.2%),¹¹ people of two or more races had more than double the rate at 46.1% (see Figure 14 below). Blacks have the second highest rate, at 40.0%, but due to the large margin of error* (as also for the Asian population) it is hard to know if this is an accurate estimate. American Indians reporting only one race have the lowest rate of poverty at only 13.3%.¹² This may be due to job opportunities provided by the casinos and tribal headquarter offices. However, many American Indians in the county are part of multi-racial families, so these two estimates – the lowest and the highest on the figure below – probably best represent the spectrum of poverty within the Indian community.

Figure 14: Poverty Rates by Race and Ethnicity, Del Norte County



Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-year Estimates.
Del Norte County, Poverty Status in the Past 12 Months.

Tribal Demographics

The Yurok Tribe has 2,793 individuals living in Del Norte and Humboldt counties, constituting 1,472 households. With 6,560 total members, it is the most populous tribe in California. Approximately 20%¹³ of the tribe's population lives on the Yurok Reservation, which straddles Del Norte and Humboldt counties and follows the Klamath River from where it is jointed by the Trinity River to where it meets the ocean. In 2011 there were 811 Yurok youth and 216 elders.¹⁴ Through participation in the TANF program at least 130 families with children in 2011 were living below 130% of poverty level, though the numbers are likely to be much greater.¹⁵ According to tribal data, as many as 40% of residents living on the reservation have no electricity,

* A margin of error represents the possible lowest and highest values. Due to the size of the population sampled, estimates may be very accurate (with a small margin of error), or less accurate (with a large one). In this case, the margin of error for Blacks was 28.7%, meaning the estimated poverty rate of 40% could be off by 28.7% in either direction (so poverty could be anywhere from 11.3–68.7%). As in the case of Asians in the graph above, the margin of error was also large at 20.4%, giving a true poverty range of 8.2–49%. All other races and ethnicities had proportionately smaller margins of error, so their estimated values are more accurate.

telephones, or internet service. High unemployment and poverty rates contribute to food insecurity both on and off the reservation.¹⁶ As of the 2000 Census, the upper Yurok Reservation had a 50 – 60% poverty rate.¹⁷ This was the area with the highest poverty rate out of all of Humboldt County.

Table 11: Yurok Census Data

Yurok Population in Humboldt and Del Norte counties	2,793
Population, 18 yrs and over	1,982
Population, children	811
Population, 65 yrs and over	216
Total households	1,472

Source: Krystel Patapoff. Enrollment Assistant, Yurok Tribe. Personal communication, June 14, 2011.

The Resighini Rancheria is located along the Klamath River, just west of Highway 101 on the river's south bank. It lies within the borders of Humboldt County and the more recently created Yurok Reservation. The rancheria was created in 1939 for landless American Indians of Humboldt and Del Norte counties.¹⁸ Current membership is 138 (79 adults and 59 children), though only about 100 live within the rancheria's service area of Del Norte and Humboldt counties.¹⁹ Members are of Yurok ancestry. More than 50% of the rancheria's members are low-income, and at least eight households with children, likely more, are living below 130% of the poverty line.²⁰

The Karuk tribe is largely located in eastern Humboldt and Siskiyou counties, but 68 tribal members reside in Del Norte County and make up 33 households. In 2011, 15 of these households were low-income (below 80% of the US Census Median Income).²¹

The Elk Valley and Smith River Tolowas are related, in some cases as close as first cousins. Elk Valley Rancheria is located in Crescent City and has 92 members, though most of them live out of the county or even the state.²² It is an aging population with many elders and only a dozen or so youth. Enrollment in the rancheria has not been open for several years. Demographic data such as poverty for rancheria members is not measured, but all members share a baseline income, as the profits made at the Elk Valley Casino are distributed per-capita to members quarterly.²³ This income, explains Brett Horton, Tribal Services Manager, is typically enough to keep individuals above the poverty line, and, he adds, most have additional income through their jobs.

Smith River Rancheria is in Northern Del Norte County only a few miles from the Oregon border. A concentration (nearly 1/3) of the rancheria's 1,453 members live in Del Norte County and Curry County, OR.²⁴ Roughly 285 members are under the age of 25, and approximately 65 of them are under the age of five.²⁵ The rancheria is the largest in California with 560 acres of land and a federally recognized service area of 6,947 square miles that includes Humboldt and Del Norte Counties in California and Coos,



Smith River Rancheria lands in Del Norte County.
Photo credit Forest James, 2010

Curry and Josephine Counties in Oregon.²⁶ The rancheria does not currently have a vital statistics position to measure such issues as income or child poverty rates, but hopes to in the future.²⁷

Food Insecurity

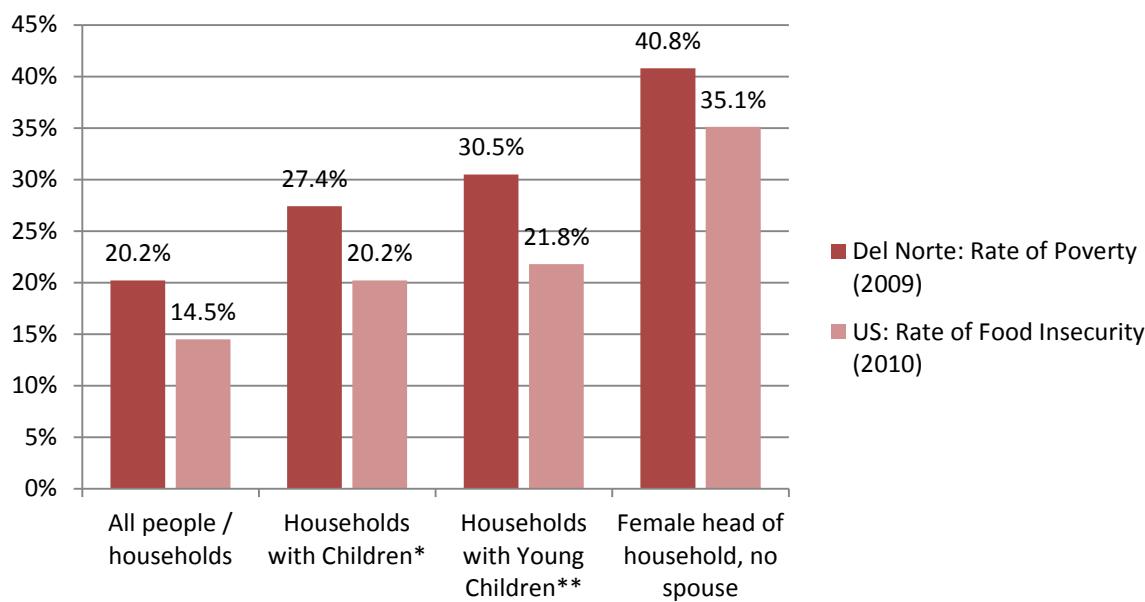
Food insecurity rates are surveyed annually by the federal government and reported for states and the nation. They are not, however, analyzed down to the county level.

The single factor most likely to make a household food insecure is to live below the poverty line. No other variable is as linked to food access as income. Nationally, in 2010, 40.2% of households living in poverty were found to be food insecure and for households earning just above that, at 130% of the poverty level, the rate of food insecurity was 37.6%.²⁸

The same household characteristics that have high rates of poverty in Del Norte County are associated with high rates of food insecurity across the country. For instance, nationally households with children have a 20.2% incidence of food insecurity versus households without children that only experienced an 11.7% incidence (see figure on page 9: Prevalence of Food Insecurity).²⁹ For further discussion of national food insecurity data, refer to the Topic Background at the beginning of this report (page 6).

The strong correlation between poverty and food insecurity, as well as between the household characteristics that are linked with both, demonstrates that poverty and household structure in communities can strongly indicate where food insecurity is occurring. Figure 15 below shows the way poverty and food insecurity are influenced by the same factors.

Figure 15: Household Characteristics and their Associated Rates of Poverty (Del Norte) and Food Insecurity (US)



* Children are individuals under 18 years for both Del Norte and US

** Young Children were measured as under 5 years of age for Del Norte County and under 6 for US

Sources: U.S. Census Bureau. 2007-2009 American Community Survey, 3-Year Estimates. Del Norte County, Selected Economic Characteristics. And, Coleman-Jensen, Alisha, Mark Nord, Margaret Andrews, and Steven Carlson. Household Food Security in the United States in 2010. ERR-125, U.S. Dept. of Agriculture, Econ. Res. Serv. September 2011. Table 2.

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 - 7 U.S. Census Bureau, American Community Survey. Selected Economic Characteristics: 2005 – 2007 and 2007 – 2009.
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 - 10 First 5 Association of California. Healthy Children Ready for School: The Impact of First 5 in California's Northwest Region. April 2009.
 - 11 U.S. Census Bureau, 2007-2009 American Community Survey. Selected Economic Characteristics.
 - 12 U.S. Census Bureau, 2006-2010 American Community Survey 5-year Estimates. Del Norte County, Poverty Status in the Past 12 Months.
 - 13 Yurok Tribe. Sharing Knowledge/Building Sovereignty: Traditional Foods in the Yurok Community. First Nations grant application, Dec 2011.
 - 14 Krystel Patapoff. Enrollment Assistant, Yurok Tribe. Personal communication June 14, 2011.
 - 15 Tela Robison. TANF Project Manager, Yurok Tribe. Personal communication June 17, 2011.
 - 16 Yurok Tribe. Sharing Knowledge/Building Sovereignty: Traditional Foods in the Yurok Community. First Nations grant application, Dec 2011.
 - 17 Summary File 3. U.S. Census Bureau, 2000 Census. <http://www.census.gov/census2000/sumfile3.html>. Accessed Dec 15, 2011.
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 - 20 Debbie, California Tribal TANF Partnership. Personal communication Nov 16, 2011.
 - 21 Marsha Jackson. Enrollment Census Specialist, Karuk Tribe. Personal communication June 14, 2011.
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 - 23 Ibid.
 - 24 Theresa Ferrer. Enrollment Specialist, Smith River Rancheria. Personal communication Dec 15, 2011.
 - 25 Smith River Rancheria: Head Start Community Assessment. 2010.
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 - 27 Dorothy Perry. Community and Family Services Director, Smith River Rancheria. Personal communication Dec 15, 2011.
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 - 29 Ibid.

Section 6

Food Access

This section reviews the various federal, state and local programs that are in place to help people with food security. The section also examines the availability of locally produced fresh and healthy foods, and ways that low-income consumers can access them. There is a wide range of food assistance programs in the community. Federal programs in particular bring millions of dollars into the local economy every year and account for a large portion of the food services provided.

The following list identifies research questions that are key to the topic of food access. 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 Covered:

- What food assistance programs are available to help people access food?
- How many people are participating in food assistance programs?
- How can low-income consumers purchase local foods?
- What is the role of education in improving food access?
- What are tribes doing to preserve their food traditions?
- Are fresh and healthy foods available at grocery stores throughout the area?

Research Questions Not Covered:

- What percent of food dollars are spent on local foods?
- What is known about food shopping patterns?
- Is there sufficient public transportation to grocery stores and food assistance sites?
- What are other food-related transportation needs?
- What are price differences at stores across the county (i.e. rural vs. urban)?

Food Assistance in the Community

As described in the previous chapter, thousands of Del Norte and Adjacent Tribal Land residents are low-income and at risk for food insecurity. Multiple programs, administered through many different organizations in the community, help bring foods to the tables of this population in need. Some of the biggest programs are federally run, while others are small, local efforts. All have their impact and offer different angles on addressing food insecurity.

Nationwide, 59% of all food-insecure households participated in one or more of the three largest federal food and nutrition assistance programs in 2010.¹ The three programs are 1) the Supplemental Nutrition Assistance Program (SNAP), serving on average 40.3 million people a month,² 2) the National School Lunch Program (NSLP), providing meals to more than 31.7 million children each school day,³ and 3) WIC, serving 9.17 million women, infants and children per month.⁴

The CalFresh Program

CalFresh is a federal food assistance program, known nationally as the Supplemental Nutrition Assistance Program (SNAP), but perhaps still recognized most under its former name, Food Stamps. CalFresh is administered by the United States Department of Agriculture (USDA) and more than 40 million Americans received monthly benefits in 2010.⁵ In May 2011, after increasing for 32 months in a row, the number of Americans receiving food stamps reached 45 million individuals – the highest number since the program's inception in 1939.⁶

The national average monthly benefit per person in 2010 was \$133.79.⁷ Eligible participants receive an EBT card (an acronym for Electronic Benefits Transfer, though in California it is now called the Golden State

Advantage card) with funds to purchase food at authorized food retailers and farmers' markets. Eligibility for participants is based on income (below 130% of poverty), household size, and assets.⁸ In California individuals on Supplemental Security Income (SSI) who receive State Supplemental Payment (SSP) or who are enrolled in the FDPIR program (described on page 50) are not allowed to sign up for CalFresh. In 2009 there were 28 CalFresh authorized food retailers in Del Norte County.⁹

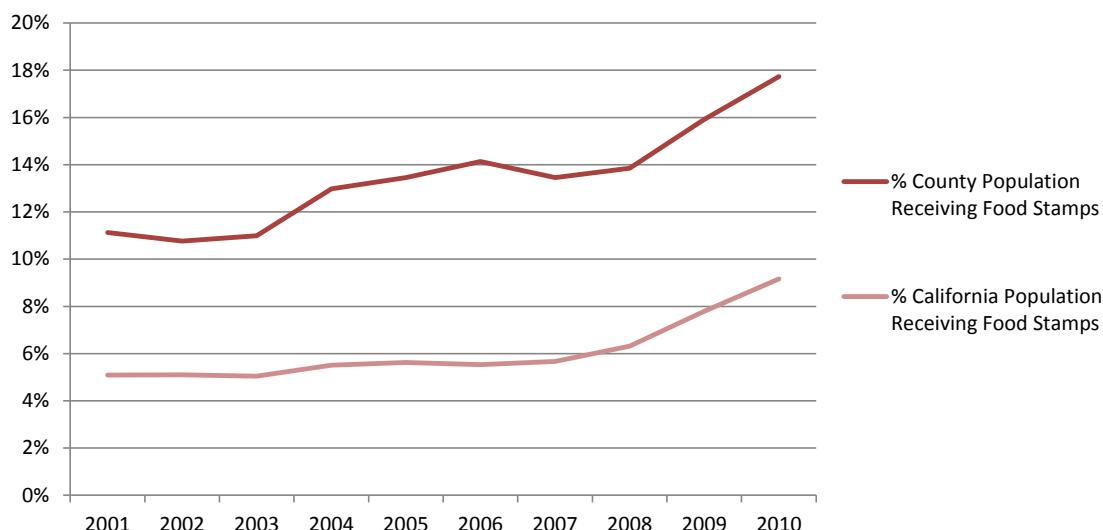
A non-profit organization, California Food Policy Advocates, has created a Program Access Index (PAI) that estimates CalFresh utilization among low-income individuals for each California county. Del Norte ranked first place out of 58 counties for the best CalFresh utilization rate. This was based on 2010 enrollment, the most recent year's data that has been analyzed and released. A high PAI means that the individuals who are eligible for CalFresh are participating and that counties are doing a good job of informing candidates and helping them to enroll (see Appendix 1).

Higher enrollment in the program means more assistance dollars circulating in the community. The California Food Policy Advocates state that if all eligible individuals in the county had participated in CalFresh in 2010, an additional estimated \$1.12 million in federal nutrition benefits would have entered the county.¹¹ Every CalFresh dollar spent brings money into the local economy and allows the individual to spend their own dollars on non-food items such as utilities, medications, rent, or transportation. The USDA calculates that every CalFresh dollar spent generates another \$1.79 of economic activity locally.¹²

CalFresh plays a crucial role in access to food for 5,073 low-income individuals in Del Norte County, amounting to 17.73% of the population.¹³ Table 16 shows the rise in program participation in the past nine years, with an increase of 15% between 2008-09 due to the onset of the economic recession. Enrollment continued to increase at a rate of 11% between 2009 and 2010. Dorothy Waddelow, Staff Analyst at the Department of Health and Human Services (DHHS) says that the agency conducts CalFresh outreach in a number of ways. They work with the hospital to enroll Medi-Cal patients and screen those applications for CalFresh eligibility. Similarly they work with the schools to cross reference students who are signed up for free meals through the National School Lunch Program, as they also meet the eligibility requirements for CalFresh.

CalFresh program staff do tabling at the Health Fair, the County Fair, Back to School nights and school Open House nights. After a tsunami hit in March of 2011, they teamed up with other agencies to make a 1-stop enrollment site for a variety of services. "We're a small area, so word of mouth is one of our better advertisements," says Dorothy. She also points out that once more people within the population are

Figure 16: CalFresh (Food Stamp) Enrollment, 2001 - 2010



Source: Del Norte DHHS. DFA 256, www.census.gov/popest/counties/tables

* PAI = $\frac{(\text{CalFresh Participants}) - (\text{Disaster CalFresh Recipients})}{(\text{Individuals with Income} < 125\% \text{ FPG}) - (\text{FDPIR Participants}) - (\text{SSI Recipients})}$

participating, stigma is less of a barrier.

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 provides supplemental foods, health care referrals, nutrition education and referrals to other welfare social services. WIC serves low-income pregnant and postpartum women as well as infants and children up through five years of age. Retail stores need to be authorized in order for them to accept WIC, of which there are roughly 47,000 in the United States. Currently WIC serves 53%¹⁴ of all infants born in the United States and 60%¹⁵ of infants in California. In some states WIC has implemented an EBT card similar to CalFresh for ease of use and less stigma for users. In Del Norte County there were five WIC authorized food retailers in 2009.¹⁶



WIC is administered in Del Norte County and Adjacent Tribal Lands (DNATL) by two agencies: United Indian Health Services (UIHS) and Humboldt County Department of Health and Human Services (Humboldt DHHS). UIHS has three clinic sites where eligible women and children can enroll: Crescent City (serving 60), Klamath (serving 29)

and Smith River (serving 14).¹⁷ In 2011 UIHS served a total of 103 WIC clients in Del Norte County, but also serves upriver Yuroks living near Weitchpec at its Hoopa clinic in Humboldt County, as it is the closest clinic to them. Barbara Bishop, WIC Supervisor at UIHS, says the average amount a client receives each month is \$70. When asked how the costs breakdown she explained that breastfeeding moms need the greatest amount of food, but infants using formula are actually the most expensive participants, reaching more than \$100/month in benefits.¹⁸

Humboldt DHHS has one WIC enrollment site in Crescent City. WIC participation has stayed relatively stable in recent months, though it has incrementally gone up over the past five years.¹⁹ For most of 2011 there was an average of 1,145 clients served each month, with the highest number of clients (1,172) served in February.²⁰ The majority of participants, at nearly 75%, are infants and children. Mothers are not eligible after 12 months post-partum, but children can stay with the program until they turn five years old. Linda Sinclair, who leads the office in Crescent City, said that the need for WIC's assistance is typically higher in the summer, when school breakfast and lunch programs are not available for older children in the family.

Free and Reduced Lunch Program

The National School Lunch Program (NSLP), also often referred to as Free and Reduced Lunch program, 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 dietary guidelines. Nationally the program is available at more than 101,000 non-profit private, public and residential school programs, serving more than 31 million children each day of school in 2010.²¹ Children who qualify for free meals have a family income below 130% of the poverty level, those who qualify for reduced-price meals have an income between 130 – 185% of poverty level, and students above 185% poverty level are able to purchase a NSLP meal.²²



Since NSLP eligibility is similar to CalFresh, in the Del Norte School District outreach materials are shared with NSLP families to also inform them of their potential CalFresh eligibility (see Appendix 2).

The USDA dietary standards require that no more than 30% of the lunch's calories come from fat and less than 10% from saturated fat. In addition school lunches each need to provide one-third of the recommended daily allowance (RDA) of protein, vitamins A and C, iron, calcium and total calories. As part of the Healthy, Hunger-Free Kids Act of 2010 signed into law by President Obama, new meal standards were proposed in January of 2011. The changes called for decreased amounts of starchy vegetables (i.e. potatoes), reducing sodium, increasing whole grains, minimizing trans fats, and established calorie maximums and minimums.²³ However, the improvements have met with a backlash in Congress as Senators and Representatives from potato-growing states and others with similar interests have passed measures to undo several of the changes.²⁴

Schools that participate in NSLP receive cash reimbursement for each meal served and are given "entitlement" food from USDA commodities. Many school districts then pay private food processors to turn the raw products – chicken, apples, potatoes – into meal items such as chicken nuggets, fruit pastries and French fries. Since 2006 there's been a 50% increase in the amount of commodity foods sent out for processing.²⁵ Through an arrangement between the USDA and the Department of Defense (DoD), the DoD pays for the fresh produce that is part of the school meals.²⁶ Therefore when schools pursue Farm-to-School purchases with local farmers, the funds are channeled from the DoD. For the 2011-12 school year, reimbursement rates are as follows:

Free lunches	Reduced-price lunches	Paid lunches
\$2.77	\$2.37	\$0.26
Free snacks	Reduced-price snacks	Paid snacks
\$0.76	\$0.38	\$0.07

Source: National School Lunch Program Fact Sheet. USDA. October 2011.

According to a county profile put out by the California Food Policy Advocates, in the 2008-09 school year, 1,398 students county-wide ate free or reduced school lunches. However, another 954 were eligible, meaning that 59% of students who qualified partook of the NSLP program. The California Food Policy Advocates ranked counties according to their participation rates and Del Norte compared poorly, ranking 55th worst out of California's 58 counties.²⁷ In conducting new calculations for the data below, research found that for the 2011-12 school year, a total of 1,523 students were receiving free and reduced meals through NSLP. Overall utilization by eligible students has improved, as the participation rate is now 61.1%

In Del Norte County there are 16 schools ranging from K – 12th grade. Two are at juvenile detention centers (which provide lunches but not through NSLP). The Community Day schools (K-6 and 7-12) are continuation schools with highly fluctuating enrollment, so they are combined as one school in Table 12. NSLP participation data was analyzed for 13 schools.

For the school year 2011-12 the following table shows the number of students qualifying for Free and Reduced lunches at each school, as well as the percentage of students qualifying for the program who are using it. Table 12 below is arranged by highest lunch participation (of percent eligible students) down to the lowest.

Table 12: Free and Reduced Lunch Program Enrollment for Del Norte Unified School District

School	Total School Enrollment 2011-2012	# Children Qual for Free & Reduced Lunch	% Qual for Free & Reduced Lunch	2011 - 2012 % Participating of those who Qualify
Bess Maxwell Elem.	281	239	85.1%	83.2%
Joe Hamilton Elem.	298	274	91.9%	83.2%
Margaret Keating Elem.	94	84	89.4%	73.4%
Smith River K-8	246	210	85.4%	70.3%
Pine Grove Elem.	224	162	72.3%	68.9%
Mountain Elem.	21	13	61.9%	67.0%
Crescent Elk Mdl School	567	381	67.2%	65.0%
Mary Peacock Elem.	374	231	61.8%	54.3%
Redwood K-8	502	243	48.4%	51.9%
Community Day K-12	12	11	91.7%	51.3%
Sunset High School	62	52	83.9%	42.1%
McCarthy 7-12	21	20	95.2%	40.9%
Del Norte High School	1051	571	54.3%	40.2%

Sources: Del Norte Unified School District lunch participation and CA Department of Education, Free & Reduced Meal Claims. Created by D. Stubblefield and D. Kravitz.

Bess Maxwell and Joe Hamilton schools tie for the highest participation of eligible students. A participation rate of 83.2% is very strong, and very important. This means that, for example, out of the 274 children at Joe Hamilton who qualify for food assistance, about 228 of them are getting it.

Table 12 also shows which school populations have the highest poverty rates through the “% Qualified for Free and Reduced Lunch” column. The two highest are Joe Hamilton and McCarthy. In contrast to Joe Hamilton’s high rate of NSLP participation, McCarthy has one of the worst rates at 40.9%. Of the 20 children who are eligible for food assistance, about eight are receiving it. The two schools serve different ages, however so this isn’t surprising – it is typical for participation to go down as student age goes up. This is frequently the case because high schools offer students “open campus” at lunch – this means fewer of the youth use the cafeteria as a place to dine, there may be more social stigma associated with eating on campus, and eating out with friends becomes an important social event.

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 NSLP. Schools must serve breakfast that is free or at a discounted price to students that are eligible. DNUSD offers universal breakfast for their K – 8th grade students, meaning that regardless of income, students can have a breakfast for free.²⁸ In 2008-09 there were 891 students eating free breakfasts, a high fraction of the students eligible, causing the county to be ranked 2nd best out of all California counties for SBP participation.²⁹

In 2012 the Del Norte Unified School District is beginning an analysis of their school breakfast program. They will be looking at the popularity of various meal options and examining other factors that impact breakfast participation: school start times, grade levels served, and morning bus schedules.

Emergency Food Assistance Program

The Emergency Food Assistance Program (known as TEFAP at the federal level, EFAP in California and several other states), is a federal program that distributes commodity foods to low-income families. Commodity foods range from A (almond butter) to W (rolled wheat) and include 140 items.³⁰ They are purchased by the USDA

Food and Nutrition Service for EFAP and the many other food assistance programs that the agency oversees (including school and senior meals). States then administer the program, sending the food on to a network of local agencies, typically a food bank in each county. The food banks work with their local food pantries to provide the food to eligible individuals and families.

Rural Human Services (RHS) runs the Food Bank for Del Norte County. They are an independent non-profit that has been working in Del Norte County and its neighboring communities since 1981. The organization offers programs and services in the areas of natural resources, workforce development and emergency assistance.³¹ Through EFAP they provide more than 625 households with boxes of commodity goods at five distribution sites (see Table 13 below). Individuals are able to receive commodity boxes once per month. Eligibility criteria allow one person to earn up to \$16,335 a year, but Ron Phillips, RHS Special Projects Coordinator who manages the commodity box distribution, estimates that 98% of their clients fall well below the maximum earnings. He noted that he is, however, seeing more and more people who are recently unemployed and from the middle class. He estimates that the demand for food bank services was up about 10% in 2011 over what it was in 2010.³²

In addition to the commodities that he orders from the government, Ron uses grant funds to purchase supplemental foods. On a recent day the state delivered 444 1-lb packages of ground beef to him – not an easy number to allocate equally to 625 households! Grant funds allowed him to purchase enough ground beef to provide 1-lb packages to everyone, and then he bought spaghetti and sauce to go with it to create a full meal. The food bank's resources are also supplemented each year by the Boy Scouts, the Postal Service and Sutter Coast Hospital who each organize a food drive.³³

RHS also pre-bags foods that meet the needs of homeless individuals who do not have access to kitchens, refrigerators, stoves/ovens or utensils. Bags are separated as “hot” for those who can heat or cook items, and “cold” for those who can’t. Some are crafted to meet a variety of limitations, such as pop top cans in bags for people who do not even have a can opener.

Table 13: RHS Food Bank Distribution Schedule

Distribution is the 2nd full week of each month, from 8:00 a.m. – 12:00 p.m. Picture ID and income verification is required at all sites in order to participate.

Location	Day of Week	Address
Crescent City		
Lighthouse Community Church	Tuesday	2455 Oliver Avenue, Crescent City
Rural Human Services*	Thursday	286 M Street, Crescent City
Veteran's Hall	Wednesday	810 H Street, Crescent City
Klamath		
Klamath Community Center	Tuesday	120 Salmon Avenue, Klamath
Smith River		
Smith River Methodist Church	Wednesday	140 Beckstead Avenue, Smith River
* At the Rural Human Services site emergency food boxes may also be obtained once every four months on Mondays and Thursdays, 9:00 – 11:30a.m. and 1:30 – 4:30p.m.		
Source: Emergency Services. Rural Human Services. http://www.ruralhumanservices.com/id17.html . Accessed Oct 25, 2011.		

Commodity Supplemental Food Programs

Commodity Supplemental Food Programs (CSFP) works to improve the health of eligible low-income individuals by supplementing their diets with USDA commodity foods. The federal government provides food and administrative funds to States who then work with local agencies to supplement the diets of the following groups: pregnant and breastfeeding women, other new mothers up to one year postpartum, infants, children up to age six, and elderly people at least 60 years of age.³⁴

Locally CSFP is administered by Community Assistance Network, best known as CAN. CAN is a private faith-based non-profit working on workforce development and food assistance in Del Norte County since 1995.³⁵

CAN provides approximately 130 individuals with CSFP boxes each month, distributing a total of 1,544 boxes in 2010. The commodity boxes come pre-packed, tailored and labeled for the type of individual that will receive them, for instance “nursing mom” or “toddler.” They contain enough foods to offer supplemental nutrition that would last several weeks to a month. The boxes are distributed at three sites in the county: Klamath, Smith River and the Senior Center in Crescent City (see Table 14 below).³⁶

Table 14: CAN Commodity Program Distribution Schedule

Location	Time & Day of Week	Address
Del Norte Senior Center, Crescent City	1:00 – 3:00 pm 4 th Tuesday	1765 Northcrest Dr. Crescent City
Community and Family Services, Smith River	1:00 – 2:00 pm 4 th Wednesdays	110 W. 1 st St. Smith River
United Methodist Church, Klamath	1:00 – 3:00 pm 4 th Thursday	126 Redwood Dr. Klamath

Source: Angela Glore. Director of Food Programs, Community Assistance Network. Personal communication Jan 4, 2011.

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. Nationally 271 tribes receive benefits through the program. 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 2010, an average of 84,609 tribal members participated monthly in FDPIR across the United States.³⁷

In the DNATL area, the Food Distribution Program is administered by the Yurok Tribe’s Social Services Department. The USDA ships the commodity foods to a warehouse in Crescent City where Social Services staff further divide and box them per client order for distribution. The Food Distribution Program serves about 550 – 575 individuals every month from all of the tribes in the area. As many as 245 households are certified, with 190 participating. The majority of participants pick up their boxes from the warehouse, but roughly 18 households living on the most remote part of the Yurok Reservation along Rt. 169 between Weitchpec and Johnson receive boxes distributed at 4-6 drop off sites.³⁸ Chris Peters, the Food Distribution Program Coordinator, is very knowledgeable about tribal food traditions and incorporates cultural foods, such as salmon, into the food boxes when able.³⁹

Elder Nutrition / Title VI of the Older Americans Act

The Elder Nutrition Program is a federal grants program offered through the US Department of Health and Human Services, Administration on Aging to eligible Indian tribal organizations.⁴⁰ The funding was created after the Older Americans Act of 1965 to offer comparable services to those provided under Title III to US states and territories. The program aims to:

- Reduce food insecurity in tribal elders
- Promote socialization and shared meals
- Improve the health and well-being of older individuals through better nutrition and access to other health promotion services.⁴¹

United Indian Health Services (UIHS) offers two Elder Nutrition programs for the region.⁴² To be eligible, elders must be 55 years old and an American Indian. In the Klamath/Resighini Rancheria area, home-delivered meals are provided five days a week. The second UIHS Elder Nutrition site is at Howonquet Hall on the Smith River Rancheria. Hot congregate meals are available at noon on Monday – Friday. There is also a home delivery option serving elders in Smith River, Fort Dick and Crescent City for those who are not physically able

to make it to the meal site.

The average number of elders at Howonquet's daily congregate meal is anywhere from 4-12, though sometimes can reach much larger.⁴³ Participants are requested to pay what they're able on a sliding scale from \$0-2, and the cost is \$7 for guests. "It's a much needed program, and we want people to know about it so they can use it," says Beverly Switzler, Head Cook and Temporary Site Supervisor. The group meals offer an important time for socializing and help the community stay connected.

Unserved food is made into ready-to-go plates, then sealed and frozen to go out as part of the home-delivery program. Delivery drivers distribute meals between 11:00am – 3:00pm and often help the home-bound elders with other tasks during visits, such as making them a cup of tea, setting out their silverware, mailing a letter or picking up their groceries.⁴⁴ "Sometimes you're the only contact they have all day," says Gaylene Mendiola, an on-call worker who has worked in the kitchen and as a driver. There are approximately 110 elders served through the home delivery program, with a waiting list of several more.⁴⁵

Beverly also tries to provide traditional foods throughout the year for the elders, an aim that is even written into the Title VI Program. Every day the hot lunch is served with "Indian tea," and Beverly will make elk stew and salmon each a couple of times a year.⁴⁶ Due to federal regulations protecting against health risks, though, she can only accept foods from approved sources. Not just anyone, for example, who has caught a salmon can bring it in to her – in this case luckily the Yurok Tribe has become an approved source. After sources are approved, all menus then need to be passed through a dietitian before they can be served. These logistics make it difficult for more traditional foods – which are less likely to be offered by pre-approved food vendors and more likely to come in at unexpected times through community members – to be incorporated into the menu. Further research analyzing the nutritional value of popular traditional foods may help them to be included more readily into federally regulated programs.⁴⁷

Table 15: Senior / Elder Meals in Del Norte and Adjacent Tribal Lands

Organization	Congregate Meals	Congregate Location	Home Delivered Meals	Contact Information
United Indian Health Services	Mon – Fri 12:00 – 1:00	Howonquet Hall Smith River Ranch. 101 Indian Court Smith River	Serving: Klamath, Resighini Mon – Fri.	707-482-2181
			Serving: Smith River, Fort Dick, Crescent City Mon – Fri; Weekends as needed.	707-487-4463
Del Norte Senior Center	Mon – Fri 11:30 – 12:30	Senior Center 1765 Northcrest Dr. Crescent City	Serving: Crescent City, Fort Dick, Klamath and Smith River Mon – Fri; Weekends as needed.	707-464-3069

Senior Meals / Title III of the Older Americans Act

The Nutrition Services Incentive Program (NSIP) is a USDA program administered by Area Agencies on Aging and Tribal organizations that are working under Title III and Title VI to provide congregate meals or deliver meals to older adults.⁴⁸ The USDA provides funds to buy food or provides USDA commodity foods to be used for the preparation of congregate or delivered meals. This program plays an important role in food access for older adults.

Del Norte Senior Center has been providing meals for seniors since 1973. They offer delivered meals for homebound or disabled seniors, and a congregate meal for all others. In 2010 an average of 1,617 meals were served hot on site and 1,382 meals were delivered to seniors in their homes.⁴⁹

The congregate meals are provided at the Senior Center in Crescent City on Mondays through Fridays from 11:30 – 12:30. Approximately 85 to 100 people come for the meals, ranging in age from their 50's to 90's. The price of the meal is \$5 for individuals 59 years and under and for seniors 60 years and over there is a suggested

donation of \$3.00.⁵⁰ Kathy Labrucherie, who works with the Seniors, says, “A lot of people can’t afford to pay, but we want to make sure they’re fed.” The congregate meals include a salad bar, hot entree and some kind of entertainment.

Equally important to the nutrition of the meals is the value of the socializing – weather it is “Birthday Friday” at the end of each month, a live band or some type of activity. “It’s really fun for them,” says Kathy. The bus route that used to serve the Senior Center was cut, but clients are still making their way there by finding rides with friends or using Dial-a-Ride. Other groups have helped with providing free Dial-a-Ride passes to seniors who otherwise wouldn’t be able to afford the transportation service.⁵¹

Home delivery meals are also available Monday through Friday, serving an average of 70 people a day. They are available to seniors 60 years and over who have trouble preparing their own meals or are homebound. There is no income requirement for eligibility, but similar to the congregate meal, there is a suggested donation of \$3.00. This includes individuals just released from a convalescent home or hospital who might be temporarily homebound. The program also serves adult children with disabilities who are dependents of the senior, and also can help provide relief when there are caretakers who are feeling burned out and need help with one meal a day. There are about 25 clients who need weekend meals, so the Senior Center provides a frozen meal for Saturday and Sunday with simple re-heating instructions, along with extra fruit and milk.⁵²

The home delivery program serves most of the county including Crescent City, Fort Dick, Klamath and Smith River. “Most of our service area is rural, so we go down a lot of back roads and small lanes,” says Tracy Lawson, the Home Delivered Meals Coordinator. The only area they currently aren’t reaching is Hiouchi / Gasquet out Rt. 199 but they hope to in the near future.⁵³

Local Food Assistance Programs

While federal programs represent millions of dollars’ worth of food assistance that comes into the county and adjacent tribal lands, they are only part of the support system for food insecure households. Local organizations oversee the distribution of those programs, as described above, and also run several locally sourced ones as well. In the form of food or cash, donations from throughout the area’s stores, organizations and individuals generously support local food security efforts. Below outlines some of these local programs and the organizations that run them.

Community Assistance Network

Aside from administering CSFP, CAN also offers a smaller monthly Food Box. Roughly 822 families every month pick up Food Boxes, each containing approximately 48 hours’ worth of food. The Food Boxes are funded by direct donations and contain items that are picked up through CAN’s food salvage program (for example day-old baked goods or items close to their expiration date from grocery stores) and from their new produce gleaning program.

Boxes are packed according to family size and client food preferences. CAN would like to include more healthy offerings in the boxes. Angela Glore, Director of Food Programs, says, “There is never enough produce to provide what people would like. Sometimes we’re able to divide it equally, though sparsely, between all of the boxes, and other times there isn’t even enough to go around.”⁵⁴

Individuals pick up their Food Boxes at CAN’s headquarters, which is more than three miles away from downtown Crescent City. Many people ride their bike from town or take the bus. Luckily, two bus lines include CAN as a stop on their route, helping the low-income community with food access. Others have their own vehicle or get rides from friends, neighbors or family. In general, participation is at its lowest during extremely wet weather.

CAN has also been part of a collaboration called the WE Workgroup (for weakening economy) of local agencies that aim to target the gaps in services for food insecure individuals and families. One of their innovative ideas was a mobile pantry with kid-friendly food to send kids home with a meal before summer vacation and other breaks. It went to school campuses, day camps, the Family Resource Center and the Boys and Girls Club.⁵⁵



Youth volunteer to pack food boxes at CAN's warehouse

Rural Human Services

Aside from the EFAP program described above, RHS sponsors several other food programs. Tailgate Food Distribution brings fresh produce gleaned in California's Central Valley and other agricultural areas to Crescent City once a month, May through October. There are no eligibility requirements and the produce is free to anyone who comes to the event. Sites and hours vary from year to year. In 2009 the Tailgate Food Distributions delivered 65,000 pounds of produce to more than 1,500 individuals.⁵⁶ In 2011 the May delivery wasn't available, but demand was up with roughly 325 people at each Tailgate from June to October. A total of 57,147 pounds of produce were donated to 1,621 people.⁵⁷

During the holidays, Holiday Food Baskets are available from RHS's main office in Crescent City. They provide all of the components of a holiday meal and are put together through local donations and food drives.⁵

Tribal Food Assistance Programs

Aside from referrals to many of the programs and resources mentioned above, the tribes offer special food assistance to their members. For example, the Elk Valley Rancheria has hosted several Elder dinners and lunches – where elders are hosted for free, but all members are invited to attend. They are hoping to start doing them more frequently.⁵⁹ Some of the times for Elder dinners are California Native American Day and during National Native American Month. The Resighini Rancheria sends \$50 grocery store gift certificates to their members in November for them to be able to purchase a Thanksgiving meal.⁶⁰

As part of the Smith River tribal services, emergency food vouchers (up to \$50) are available for families who have sudden, unexpected events that cause them to have a food shortage.⁶¹ The Yurok Tribe offers the same assistance to its members, though funds are generally available only through the winter months before they are used up. For special cases related to the placement of foster children or due to domestic violence, separate funds are available to help those families throughout the year.⁶²

Annually the Yurok Tribe allocates a portion of the salmon harvest to its elders. In addition, the salmon that are seized every year due to illegal fishing also go to the elders. The fish are either delivered fresh and whole, or are filleted, vacuum sealed and frozen. If a batch of the frozen fish builds up, they are smoked and canned for longer shelf life and easier delivery. The salmon are also distributed through the Social Services Department's Food Distribution Program (FDPIR explained above).⁶³

Other Local Food Services

St. Vincent de Paul also offers emergency food boxes. They contain 3-4 days' worth of food and are available every three months. Individuals need to bring a California state identification card or driver's license, a social security card, and income verification. The foods are all shelf-stable, so mostly canned, but include breakfast items, fruits, vegetables and meats. For individuals who aren't able to prepare and cook meals, boxes are also available with ready-to-go foods, such as stews and soups. St. Vincent's is located at 1440 Parkway Dr, Crescent City and the emergency food boxes are available Monday-Fridays 10:00am – 1:00pm.⁶⁴

Making the Connection with Local Foods

The healthiest foods are often the freshest ones. Kids who won't touch green beans out of a can frequently LOVE ones that come out of a garden they have tended or a farm they have visited. However, it is difficult for individuals relying on food assistance programs like the ones named above to also participate in the local food system. There are several direct market alternatives such as farmers' markets, on-farm sales, and community supported agriculture (CSA) subscriptions. The remainder of this section will look at ways consumers – of all incomes – can access the local foods that are offered in Del Norte County and Adjacent Tribal Lands.



Market Match at the Farmers' Market

In 2010 the Crescent City Saturday market began accepting

Crescent City Farmers' Market: Shoppers and EBT Promotion

A survey conducted by CAN at the Crescent City Farmers' Market gives insights regarding shoppers and promotion for EBT use at the market.*

Three surveys were conducted during the market season: at the initial market, midway, and at one of the last markets. Overall, consumers report that they expect to spend \$11-20 at the market and visit between 2-7 vendors. The majority of shoppers come on a weekly basis, and most are looking for produce. The vast majority of customers drove to the market, with only a marginal percentage indicating that they walked or rode a bike. Most traveled less than 5 miles to reach the market (75%), and only 4% came more than 30 miles.

In regards to their purchases, 6% of surveyed customers responded that they would be using EBT benefits at the initial market, and 5% at the October one. Awareness of EBT use at the market improved over the length of the season, with 38% respondents indicating that they had heard EBT promotions at the initial and midway surveys, growing to 57% having heard them by the final one. The promotion source that was observed by most was the TriPLICATE, followed by radio and internet as the three most popular sources.

EBT and 'Market Match' Utilization at Crescent City Farmers' Market, June – November 2011

Month	EBT Benefits	Market Match
June	\$149	\$20
July	\$675	\$215
August	\$671	\$450
September	\$1,230	\$340
October	\$1,307	\$280
November	\$510	\$105
TOTAL	\$4,542	\$1,410

Source: Ron Phillips. Market Manager, Rural Human Services.

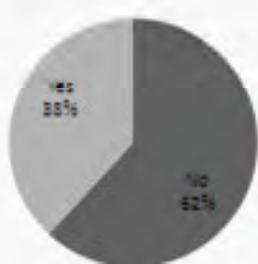
FINAL FARMER'S MARKET REPORT

EBT Promotion per customer



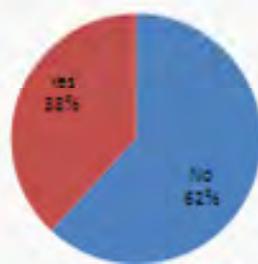
Initial

% of individuals that heard EBT promotion



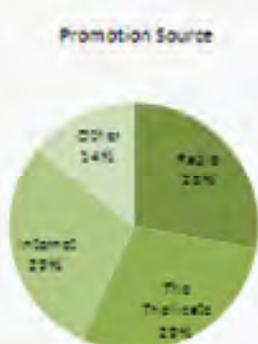
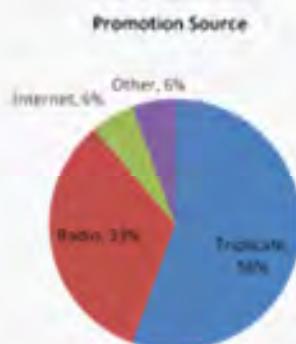
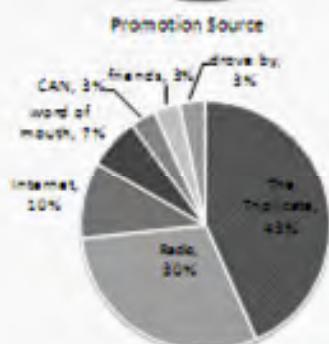
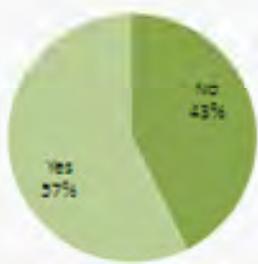
Midway

% of individuals that heard EBT promotion



Final

% of individuals that heard EBT promotion



CalFresh (via EBT cards that work like credit cards) for approved foods such as herbs, eggs, meat, produce and vegetable garden starts. Manager Ron Phillips of Rural Human Services says that in the first month, June of 2010, there were no CalFresh sales, but by July the word had gotten out and at the end of the season a total of \$1,561 in CalFresh benefits had been used at the farmers' market.⁶⁵

Utilizing CalFresh benefits at the farmers' market is a win-win situation. Consumers win with health as it assists low-income individuals and families in accessing fresh and nutritious foods. Farmers win, as the transactions bring federal money to the local economy and put it directly in their pockets. California has more than 110 farmers' markets with more than 200 locations that welcome CalFresh customers.⁶⁶ California Department of Social Services statistics show that CalFresh redemption at farmers' markets has risen from \$633,926 in 2008, to \$3.6 million in 2010 – a more than fivefold increase.⁶⁷

In 2011 the Crescent City Saturday Farmers' Market broadly advertised its ability to accept CalFresh and even had funds to provide CalFresh users with a Market Match. With a gift of \$2,000 in funds from Sutter Coast Hospital, the market manager's booth was able to offer an additional \$5 in market tokens when CalFresh users swiped their EBT card for \$10. In other words, for \$10 of their CalFresh benefits used, shoppers were able to purchase \$15 worth of farmers' market produce.

The additional advertising and outreach to spread the word to CalFresh participants was made possible from a grant collaboration between Rural Human Services and Community Assistance Network. Del Norte Department of Health and Human Services, which administers CalFresh, cooperated closely with the organizations, handing out brochures and flyers about the farmers' market programs to all newly enrolled and renewing CalFresh participants.⁶⁸ The wet spring limited the number of vendors and the selection of produce early in the season, but by the end of the market \$4,542 in CalFresh benefits had been used.⁶⁹ Of the \$2,000 Market Match provided by the hospital, \$1,410 was used. Organizers are hoping that next year they can continue the matching program and use all of the funds. CAN conducted a survey of farmers' market shoppers to help inform outreach in following years (see Text Box on page 54).

Farmers' Market Nutrition Program (FMNP)

The FMNP is part of the WIC program. It was established in 1992 to provide WIC participants with access to fresh, unprepared, locally grown fruits and vegetables. In addition, the FMNP coupons were developed to expand the awareness, use of, and sales at farmers' markets and roadside stands.⁷⁰ Nationally in 2010, 18,245 farmers, at farmers' markets and farmstands, were authorized to accept FMNP coupons and redeemed more than \$15.7 million in revenue.⁷¹

In DNATL there were relatively few FMNP coupons to go around. Humboldt DHHS received 600 booklets worth \$20 each to allocate between the two counties it serves, but the majority went to Humboldt where there are twice as many WIC clients. 115 were distributed by the Crescent City WIC office, though demand was much greater. Linda Sinclair, who handed the booklets out, said that clients who received them in prior years before began calling in May to ask about them. They were not available until June, and by the end of the month they were all out.⁷²



UIHS found in the past that WIC participants at their Del Norte sites weren't using their FMNP coupons – with only two farmers' markets, clients felt the selection of items they could purchase with them was limited. Instead UIHS is providing WIC households with "Veggie Bags" – bags containing at least \$10 worth of fresh organic produce grown at the UIHS Potowot community garden. Every WIC household receives a bag annually between July and the end of September.⁷³

Senior Farmers' Market Nutrition Program (SFMNP)

In California, the SFMNP runs May through November and is administered throughout the counties by their affiliated Area Agency on Aging. Debbie Krzesni, Consultant Dietician at Area 1 Agency on Aging, is the administrator for Humboldt and Del Norte Counties. In 2011 there were 45 coupon booklets that got distributed

through the Del Norte Senior Center. Each booklet contains 10 coupons worth \$2, making a \$20 value.⁷⁴

The coupon booklets are for Seniors to purchase fresh fruits, vegetables, honey and herbs at farmers' markets, but since they are provided as a program of the California Department of Food and Agriculture, only California farmers can redeem them. This means that at the Crescent City Saturday market, where several farmers come over the border from nearby Oregon, the Seniors are not able to use them at their stalls. In a September 2011 report from the CDFA, Debbie saw that approximately 28.28% of all the SFMNP coupons distributed in Humboldt and Del Norte Counties had been used, which was higher than the California average of 23.76%. The program runs through November, at which point markets close and cannot be redeemed the following year. When asked if the demand for the coupon booklets was higher than the supply, she replied, "Oh yes, waaaaay higher. We were out of them by June 6th and I still get phone calls of people who are looking for more."⁷⁵

Gleaning

The Community Assistance Network began a gleaning effort in 2011 that was two-pronged: aimed at farmers' market vendors and also backyard fruit tree growers. Farmers were sent a letter in advance of market season, then at the first market CAN staff went around to talk to each vendor. Farmers were very receptive, though early harvests were small. At the June 25th market, CAN gleaned 56 pounds of produce from the market. Gleaned food was then taken back to cold storage at the warehouse and distributed in the week's Food Boxes.⁷⁶

To reach home gardeners CAN partnered with 4-H. Many fruit trees planted in back yards throughout the Crescent City area go unharvested due to homeowners not wanting the fruit or not being able to use all of it. In the spring 4-H youth handed out flyers offering to pick fruit and taking names to create a list of households that would welcome their gleaning (see Appendix 3).

Through the backyard and farmers' market gleaning CAN is hoping to increase the amount of fresh produce that is offered in their Food Boxes.⁷⁷ In the end, 4,144 lbs. of fresh produce, baked goods, and other local foods were gleaned between the months of June and November from local farmers, the farmers market and local residents. Nine market vendors and six local residents participated.⁷⁸

Improving Food Access through Education

Education is a key component of healthy food access. For shoppers to make healthy choices at the grocery store, they must first have a basic understanding of nutrition. When a person doesn't know how to prepare and cook fresh vegetables, raw meat or whole grains, these healthy foods aren't much use to them. Individuals who participate in community gardens have been found to eat more vegetables than their peers, but most urban dwellers are several generations removed from kitchen garden know-how. For American Indians, transition from traditional diets to the modern Western diet has resulted in high rates of obesity and diabetes. Only through educating the younger generation can cultural knowledge regarding gathering, preparing and preserving traditional foods be continued. Below are several examples of the role that education has in improving healthy food access in Del Norte County and Adjacent Tribal Lands.



Gardening Skills

As part of their Community Garden Program, Community Assistance Network (CAN) offers services and training to garden participants. They have coordinated seed give-aways and distributed transplants donated by the North Coast Community Garden Collaborative. In conjunction with College of the Redwoods, CAN has organized gardening classes that are open to the public. Seven were held in 2010 and three in 2011. Each class covered a basic introduction to gardening, followed by further topics including seed starting, composting, or specifics on fall and winter gardening. Class attendance ranged from 10 – 40 participants.⁷⁹ The classes have helped low-income urban gardeners re-connect with where their food comes from and gain subsistence gardening skills.

* Tulley Creek is a small community on the upper Yurok Reservation.

Teaching Food Traditions

Kathy Dowd, a councilmember of the Resighini Rancheria, explained how the Rancheria members collect traditional foods on a yearly basis as they are in season, making sure to save some of the more rare foods for the ceremonial dances and gatherings. She says, "For example right now is acorn time, so we are out gathering, drying, processing and canning the acorns to use at the dances."⁸⁰ The oldest member of the tribe is soon teaching a workshop on acorn grinding and canning in order to pass down this knowledge to the next generations. It is open to any tribal members who want to participate, but Kathy says it is typically the families with children that carry on these food traditions and still join in the harvests. Other foods they gather are seaweed, blackberries, sturgeon, salmon, eel and deer meat.⁸¹

Brett Horton of Elk Valley Rancheria notices at the Elder Dinners that the tastes and smells of the traditional foods remind the elders of childhood meals. He says, "The meals get people talking and telling stories, remembering times in their childhood when they shared seaweed and swamp tea with their elders." Smells and tastes can be closely linked to memories. In this way, traditional meals trigger remembrances that may otherwise lay dormant. Other traditional Tolowa foods are venison, open-pit cooked salmon, eel, mussels, mud hen and duck.⁸²

For the Tolowa of the Smith River Rancheria, those who have carried on the food traditions are sharing their knowledge with others. In September of 2011 Dusty and Russell Lopez led an outing for 'Es-day (swamp tea).⁸³ Swamp tea is known for its nurturing and medicinal properties. Dusty told the novice tea pickers, "When you make tea picking a tradition in your family, you affect generations of your descendants for all time. It is something that you carry with you, and your children and grandchildren will carry on as well. Maybe you can only pick it once per year; the important thing to remember is to do it" (see Appendix 4).⁸⁴

The Yurok Tribe is building more activities around traditional food practices. They are looking for ways to involve youth and increase skills, while improving food access for tribal members and elders at the same time. In one initiative, staff will teach TANF families and AmeriCorps volunteers a holistic approach to salmon preparation, including: net making, fishing, filleting, smoking and canning.⁸⁵ At the same time the instruction will also incorporate nutrition and food safety skills, as well as teach cultural values of ecological stewardship and reciprocity. "By sharing their harvest with the elders, they are learning our value of reciprocity, of giving back to the community and giving back from what was shared with you," says Geneva Shaw, Assistant Social Services Director.

Other traditional Yurok foods include: pine nuts, acorns, mussels, clams, seaweed, steelhead, eels, huckleberries, blackberries, herbs, bulbs and deer meat.⁸⁶ The tribe has had to fight hard for continued access to traditional hunting and gathering grounds and for such things as fishing rights (as discussed in Section 1: Food Production of this report). While much of their ancestral territory has been lost, the current Yurok Reservation still encompasses several of the most important ecosystems for hunting, fishing and gathering their traditional foods: the coast line, the Klamath river, woodlands (both redwood and deciduous) and open fields.⁸⁷



Photo Source: United Indian Health Services

Garden and Nutrition Education in the Schools

Del Norte Unified School District, providing for 13 schools, has an extensive nutrition education program that is a leader in the state. The program spans the school grounds, with components in the classrooms, the cafeterias and the school gardens. It has been funded for almost 10 years by the Network for a Healthy California (Network), a program of the California Department of Public Health, providing for 13 staff in the 2010-2011 school year.⁸⁸

As mentioned in this report's Food Production section, 15 of the 16 school sites in Del Norte County have a garden – some are container gardens, others are quite large. Eight of the school gardens are overseen by Network staff. Three garden staff rotate between the schools over the course of the week, meeting with every class on a weekly basis. Curriculum includes lessons regarding healthy eating choices, agricultural skills and learning the basics about different fruits and vegetables. More than 1,300 students throughout the school district make their way out into the gardens each week.⁸⁹

Four classroom-based educators are also provided by the Network, each assigned to two or three schools. They teach about nutrition and regularly include a physical activity to get the students exercising. One of the most popular lessons is Harvest of the Month, a curriculum through which students are introduced to a new fruit or vegetable every month through recipes, fun facts and a tasting session. The Network educators also supply teachers with newsletters and further activities to continue connecting their classroom lessons with the Harvest of the Month.⁹⁰

At the high school level, in conjunction with the Building Healthy Communities initiative, classroom-based educators have also facilitated a youth-led nutrition education project. The teens chose to call themselves the CHANGE Group, an acronym for Creating Healthy and Nutritional Goals Everywhere. The goal is for students to become familiar with nutrition-related issues, put them in community

context and learn how to conduct research, all the while gaining team-building and leadership skills. The teens chose the topic of accessible drinking water, made a video and have conducted a “water revolution” survey. In October 2011 they presented their top three “asks” to the School Board, and then in December were invited to Sacramento to present at a California Department of Public Health meeting.⁹¹

The final component of the Network's comprehensive nutrition education takes place in the school cafeterias. For 2011-12 three staff are divided between the ten schools with salad bars: Bess Maxwell, Joe Hamilton, Margaret Keating, Smith River, Pine Grove, Crescent Elk, Mary Peacock, Redwood, Del Norte High and Mountain. Network coordinators found that by making cafeteria connections with the Harvest of the Month lessons and the other class- and garden-based nutrition education, the students make healthier choices. Food Services Director Judy Wangerin also makes a point of including the fruit or vegetable item from Harvest of the Month in the school's menu each month. Salad bars have proven to be successful at schools, though they got off to a rocky start. By the end of the 2010-11 school year Deborah Kravitz, Nutrition Program Coordinator at DNUSD, had tracked that school meal participation went up on salad bar days.⁹²

Collaborative Food System Changes

CAN has taken the lead in convening a Community Food Council to serve the Del Norte and Adjacent Tribal Lands. The mission of the Community Food Council is to “build a vibrant, sustainable local food system through opportunity, education, innovation, advocacy, and promotion.”⁹³ The Council began in October 2011 and is made up of 14 members, serving from Smith River down to the upriver part of the Yurok Reservation, representing food producers, retailers, educators, advocates and consumers. Other community stakeholders and interested members of the public are also welcome to attend Food Council meetings.

The purpose of the Council is to integrate private and public stakeholders in a collaborative effort to:

- Provide a forum for people involved in various sectors of the local food system to meet with and learn from each other;
- Facilitate meaningful dialogue and assessment of the current food system;



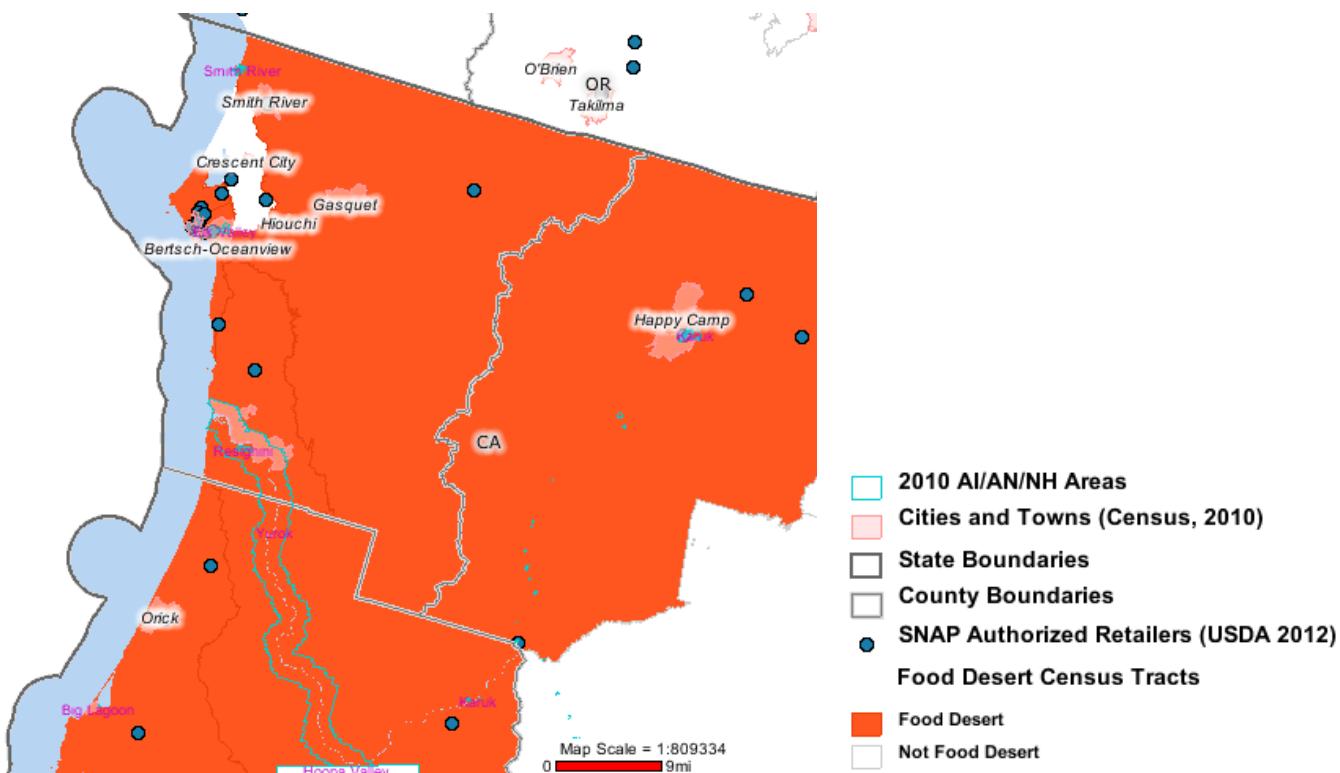
- Identify and prioritize issues and make recommendations that promote, support, and strengthen access to healthy, affordable local food for all residents;
- Develop strategies to enhance local food and agricultural systems; promote environmentally-aware agricultural practices;
- Support the development of new programs and projects that address mission-related issues;
- Help guide food-related work as part of The California Endowment's ten year Building Healthy Communities initiative;
- Affect and develop food policy; and advocate for policy change and implementation at a local, state, and federal level.⁹⁴

Del Norte and Adjacent Tribal Lands Food Store Survey

An important component of food security is the availability and affordability of foods in the community. National studies have found that rural poor face higher food prices and have fewer food choices than individuals living in urban and suburban areas.¹ Likewise, “residents who have better access to supermarkets and limited access to convenience stores tend to have healthier diets and lower levels of obesity.”²

Most of Del Norte County and Adjacent Tribal Lands (DNATL) have been designated as food deserts by the USDA (see Figure 1 below). Food deserts are defined as urban neighborhoods and rural communities without ready access to fresh, healthy and affordable food.³ These communities may be served only by fast food restaurants, convenience stores or have no food access at all. Census tracts qualify as food deserts if they meet low-income and low-access thresholds.⁴ Low-access is determined by distances of more than 1 mile (urban) or more than 10 miles (rural) to a full service grocery store.

Figure 1: Designated Food Deserts in Del Norte and Adjacent Tribal Lands



Source: Map was made with CommunityCommons.org mapping tool (<http://initiatives.communitycommons.org/tool/maps/Default.aspx>, accessed April 4, 2012) using USDA Economic Research Service 2010 Food Desert information. Note: SNAP is the federal name for CalFresh (formerly known as Food Stamps).

Background

The Food Store Survey was conducted to assess the differences in food access throughout DNATL as part of the Community Food Assessment. The food assessment is a project of the Building Healthy Communities initiative of the California Endowment. The California Center for Rural Policy (CCRP) 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.

Methodology

The DNATL Food Store Survey was based on a similar survey by the USDA's Economic Research Service. The USDA survey was modified to reflect DNATLs specific needs such as:

- cultural/ethnic food choices (corn and flour tortillas, salsa, black beans, salmon);
- vegetarian options (beans); and
- broader variety of healthy foods for cooking, snacks and on-the-go meals (olive oil, raw nuts, dried fruits, and prepared soups).

The in-store surveys were carried out between August and October, 2011. A total of 11 stores were included – four in Crescent City and at least one from each of DNATL's other communities: Fort Dick, Gasquet, Hiouchi, Klamath, Smith River and Weitchpec. The survey instrument specifically detailed the unit of measure to select for each food item in order to standardize price comparisons across all stores.⁵ For instance, apples were measured in pounds, frozen green peas in a 16-oz bag and eggs by the dozen. Follow-up calls were then made by CCRP staff to discuss missing items in more detail and check for errors.

Results

For analysis, the stores were grouped into the categories of “Large Grocer,” “Small Grocer,” and “Drug Store” based on store size and products offered. Table 1 below lists the stores surveyed, the category in which they were analyzed and their location.

Table 1: DNATL Food Stores Surveyed

Store Category	Name	Location
Large Grocer	Grocery Outlet	1124 3 rd St., Crescent City 95531
	Ray's Food Place	625 M St., Crescent City 95531
	Ray's Food Place	301 Fred Haight Dr., Smith River 95567
	Safeway	457 M St., Crescent City 95531
Small Grocer	Fort Dick Market	6670 Lake Earl Dr., Fort Dick 95531
	Gasquet Market	10350 Hwy 199, Gasquet 95543
	Hiouchi Hamlet	2100 US Hwy 199, Hiouchi 95531
	Pearson's Grocery	CA Hwy 96 at bridge, Weitchpec 95546
	Pem-Mey Fuel Mart	125 Ehlers Way, Klamath 95548
	Woodland Villa Market	15870 US Hwy 101N, Klamath 95548
Drug Store	Rite Aid	575 M St., Crescent City 95531

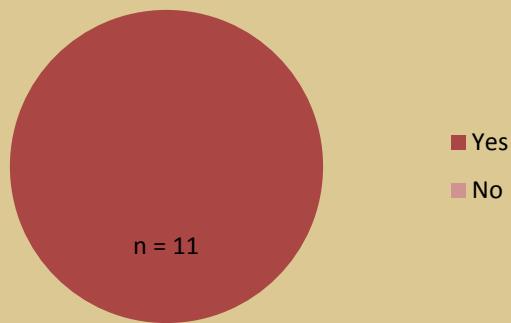
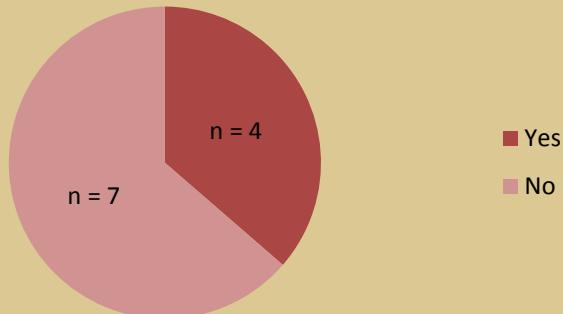
Acceptance of Federal Food Program Benefits

CalFresh and WIC programs* offer low-income households much needed assistance in meeting monthly food needs. The ability to use them or not at a store can dictate food shopping patterns. At each of the 11 stores, surveyors determined whether CalFresh and WIC benefits were accepted and also looked for signage on storefronts that clearly advertised their acceptance. Table 2 and the pie charts below indicate their findings. To be a CalFresh or WIC vendor, a number of requirements must be met for each program. Toolkits are available from the California WIC Association to help food vendors in low-income areas meet the requirements to become certified.

* CalFresh and WIC are federal food assistance programs.

Table 2: CalFresh and WIC Accessibility of Stores Surveyed

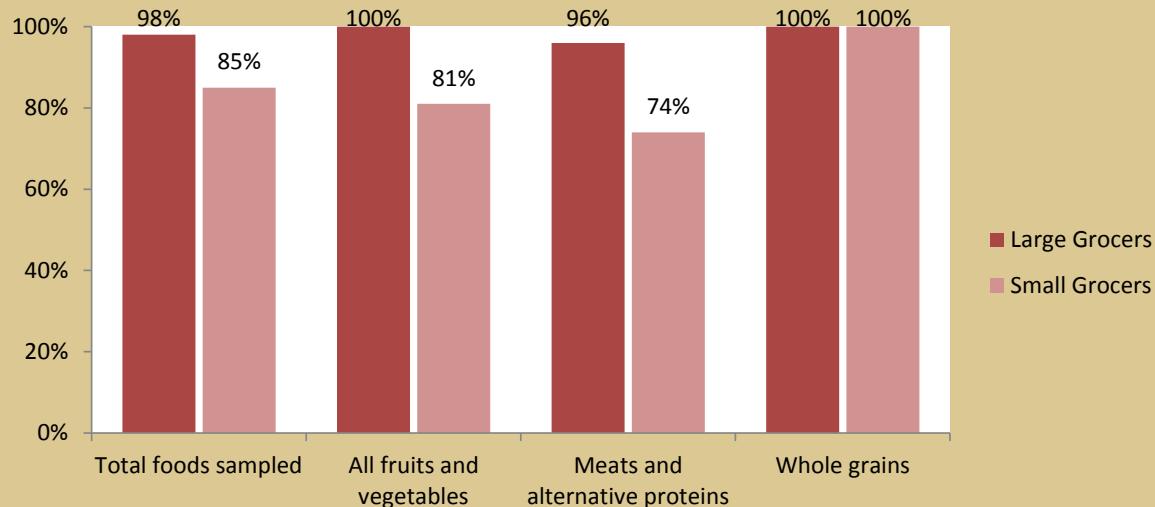
Store Category	Name	Accept CalFresh?	Accept WIC?
Large Grocery Stores	Grocery Outlet	Yes, advertised	No
	Ray's Food Place, Crescent City	Yes, advertised	Yes, advertised
	Ray's Food Place, Smith River	Yes, not advertised	Yes, advertised
	Safeway	Yes, advertised	Yes, advertised
Small Grocery Stores	Fort Dick Market	Yes, not advertised	No
	Gasquet Market	Yes, not advertised	No
	Hiouchi Hamlet	Yes, not advertised	No
	Pearson's Grocery	Yes, not advertised	No
	Pem-Mey Fuel Mart	Yes, advertised	No
	Woodland Villa Market	Yes, not advertised	Yes, advertised
Drug Store	Rite Aid	Yes, advertised	No

Figure 2: Number of Stores that Accept CalFresh Benefits**Figure 3: Number of Stores that Accept WIC Coupons**

Overall Food Availability

The large grocery stores had more of the items on the DNATL Food Store Survey than the small stores. Large Grocers had an average of 98% of all foods available. The Small Grocers had 85% available. Ray's Food Place in Smith River and Safeway in Crescent City – both Large Grocers – had every single item on the store survey. Among the Small Grocers, Pearson's Grocery in Weitchpec had the highest overall availability with only two items missing. Rite Aid in Crescent City had the least number of items available, with 43 missing out of the 99.

Figure 4: Availability of Foods at DNATL Stores by Food Category



Overall availability of these fairly standard foods was not all that different between the large and small food stores. As Figure 4 shows, it varies by food category. What was markedly different, however, was the *regularity with which all of the items were in stock*. For example:

- temporarily out of stock items;
- seasonal items such as watermelons in the summer, or molasses and cinnamon over the holidays; and
- follow-up calls revealing that stores “sometimes” or “regularly” had an item which hadn’t been found during the in-store survey.

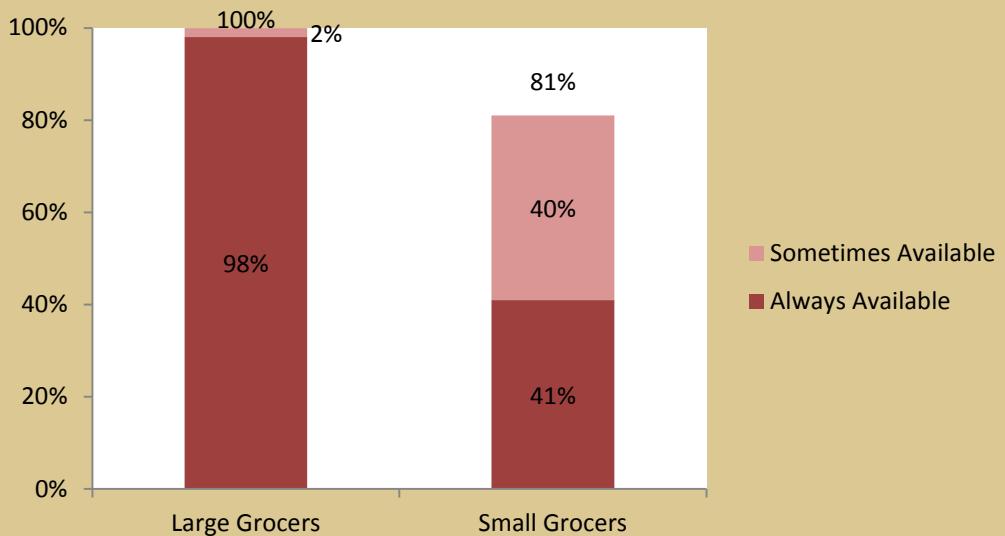
In the analysis below, the foods that met any of these criteria were included as “available” but also marked as “sometimes.”

Total Fruit and Vegetable Availability

Fresh, canned and frozen fruits and vegetables were included in this category. See Appendix 5 for the full list of foods surveyed.

Figure 5 shows the total availability of all fruits and vegetables. Large Grocers had 100% of fruits and vegetables available for purchase, with only 2% of those items being “sometimes.” Small Grocers had 81% of fruits and vegetables available for purchase, but of those available, 40% were offered “sometimes.”

Figure 5: Availability of Total Fruits and Vegetables at DNATL Food Stores



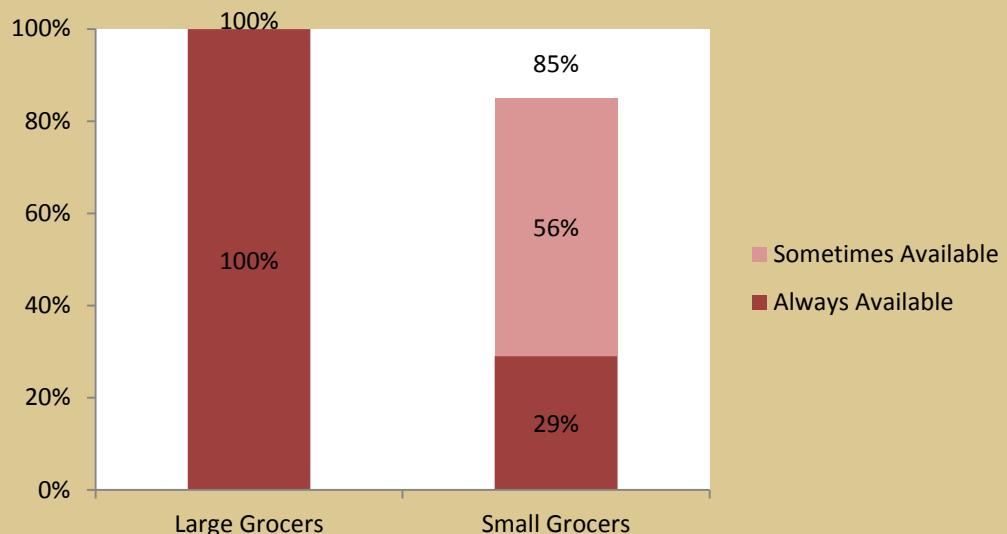
Pink line indicates portion of available foods that are only ‘sometimes’ available (2% and 40%, respectively).

Fresh Fruit and Vegetable Availability

There were 12 fresh fruits and vegetable items on the Food Store Survey, including apples, bananas, grapes, melon, oranges, carrots, celery, green pepper, lettuce, onions, tomatoes and potatoes.

As Figure 6 shows, Large Grocers had 100% of the fresh fruits and vegetables surveyed available at all of the large stores all of the time – there were none that were indicated as “sometimes.”

Figure 6: Availability of Fresh Fruits and Vegetables at DNATL Food Stores



Small Grocers carried 85% of the fresh fruits and vegetables in the survey. However, these items are seasonal so the number of items “sometimes” available is very high. Fresh fruits, out of all food categories, were the most susceptible to this, with 61% only available “sometimes.” Fresh fruit and vegetables combined equaled 56% “sometimes” available, indicated in the column chart below.

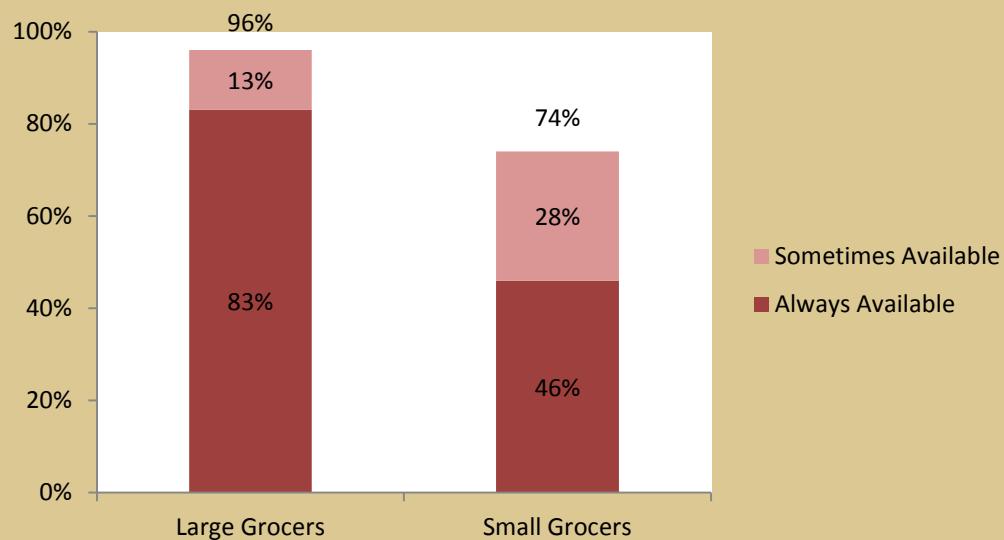
Meats and Alternative Proteins

There were a total of 17 items that fell into these categories: fresh, frozen or canned beef, chicken, pork, eggs, white fish, tuna fish, salmon and various types of beans. Figure 7 summarizes the results.

Averaged together, Large Grocers offered 96% of the meats and alternative sources of protein that were included in the survey. Of the items available, 13% of them were only offered “sometimes.” This seems largely due to the fresh meats available on the day of the survey, the fluctuating nature of what the Grocery Outlet has in stock, and some of the more obscure varieties of canned beans.

Small Grocers stocked 74% of the meat and alternative protein items. While some markets had all or nearly all of the items (Pearson’s had 100% and Fort Dick Market had 90%), others were missing entire categories, such as all of the fresh meats or all of the frozen meats. Of the items that were offered by the Small Grocers, 28% of them were only “sometimes” in stock.

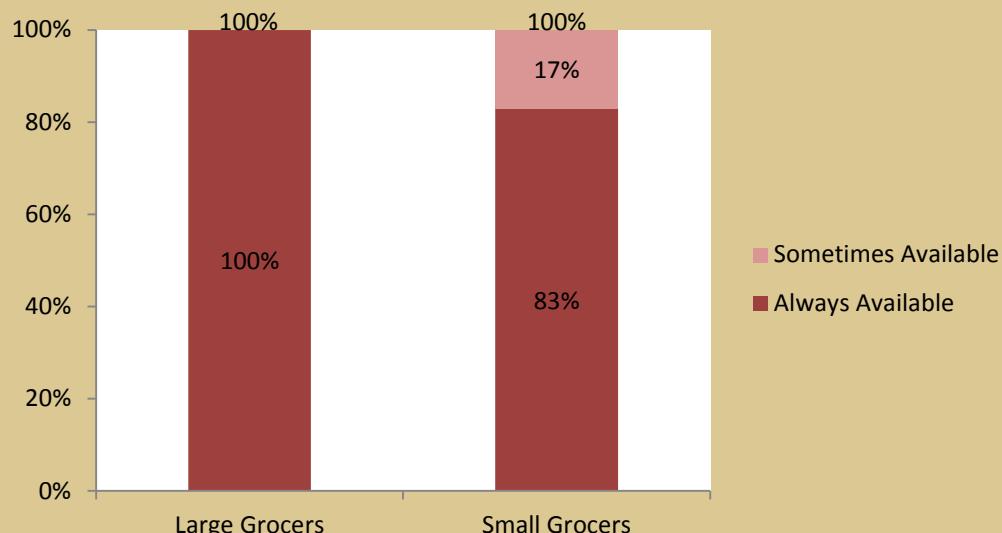
Figure 7: Availability of Meats and Alternative Protein Sources at DNATL Food Stores



Whole Grains

All of the Large and Small Grocers carried the three whole grain items that were on the Food Store Survey – whole wheat bread, microwave popcorn and toasted oat cereal. The difference was that the larger stores had all of the items in stock all of the time, whereas an average of 17% of the items were “sometimes” in stock at the smaller stores, indicated in Figure 8 below.

Figure 8: Availability of Whole Grains at DNATL Food Stores



Price Comparisons

Ultimately, prices of only 13 out of the 99 items were able to be compared between the DNATL food stores. This was largely due to differences in availability – either an insufficient number of stores carried the item, or, if many did, prices weren’t comparable because of the item’s sizing.* There was also an error made in carrying out the survey, in which some surveyors recorded the lowest price for an item instead of the *lowest price for the desired unit*. The 13 items in Table 3 below were the ones most frequently available and in the desired unit of measure. The *only* item available at *all* 11 stores in the same unit was a dozen eggs.

Overall, prices were higher in the smaller stores. This might be expected, as small stores may not order enough products to get discounts through bulk purchasing orders and the more distant markets frequently have additional transportation costs. This varied by item. Some items, such as hamburger buns or evaporated milk, were somewhat more expensive at the small stores. Eggs were actually cheaper at the small grocery stores. Other items, such as whole milk or ground beef, were significantly cheaper when purchased at the larger grocery stores.

Table 3: Price differences of select items between large and small grocers in DNATL

Grocery Item	Large Grocers, average price	Small Grocers, average price
Beef, ground, lean (per lb)	\$3.44 (n=4)	\$ 4.72 (n=3)
Cheese, cottage, any variety (16-oz carton)	\$2.44 (n=4)	\$ 2.94 (n=5)
Eggs, grade A, large (1 doz)	\$2.72 (n=4)	\$ 2.27 (n=6)
Evaporated milk, any variety (12-oz can)	\$1.34 (n=4)	\$ 1.75 (n=5)
French fries—any variety (32-oz bag)	\$3.56 (n=3)	\$ 4.19 (n=3)
Hamburger buns, enriched (Pkg of 8)	\$2.04 (n=4)	\$ 2.33 (n=5)
Macaroni, elbow-style, enriched (1-lb box)	\$1.37 (n=4)	\$ 1.82 (n=3)
Margarine, stick (1-lb box)	\$1.41 (n=4)	\$ 2.22 (n=3)
Milk, whole (1 gal)	\$3.49 (n=4)	\$ 5.54 (n=5)
Orange juice, concentrate (12-oz can)	\$2.12 (n=3)	\$ 3.19 (n=3)
Pancake syrup, any type (24-oz bottle)	\$3.19 (n=3)	\$ 3.92 (n=4)
Spaghetti (1-lb box)	\$1.52 (n=3)	\$ 2.09 (n=3)
Sugar, brown (1-lb bag or box)	\$1.32 (n=4)	\$ 2.00 (n=5)

“n” indicates the number of large or small grocery stores at which the item was found.

Discussion

“Grocery stores, like schools, restaurants, and post offices are community assets used to recruit and retain citizens, providing a symbol of community health.” Dr. David Procter, Kansas State University’s Rural Grocery Store Initiative Final Report

Each food store is an important resource for its community. While the larger stores provide shoppers with

* For example, an 8-oz jar of grape jelly couldn’t be compared with a 32-oz jar simply by multiplying; as typically there is a cost savings in buying larger volumes of a product.

selection and regularity, the rural stores increase food security in the more remote communities. Not all community members have access to vehicles, and those that do face some difficult drives. Shoppers in Gasquet and Klamath need to travel 21 miles on steep and winding highways to reach the larger stores in Crescent City. Fort Dick and Hiouchi are each roughly 10 miles from Crescent City, and Weitchpec is 11 miles – along one of the worst sections of state Hwy 96 – from a supermarket in Hoopa.

Small rural grocers provide more than just food access for their communities. They often serve as a meeting spot for community members and provide a place to get to know one's neighbors. While conducting the Food Store Surveys and follow up calls, CCRP observed that the cashiers (frequently the owners) not only were very familiar with their stores and every item on the shelves, but also knew nearly every person who came through the door.

Several store owners expressed the financial challenges in running a small store – they saw their business as a service to the community and this was one of the reason's they choose to stay open. Many others displayed pride in offering a good selection to their community members and wanted to meet shoppers' needs.



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Section 7

Food Waste

Before food is discarded, surplus food – both unprocessed and prepared dishes – can first be donated to shelters or other food assistance programs. Once food is no longer usable, it is typically discarded and becomes part of the solid waste stream. However, there are many ways its nutrients can be re-used. ‘Food recycling’ is a series of activities where food scraps are collected, possibly sorted or processed, and converted into other materials: compost, animal feed and even energy.



Nationally, 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 events. In 2004 the University of Arizona documented that 40-50% of the food grown in the United States actually never reached consumers and instead was often left to rot in the fields.¹ In addition, US households throw away approximately 14% of the food they purchase. This adds up to a waste of \$43 billion a year.²

This section examines the various paths of food waste in Del Norte County and Adjacent Tribal Lands. The following list identifies research questions that are key to the topic of food waste and recycling. 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 other lacked existing data. All of the questions could benefit from future research.

Research Questions Included:

- What portion of the waste stream in Del Norte County is food waste?
- What business sectors are the largest food waste producers?
- What are current County and Tribal waste management practices?
- Are there programs promoting home composting, recycling and trash reduction?
- How are food manufacturing byproducts being diverted from the waste stream?
- Do any programs ‘rescue’ un-used foods that are still fit for consumption?

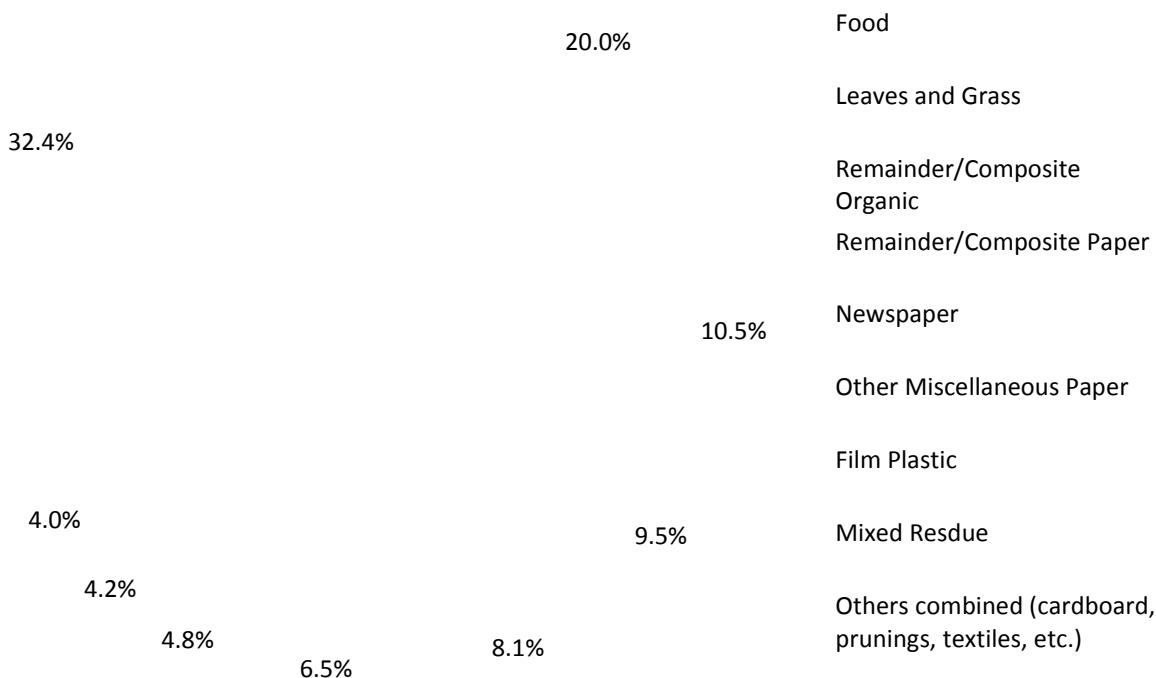
Research Questions Not Covered:

- What are residents in the area doing with their food waste?
- What is the estimated cost of food waste in Del Norte County and Adjacent Tribal Lands?

Residential Food Waste

The agency that oversees the ultimate collection of most household and commercial food waste is the Del Norte Solid Waste Management Authority (DNSWMA). As is typical throughout California, food waste makes up approximately 20% of Del Norte’s solid waste stream (see Figure 17: Del Norte Residential Solid Waste, by Type).³ This means that in 2010, out of the total 18,545 tons of solid waste generated in the county,⁴ approximately 3,709 tons of it was food waste.

Figure 17: Del Norte Residential Solid Waste, by Type



Source: Source: Solid Waste Characterization Database: 1999. CalRecycle. <http://www.calrecycle.ca.gov/WasteChar/rescomp.asp?J=598&SortBy=Disposal>. Accessed Oct. 20, 2011.

Food waste was the single largest category of waste, as seen in the pie chart above. Tedd Ward, Program Manager at the DNSWMA says that it is hard to estimate exactly how much of waste is made up of food because, among other things, the packaging is often thrown away with it. “For example, think of a jar of pickles. During the waste characterization study that whole jar would be weighed and considered food waste,” says Tedd. “But really the jar should be recycled and the brine should go down the sink.” This brings up the importance of recycling and diverting as many materials as possible from the waste stream, something which the Solid Waste Authority encourages through several programs.⁵

Reducing Food and Packaging Wastes

One of the best ways to keep food wastes out of the landfills is through composting. DNSWMA offers composting workshops on the last Saturday of every month, encouraging households to take care of their own food scraps on-site and then to use the compost to enrich gardens and landscaping.⁶

State studies have shown that food packaging makes up 50% of the volume and 30% of the weight from all household waste. In addition, Americans pay for packaging coming and going – out of every \$11 spent on food, one dollar goes to packaging.⁷ Buying food in bulk and bringing containers to the market can significantly reduce the amount of waste a household makes. If this isn’t possible, consumers can look for products that are not individually wrapped and can select items with the least packaging.

Planning for Solid Waste Reduction

In 2000 the DNSWMA drafted the first Zero Waste Plan in the country. “Zero waste can be different in each community, so you work with what you have,” says Tedd. “You constantly have to be flexible and prioritize what to work on in the next few months.” Overall, the Del Norte community has reduced its waste output over the years – the amount of trash disposed of per resident has dropped from 4 pounds per day in 2007 to 3.5 pounds per day in 2010.

However, aside from their program to encourage and educate about composting, Del Norte County does not have any food waste diversion programs. Tedd says there are many challenges around food scrap recovery. Food waste is notoriously smelly, so any type of collection program is likely to cause odor complaints anywhere the scraps are unloaded. Another challenge is that food scrap collection would require different vehicles than recycling and garbage collection, which would raise fleet costs. Fuel use would also go up, an obstacle that is amplified in rural counties where population density is low and distances are far. However, as Tedd points out, DNSWMA will never achieve Zero Waste until this part of the puzzle is figured out. He is looking at what other communities are doing, including Humboldt County and the new food diversion program they piloted in 2011. DNSWMA's newest program to reduce materials going to the landfill, begun in July 2011, is curbside brush collection.

AB 341, a recently enacted law, championed by Assemblymember Wesley Chesbro and signed by Governor Brown in October 2011, sets a new goal that 75% of solid waste be diverted from landfills by 2020.⁸ Current diversion requirements are 50%. The California Integrated Waste Management Act of 1989 required municipalities to achieve a 25% waste diversion rate by 1995 and 50% by the year 2000. Del Norte County has a diversion rate of 54%.⁹

So where does all of Del Norte's solid waste end up? It is trucked out of the county to Dry Creek Landfill near Medford, OR, a distance of 119 miles. The only landfill located in Del Norte County was closed in 2005. For both businesses and residents who live outside of curbside collection areas, or who don't want to pay for the service, trash and recyclables can be brought to three transfer station locations in Crescent City, Gasquet and Klamath.

Food Waste Management within Tribal Lands

In 2011 the Yurok Tribe implemented a composting program, offering three composting workshops over the spring and summer. The workshops were typically social events with food and drink on a weekend day, reviewing best practices in compost management and discussing the benefits of composting. All households in attendance were sent home with a free composting bin – approximately 120 were handed out this by fall 2011.¹⁰

Two of the workshops were held on the upper reservation in Humboldt County. Ken Henderson, Assistant Director of the Yurok Tribe's Environmental Program, made the upriver communities his first priority for solid waste diversion practices. In a joint agreement with Humboldt Waste Management Authority, the tribe runs a container site transfer station in Weitchpec. They are trying to do what they can to help local residents lower their costs at the transfer station. Already the tribe charges a lower disposal fee than any other station in Humboldt or Del Norte counties. Charges are based on trash volume, though a new scale will allow them to charge based on weight. Any amount of recyclables and food waste that households can keep out of their trash directly saves them money at the transfer station, as well as being better for the environment. The tribe is ramping up its recycling services in the area, too. Ken says that as it is, they run at about a \$20-30,000 loss each year for the site (including utility, equipment and employee costs), but without it Yurok tribal members would need to travel too far. In general, more people on the upriver part of the reservation were already interested in composting and had home gardens, so it was a successful place for Ken to begin his new program.¹¹

One composting workshop was held downriver in Klamath and another was in the works, as Ken planned to target that area for the remainder of 2011. With curbside solid waste pick up in Klamath, the same incentives aren't present for households to separate out their food waste and recyclables. Over the long term, Ken thinks there will be a greater need for a food waste diversion program on the reservation – particularly in the business sector. The planned commercial fish canning and processing facility will create a large amount of byproduct.¹²

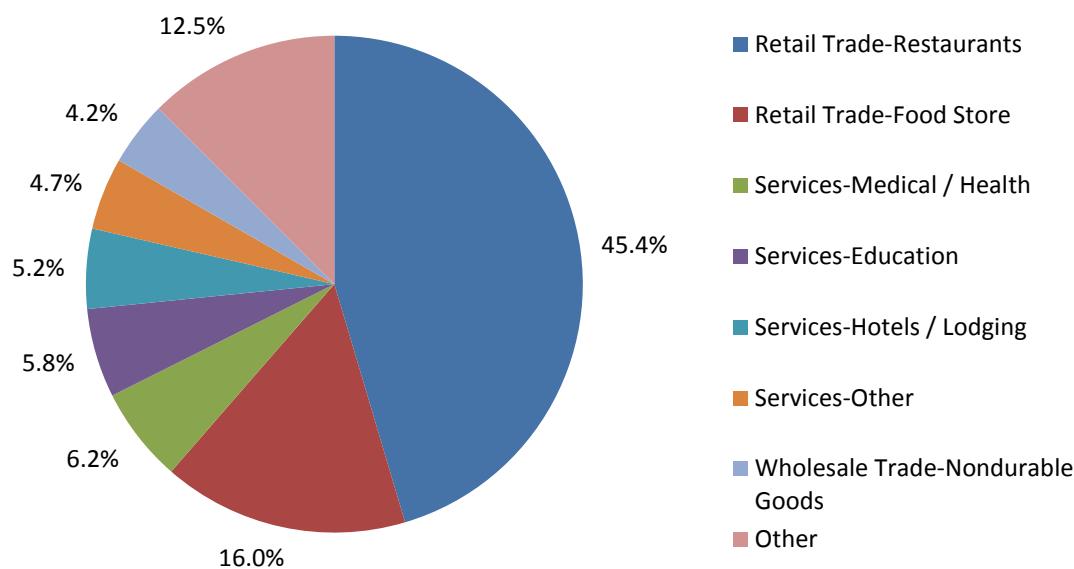
On the Smith River Rancheria a new Solid Waste Management Plan was developed in 2011 with the assistance of Indian Health Services.¹³ As part of the plan, both recycling and composting will be increased. Brad Cass, Natural Resources Director, had an EPA grant in 2003-04 that kicked off their composting program. They

provided compost bins to all 48 homes on the rancheria and had an employee who provided 1-on-1 instruction on composting as he delivered them. Brad doesn't have the funding for staff to focus on composting anymore, but hopes most of the containers are still in use.

Commercial Food Waste

Food waste makes up a slightly higher proportion of the commercial sector's solid waste stream than it does for residential, accounting for 21.3%.¹⁴ This is because restaurants and other food retailers have a very high output of food waste. As seen in Figure 18, nearly half (45.4%) of the food waste produced by the business sector is from restaurants alone. In 1999 this weighed in at 1,197 tons. Food stores generate another 16% of the food waste stream.¹⁵

Figure 18: Food Waste Generated by Business Group, 1999



Source: Solid Waste Characterization Database: Details for Selected Material Types. CalRecycle. <http://www.calrecycle.ca.gov/WasteChar/wcabscrn.asp>. Accessed Oct 20, 2011.

Food manufacturers contribute 2.1% to the food waste stream, too small to show in Figure 18, though in 1999 this still added up to 56 tons. Interestingly, the agriculture and fisheries sectors combined only generate .1% of the food waste stream.¹⁶ Tedd Ward at DNSWMA points out that rural, agricultural-based businesses tend to be more familiar with how to deal with their own wastes, both food and other: food scraps go to animals like pigs, farmers are more likely to compost and dairies manage their own manure ponds.¹⁷

Food Waste Recycling

At the Rumiano cheese manufacturing facility in Crescent City, a new Whey Protein Concentrate plant was finished in 2011. This allows the company to make use of proteins in the whey stream through drying them and creating an 80% protein supplement that is sold to other manufacturers as a bulk ingredient.¹⁸

A local company putting fisheries waste to good use is Eco-Nutrients, part of Hambro Group. After fish have been filleted, the head, bones and tail are left as byproduct. In the early 1990's all of this from local fish processors went into the county's landfill. Eco-Nutrients was started in 1992 in part to provide waste stream diversion, and also because it seemed that there could be a better use for the waste: organic fertilizers for

farmers and gardeners.¹⁹ Since the early 90's most of the fish processors have left and the landfill has closed, but the company continues to grow. In 2011 they used 3 million pounds of fish carcasses. Due to the March 2011 tsunami the amount of fish landed at the Crescent City Harbor was down, but Kirk Sparks, General Manager of Eco-Nutrients, estimates that in regular years he gets roughly 200,000 pounds from the harbor. The rest comes from Charleston, OR and a new contract with Pacific Choice Seafood in Eureka will provide 5 million pounds in 2012.

Eco-Nutrients tried including crab shells in its mixes, but found they needed too much heating to be shelf-stable. Instead they have found use for them, as well as shrimp byproduct or any fish that has gone bad, in their compost. The shells are ground up and added to ground green waste that they haul from the Crescent City transfer station. "We're recycling everything we can get our hands on," Kirk says. Alexandre Dairy also uses broken down crab shells from Alber Seafoods to spread on their organic pastures and include in their on-farm composting.²⁰

When Kirk was asked about the potential for composting residential- and commercial-sector food waste, he said that regulations would require a landfill permit – which is on a whole different scale than the permitting they have now. In addition, a few years ago Eco-Nutrients did a pilot project with local restaurants, asking them to separate their food scraps from the rest of their garbage. With these samples, Eco-Nutrients tried a few different "recipes" combining food scraps and other materials to learn what sort of composting time frames would be needed and what the nutritive qualities of the end product might be. Kirk remembers, "It was just a gooey mess and didn't yield any promising results." So while the company is not looking at further food waste composting for now, he did reply, "We may consider it a few years down the road."²¹

Donate, Don't Dump

Ultimately, the most important food waste diversion tactic is for food to stay food. Much of the food waste generated by restaurants, caterers and grocery stores is in fact still highly edible food. Examples are un-served foods from catering trays, day-old prepared foods from deli counters, and perishable foods such as meat, dairy and produce that are pulled from grocery shelves when they near their expiration date. These foods could be served at soup kitchens or homeless shelters, or otherwise used to combat food insecurity. Around the country food rescue programs have been established to link food donors and nonprofit organizations that are feeding the hungry.²² While some donors are afraid of liability, there are clear laws at the federal and state level that protect donors against anything except "gross negligence." See Appendix 6: *Think Twice – Food or Trash?* for a full discussion of policies, options and local models regarding food donation.

Through the Community Assistance Network's (CAN) food salvage program, 12,000 – 14,000 pounds of food are collected each month from a number of supermarkets and other stores in Crescent City.²³ This re-routes roughly 150,000 pounds of food into boxes for food insecure individuals and out of the waste stream. If any of the food is no longer fit for human consumption, CAN sends it to a hog farm.

One organization that puts un-served prepared foods to good use is the Harrington House, a domestic violence shelter. The nonprofit had no food budget, but through establishing connections with businesses and organizations such as Starbucks, Sutter Coast Hospital and many others, they regularly pick up prepared food donations to serve as dinner for the women and children at the shelter.²⁴ Models such as these could be replicated and relationships expanded between food assistance programs, restaurants and other food retailers throughout the area.



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Section 8

Conclusions and Recommendations

This Community Food Assessment covers a broad range of topics, examines a variety of data sources and includes multiple conversations with local experts. The following Strengths, Weaknesses, Challenges and Recommendations are conclusions after careful consideration of all the data.

Strengths

- **CalFresh participation and Market Match:** Del Norte County stands out statewide for its CalFresh (Food Stamps) participation rate – this means that many people who need food assistance are getting it. Enrollment in CalFresh also serves to build bridges to other programs and services, such as Market Match eligibility or being linked with free and reduced meals at schools. Market Match is a promising new program at the farmers' market that creates further opportunity for low-income consumers to access locally grown fresh and healthy foods.
- **Community and school gardens:** Del Norte County and Adjacent Tribal Lands have an impressive number of community and school gardens – which serves as a model to empower community members with the skills and confidence to grow some of their own food and craft a healthier diet. The Network for a Healthy California's programs at 14 schools provides a holistic introduction to food systems education; teaching food choices, gardening skills and nutrition to participating youth.
- **Opportunity for local food sales:** Direct sales have shown tremendous growth, with no indication that the market is saturated. Multiple small- and large-scale grocery stores say they are interested in carrying local products, consumers seem eager for more and farmers' market sales are up – with new EBT (the CalFresh benefits card) use providing a potential expansion and diversity to its customer base.
- **Fisheries:** The coastal and Klamath River fisheries are one of the region's greatest assets. The Crescent City Harbor is a valuable infrastructure for acquisition of the sea's food resources, both to commercial fisherman and to the many recreational fishermen who use it. Likewise the Yurok Tribe's right to manage the Klamath River fisheries ends decades of measures that separated them from an essential food source.
- **Collaboration and the Community Food Council:** There seems to be strong enthusiasm and mentorship between farmers who share an interest in growing for local markets. There also is an increase in collaboration between food producers, food assistance programs, tribes and community organizations. The Community Food Council is an outgrowth of this cooperation. Their mission is to "build a vibrant, sustainable local food system through opportunity, education, innovation, advocacy and promotion." They join hundreds of other food councils springing up across the country that provide a forum for discussing food issues and a platform for coordinating action.¹
- **Model examples of food waste diversion:** While the DNATL area does not have a comprehensive plan for reducing food in the waste stream, there are several stand-out projects that provide models: CAN's food salvage from stores and their new farmers' market and fruit tree gleaning program; the Harrington House's wise use of un-served prepared foods; and Eco-Nutrient's entrepreneurial re-utilization of fishery byproducts. Combined with the Del Norte Solid Waste Management Authority's leadership in crafting a Zero Waste Management Plan, this is a promising combination for future successes in diverting food waste.

Weaknesses

- **Lack of farms, food production and agricultural diversity:** Del Norte and Adjacent Tribal Lands con-

tain few food producing farms. Mainly dairy and cattle operations are represented at the large-scale. Overall, the lack of participants in, and diversity of, the food-producing agricultural sector is a shortcoming in the food system.

- **Children, households led by a single mother, and people of two or more races are at greatest risk for experiencing poverty and food insecurity:** Nationally and locally, households living in poverty are the most likely to be food insecure. In Del Norte County the highest rates of poverty are seen amongst individuals of two or more races, in households headed by a single female and in children. Compared to their peers, food insecure individuals of any age are at risk for poorer health, and amongst children there is evidence of negative impacts on psychosocial and academic outcomes as well.
- **Limited access to local fish and foods:** Consumers that are looking for local foods – whether fish, produce or processed goods – have very few options. The majority of the fish landed at Crescent City Harbor are sent directly from the docks to processors out of the area. With a few exceptions, almost no local foods make it into retail outlets, and there are only a couple of farmers' markets, CSAs (farm-shares) and on-site farm sales. The direct markets that do exist are around Crescent City and Smith River, making access to fresh and local foods a challenge for residents in the more rural communities.
- **Unmet need for food assistance persists:** Despite the multiple services offered in Del Norte and Adjacent Tribal Lands, there are months when people are looking for more food assistance than is available. The working poor have a hard time accessing services because food distribution times and program enrollment appointments are during regular business hours. Only WIC offers early morning and once-monthly night hours to accommodate people with full-time jobs.
- **Fresh and healthy foods are not consistently available in geographically isolated communities:** This shortcoming is common in rural areas across the nation, and Del Norte County and Adjacent Tribal Lands are no exception. Outside of Crescent City and Smith River, food is only available through one or two small stores in each community, often at higher prices. None of these grocers are able to offer the array of healthy foods that a full supermarket does. Fruits and vegetables are available on an inconsistent basis, leaving the selection limited many times throughout the year.
- **Minimal processing and distribution at the local level:** Likely due to the shortage of products, there is limited activity in regards to processing and transporting foods at the local and regional level. As more farms begin producing for the local market, and when more local-scale processed foods are being made, the demand will go up for better transportation of these goods within the DNATL area and with neighboring counties to the north and south.

Challenges

- **Lack of economic opportunity:** As poverty is the characteristic most strongly linked with food insecurity, limited employment opportunities contribute to the area's greatest challenge of achieving equitable food access. Unemployment in Del Norte County has risen steeply since the recession in 2008. The 2010 average unemployment rate was 13.3%, higher than the state's average of 12.4%.² Jobs are concentrated in Crescent City, and many small communities have fewer employers. Exceptions to this are the Tribal Headquarter offices of the Yurok, Smith River and Elk Valley tribes as well as the State and National Park Services. The labor force in 2010 was estimated at 11,700 people.³ The region's remoteness and small labor force add to the difficulties in creating new jobs through conventional economic development.
- **Transportation:** Isolation can impact food systems in various ways. Transportation is a barrier for foods both entering and leaving the area. Temporary road closures can have a visible impact on the produce shelves at grocery stores. There are only three roads that enter Del Norte County, and all are prone to landslides or downed trees. The Bald Hills Road connecting the upper and lower Yurok Reservation is a particularly steep, winding unpaved road that experiences rock falls in wet weather.

The distance from other population centers increases the cost and time associated with deliveries. For ex-

ample, Community Assistance Network lost a major food supplier when transporting the food became cost prohibitive for the supplier.⁴ In an effort to lower food delivery costs, United Indian Health Services, the schools and the Senior Center tried to combine their food orders to make a bulk purchase together. In the end the coordination was too complicated for the effort to continue.⁵

Del Norte County School District food services have only three food vendors who deliver.⁶ This has made it hard to “shop around” for healthier options and to offer the variety they would like in cafeteria meals.

- **Fishing policy:** Fishermen are essentially the last hunters and gatherers for local food markets, and it is an uncertain future for them. Concerns regarding fish stocks along California’s coast and in its rivers have triggered various state and federal policy changes. Local leaders in the coastal and Klamath River fisheries can impact these larger decision-making bodies through submitting comments or filling representative seats when possible.

In 2011, the Marine Life Protection Act’s implementation was being planned for the North Coast region. The Act sought to expand conservation areas and there was fear by users of the Crescent City Harbor that this would limit the number of fishing locations. After significant stakeholder input a compromise was reached to suit the needs of both parties. “Maybe it’s because our community is so small and people have to still live together, but the meetings had surprisingly effective outcomes,” says Harbormaster Young.⁷ For the tribes, regulations such as those in the Marine Life Protection Act impact the gathering of other traditional food sources as well: clams, mussels, sea weed and more.

- **Tsunamis:** Crescent City is tsunami-prone. Historically, some have devastated the community and future tsunamis could have an extreme impact on food production from the fisheries. Damage to boats, the harbor and other infrastructure (processors, services, etc.) can take from months to years to resolve.

The harbor’s susceptibility comes from tectonic features, its location and shape – all elements which cannot be altered. To offset future damage, the Harbor District has chosen to focus on improving the strength and integrity of the harbor.⁸ If the harbor had been built to the new specifications before the March 2011 tsunami, it should have protected against it. The project will cost several million dollars and is currently out to bid.

- **Climate change:** All food systems around the world will be impacted by changing world weather patterns.⁹ The following offers a brief summary of how climate change is predicted to impact Del Norte and Adjacent Tribal Lands, but further research would be valuable.* If food production is disrupted locally, nationally and globally, it may impact the price and availability of foods in the area.

In general for Northern California and the Pacific Northwest it is predicted that extreme weather events will increase¹⁰ (larger storms, more frequency of floods, more frequency of droughts, etc.). It is also expected that overall levels of rainfall will go down.¹¹ This could lead to increased risk of fires in the area’s forests, increase the need to irrigate crops and possibly raise river temperatures that deteriorate salmon habitat. Overall, climate change poses a long-term threat to the area’s food supply – to local food production, to foods imports and to the routes that trucks must take to deliver such foods.

Recommendations

1. **Expand programs that increase fresh and healthy food access for low-income consumers.** The EBT and Market Match program at the 2011 Crescent City Farmers’ Market allowed hundreds of food insecure residents to purchase nearly \$6,000 worth of fresh, local food. A similar model could be extended to include people who receive Supplemental Security Income or are enrolled in the Food Distribution Program on Indian reservations. It could likewise provide a match to Senior and WIC farmers’ market nutrition (FMNP) coupons or make an equivalent ‘coupon’ available since the current supply falls far short of the demand. In

*See California Coastal Commission: <http://www.coastal.ca.gov/climate/climatechange.html> and California’s Climate Change Portal: <http://www.climatechange.ca.gov/>.

Eugene, OR, a program called ‘That’s My Farmer’ enables low-income consumers to sign up for a weekly farm share at a reduced price, the cost of which is offset by a community fundraiser. Expanding creative programs such as these could make fresh and healthy foods affordable to food insecure households.

2. **Research the opportunity for fresh fish sales.** The demand and potential market opportunity for fresh fish sales in DNATL remains unknown. With new models of Community Supported Fisheries popping up along California’s coast,* alternatives to a traditional retail shop should be considered. Further assessment is needed to identify potential fisherman, analyze marketing models and determine consumer demand.
3. **Maximize economic benefits from food systems.** Changes that strengthen the food system can promote economic growth. Further research into supply chains and value chains,**¹² is needed to determine processing and distribution needs for DNATL. USDA Rural Development funds could be used to conduct a value chain analysis. Such research must consider which markets would be of most benefit to consumers. Letting local food needs drive development will foster a locally-appropriate food system.

Expanding local food systems can increase employment and income in the community.¹³ Federal food assistance dollars are a source of outside funds that can be captured in the local economy. Research shows that every \$5 in new CalFresh benefits generates as much as \$9 of economic activity.¹⁴ For instance, if all CalFresh income-eligible individuals in the county were participating, an additional estimated \$1.12 million in federal nutrition benefits would circulate in the economy each year.¹⁵

4. **Make healthy store conversions.** Rural stores are an important source of foods for their communities. Pem-Mey Fuel Mart in Klamath is making changes so that consumers have more healthy choices. Other small markets could make similar changes, but healthy and fresh foods can be too expensive for small stores to provide: some are highly perishable, produce coolers are very expensive and shoppers typically come into the stores looking for cheap and convenient foods. Incentives or financial assistance can help address this issue. There are new sources of funding for ‘healthy store conversions’ and good models to learn from.***
5. **Foster more advocates for agriculture.** One of DNATL’s main food system shortcomings is that only a limited variety of foods are being grown. Farmers could use support. Advocate groups can engage the public and teach them about local foods and farming through organizing events such as: farm tours, ‘Taste of Place’ dinners, airing movies highlighting the role of food choices, celebrating a ‘Local Food Month’ every year, or coordinating Crop Mobs – a day of pitching in on a local farm. One example is Ocean Air Farms in Fort Dick which regularly updates a Facebook profile for staying in touch with its supporters and has hosted some of the activities above. Such events can lead to an increase in public awareness, build relationships between consumers and local farmers, and help people to realize their role in the food system.
6. **Encourage local knowledge and self-reliance.** Food traditions and knowledge are typically taught within the household, but growing interest, combined with the loss of skills in many households, is changing that paradigm. Community members are looking to each other to learn. For example, in the town of Orleans, in Humboldt County a series of once-a-month workshops began in 2011 on various topics including home canning, mushroom hunting and goat butchering. Hands-on and peer-based lessons could be coordinated throughout the Del Norte and Adjacent Tribal Lands, as many community members have knowledge to share with one another.

For individuals who are interested in raising their skills to the next level, train-the-trainer models could be used, or workshop series’ could be developed on various topics. For example, The Greening of Detroit helps their participants gain gardening and leadership skills by offering singular workshops and a series focusing on leadership that is required to become a garden leader. Additional series are offered for individuals

* See Local Catch at <http://www.localcatchmontereybay.com/>.

** ‘Supply chains’ include food producers, processors, distributors and retailers, and a ‘value chain’ is a supply chain that is designed to link producers with markets efficiently.

*** See FreshWorks, sponsored by The California Endowment at <http://www.cafreshworks.com/>, the Healthy Corner Stores Network at <http://www.healthycornerstores.org/> and the Rural Grocery Initiative at <http://www.ruralgrocery.org/>

wanting to grow for farmers' market sales or to transition into serious market gardeners. To encourage people to broaden their participation and knowledge, garden-based incentives are offered, such as free compost or winning a small greenhouse. The rewards are tied to not only desired outputs but also human resources.

7. **Conduct further research to benefit the community's food system.** Throughout the report it has been noted where further research is needed as funding becomes available.

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Appendix

Appendix 1: California Food Policy Advocates 2012 PAI Press Release

For Release on February 8, 2012

Contact: Tia Shimada at tia@cfpa.net or 510.407.2868



New Data Shows Del Norte County Ranks 1 in Utilization of CalFresh; Full Participation Would Bring an Estimated \$1.12 Million in Federal Benefits to County Residents

Advocates and Administrators Celebrate Successful Efforts to Boost CalFresh Utilization

As more Californians struggle to make ends meet, participation in CalFresh (formerly known as the Food Stamp Program) has surged. Despite record enrollment, state-level data from the United States Department of Agriculture indicate that just over half of all eligible Californians participate in CalFresh. With the nation's lowest participation rate, California loses out on an estimated \$4.9 billion in federal benefits each year, which would generate an estimated \$8.7 billion in additional economic activity.

Today, California Food Policy Advocates released its annual Program Access Index (PAI), a county-level analysis estimating CalFresh utilization among low-income individuals. Del Norte County ranks 1 out of 58 counties for CalFresh utilization, with the first-ranked county having the highest utilization relative to the number of income-eligible individuals. If CalFresh reached all income-eligible individuals in Del Norte County, those currently not participating would receive an estimated \$1.12 million in federal nutrition benefits each year.

CalFresh participation remains low for a variety of reasons, including misinformation about eligibility, stigma, and an overly burdensome application process. California has taken significant steps to reduce these barriers. Last October, Governor Brown signed a series of CalFresh bills that removed the fingerprint requirement from the application process, reduced paperwork, and will test strategies to enroll more social security recipients in CalFresh. Further efforts to expand CalFresh participation include integrating CalFresh enrollment with health care reform, expanding data sharing across government programs, and focusing on senior populations that miss out on CalFresh benefits.

Recognizing Progress

For the past 13 years California Food Policy Advocates and the California Department of Social Services have co-sponsored the annual CalFresh Forum, an event that, amongst many other goals, seeks to honor individual Californians and community organizations for their outstanding efforts to improve CalFresh access and participation. Inspiring individuals and organizations are nominated by their peers to receive "Freshy Awards" and winners are chosen by popular vote. The 2012 winners are:

- *Assembly Member Felipe Fuentes*, won the award for Best Performance by a State Legislator for his leadership on AB 6, the CalFresh Act of 2011, which removed barriers to CalFresh access/participation.
- *Julie Salley-Gray* won the award for Best Performance by a State Legislative Staff for her hard work and dedication on AB 6, which removed the finger print requirement for CalFresh applicants.
- *Cristina Acosta*, CA Dept. of Public Health, won the award for Best Performance by a State Employee for her hard work in creating a CalFresh brochure to target seniors for enrollment.
- *Dr. Michael Riley*, Orange County Social Services Agency, won the award for Best Performance by a County Director for his work coordinating three organizations in effective outreach strategies.
- *Jennifer Tracy*, San Diego Hunger Coalition, won the award for Best Performance by a Local Advocate for her dedication to implementing recent legislative changes and participating in CalFresh initiatives.

Appendix 2: California Food Policy Advocates 2012 PAI Press Release



CalFresh-BETTER FOOD FOR BETTER LIVING

Did you know eating healthy foods such as fruits and vegetables can help your child do well in school?

Need more money for food?



If your child qualified for the school lunch program, your family may qualify for CalFresh too.

- CalFresh can help your family purchase more fresh fruits and vegetables.
- You can be eligible for CalFresh even if you have a job, own a house or cars and have money in savings.
- Using CalFresh is easy. Families receive an electronic benefit transfer card (EBT) to use just like a debit card at grocery stores and many farmers' markets.
- If you are an immigrant with children born in the United States, your children may be eligible for CalFresh.
- Personal information is not shared with other agencies, such as Immigration Services.

For more information or to apply for CalFresh:

Dial 2-1-1
(Sonoma, Napa, Mendocino & Lake Counties)

Dial (707) 441-1001
(Humboldt & Del Norte Counties)



For CalFresh information, call 1-877-847-FOOD (3663) or visit www.calfresh.ca.gov. Funded by USDA SNAP, an equal opportunity provider and employer. •California Department of Social Services and California Department of Public Health.

Community Gleaning Project



Don't Let Good Fruit Go Bad!

Too much fruit? Too many zucchinis?

Volunteers can come harvest your fruit or vegetables and deliver it to CAN's food bank and other venues for distribution to families in need of fresh, healthy food.

Call: Connor 464-9190
or 4-H 464-4711

Email: gleaning@canbless.org

Twitter: [@gleandelnorte](#)

Facebook: Del Norte Community Gleaning Project



Appendix 4: Swamp Tea Picking

'Es-day (Swamp Tea) Yvlh-sri (Picking)



Fall is here and up in the mountains the leaves are changing colors. Even swamp tea leaves turn yellow then brown at this time of year. Therefore, we are not to pick or gather until the spring time. From the end of May until the beginning of October after the flowers have bloomed is the perfect time to pick and gather for the long, cold winter months. Having tea leaves on hand during the winter months is medicinal in that it helps with winter colds and allergies.

On September 24th Dusty and Russell Lopez took a group of novice pickers out to a new tea patch area that Russell discovered in Crescent City where massive amounts of tea grows. Russell was our leader and brought a machete to help our jungle walk go a little more smoothly. Getting out to that newly found tea patch was very exhausting and rough. We walked about $\frac{1}{4}$ of a mile out into the swamp. We crawled under logs, sludged through quicksand creek beds where we lost our boots and had to pull them out of the mud, and endured sticker bushes and foliage that would bat us around. Thankfully, the sun was out and brought a little happiness to our hike. At one point, Barbara was submerged in mud and water up to her waist in the quicksand creek bed. We could smell the fragrant odor of the tea plant as we got nearer the patch. Once we arrived at our destination, there was tea all over the place. Our bags were full with fresh fragrant tea in no time at all. Picking the tea is easy once the patch is found. Pull at the base of the plant with a firm grip and slide your hand all the way to the top of the plant to get all the leaves. Sometimes the top of the plant has to be snapped off to finish the task. This is okay in that the plant will regenerate the top with bigger and better leaves. Russell showed all of us an important task. It is im-

portant to notice the difference of another plant that closely resembles the tea bush and leaves. The leaves of the young Wild Azalea bush look almost exactly alike. Russell took a few of the tea leaves in his hand and crushed them to let a sweet beautiful fragrance escape. That is how you can tell the difference.

Dusty explained how to process the tea once everyone was at home. Pick all the leaves off of any stems and tops that are in the pile of leaves. Pick out the old brown leaves. Shake out sticks and other plants that may have got into your bag. Pick out bugs that may have been attached to the bag, tea or somehow hitchhiked out of the swamp. Put all the leaves in a brown paper bag and put somewhere warm to dry: like on top of the refrigerator or in a sunny window. Shake the bag once in a while to let the unwanted stuff fall to the bottom. About two weeks later, the tea should be ready to use. Fresh tea leaves may also be used to make tea.



Tea is especially nurturing during the fall, winter and spring months. Dusty said that her grandfather and grandmother Edward and Lena Lopez use to make tea all the time in their home on Lopez Creek where she now resides. She has many fond memories of sitting with her grandparents drinking tea and listening to their morning discussions about current issues. Both are gone now, but that fond memory keeps them close to her heart. She also often made tea for her father Edward Lopez Jr. He loved tea and would drink it all the time. That is why he taught Dusty how to pick it and when to pick it. Little did she know that she would be making his tea till the end of his days. Dusty's message to you, "Is that when you make tea picking a tradition in your family, you affect generations of your descendants for all time. It is something that you carry with you and your children and grandchildren will carry on as well. Maybe you can only pick it once per year; the important thing to remember is to do it."

Once our bags were full we hiked back to the car. The hike back was a bit trickier because we had to protect our tea from spilling out. Dusty was following behind me and came upon a full bag of tea. She asked me if I was missing my bag and much to my surprise, I found that it fell out of my sweatshirt I had on and lost it without even knowing it. With all the technology available on our phones not one person thought of turning on their GPS app to help our journey back. If it were not for Russell's keen sense of direction, we would have been trekking all over the swamp and would have had the Search and Rescue unit come and save us; thanks Russell. Dusty would like to thank Barbara and her girls Shavon and Paula, their cousin Andrew Fry, her niece Shalawn and Council member Lenora Hall for having the desire to learn the correct way to pick and to ensure that future generations know where to go and the right way to pick. They were all wonderful troopers. Also, Dusty would like to thank her cousin Russell for leading the way and demonstrating how to pick tea to our group.



If you would like to go on a tea picking hike next year, send your contact information to Dusty at POB 293, Smith River, CA 95546 or text her your info at 707-954-0743 or email her at dustrezgirl@yahoo.com. Also, she is available to plan a tea picking hike for a group geared to abilities and time periods. Hump-chi

Submitted by Lenora Hall

Appendix 5: Grocery Store Survey

DNATL Food Store Survey

Fruit—fresh Are any identified as: (Circle One)				
		Local	Organic	
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Apples, any variety (bagged or loose)		Per lb		
Bananas		Per lb		
Grapes (green or red)		Per lb		
Melon (cantaloupe, honeydew, or watermelon)		Per lb		
Oranges, any variety (bagged or loose)		Per lb		

Vegetables—fresh Are any identified as: (Circle One)				
		Local	Organic	
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Carrots, unpeeled (bagged or loose)		1-lb bag		
Celery, bunch		Per lb		
Green pepper		Per lb		
Lettuce, leaf (green or red)		Per lb		
Onions, yellow (bagged or loose)		Per lb		
Tomatoes (any variety)		Per lb		
Potatoes, any variety		5-lb bag		

Fruit, canned Are any identified as: (Circle One)				
Sugar Free		Organic		
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Oranges, mandarin(juice or light syrup)		15-oz can		
Peaches, (light syrup)		29-oz can		

Vegetables, canned Are any identified as: (Circle One)				
Low Sodium		Organic		
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Mushrooms, pieces		4-oz can		
Spaghetti sauce, any variety		26-oz jar		
Tomato sauce, any variety		8-oz can		

Fruits and Vegetables, frozen Are any identified as: (Circle One)				
Low Sodium		Organic		
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Orange juice, concentrate		12-oz can		
Broccoli, chopped		16-oz bag		
Green beans— any variety		16-oz bag		
Green peas—any variety		16-oz bag		
French fries— any variety		32-oz bag		
Corn		16-oz bag		

Breads, Cereals, and Other Grain Products, fresh Are any identified as: (Circle One)				
Whole Grain		Gluten Free	Local	
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Bread, white, enriched		1-lb loaf		
Bread, whole wheat		24-oz loaf		
Hamburger buns, enriched		Package of 8		
Rolls, dinner, enriched		Package of 12		
French or Italian Bread, enriched		Per 1-lb loaf		
Bagels, plain, enriched		Package of 6		
Bread crumbs, plain		10-oz can		
Tortillas - Flour		1 dozen		
Tortillas - Corn		1 dozen		

Breads, Cereals, and Other Grain Products, dry Are any identified as: (Circle One)				
Whole Grain	Gluten Free	Local	Organic	
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Ready-to-eat cereal—corn flakes		18-oz box		
Ready-to-eat cereal—toasted oats		20-oz box		
Flour, white, all-purpose,enriched		5-lb bag		
Macaroni, elbow-style, enriched		1-lb box		
Noodles, yolk-free, enriched		1-lb bag		
Popcorn, microwave, any variety (unpopped)		9 oz package		
Rice, white, long-grain, enriched		5-lb bag		
Spaghetti,		1-lb box		

Dairy Products, fresh Are any identified as: (Circle One)				
Local	Organic			
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Milk, 1% low fat		1 gal		
Milk, whole		1 gal		
Cheese, cheddar, any variety		Per lb		
Cheese, cottage, any variety		16-oz carton		
Cheese, mozzarella, whole		16-oz package		

Dairy Products, canned Are any identified as: (Circle One)			Local	
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Evaporated milk, any variety		12-oz can		

Meat and Meat Alternates, fresh Are any identified as: (Circle One)			Local	
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Beef, ground, lean		Per lb		
Chicken, fryer, cut-up or whole		Per lb		
Chicken, thighs		Per lb		
Turkey, ground		Per lb		
Pork, ground		Per lb		
Turkey ham (packaged luncheon meat)		Per lb		
Eggs, grade A, large		1 doz		

Meat and Meat Alternates, frozen and canned Are any identified as: (Circle One)

Low Sodium	Local	Organic		
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Fish, flounder or cod, frozen		Per lb		
Tuna fish, chunk-style, water packed		6-oz can		
Beans, garbanzo (chick peas), canned		15-oz can		
Beans, kidney, canned		15.5-oz can		
Beans, baked, vegetarian		16-oz can		
Black Beans		16-oz can		
Red Beans		16-oz can		
Salmon		Per lb		
Soup (Any)		14-oz can		
Chicken noodle Soup		14-oz can		

Fats and Oils Are any identified as: (Circle One)

Low Sodium	Local	Organic		
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Margarine, stick		1-lb box		
Shortening, vegetable		3-lb can		
Salad dressing, mayonnaise type		32-oz jar		
Vegetable oil, any type		48-oz bottle		
Olive oil		750-mg bottle		

Sugars and Sweets Are any identified as: (Circle One)				
Sugar Free		Local	Organic	
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Sugar, brown (dark or light)		1-lb bag or box		
Sugar, powdered		1-lb bag		
Sugar, white, granulated		5-lb bag		
Jelly, grape		32-oz jar		
Molasses, any type		12-oz jar		
Pancake syrup, any type		24-oz bottle		
Chocolate chips, semi-sweet		12-oz package		
Fruit drink, refrigerated, any flavor		1 gal		
Fudgesicles, ice milk		Box of 12		

Other Food Items,				
Food Item	Brand/ Variety	Item Weight/Unit (Desired)	Item Weight/Unit (Actual)	Price (Lowest Cost)
Baking powder		10-oz can		
Baking soda		16-oz box		
Chile powder		3.25-oz jar		
Cinnamon		3-oz jar		
Cumin		2-oz jar		
Onion powder		3.5-oz jar		
Garlic powder		4.25-oz jar		
Italian herb seasoning		2-oz jar		
Oregano		0.56-oz jar		
Paprika		2.9-oz jar		
Black pepper, ground		4-oz jar		
Salt, any type		26-oz carton		
Vanilla, any type		6-oz jar		
Chicken bouillon, reduced sodium, cubes		3.75-oz jar		
Catsup, any type		28-oz bottle		
Soy sauce, reduced-sodium		10-oz bottle		
Lemon juice, bottled		32-oz bottle		
Gelatin, powdered, unflavored		Box of 4 envelopes		
Chocolate drink mix, powdered		32-oz can		
Nuts -raw		Per lb		
Dried Fruit Raisins/prunes		Per lb		
Salsa		16-oz jar		

Appendix 6: An Untapped Resource: Food “Waste”



Policy Conversations

Issue 5

February 2011

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Director, Del Norte County
Department of Health & Human Services

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An Untapped Resource: Food “Waste”

by *Melissa Jones, Esq., Health Policy Analyst*

Every year, thousands of tons of food enter the waste stream and must be shipped out of Humboldt County — instead of being used towards its intended function (to feed people), as evidenced by food insecure families in the area. There are environmental impacts as well. Producing food consumes water, another vital resource, and estimates show that more than one-quarter of water use is allocated towards food that is ultimately wasted.¹ Aside from water, wasted food accounts for 300 million barrels of oil per year, or approximately 4% of U.S. consumption.¹ In addition, food waste produces methane, a greenhouse gas 25 times more potent than carbon dioxide, as it decomposes in landfills.

In an effort to develop a food waste diversion program to serve Humboldt County, the Humboldt Waste Management Authority (HWMA) is conducting a new local waste characterization study to update the old estimates of food waste from the 1990 study.² At that time, local estimates showed that food waste was 18.8% of the waste stream.²

Food can be diverted from the waste stream at several levels. Food that is still fit for human consumption may be gleaned by food pantries and kitchens, while scraps that are inappropriate for consumption can be diverted as animal feed or compost.³ Current food waste diversion in Humboldt County is accomplished through food banks, pig farms, and small-scale composting at homes or in restaurants.² None of these diversion options currently have sufficient capac-



ity to handle all of the County’s food waste.

This conversation will focus on a new diversion option for the county, a food waste digester, which is gaining traction in California and which the EPA recognizes as a valid industrial use.³ Waste digestion has also been identified by the Air Resources Board as a “sector control measure” of AB 32, the Global Warming Solutions Act, which mandates that California reduce greenhouse gas emissions by 2020.⁴ HWMA is currently undergoing a rigorous process to develop a food waste digester to handle the county’s food waste problem.

Anaerobic digesters are used in the U.S. for wastewater and animal waste treatment, although they can be used for food waste as well. Most food waste digesters exist in Europe, although there is one in Canada and two demonstration scale digester systems in California. The process of anaerobic digestion is described fully in HWMA’s feasibility study which can be found at www.hwma.net. Digesters are air-tight containers that utilize micro-organisms to

convert organic waste into biogas and soil amendments. The biogas, which is comprised of approximately 60% methane and 40% carbon dioxide, can be used for “direct heating, generating electricity or vehicle fuel.”² The liquid remaining in the digester can be used as fertilizer and a residual solids can be co-composted with the county’s green waste to create a soil amendment.²

A food waste digester may be a good option for Humboldt County. HWMA is currently pursuing the permitting for the food waste digester facility. HWMA, along with PlanWest Partners and Ourevolution Engineers, have prepared a California Environmental Quality Act Initial Study / Mitigated Negative Declaration of Impact. This document was released to the state and local responsible agencies for 30 day review ending on February 23rd. Once the review period closes, HWMA will address all concerns put forth, and provided there are no major regulatory or public objections, adopt the Mitigated Negative Declaration of Impact.

Although generally more expensive to construct, digester plants require less space than composting facilities, emit fewer emissions to the atmosphere, and have the advantage of producing renewable energy which can be used to generate revenues to help offset operating costs.⁵ Additionally, Humboldt County’s yard waste composting facility is not permitted to accept food waste. Siting a new composting facility that could accept food waste is extremely difficult because of neighborhood concerns over foul odors and pests. For these reasons, food waste composting facilities are generally located far from population centers where the waste is generated.

Significant savings can be gained by dealing with food waste within the county. Estimates from HWMA indicate an overall waste disposal cost savings of \$12 to \$16 million over 20 years if a digester facility can be established.²

Currently, all solid waste is hauled to White City, Oregon, or Anderson, California — about average 187 miles each way. The frequency of these trips could be reduced by diverting food waste to a local facility. The HWMA feasibility study calculated annual savings, depending on how many tons of food waste is diverted, as \$62,000/year on the low end and \$260,000/year on the high end.² Fats, oils and greases are not consid-

ered food waste, but they are a part of our commercial food preparation system. These wastes are also currently hauled out of county, to Oakland or Chico — a 500 mile round trip, for disposal. These trips could be eliminated if waste oil is added to the digester’s feedstock.

Not only will this project reduce long term waste management costs, but the county would also be making efforts towards compliance with two legal mandates:

Humboldt will be decreasing its ecological footprint by reducing greenhouse gas emissions emitted at the landfills and by burning less fossil fuel due to a reduction in long distance hauling. This would further the efforts required by AB 32.⁶ Humboldt will also be increasing its waste diversion efforts, which will help local jurisdictions reach or maintain compliance with California’s AB 939 mandate of 50% diversion of waste away from landfills.⁷ In the 2010 legislative session, AB 737 (Chesbro) would have further increased the diversion goal to 75% by 2020, but this bill was vetoed by Governor Schwarzenegger.⁸ No doubt, more bills will be introduced to help California work towards achieving zero waste. With the development of a food waste digester, Humboldt County would greatly further its diversion rate.

In addition, the digester will produce two valuable resources: energy, in the form of electricity, and compost.² The electricity will be used to operate the digester system and the excess electricity can be sold back to the utility grid.² The compost is a nutrient rich soil amendment that can be used for landscaping, parks, and erosion control.⁹

Policy is Needed to Support a Digester

A stand-alone food waste digester is a relatively new concept for the United States. Few examples exist in urban areas, and none in rural locales. Although a digester will be effective for reducing waste and harmful greenhouse gases, the county must be adequately prepared to support such an undertaking. For one thing, it will be important that the digester have access to enough food waste to be productive, and so county-wide participation is essential.

Since a large amount of food waste is from business, collection from the commercial sector should be the first phase of the digester collection strategy. By

doing so, the waste going to the digester will likely have less contamination because commercial waste such as farmers markets, food processing plants, large restaurants and grocery stores can often assure a more pure feedstock.⁹ The residential sector will eventually be included in food-waste collection. This is the strategy that HWMA is planning on implementing should the digester come to fruition.²

Some larger cities, such as San Francisco, found that their voluntary organics program participation rates were low and eventually adopted policies that made composting mandatory. This ensured survival of the program. Other urban municipalities, particularly those that have been using digesters, have adopted mandatory waste separation policies.¹⁰ Nantucket, Massachusetts, mandates composting, as does Seattle, Washington. Similar policies may need to be enacted in Humboldt County as the digester is set up.

Effective food waste diversion policies will require continuous outreach and education in addition to enforcement. For example, some municipalities that require separate food waste collection have added a surcharge onto those customers that deliver contaminated loads, then used direct follow-up with people as an opportunity to educate about proper separation.¹¹ In commercial collection, one community uses color-coded carts depending on where they are located in the food service chain so that contamination point can be quickly identified and addressed.¹¹

Some states, though not California, have banned yard trimmings from the landfills to help reach waste-diversion goals. No states have banned food from landfills, however, in some Canadian provinces, where food waste diversion is more established, food waste is banned from landfills.⁹ This puts the onus on the food hauler or the food waste generator to maintain uncontaminated food loads for the digester.

Flow-control ordinances have been enacted in some communities to control the destination of solid waste. If needed, ordinances could be established to direct additional feedstock, such as fats, oils, and greases to the digester, but only if certain requirements are met. Recently, a U.S. Supreme Court decision created a new test for the validity of flow-control ordinances where those that direct waste delivery to publically owned and operated facilities and do not discriminate among haulers are likely permitted.¹²

Typically, weekly trash collection is required as a public health and safety issue. Often when municipalities offer food-waste collection, they do so in conjunction with the incentive of bi-weekly trash collection at a reduced rate.¹³ Alternatively, weekly garbage services may be offered, but will require an extra fee.¹³ However, if food waste is collected weekly, it is less likely that trash will pose the same health risks. Currently, Humboldt County ordinances require that putrescible waste is collected either twice or once per week depending on the location.¹⁴ Each city in the county has a slightly different ordinance for solid waste collection, but most require pick up at least once a week — although some cities allow for exemptions if the citizen composts.^{15,16} A similar county-wide exception should be in place to promote diversion of food waste to the digester.

When food waste collection is extended to residential areas, a large amount of outreach and education must be planned as well since residents must be aware of the reasons behind the strategy and proper sorting techniques. Many cities that have collected food waste can provide examples of effective education and marketing.

Some cities, counties and states have adopted “zero waste” policies or strategic plans to help promote waste reduction and diversion efforts of all types. Locally, Arcata has a goal of zero waste.¹⁷ Del Norte has also adopted a zero waste plan that Humboldt could use as a local rural example.

Conclusion

Food waste is a huge national problem, and also one that is felt close to home. By diverting food waste to a locally established digester, there will be fewer trips to distant landfills and less reliance on fossil fuels. The Redwood Coast would be a pioneer if such a project is implemented.

An untapped resource, food waste creates biogases that can be harvested in weeks and used within the county. The initial capital cost of the digester is greater than alternatives such as composting, but more feasible and cost-effective over time. With nearly 18,000 tons of food waste currently hauled out of county, it will be vital that policies support projects like a food waste digester.

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- Rollin Richmond, President, Humboldt State University
- Denice Helwig, Special Assistant to the President, Humboldt State University
- Sidney Dominitz

Endnotes

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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.

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