

A Community Food Assessment for Del Norte County and Tribal Lands



Version 2.1

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



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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 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 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.

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

- Direct farmer-to-consumer sales within the county has skyrocketed.
- There's much more community support pursuing new food initiatives and local producers.
- There is more support for community supported agriculture, with community gardens at the Tribal Reservations, all schools and in public spaces.
- Farm-to-school education/implementation. All Del Norte County schools have school gardens and an educational program centered around local food production, health and nutrition, and taking care of gardens. The schools also provide lunches with locally made goods.
- Del Norte County has the highest rate of participation in Market Match at farmers markets.

Weaknesses

- Lack of diversity in local agriculture
- Lack of access to traditional foods for Tribal lands.
- Fishing populations have been diminishing with every year.
- Distribution trains of local goods can be difficult because of infrastructure in and out of county.
- Better access to nutritionally appropriate food for remote areas.
- Minimal processing at the local level and limited access to locally produced foods.
- Lack of adequate public transportation for consumers in local areas to get to healthy food stores.

Recommendations

- More marketing/distribution of local goods within and outside of the county.
- Find a way to open more healthy grocery stores in remote locations OR provide more healthy food options in already established food stores in remote locations.
- More education for the local community on nutrition and healthy eating habits.
 - Re-introducing home economics/cooking classes for all school grades
- Finding more incentives to community members to attend cooking classes and nutrition workshops.

Challenges

- Transporting and distributing fresh goods in and out (fixing infrastructure of an isolated area).
- Lack of economic opportunity for local farmers and producers.
- Climate change and its effect on current systems.
 - Decreases in fishing, especially for Yurok
- Inability to increase agricultural land because of geography of county.
- Fishing industry changing.
 - More expensive to become fishermen than before, more difficult for new fishermen
- Getting community members to attend workshops, cooking classes and other events surrounding nutrition education.
- Tribes can't properly fish/hunt/harvest traditional foods because of federal regulations.

Section 1

Project and Organizational Background

This Community Food Assessment is part of 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 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 Molly Noble. Project supervision, editing, and policy input was provided by Connie Stewart, Executive Director at CCRP.

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. 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.

This report is intended to be a living document that will be updated. This report is the first update from its original version, which was completed in 2011. 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.

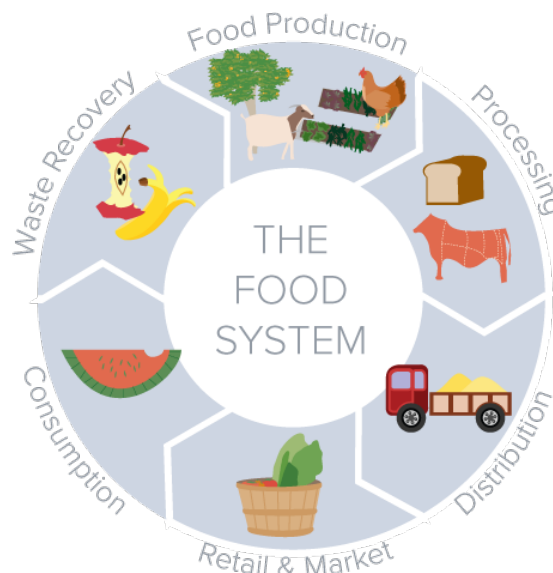
Section 2

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 been 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, an 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 far production to consumption and can be broken down into the six sectors: 1. Food production. 2. Processing. 3. Distribution. 4. Marketing. 5. Consumption and 6. Waste (see figure below). 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.



A local food system represents the same range of activities but keeps them in closer geographic and economic relationship to each other. More face-to-face transactions are developed through direct marketing, with fewer steps along the chain from farmer to consumer or farmer to storeowner. Local foods travel fewer food miles, compared to the average 1,500 miles that is typical of grocery store produce in the US².

¹ Feestra, G. 1997. Local food systems and sustainable communities. *American Journal of Alternative Agr.* 12(1):28-34. https://www.researchgate.net/publication/231747976_Local_Food_Systems_and_Sustainable_Communities

² Hendrickson, J 1996. Energy Use in the US food system: A summary of existing research and analysis. Center for Integrated Agricultural Systems, UW-Madison. <http://www.cias.wise.edu/wp-content/uploads/2008/07/energyuse.pdf>.

Defining Food Security

In 1990, 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:

- Limited or certain 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.

High food security	Households had no problems, or anxiety about, consistently accessing adequate food.
Marginal food security	Household had problems at times, or anxiety about, accessing adequate food, but the quality, variety, and quantity of their food intake were not substantially reduced.
Low food security	Households reduced the quality, variety, and desirability of their diets, but the quantity of food intake and normal eating patterns were not substantially disrupted.
Very low food security	At times during the year, eating patterns of one or more household members were disrupted and food intake reduced because the household lacked money and other resources for food.

Hunger - The uneasy or painful sensation caused by 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.

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.

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?

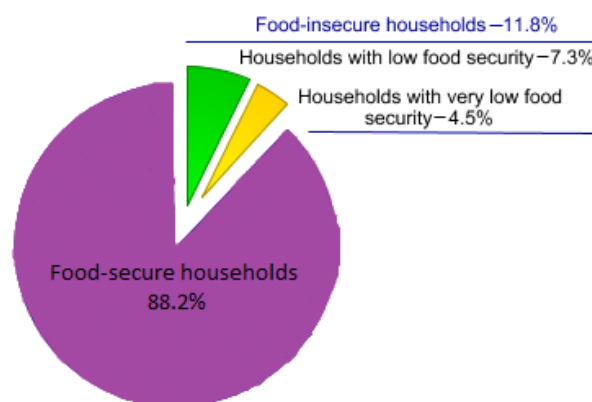
Acceptability: Food choices are strongly tied to culture, social norms and religion. While some dietary choices are flexible others can be extremely rigid. Are healthy foods available that are appropriate for the food culture of area residents?

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."³

Food Insecurity

The way that 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. 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. The most recent nationwide food security data are from 2017 (see figure below, "U.S. households by food security status, 2017 "). The USDA Economic Research Service conducting the annual survey found that 88.2% of US households were food secure, up from 85.5% in 2010. 11.8% of households faced food insecurity at some point in 2017, either unable to provide, or uncertain of having, enough food for all household members. Since 2014, households considered as having "very low food security" has decreased from 5.6% to 4.5%. The years 2008-2010 have been the bleakest since the national survey was instituted in 1995.

U.S. households by food security status, 2017



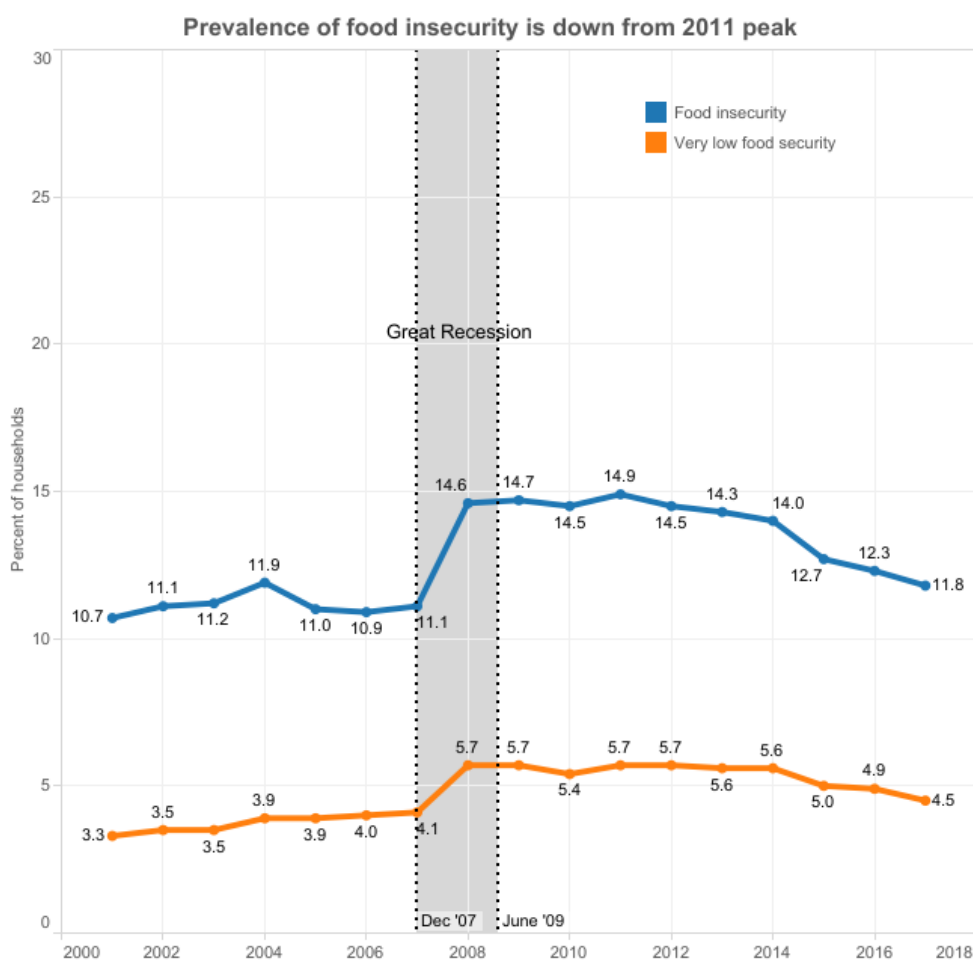
Source: USDA, Economic Research Service, using data from the December 2017 Current Population Survey Food Security Supplement.

³ Seattle King County Acting Food Policy Council. Strategic Planning framework. 2009. http://king.wsu.edu/foodandfarms/AFPC/AFPC_Strategic%20Framework_051209_FINAL.pdf. Accessed Sept 3rd 2018.

The figure below shows the changes in food security in the US from 2000 to 2018. Since the last food assessment in 2011, food security in the US has gone down from 14.9% to 11.8%. The rates of very low food security have also gone down from 5.7% to 4.5%. While the graph shows that rates of food security have not gone below the rate before the Great recession, we can see that there's a steady decline.

Characteristics of the food insecure in the U.S.

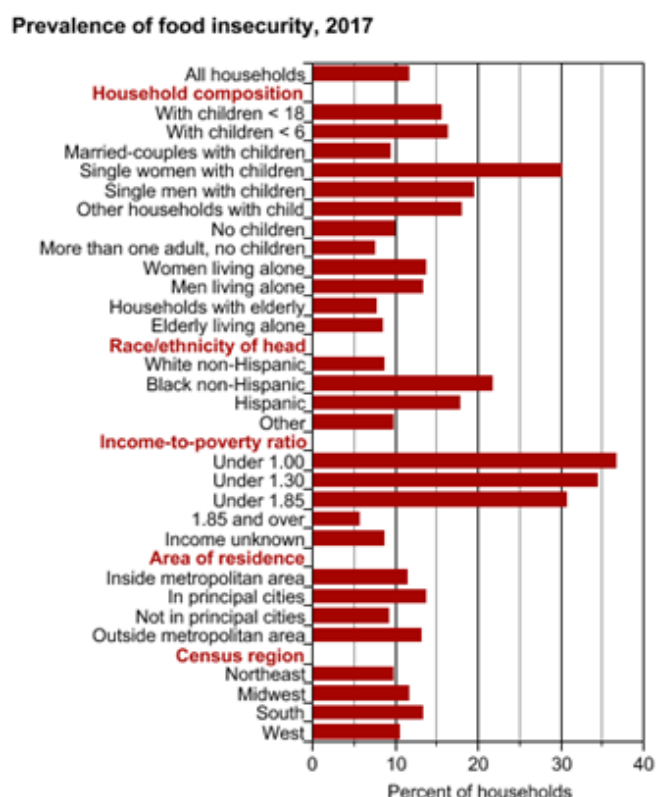
Food insecurity, 2001-17	Food insecurity before, during, and after the Recession	Very low food security before, during, and after the Recession	Changes in food insecurity, 2001-17	Changes in very low food security, 2001-17
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Source: Calculated by USDA, Economic Research Service using Current Population Survey Food Security Supplement data.
<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/>

The figure below shows that race and ethnicity are both factors in the prevalence of food insecurity. Hispanic households at around 18% and Black households at around 22%, have

higher rates than the national average compared their white counterparts (~8%). Households with children are much more likely to be food insecure, especially households headed by a single woman, which are 30% food insecure. This statistic is down from 35% in 2010.⁴ Households headed by a single man are also food insecure at 8.6%, but rates have also fallen from 25.4% in 2010.



Source: USDA, Economic Research Service, using data from the December 2017 Current Population Survey Food Security Supplement.

In total, there were 15 million households which experienced food insecurity during sometime in 2017,⁵ and 4.5% of those households experienced very low food security.⁶ Multiple studies have demonstrated that children in food insecure houses have poorer health and higher risks of development problems than children in otherwise similar food secure households.⁷ Factors such as the parent having a low level of education, or being out of the labor force due to disability greatly affected issues of food security. Government assistance programs, such as Supplemental Nutrition Assistance Program (SNAP) benefits, Special Supplemental Nutrition Program for

⁴ Coleman-Jensen, Alisha. 2011. Household Food Security in the United States in 2010. US Dept. of Agriculture. https://www.ers.usda.gov/webdocs/publications/44906/6893_err125_2_.pdf?v=0

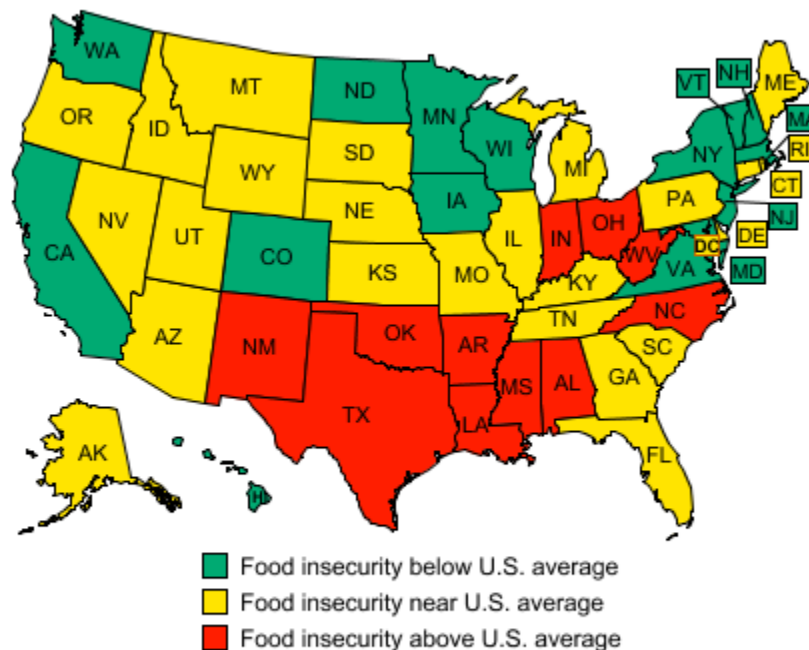
⁵ Coleman-Jensen, A. Matthew P. Rabbit, Christian A. Gregory, Anita Singh. 2018. Household Food Security in the US in 2017. <https://www.ers.usda.gov/webdocs/publications/90023/err-256.pdf?v=0>

⁶ Ibid.

⁷ Nord, Mark. Food Insecurity in Households with Children; Prevalence, Severity, and Household Characteristics. EIB-56. U.S. Dept. of agriculture, Econ. Res. Serv.

Women, Infants and Children (WIC) and free or reduced price school meals have helped many low-income households raise food-secure children. However, in 2017, 15.7% of household with children were food insecure at some point.⁸

Prevalence of food insecurity, average 2015-17



Source: USDA, Economic Research Service, using data from the December 2015, 2016, and 2017 Current Population Survey Food Security Supplements.

As seen in the figure above, “Prevalence of food security, average 2015-17”, food insecurity varies greatly state by state. While in 2016 the national average of food insecurity was 12.9%, California was just below the US national average, at 11.7%. This is an improvement from the 2014 average, when food insecurity nationally was at 15.4% and California’s was at 13.9%.⁹

⁸ Coleman-Jensen, A. Matthew P. Rabbit, Christian A. Gregory, Anita Singh. 2018. Household Food Security in the US in 2017. <https://www.ers.usda.gov/webdocs/publications/90023/err-256.pdf?v=0>

⁹ Feeding America. Food Insecurity in the US and California. <http://map.feedingamerica.org/county/2014/overall>.

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. However, more farmers are growing produce each year, 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?

Research Questions Not Covered:

- How much fish is exported versus sold locally?
- How has land use changed since the recession began in 2008?

General Agricultural Characteristics

In Del Norte County, there were 121 farms in 2012, utilizing 18,168 acres (see Table 1). In 2015, the overall value of agricultural production in Del Norte County was \$46,802,897¹⁰.

Table 1: General Agricultural Characteristics, Del Norte County

	2017	2012	%Change
Number of Farms	90	121	-31
Land in Farms	19,770 acres	(D)	
Average Size of Farm	220 acres	(D)	
Mkt Value of Products Sold	\$43,390,000	\$35,651,000	+7,739
Crop Sales	\$11,111,000	\$16,561,000	-5,450
Livestock Sales	\$32,279,000	\$19,091,000	+13,188
Average Per Farm	\$482,112,000	\$294,639,000	+187,473
Government Payments (D)	\$	\$	
Average payment received by farm (D)	\$	\$	

Source: 2017 Census of Agriculture. Del Norte County Profile and Tables 2, 6 and 8.

https://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/California/cp06015.pdf.

Accessed September 5th, 2018

This value does not include Timber and Forest production. If Timber and Forest production values were included, the total value of production in Del Norte County would be \$68,724, 729 in 2015.

Farmers and Farm Earnings

The number of farms in Del Norte County has gone down since 2012, from 121 farms to 90 according to the 2017 Census.¹¹ In relative terms, Del Norte County is a place of very few farms. Only four other counties in the state have fewer farms.¹² Per-farm earnings suggest that the majority of the farms are small-scale producers. While the average market value of products sold per farm amounts to \$482, 112¹³, a deeper look at per farm earnings shows this value to be misleading. A total of 45 farms, amounting to 50% of Del Norte's producers, report the market value of their agricultural sales to be less than \$5,000 a year (see Figure 1).

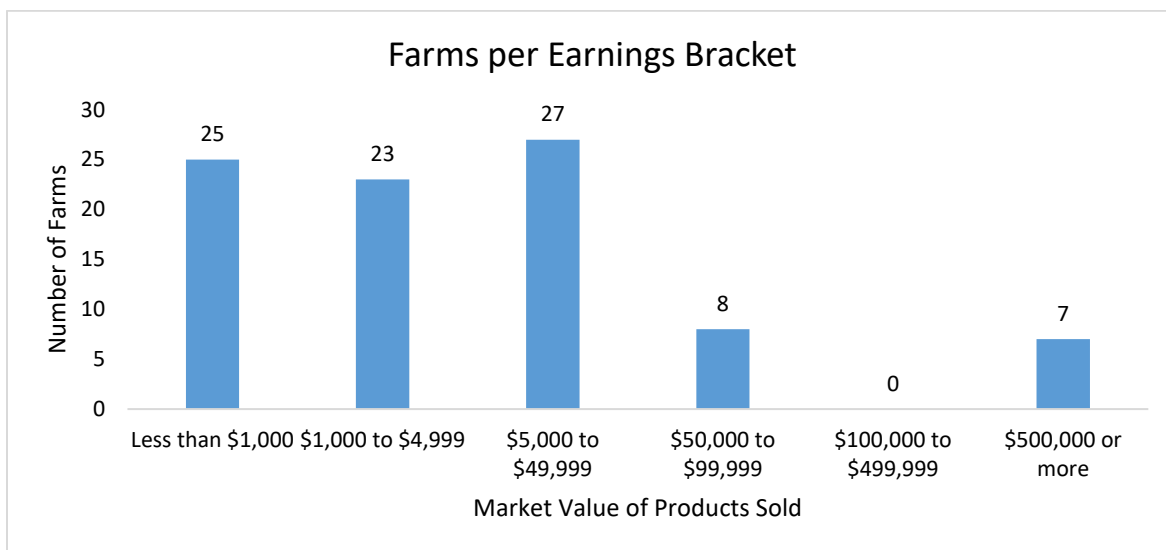
¹⁰ Buckles, J and Riggs, J. Del Norte County Crop Report. 2015. County of Del Norte, Department of Agriculture. <http://docs.google.com/viewer?a=v&pid=sites&srcid=Y28uZGVsLW5vcnRILmNhLnVzfGRuY298Z3g6NmRkZWVhZTc3ZTFjMzc3Nw>

¹¹ Table 8. Farms, Land in Farms, Value of Lands and Buildings, Land Use. 2017 Census of Agriculture, https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0008_0008.pdf

¹² Table 8. Farms, Land in Farms, Value of Lands and Buildings, Land Use. 2017 Census of Agriculture, https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0008_0008.pdf

¹³ Table 2: Market Value of Agricultural Products Sold Including Direct Sales. 2017 Census of Agriculture. https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0001_0001.pdf.

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

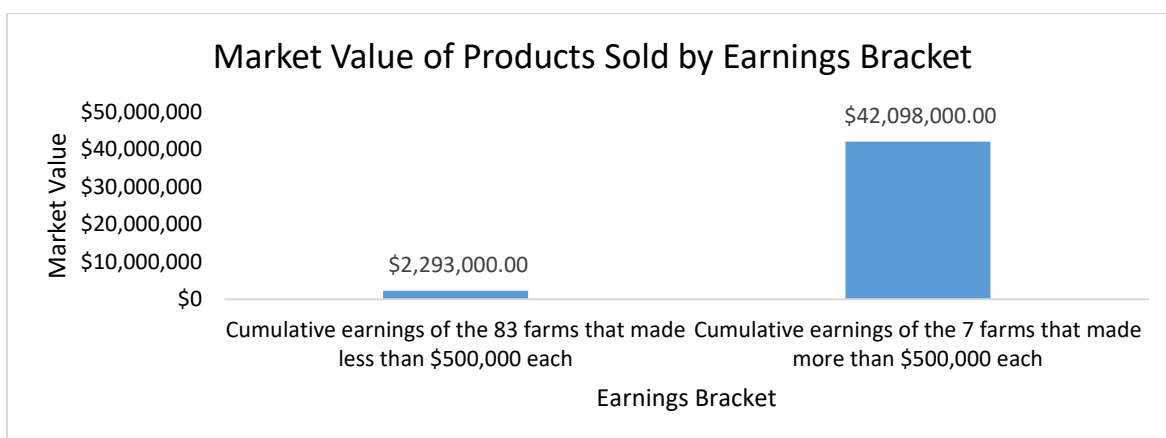


Source:

https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_002_002.pdf

Another 27 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 agricultural operation. The 7 operations with agricultural sales of more than \$500,000 earned a combined total of \$32 million in 2012. This means that approximately \$2.3 million, as shown in Figure 2, was earned by the remaining 83 farmers. Another way to see it is that about 7% of the farms make about 93% of the earnings.

Figure 2: 2017 Market Value of Products Sold Grouped by Earnings Bracket

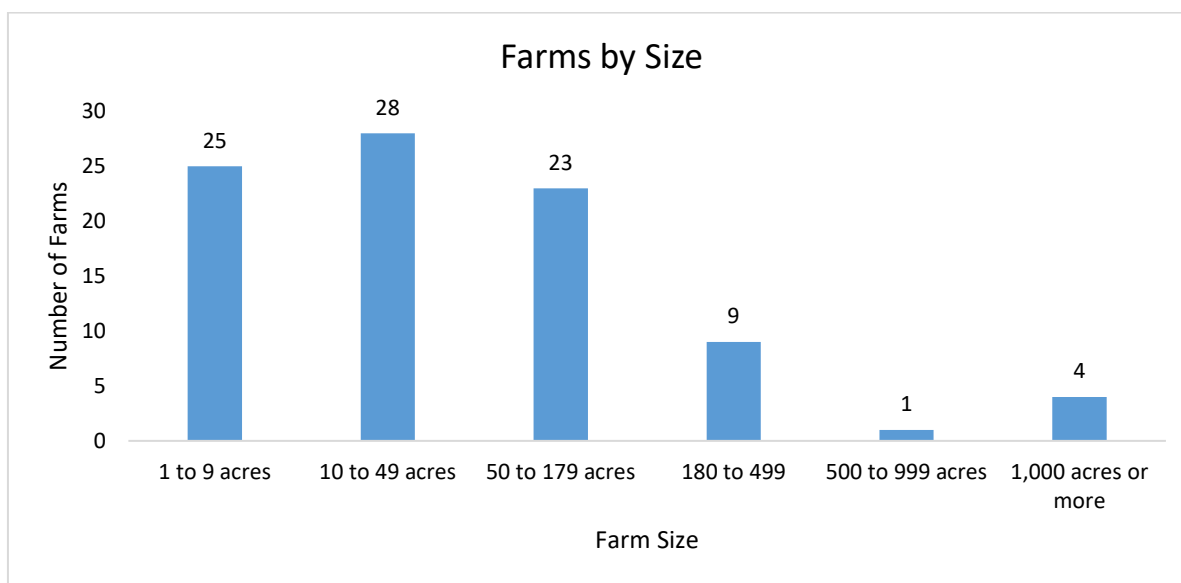


Source:

https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0001_0001.pdf

As seen in Figure 3, Number of Farms by Size, 53 of the 90 farms include less than 50 acres, and only 5 farms run on more than 500 acres. The Agricultural Census also shows that 62% of Del Norte County's farm principle operators are male and 38% are female.¹⁴ The largest number of farm operators (meaning owners, managers or other decision-makers) in 2017 were white (146), while 5 were American Indian, 6 were Native Hawaiian or Pacific Islander, 11 Hispanic/Latino, and 2 that reported as being two or more races.¹⁵

Figure 3: Del Norte County Farms by Size



Source:

https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0001_0001.pdf

Top Agricultural Products

Table 2 below shows that in 2017 approximately half of Del Norte's agricultural earnings came from milk and other dairy products. Nationwide milk prices have greatly reduced since 2014.¹⁶ 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 raised from approximately 12 million to 14 million.¹⁷

¹⁴ Table 45. Selected Operation and Operator Characteristics. 2017 Census of Agriculture
https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0045_0045.pdf

¹⁵ Tables 45. Selected Operation and Operator Characteristics. 2017 Census of Agriculture.
https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0045_0045.pdf

¹⁶ 2016 Dairy Statistics Annual Report. California Department of Food and Agriculture.
https://www.cdffa.ca.gov/dairy/pdf/Annual/2016/2016_Statistics_Annual.pdf

¹⁷ Table 2: Market Value of Agricultural Products Sold Including Direct Sales. 2007 Census of Agriculture.
https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0002_0002.pdf

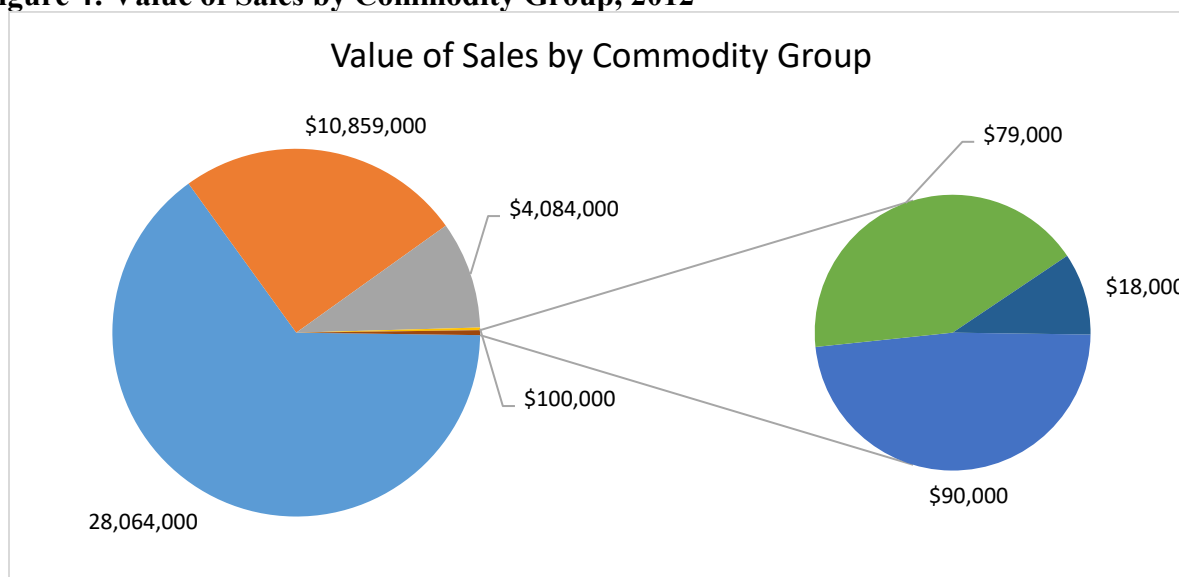
Table 2: Value of Sales by Commodity Group, 2017

<i>Commodity Group</i>	<i>Value</i>
Milk and other dairy products from cows	\$28,064,000
Nursery, Greenhouse floriculture and sod	\$10,859,000
Cattle and calves	\$4,084,000
Vegetables, melons, potatoes and sweet potatoes	\$100,000
Sheep, goats, and their products	\$90,000
Fruits, tree nuts and berries	\$79,000
Other crops and hay	\$73,000
Poultry and eggs	\$18,000

Source: County Profile: Del Norte County, California. 2017 Census of Agriculture.
https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0002_0002.pdf.

Figure 4 gives a visual representation of the data, making apparent the dominance of the top three commodity groups over the others. 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 “Fruits and tree nuts” and “Berries”.

Figure 4: Value of Sales by Commodity Group, 2012



Source: County Profile: Del Norte County, California. 2017 Census of Agriculture.
https://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/California/cp06015.pdf

While the sales of items such as vegetables, fruits, 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

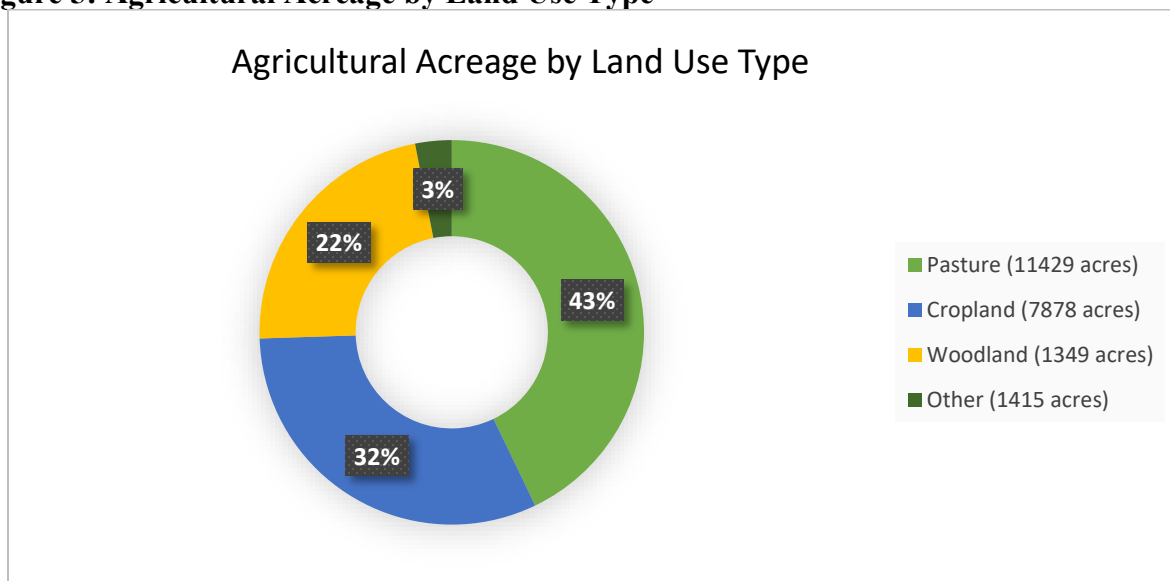
\$1,650,000 in 2015.¹⁸ Fruit and vegetables sales were also combined, amounting to \$158,000 in 2015.

Land Use

Del Norte County has a land area of 643,986 acres, 3% of which is in farmlands.¹⁹ Approximately 469,130 of the county's acres are part of Six Rivers National Forest,²⁰ 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.²¹ The agricultural and food production landscape of Del Norte is influenced by the fact that 93% of the land is under governmental ownership. The 2017 census states that Del Norte county has 19,770 acres of agriculture land.

In Figure 5 below the largest proportion of agricultural lands are shown to be pasture, which takes up 11,429 acres. The second largest land use is cropland, which takes up 7,878 acres. According to the census, some cropland was labeled as “other pasture and grazing land that could have been used for crops without additional improvements”. This was a very small portion of land, which is why it was still labeled as cropland.

Figure 5: Agricultural Acreage by Land Use Type



Source: Table 8: Farms, Land in Farms, Value of Land and Buildings, and Land Use. 2017 Census of Agriculture. https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0008_0008.pdf

¹⁸ Del Norte County Crop Report 2015.

<http://docs.google.com/viewer?a=v&pid=sites&srcid=Y28uZGVsLW5vcnRlLnNhLnVzfGRuY298Z3g6NmRkZWVhZTc3ZTFjMzc3Nw>

¹⁹ Table 8: 2017 Census of Agriculture.

²⁰ Six Rivers National Forest, US Forest Service. http://www.fs.usda.gov/wps/portal/fsinternet!/ut/p/c5/04_SB8K8xLLM9MSSzPy8xBz9CP0os3-gjAwhwtDDw9_Al8zPwhQoY6leDdGCqCPOBqwdLG-AAjgb6fh75uan6BdnZaY6OiooA1tklQ!!/dl3/d3/L2dJQSEvUU3t3Qs9ZQnZ3LzFmJAwMDAwMDBBODBPSEhWTjBNMDAwMDAwMDA!/?ss=110510&navtype=BROWSEBYSUBJECT&cid=FSE_003853&navid=0910000000000000&pnavid=null&position=BROWSEBYSUBJECT&tttype=main&pname=Six%2520Rivers%2520National%2520Forest-%2520Home/recreation/smith-river/. Accessed May 26, 2011.

²¹ FAQ, Redwood Park. National Park Service. <http://www.nps.gov/redw/faqs.htm>.

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 5,915 acres. It can be assumed that this acreage goes hand in hand with the dairy and cattle industries discussed above.

Del Norte County is one of nine other counties in the entire US have more acreage devoted to bulbs, corms, rhizomes and tubers, although the census data doesn't disclose the exact number of acreage. 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.²²

Table 3: Top Crop and Livestock Products, 2017

Crop (acres)	Acreage
Forage	4,866
Bulbs, corms, rhizomes and tubers	(D)
Vegetables harvested, all	(D)
Nursery stock	(D)
Livestock (number)	
Cattle and calves	9,678
Layers	396
Broilers and other meat-type chickens	No data
Sheep and lambs	129

Source: County Profile: Del Norte County, California. 2017 Census of Agriculture.

https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_0001_0001.pdf

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 produced and sold directly to individuals for human consumption from roadside stands, farmers’ markets, pick-your-own sites, etc.”²³ 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.”²⁴

According to the US Census of Agriculture data from 2012-2017, the direct sales to individuals rose from \$93,000 to \$115,000, representing a 19% increase (though not adjusted for inflation). Interestingly the number of farms participating in direct sales went down in this same time period, from 30 farms down to 19, as shown in the figure below. This reduction in farms but

²² 2012 Census of Agriculture, Del Norte County Report.

https://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/California/cp06015.pdf

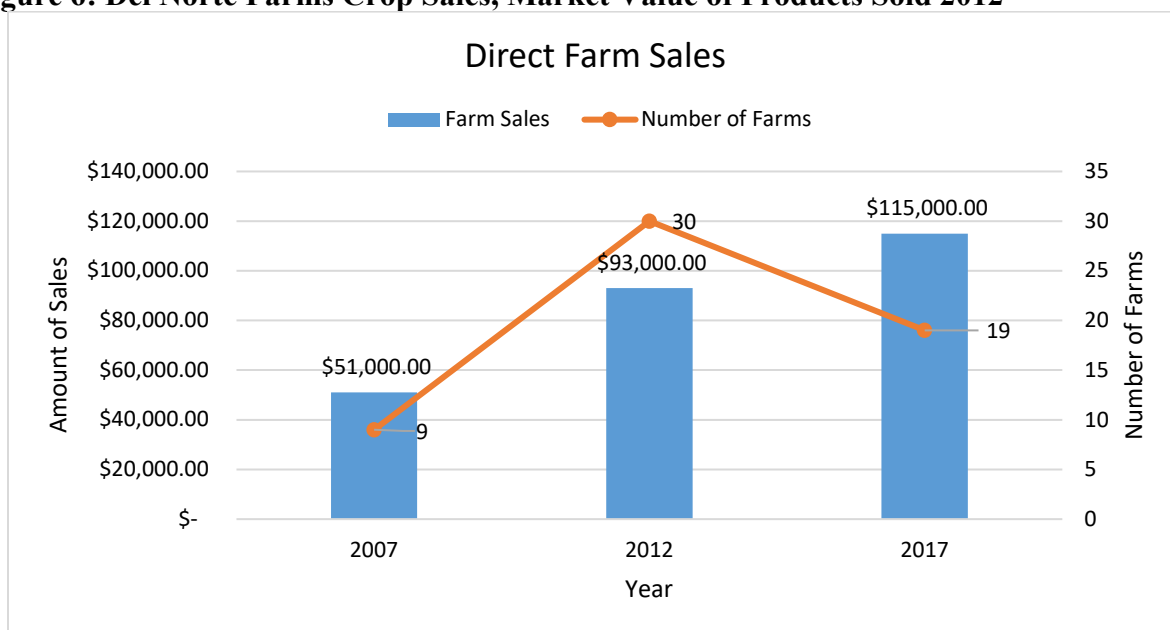
²³ Appendix B. 2012 Census of Agriculture.

²⁴ Meter, Ken. 2009. Direct and organic farm sales rise rapidly, new census shows. *GRIST Magazine*.

<http://www.grist.org/article/Soybean-counting>.

increase in sales could be explained by smaller farms closing, and larger farms thriving and expanding.

Figure 6: Del Norte Farms Crop Sales, Market Value of Products Sold 2012



Source (both): Table 2: Market Value of Agricultural Products Sold Including Direct Sales. 2012 Census of Agriculture.

https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_002_002.pdf. Accessed September 6th, 2018.

Community and School Gardens

There are 12 different schools in Del Norte County that have school gardens.²⁵ Of the 12, only one is not technically a school, it is the Del Norte Juvenile Hall. All of these institutions house young children and the gardens are a place to “learn about biology and plant science, but also valuable life lessons regarding patience, persistence, and self-sufficiency.”²⁶ All schools in Del Norte County have the space for a garden but they don’t all have the funding to support and run a garden currently.

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 Tribal Lands located in Crescent City, Smith River, Klamath and Weitchpec. Each of the gardens is unique, some offering individual plots to garden members, while others work as one large collective plot.

Several tribal communities also have gardens. Smith River Rancheria’s community garden uses organic agricultural practices. Garden meetings are held monthly, these meetings allow for the

²⁵DNATL Food, School Gardens. <https://www.dnatlfood.com/school--community-gardens.html>

²⁶ Ibid

community to discuss issues facing the community, as well as events and volunteer opportunities.

Table 4: Community Gardens

Name of Garden	Location	Agency & Contact Information
Open Door Center Community Garden	550 E. Washington Blvd. Crescent City, CA	Jane (707)-464-6925
Seventh Day Adventist Garden	1770 Northcrest Dr. Crescent City, CA	Robert (707)-464-2738
Peterson Park Garden	6 th and D St. Crescent City, CA	Brigette (707)-464-0955 ext. 2109
Community and Family Services Garden	110 1 st St. Smith River, CA	Erika (707)-954-9167
Saint's Rest Community Garden	Weitchpec	Elizabeth Azzuz – elizabeth@culturalfire.org
Tulley Creek Community Garden	Weitchpec	Tobey Vanlandingham – tvanlandingham@yuroktribe.nsn.us
Smith River Rancheria Community Garden	Smith River, CA	(707)487-9255

Source: Locally Delicious, Community Gardens, http://www.locally-delicious.org/index.php?option=com_content&view=article&id=152&Itemid=871, DNATL Community Food Council, School and Community Gardens, <https://www.dnatlfood.com/school--community-gardens.html>.

The California Center for Rural Policy is currently evaluating a project called “Good Food Makes Us All Healthy”. This project has installed 5 “food forests” and three community gardens throughout Del Norte County and on tribal lands. Food forests are multi-story gardens that incorporate food-bearing trees, shrubs and other types of plants. The food forest will also incorporate plants the Yurok people use for medicine and baskets. The table below shows details of each food forest and garden site.

Table 5. Good Food Makes Us All Healthy Sites

Site	Site Type	Location
Smith River		
Sri'-srwvlh Community Farm	Community Garden	Tolowa Dee-ni' Nation Housing and Maintenance Grounds
Xaa-wan'-k'wvt Chee-ne' Tetlh-tvm'	Food Forest	Howonquet Head Start (TDN is in the process of reinstating traditional vs. anglicanized spellings, Xaa-wan'-k'wvt = Howonquet)
Shda'-ye' Shu' Nelh-'i~ (Community and Family Services) Garden	Community Garden	TDN Community and Family Services Office
Crescent City		

Taa-'at-dvn Chee-ne' Tetlh-tvm' (Crescent City Tree Garden)	Food Forest and Community Garden	College of the Redwoods Del Norte Campus
Klamath		
Au-minot 'we-nue-nep-ueh	Food Forest	Margaret Keating Elementary School
Upper Yurok Reservation		
Saint's Rest Community Garden and Food Forest (Weych-pues 'we-nue-nep- ueh)	Food Forest and Community Garden	Weitchpec
Kenek 'We-Roy Garden	Community Garden	Tulley Creek
Unofficial sites receiving technical support (Upper Yurok Reservation)		
McKinnon Hill Community Garden		
Ko-tep Community Garden		
Various smaller, neighborhood-based production sites	Community gardens	At the homes of local residents

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.²⁷

The North Coast fisheries, made up of ports in Mendocino, Humboldt and Del Norte counties, have seen fishing activity decline since 1981.²⁸ The number of boats used across the North Coast fisheries peaked at 2,550 in 1981 and by 2005 dropped to 500 or fewer.²⁹ 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

²⁷ Pomeroy, Caroline, Cynthia Thomson and Melissa Stevens. 2010. California's North Coast Fishing Communities: Historical Perspective and Recent Trends. [http://www.wcscg.ucsd.edu/EXTENSION/Resources/2010/ProjectSummary forSGEP posting_19183.pdf](http://www.wcscg.ucsd.edu/EXTENSION/Resources/2010/ProjectSummary%20for%20SGEP%20posting_19183.pdf).

²⁸ Ibid.

²⁹ Ibid.

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%.³⁰

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.³¹ 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.³² 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.³³

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.³⁴ 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%)."³⁵

As of 2015, there were 161 people working in the fishing industry.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. Since the last community food assessment in 2011, the Crescent City harbor's yield has gone down considerably, from 12.8 million in 2012 to 5 million in 2017. Crescent City was the 3rd highest yielding port in 2017, bringing in approximately 5 million pounds of fish, crustaceans and mollusks. The value of the 2017 catch was nearly \$7.4 million, 3 million less than 2010. Between the years 2012 to 2017, catch value ranged from \$28 million to \$7 million (see Figure 8).

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 2017 for fish landings for the area combined were June (2,081,317 lbs, mostly Dover sole) and January (1,938,656 lbs, mostly

³⁰ Ibid.

³¹ Norman, K., et al. 2007. Community profiles for West Coast and North Pacific fisheries—Washington, Oregon, California, and other U.S. states. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-85.

³² Pomeroy, 2010.

³³ Harbor Info: Crescent City Harbor District. <http://www.ccharbor.com/>

³⁴ Pomeroy 2010.

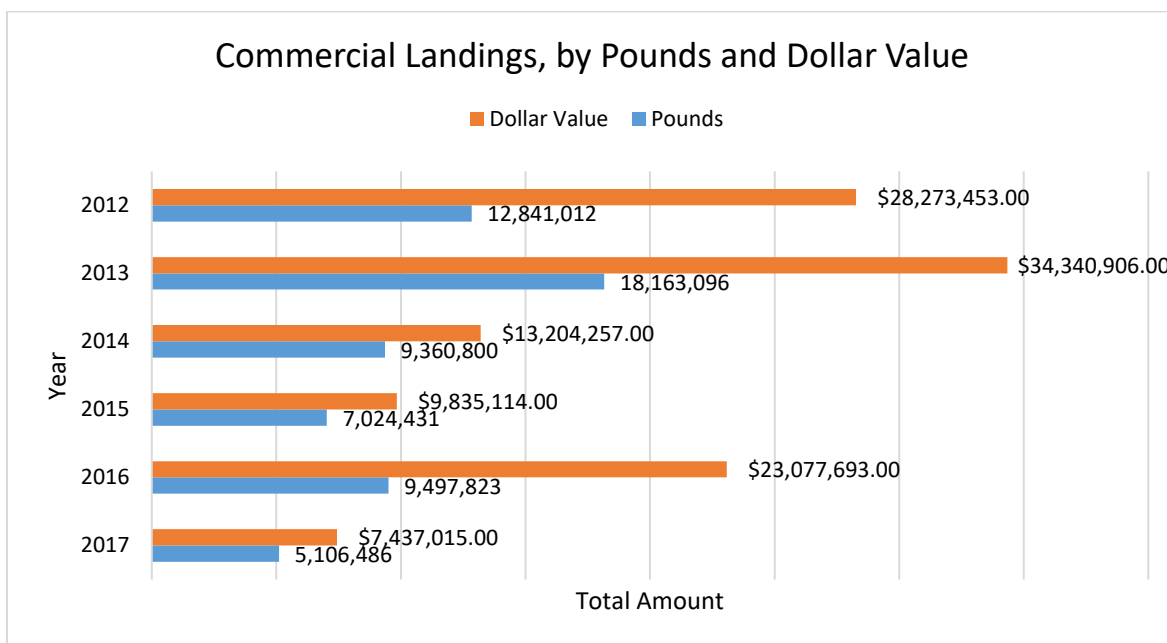
³⁵ Ibid.

³⁶ Del Norte County Labor Market Profile and Industry/Sector Analysis. 2016.

<https://www.ncen.org/images/documents/lmi/regional-profiles/Del%20Norte%20County%20Labor%20Market%20and%20Industry-Sector%20Analysis.pdf>

dover sole).³⁷ The two slowest months for fishermen in 2017 were November and December, each with less than 8,000 pounds landed.³⁸

Figure 7. Crescent City Commercial landings



Source: California Department of Fish and Wildlife, Final California Commercial Landings 2017.
<https://www.wildlife.ca.gov/fishing/commercial/landings#260042120-2017>

Table 6 and Figures 8 and 9 below show the species of fish and crustaceans that bring in the biggest earnings to fisherman in the Eureka Area ports. More pounds of shrimp were landed than anything else, and their value-per-pound keeps them an attractive crop for fisherman. Even though more pounds of shrimp were caught, crab brought in more profit. Other key species in the area's fisheries are sablefish, shrimp, rockfish, dover sole and albacore tuna.

Species	Value	Pounds
Crab, Dungeness	\$ 4,621,571	1,466,899
Shrimp, ocean (pink)	\$ 1,262,032	2,717,635
Sablefish	\$ 484,217	160,657
Shrimp, coonstriped	\$ 279,604	56,131
Rockfish, black	\$ 227,112	117,314
Tuna, albacore	\$ 140,082	71,648

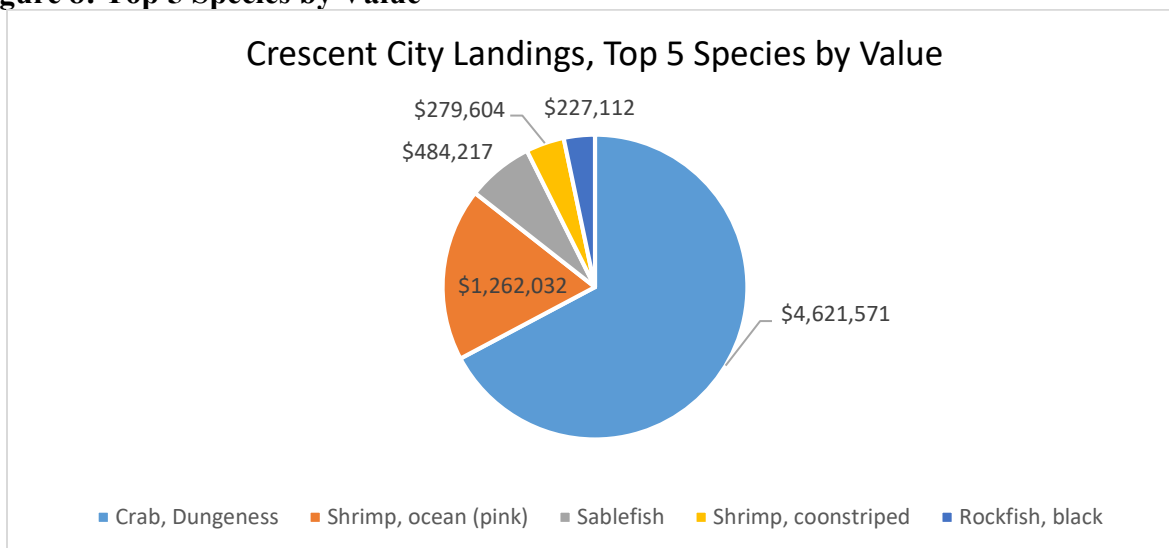
Source: Final California Commercial Landings for 2017. Dept of Fish and Game. Table 16UB .
<https://www.wildlife.ca.gov/fishing/commercial/landings#260041493-2016>

³⁷ Final California Commercial Landings 2017. CA Dept. of Fish and Wildlife.

<http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=159549&inline>

³⁸ Ibid.

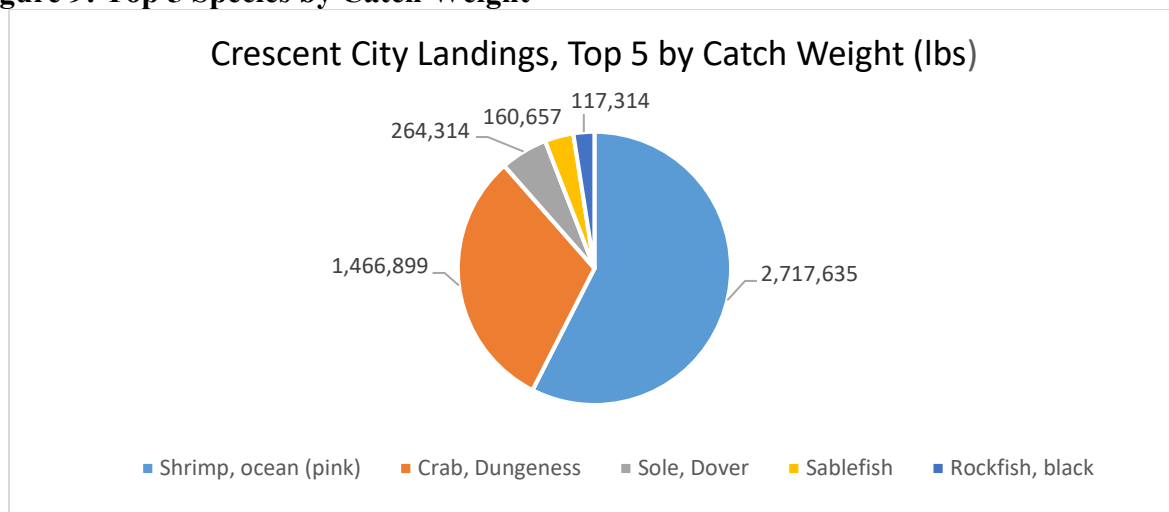
Figure 8: Top 5 Species by Value



Source (both): Source: Final California Commercial Landings for 2017. Dept of Fish and Game, Table 15 . <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=159562&inline>. Accessed Sept6th, 2018.

Dungeness crab brought in the \$4,621,571 in profits in 2017. Pink shrimp brought in the \$1,262,032 in profits.

Figure 9: Top 5 Species by Catch Weight



Source (both): Source: Final California Commercial Landings for 2017. Dept of Fish and Game, Sept 6, 2011. Table 15 . <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=159562&inline>.

Although crab brought in more money to the Crescent City Harbor, shrimp brought in more weight, at 2,717,635 lbs. Dungeness crab made more money than shrimp, but only brought in 1,466,899 lbs.

Future of Commercial Fishing

Crescent City is the tsunami capital of the U.S., and after the 2011 tsunami devastated the harbor, the city decided it needed to install state of the art tsunami-resistant infrastructure. In 2014, the

Crescent City Harbor became the first tsunami-resistant port on the West Coast of the United States.³⁹ “The inner boat basin's layout funnels water through a narrow entrance, making the force of a tsunami a concentrated surge that hammers the first dock in its path. That dock, H Dock, has been designed to absorb this force and transfer it to the ground.”⁴⁰ This revised dock will protect the harbor and all boats within it from damage related to future tsunamis.

According to Hackett in 2017, “Fishermen in the region have faced a number of challenges linked to fish abundance and fishery regulation. Examples include salmon closures in 2008-09; concerns about rockfish depletion leading to Rockfish Conservation Area regulations beginning in 2002; and the urchin fishery collapse due to El Nino 2004-05 and the loss of kelp. A positive change for North Coast commercial fishermen was the very large 2014 harvest of Dungeness crab, and relatively high average \$4.12 price per pound – the highest per pound price in 22 years.”⁴¹

“Anecdotal information from conversations with fishermen and data gathered in focus group conversations indicate that entry into commercial fishing careers has gotten more expensive with the rising cost of entry permits and quota shares. These trends could serve to make entry into commercial fishing vessel operation or ownership more difficult for individuals from socioeconomically disadvantaged backgrounds.”⁴²

Overall declines in commercial fishing activity has contributed to a contraction in the number of related businesses such as fish buyers and processors and gear shops, leaving fewer choices for commercial operators. However, Crescent City’s proximity to rich fishing grounds, easy and safe access, and key services available for the fishing occupational community has helped sustain this group.⁴³

Dungeness crab has played a dominant role in landings and value in Crescent City since 1992, as well as shrimp. In 2018, fishermen brought in 6,738,978 lbs. of crab, valued at more than \$19.5 million, despite fishing season starting later than usual.⁴⁴ However, crab fishing was closed in Oregon this season, so although this season brought more pounds of crab, there were more boats in the Harbor, which meant less profit per boat.

Food Sovereignty of Tribal Lands

Good food is essential to healthy, strong tribal nations. Food sovereignty involves controlling and managing all of the factors that contribute to a sustainable food system:

- Have access to healthy food;
- Have foods that are culturally appropriate;

³⁹ Del Norte TriPLICATE. 2016. “Crescent City Harbor: Rebuilt port can weather similar events.”

<https://www.triplicate.com/csp/mediapool/sites/Triplicate/News/story.csp?cid=4401411&sid=923&fid=151>

⁴⁰ Ibid.

⁴¹ Hackett, Steven. 2017. Socioeconomics of North Coast Fisheries in the Context of Marine Protected Area Formation. <https://oceanspaces.org/sites/default/files/36-hackett-final-0712717.pdf>

⁴² Ibid

⁴³ Ibid.

⁴⁴ Del Norte TriPLICATE “Crescent City’s annual crab haul larger than average”. 2018.

<https://www.currypilot.com/news/6299082-151/crescent-citys-annual-crab-haul-larger-than-average>

- Grow, gather, hunt and fish in ways that are maintainable over the long term;
- Distribute foods in ways so people get what they need to stay healthy;
- Adequately compensate the people who provide the food; and
- Utilize tribal treaty rights and uphold policies that ensure continued access to traditional foods.⁴⁵

The Tolowa Dee-ni' tribe, a tribe with lands from the Smith River past the Oregon border, have been fighting to preserve their native traditional food systems. Low food sovereignty creates high food insecurity, and unfortunately the Tolowa lands have been stripped of much of their natural and ancient food sources. Their foods include sea anemone, smelt fish, lamprey eel, sand bread, sea weed, salmon, deer elk, and acorns.⁴⁶ Some of their foods such as smelt and salmon have become scarce from overfishing by fishing companies, climate change, and issues with water rights. The Tolowa lands include rivers where salmon used to be abundant. Now they are "bound by both state and federal laws preventing them from fishing salmon with traditional nets. State and federal blanket hunting and fishing bans have been applied without discretion and have affected natives disproportionately."⁴⁷ The Tolowa are also denied the right to hunt elk, because of their federal protection. Currently the Tolowa are creating a plan sustainably harvest elk in their traditional ways.

The Yurok tribe also hunts elk, and are allowed by the federal government to hunt in specific areas during specific times of the year. However, a current tribal member states that the Yurok have a difficult time hunting elk in a sustainable way. Federal government regulates where elk can be hunted and according to the tribal member, the Tribes are only allowed to hunt on a small section of land, a section where a small amount of elk actually go. So while the Yurok hunt there, they worry about over-hunting and negatively affecting the bio-system in that area.⁴⁸

The Tolowa Dee-ni' nation has acquired new agricultural and food resources. They now own over 100 acres of agricultural land and are developing a focus on food and garden programs for its members.

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.⁴⁹ The species of particular concern are the fall run Chinook and Coho. In 2017, the Klamath and Trinity rivers were closed to fishing Chinook salmon because of historically low stock in past seasons.⁵⁰ The low projected stock of Klamath Basin fall Chinook in 2017 was thought to have been caused by several environmental factors, including severe drought and poor

⁴⁵ Tolowa Nation. 2018. "Sowing Seeds for Local Abundance: A Tolowa Dee-ni' Nation Agricultural Enterprise and Farmer training Feasibility Study". Pg 9

⁴⁶ Holster, Annie. 2017. "Fighting to Keep Indigenous Foodways Alive in Northern California". The Eater. <https://www.eater.com/2017/11/21/16387366/native-american-tolowa-california-food-hunting-fishing>

⁴⁷ Ibid.

⁴⁸ Yurok tribal member, personal communication, may 31, 2019.

⁴⁹ Pomeroy 2010.

⁵⁰ FALL CHINOOK SEASON CLOSED ON KLAMATH AND TRINITY RIVERS. 2017. California Department of Fish and Wildlife News. <https://cdfgnews.wordpress.com/2017/08/16/fall-chinook-season-closed-on-klamath-and-trinity-rivers/>

ocean conditions. “Klamath Basin fall Chinook are managed for conservation thresholds and long-term sustainability, and the closures this year are designed to maximize spawning escapement to rebuild future population abundance.”⁵¹

For the Yurok Tribe, all of the fish species in the Lower Klamath River are of cultural, nutritional or ecological importance.⁵² 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.⁵³

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 31 years ago, in 1987.⁵⁴

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 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.⁵⁵

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.⁵⁶ 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 in river recreational fishery is regulated by the State of California, and river tribal fisheries are regulated by the Hoopa Tribal Council and the

⁵¹ Ibid.

⁵² Fisheries Department, Yurok Tribal Council. <http://www.yuroktribe.org/departments/fisheries/>

⁵³ Ibid.

⁵⁴ Pierce, Ronnie M. Klamath Salmon: Understanding Allocation 1998. Pg 11-15.

⁵⁵ Ibid.

⁵⁶ Ibid.

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.⁵⁷

In 2017, the number of salmon swimming up the Klamath was the lowest in recorded history.⁵⁸ Because of this, salmon fishing in the Klamath Management Zone (KMZ) was closed for the 2017 season.⁵⁹ Dams built upstream in the 1950's and 1960's have seriously affected the salmon's mating pattern and has almost brought the Klamath salmon to extinction. After years of discussion between the tribes, farmers and government agencies, Department of the Interior, U.S. Department of Commerce, PacificCorp, and Oregon and California sign agreement four dams are going to be removed by 2020.⁶⁰ This will hopefully restore the salmon population, and will provide livelihood and food back to the DNATL tribes.

⁵⁷ Ibid.

⁵⁸ Morehouse, Lisa. 2017. "It Take Our Purpose': With No Salmon, Yurok Tribe Struggles with Identity." NPR. <https://www.npr.org/sections/thesalt/2017/11/29/561581193/it-takes-our-purpose-with-no-salmon-yurok-tribe-struggles-with-identity>

⁵⁹ Mintz, Daniel. 2017. "Salmon runs collapse, closing North Coast fishing season". Mad River Union. <http://madriverriverunion.com/salmon-runs-collapse-closing-north-coast-fishing-season/>

⁶⁰ Water Education Foundation. Klamath River Basin Chronology. <https://www.watereducation.org/aquapedia/klamath-river-basin-chronology>

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 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.⁶¹

⁶¹ Terroir: Wikipedia. <https://en.wikipedia.org/wiki/Terroir>.

Some processed foods that Del Norte County and Tribal Lands are known for are Rumiano Cheese, Borges Family Creamery milk, Alber Seafoods, Alexandre Kids pork and Paul's Famous Smoked Salmon. Typical food products exported remain in their un-processed 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 6 for a list of locally available foods, both processed and unprocessed.

Table 7. Locally Produced Foods

Locally Grown or Processed Foods for Local Markets	
Business Name	Product Type
Produce	
Annie Mack's Family Produce	Produce
Ocean Air Farms	Produce and dairy, cheeses
Blueberry Hill Farms	Berries
Seabreeze Farms	Tomatoes
My Honey	Honey
Worms Nursery	Hydroponic Lettuce
Dairy	
Rumiano Cheese	Cheese
Borge's Family Creamery	Milk
Alexandre Farms	Milks and cheeses
Meat, fish and eggs	
Woodhaven Farms	Beef, pork, lamb
Ocean View Beef	Meats

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.*⁶²

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.⁶³

On September 18, 2018, Governor Brown signed AB 626 into law and is effective January 1, 2019. AB 626 amends the California Health and Safety Code to establish a "microenterprise home kitchen operation", referred to as MEHKO's, as a new type of retail food facility that allows an individual to operate a restaurant in their private residence. This law also establishes requirements for "Internet Food Service Intermediary" entities, which provide a platform on its website or phone application where a MEHKO can advertise food for sale. This new law can increase production of local goods in Del Norte County.

Fish Processing and Marketing

In terms of fish processing capacity, the Crescent City harbor contains only 2 processing facilities, Alber Seafood and Caito Fisheries.

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."⁶⁴

Alber Seafoods processes mostly crab, salmon, tuna and bottomfish such as Dover Sole and Black Cod. Alber's doesn't have a retail storefront, but will sell fish to people who ask. 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 in Crescent City and nearby Brookings, OR.

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 Frito Lay, Pepperidge Farm, Nabisco and Little Debbie provide direct store delivery to the grocers who carry their products.

⁶² Brian McNally. Environmental Health Specialist, Del Norte Department of Public Health. Personal communication, Jan 20, 2012.

⁶³ Steve Gustafson. Program Manager, Humboldt County Environmental Health Division. Personal communication, June 1 2010.

⁶⁴ Pomeroy, C. Thomson, C. Stevens, M. 2010. "California's North Coast Fishing Communities Historical Perspective and Recent Trends."

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. 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 distributors. A wholesaler purchases large quantities of products, and then distributes and resells them to individual merchants. Safeway has their own warehouses and makes deliveries in their own Safeway trucks. Some of the other distributors serving stores in the Del Norte and Tribal Lands area are UNFI, NorCal Produce, Ayers, Mike Hudson 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. According to Tom Boylan, store manager of Wild Rivers Market, distribution has become easier to Del Norte County, not because the roads are better, but he thinks it's because population has grown, which has increased demand and business.⁶⁵

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.

As local and regional distribution is expanded, further transportation options will grow. 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 Tribal Lands. If the few products that are available are to set an example, however, it appears that the retail climate is receptive. Tom, general manager of Wild Rivers Market explains that most of the locally made products he sells are honey, milk, some meats and seafoods, pesto, granola, and cheese. 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 local produce consistently.

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."⁶⁶ Of the 4 grocery stores in Crescent City, Wild Rivers Market is the spot to go in order to access local products. When marketing local good at Wild Rivers

⁶⁵ Tom Boylan, personal communication May 22, 2019.

⁶⁶ Tom Boylan, personal communication, May 22, 2019.

Market, Tom says he doesn't need to specially market the products. If the local products are mixed in with non-local (but stay in the same category, such as all produce together), he notices people are more likely to buy the local products.

When asked if there were any local produce vendors who had approached him, Tom said Ocean Air Farms is the only local produce vendor that sells to him. Ocean Air Farms is the only local produce farm in Del Norte County. Agriculture land to grow vegetables is in short supply in Del Norte County, so produce is shipped in through NorCal produce. In regards to Ocean Air Farms, Tom says "They'll sell us kale, lettuce, sometimes carrots or potatoes. Whatever they have."

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.

Del Norte County is part of the California Farm to School Network (CFSN). CFSN is a statewide initiative to introduce local foods to student's meals, education about locally made goods, education around agriculture, food and health, and engaging in school gardens.⁶⁷ Del Norte schools are also participating in "California Thursday" meals, where the entire meal is made from locally produced foods.⁶⁸

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 number of farmers participating in direct marketing in the area, sales almost doubled from 2007-2012.

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.

⁶⁷ California Farm to School Network. <http://www.cafarmtoschool.org/about/>

⁶⁸ Del Norte Triplicate. "Local foods added to school menu". 2016.

<https://www.triplicate.com/csp/mediapool/sites/Triplicate/News/story.csp?cid=4401430&sid=923&fid=151>

Table 8: Direct Marketing Opportunities for Del Norte and Tribal Land Consumers				
Market Type	Name	Times/Season	Location	Contact
Farmers Markets	Crescent City Farmers Market.	June 3rd - Oct 28th. Sat 9am-1:30 pm.	Del Norte County Fairgrounds	707-464-7441
	Downtown Crescent City Farmers and Artisan's Market	Wed 9am-2pm.	Front and K Street	707-464-6600
CSA (Community Supported Agriculture)	Open Air Farms	Call for details.	Fort Dick, CA	707-616-1632
On-site farm sales	Alexandre Kids (eggs)	Call for details.	Crescent City, CA	707-487-1000
	Borges Creamery	Call for details.	Smith River, CA	707-487-0470
	Blueberry Hill Farms	July and August	Crescent City, CA	707-464-4344

Source: <http://eatfresh.org/county/del-norte>, 20

Farmers' Market

Three farmers' markets exist in the area, the largest at the Del Norte County Fairgrounds in Crescent City on Thursdays and Saturdays from 9:00am – 1:00pm. A total of 65 vendors are approved to sell produce, herbs, bread, meat, honey, vegetable starts and eggs at the market. There are additional arts and crafts vendors as well. The farmer's markets accepts CalFresh, and is a part of multiple market matching programs such as SNAP CA match, Open Door vouchers and WIC checks. These programs are discussed in more detail in Section 6, Food Access.

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 9:00am – 2:00pm. The market is sponsored by Downtown Divas and is held downtown at Front and K streets. There are 2 produce vendors/farmers, some small backyard produce sellers (home sales of produce), 5 local food vendors, and varying 7-9 artisan vendors that sell anything from bows and tutus, baskets, or stepping stones.

Community Supported Agriculture (CSA)

CSA's are a new take on an old principal 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.⁶⁹ Their popularity has

⁶⁹ Gandee, Jesse. 2002. Economic Impact of Maine Food System and Farm Vitality Policy Implications. A Report to the Joint Standing Committee on Agriculture, Conservation and Forestry, Second Regular Session of the 120th maine Legislature.

grown nationwide in rural and urban areas with approximately 2,500 CSA's across the United States in 2010.⁷⁰ 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 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.

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.

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%.⁷¹ 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.⁷²

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.”⁷³ 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 Tribal Lands area?

⁷⁰ DeWeerd, Sarah. Local Food: The Economics. World Watch July/August 2009. www.worldwatch.org.

⁷¹ Sonntag, Viki. 2008. Why Local Linkages Matter. Sustainable Seattle.

⁷² Wasserman, Jim. 2010. Road to Recovery: Local foods spice up economic picture. The Sacramento Bee. <http://www.sacbee.com/2010/02/16/2539377/local-foods-spice-up-economic.html>.

⁷³ Sonntag, Viki. 2008. Why Local Linkages Matter. Sustainable Seattle.

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 14% of Sacramento-area farms market directly to consumers. According to the University of California Small farm program, "even after deducting the added costs of transportation, distribution and selling at the farmers market or other point of sale, farmers are still able to net a greater share of retail prices in local food supply chains than they would had they used conventional marketing chains"⁷⁴. 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.

⁷⁴ University of California Small Farms Programs website. "Sacramento farms sell direct at high rate."
<http://sfp.ucdavis.edu/index4.cfm/&blogasset=51570&sharebar=email&blogpost=28855&sharing=yes?blogpost=3048&blogasset=51570&sharing=yes>.

Section 5

Community Demographics

The previous sections looked at the foods grown, processed and distributed throughout Del Norte County and 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 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?
- What are household characteristics of poverty and food insecurity?
- Where are the highest pockets of poverty within the area?

Research Questions Not Included

- Do particular racial groups have higher rates of food insecurity than others?

Geography and Brief History

Del Norte County is located on California's north coast and is officially designated as a nonmetropolitan, or rural county.⁷⁵ The largest population hub is Crescent City, with an urban service area of approximately 6,670 people. In 2016 the county had a population of 28,610.⁷⁶ Before the arrival and settlement of European descendants, the area contained numerous American Indian villages, particularly along the Klamath River and Pacific Coast. The two predominant tribes in the area were Yurok and Tolowa.⁷⁷ 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

⁷⁵ US Census Bureau, 2010 Census.

⁷⁶ Suburban Stats. "Population Demographics for Del Norte County, CA 2017, 2018".

<https://suburbanstats.org/population/california/how-many-people-live-in-del-norte-county>

⁷⁷ Local Northwest California Tribes. http://www.ncidc.org/NWCA_Tribal_Map_and_Info

controversial, it is estimated that 50 – 90%⁷⁸ of the Indian population died in California in the 19th Century, and the northern coast was no exception.

Today the sovereign nations of the Tolowa Dee-ni’ and Elk Valley Rancherias 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 Tribal Lands.

Table 9. Del Norte & Tribal Lands: 2014 Population Race/Ethnicity						
2010 - 2018 Census Demographics Estimates	Del Norte County		Tribal Lands		Del Norte County Plus Tribal Lands	
	Number	Percent	Number	Percent	Number	Percent
Total Population	27,828	-	869	-	28697	-
White	21,098	75.8%	383	44%	21,481	74.1%
American Indian and Alaskan Native	2,244	8%	440	50%	2,684	9.2%
Black or African American	993	3.5%	0	0%	993	3.4%
Asian	965	3.4%	0	0%	965	3.3%
Native Hawaiian and Other Pacific Islander	32	0.1%	0	0%	32	0.1%
Reporting Two or More Races	1,298	4.6%	46	5.2%	1,344	4.6%
Hispanic or Latino (of any race)	5,093	18.3%	15	1.7%	5,108	17.6%
*Hispanic/ Latino origin may be of any race. Ethnic origin is considered to be a separate concept from race.						

Sources: All data is from the U.S. Census, 2010 – 2018, and My Tribal Area Census Page 2013-2017.

Per Table 9, Del Norte County today is predominantly populated by Whites, at 75.8%. The second largest population group, representing 18.3%, is Latino by ethnicity, which can include any race. People of American Indian or Alaskan Native descent make up 8% of the county’s population. This is in contrast to the tribal lands adjacent to the county, where 50% 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 years and over	21,615 (78.8%)
Population, children	5,827 (21.2%)
Population, 65 years and over	4,357 (15.9%)
Total households	9,907

⁷⁸ Tribes of US and Canada. Four Directions Institute. http://www.fourdir.com/tribes_index.htm.

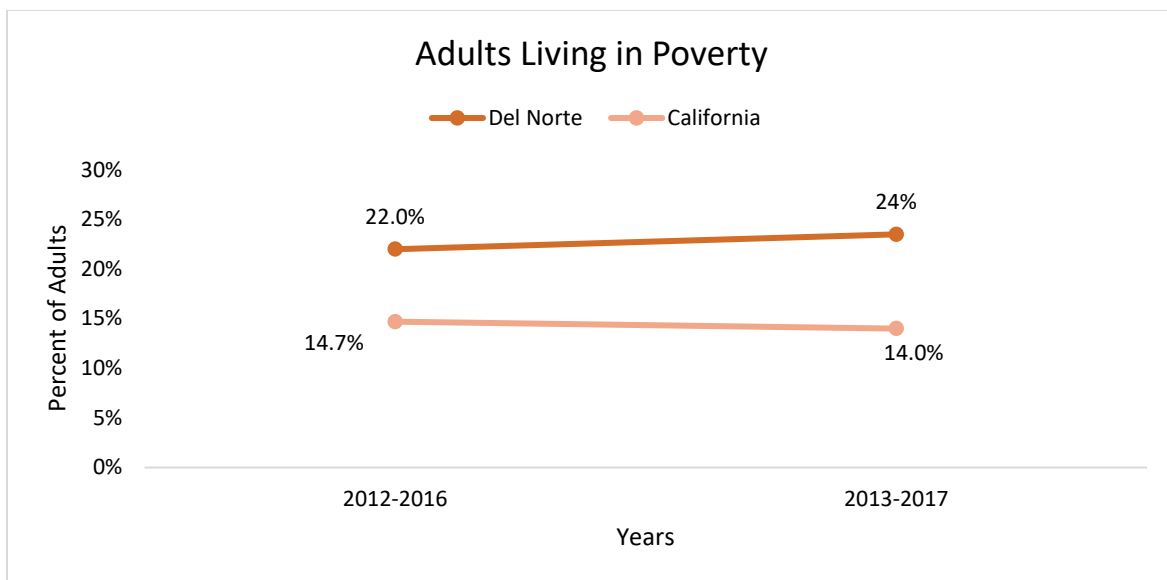
Family households with children under 18 years	2,386 (24.6%)
Female householder, no husband present, with children under 18 years	1,383 (14.3%)
Households receiving Supplemental Security Income (SSI)	1,493 (15.4%)
Households enrolled in SNAP in last 12 months	1,525 (15.7%)
Median household income	\$41,287
Mean household income	\$55,899
Percent of population over 25 years that has a bachelor's degree or higher	8.7%
Percent of population 16 years and over that is unemployed	4.1%

Source: U.S. Census Bureau, 2013-2017 American Community Survey.
<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

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 2017 that individuals 18 years and over had a poverty rate of 24%, as compared to the California rate of 14%.⁷⁹ Poverty seems to be steadily going up in Del Norte County, but going down overall in California.

Figure 10. Adults Living in Poverty, 2010-2016

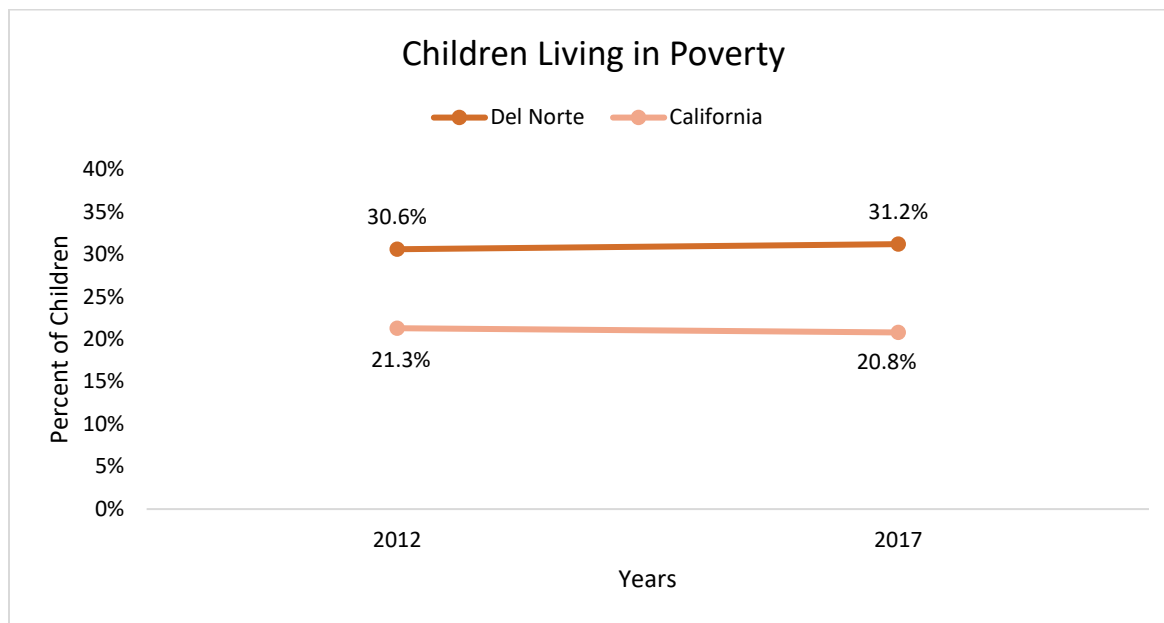


Source: U.S. Census Bureau, American Community Survey. Selected Economic Characteristics: 2012 - 2016 and 2013 - 2017

⁷⁹ U.S. Census Bureau, American Community Survey. Selected Economic Characteristics: 2012-2016 and 2013 – 2017.

It is estimated that poverty has increased from 30.6% in 2012 to 31.2% in 2017 for children under 18 years old in Del Norte County (see Figure 2).⁸⁰ The Census estimated that poverty rates for children in all of California has also decreased from 21.3% to 20.8%.⁸¹

Figure 11. Children Living in Poverty, 2010-2016



Source: U.S. Census Bureau, American Community Survey. Selected Economic Characteristics: 2012 - 2016 and 2013 - 2017.

Family structure also plays a role in poverty, as shown in Figure 3. A total of 16.8% of all families, or roughly 5,735 families, were estimated to be living in poverty in 2017. However, in the case of families with children under the age of 18, it is estimated that as many as 26.9% were poor.⁸²

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.⁸³

⁸⁰ American fact Finder, Del Norte County.

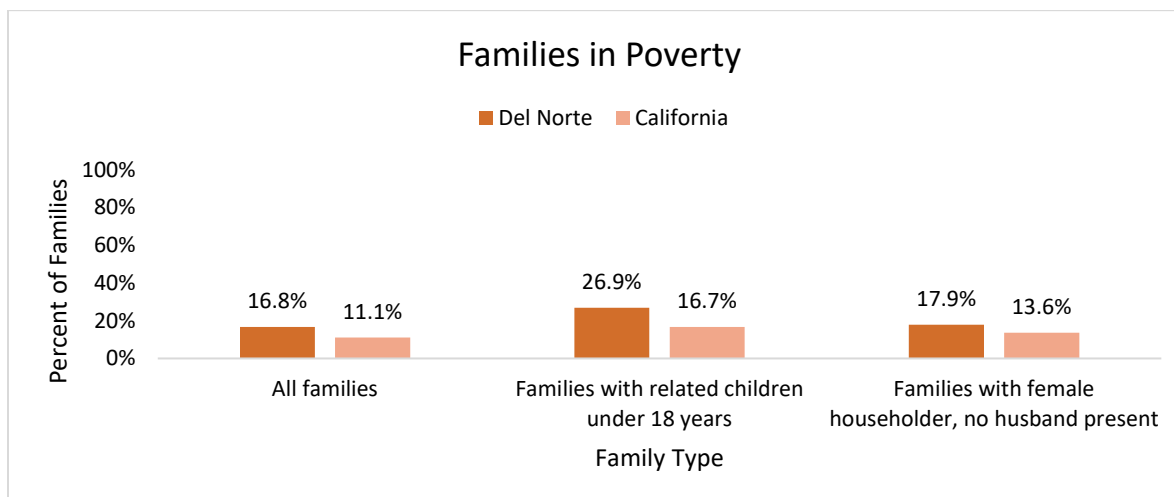
<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

⁸¹ American Fact Finder, California. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

⁸² U.S. Census Bureau, American Community Survey. Selected Economic Characteristics: 2013 - 2017.

⁸³ First 5 Association of California. *Healthy Children Ready for School: The Impact of First 5 in California's Northwest Region*. April 2009.

Figure 12. Families in Poverty, 2013-2017



Source: U.S. Census Bureau, 2013 - 2017 American Community Survey. California and Del Norte County Selected Economic Characteristics.

Single parenthood is another factor that often puts families in poverty. Figure 3 above shows that 17.9% of single mothers in Del Norte County in 2017 live in poverty. This rate has gone down since 2009, when the poverty rate for single mothers was 40%. 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

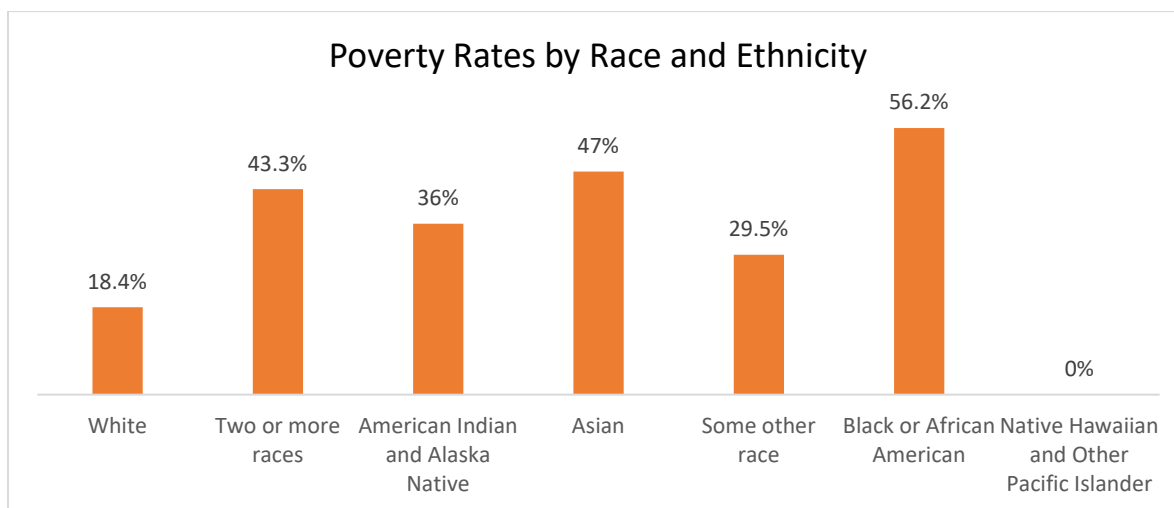
Compared to the overall poverty rate for the county (23.2%)⁸⁴, people of two or more races had more than double the rate at 43.3%. African Americans have the highest rate, at 56.2%. American Indians reporting only one race have a rate of poverty at 36%.⁸⁵ This may be due to job opportunities provided by the casinos and tribal headquarter offices.

The Figure below shows the rates of poverty of all races in Del Norte County. According to Figure 4, there are numerically more White's living under the poverty level than any other race. However, it must be taken into account that Whites represent the majority of individuals in Del Norte County. So while many people living below the poverty are white, poor whites represent only 18.4% of ALL individuals living in poverty in Del Norte County.

⁸⁴ U.S. Census Bureau, 2013-2017 American Community Survey. Selected Economic Characteristics.
<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

⁸⁵ Ibid.

Figure 13. Poverty Rates by Race/Ethnicity



Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-year Estimates. Del Norte County, Poverty Status in the Past 12 Months. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

Tribal Demographics

The Yurok Tribe has 856 individuals living in Del Norte and Humboldt counties, constituting 365 households. With around 5,600 enrolled total members⁸⁶, it is the most populous tribe in California. Approximately 20% 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 joined by the Trinity River to where it meets the ocean. In 2016 there were 223 Yurok youth and 211 elders. There's an estimated 27.7% of families who lived below the poverty line in 2016.⁸⁷ According to tribal data, as many as 50% of residents living on the reservation have no electricity, telephones, or internet service.⁸⁸ As of the 2017 Census, the upper Yurok Reservation had a 40% poverty rate.⁸⁹

Table 11: Yurok Tribe: Population	
Yurok Population in Humboldt and Del Norte counties	856
Population, 18 yrs and over	685
Population, 65 yrs and over	188

Source: <https://www.census.gov/tribal/?aianihh=4760>

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

⁸⁶ SFGate. 2018. "Yurok tribe revives ancestral lands by restoring salmon runs, protecting wildlife". <https://www.sfgate.com/news/article/Yurok-tribe-revives-ancestral-lands-by-restoring-13270437.php?t=fbdd51e0a1>

⁸⁷ U.S. Census Bureau, 2012-2016 American Community Survey. <https://www.census.gov/tribal/?aianihh=4760>

⁸⁸ Daily Kos. 2018. "Yurok Tribe opposes Trump's offshore drilling development plans". <https://www.dailykos.com/stories/2018/2/13/1741175/-Yurok-Tribe-opposes-Trump-s-offshore-drilling-development-plans>. Accessed Oct 2018.

⁸⁹ The Sacramento Bee. 2017. "Will they go the way of the buffalo? Vanishing salmon could doom tribes' culture." <https://www.sacbee.com/news/state/california/water-and-drought/article158532604.html>

Yurok Reservation. The rancheria was created in 1939 for landless American Indians of Humboldt and Del Norte counties.⁹⁰ Current estimated membership is 146, with 19 elders and 58 children.⁹¹ Data about low-income members and members living below the poverty level were not fully available at the time of communication.

The Elk Valley and Tolowas are related, in some cases as close as first cousins. Elk Valley Rancheria is located in Crescent City and has 101 members, varying in age from 15-96.⁹² Sixty-four percent of the tribal members are over 40 years old, which means within the next ten years, 40% of the Elk River members will be considered elders.⁹³ Enrollment in the rancheria has not been open for several years.

The Tolowa Dee-ni' is in Northern Del Norte County only a few miles from the Oregon border. There are 1400 enrolled members, but not members do not live in Smith River.⁹⁴ 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, Curry and Josephine Counties in Oregon. Over 23% of documented families in Smith River live below the federal poverty line.⁹⁵ Smith River also has a large number of undocumented residents.

Food Insecurity

Food insecurity rates are surveyed annually by the federal government and reported for states and the nation.

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 2016, 12.3% of households were found to be food insecure. Only 8% of food insecure households had children.⁹⁶

In Del Norte County, 16.8% of the population is food insecure. The child food insecurity rate is 24.4%.⁹⁷ In 2014, 29.7% of households with children were food insecure.⁹⁸

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.

⁹⁰ About Us: Resighini Rancheria. http://resighin.ipower.com/about_us.html.

⁹¹ Fawn Murphy, Chairperson Resighini Rancheria. Personal communication Oct 16, 2018.

⁹² Health of the Environment = Health of the People report. CCRP 2015.

⁹³ Ibid.

⁹⁴ The Smith River Community and Tolowa Dee-ni' Nation, A basic Study Guide. <http://sierraserviceproject.org/wp-content/uploads/2015/06/Smith-River-Study-Guide.pdf>

⁹⁵ City-Data.com. Smith River, CA. Retrieved from <http://www.city-data.com/city/Smith-River-California.html>.

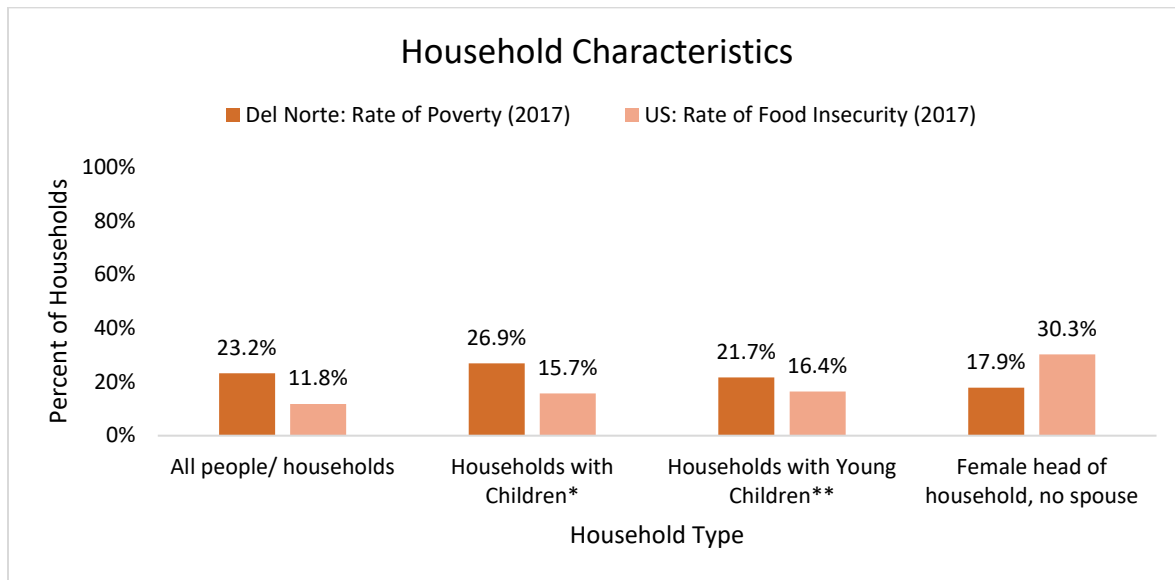
⁹⁶ Coleman-Jensen, Alisha, Matthew Rabbit, Christian A Gregory, and Anita Singh. Household Food Security in the United States in 2016. ERR-125, U.S. Dept. of Agriculture, Econ. Res. Serv.

⁹⁷ Feeding America Map. Data from 2016. https://www.feedingamerica.org/research/map-the-meal-gap/2016/child/CA_AllCounties_CDs_CFI_2016.pdf.

⁹⁸ Kids Data.org. [https://www.kidsdata.org/topic/764/food-](https://www.kidsdata.org/topic/764/food-insecurity/table#fmt=1168&loc=2,127,347,1763,331,348,336,171,321,345,357,332,324,369,358,362,360,337,327,364,356,217,353,328,354,323,352,320,339,334,365,343,330,367,344,355,366,368,265,349,361,4,273,59,370,326,333,322,341,338,350,342,329,325,359,351,363,340,335&tf=79)

[insecurity/table#fmt=1168&loc=2,127,347,1763,331,348,336,171,321,345,357,332,324,369,358,362,360,337,327,364,356,217,353,328,354,323,352,320,339,334,365,343,330,367,344,355,366,368,265,349,361,4,273,59,370,326,333,322,341,338,350,342,329,325,359,351,363,340,335&tf=79](https://www.kidsdata.org/topic/764/food-insecurity/table#fmt=1168&loc=2,127,347,1763,331,348,336,171,321,345,357,332,324,369,358,362,360,337,327,364,356,217,353,328,354,323,352,320,339,334,365,343,330,367,344,355,366,368,265,349,361,4,273,59,370,326,333,322,341,338,350,342,329,325,359,351,363,340,335&tf=79).

Figure 14. Household Characteristics



Sources: U.S. Census Bureau. 2013 - 2017 American Community Survey, 3-year Estimates. Del Norte County, Selected Economic Characteristics. And, Coleman-Jensen, Alisha, Rabbit, Matthew, Gregory, Christian, and Singh, Anita. Household Food Security in the United States in 2017. ERR-215, U.S. Dept. of Agriculture, Econ. Res. Serv.

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?
- Are fresh and healthy foods available at grocery stores throughout the area?
- Is there sufficient public transportation to grocery stores and food assistance sites?
- What is the role of education in improving food access?

Research Questions Not Covered:

- What percent of food dollars are spent on local foods?
- What are tribes doing to preserve their food traditions?
- What is known about food shopping patterns?
- 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 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, almost half of all food-insecure households participated in one or more of the three largest federal food and nutrition assistance programs in 2016.⁹⁹ The three programs are 1) the Supplemental Nutrition Assistance Program (SNAP), serving around 42 million people a month,¹⁰⁰ 2) the National School Lunch Program (NSLP), providing meals to more than 30.4

⁹⁹ Coleman-Jensen, Alisha, Mathew Rabbit, Christian A Gregory, and Anita Singh. Household Food Security in the United States in 2016. ERR-125, U.S. Dept. of Agriculture, Econ. Res. Serv. Accessed Oct 2018.

¹⁰⁰ USDA Food and Nutrition Service. <https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>.

million children each year,¹⁰¹ and 3) WIC, serving 8.6 million women, infants and children per month in 2014.¹⁰²

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 over 39 million Americans received monthly benefits in June 2018.¹⁰³

The national average monthly benefit per person in 2010 was \$122.80.¹⁰⁴ 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.¹⁰⁵ Currently individuals in California 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, however "in May 2018, California's Assembly Budget Subcommittee No. 1 on Health and Human Services voted to discontinue the "cash-out" policy. This means that effective June 1, 2019, those receiving SSI/SSP in California, provided all other eligibility requirements are met as well, will become eligible for CalFresh"¹⁰⁶. In 2016 there were 25 CalFresh authorized food retailers in Del Norte County.¹⁰⁷

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.¹⁰⁸ This was based on 2016 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. 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.¹⁰⁹

¹⁰¹ National School Lunch Program Fact Sheet. USDA. <https://www.fns.usda.gov/national-school-lunch-program>. Accessed Oct 2018.

¹⁰² WIC Fact Sheet. USDA. <http://www.ncsl.org/research/human-services/wic-fact-sheet.aspx>. Accessed Oct 2018.

¹⁰³ USDA, Supplemental Nutrition Assistance Program Participation and Costs. (<http://www.fns.usda.gov/pd/SNAPsummary.htm>).

¹⁰⁴ Ibid.

¹⁰⁵ USDA Supplemental Nutrition Assistance Program Eligibility. http://www.fns.usda.gov/snap/applicant_recipients/eligibility.htm#Resources.

¹⁰⁶ Social Interest Solutions. 2018. <https://www.socialinterest.org/facilitating-calfresh-eligibility-and-enrollment-for-ssi-recipients/>

¹⁰⁷ USDA Economic Research Service. <https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/>

¹⁰⁸ California Food Policy Advocates, State and County Profiles. 2016. <https://cfpa.net/county-profiles/>

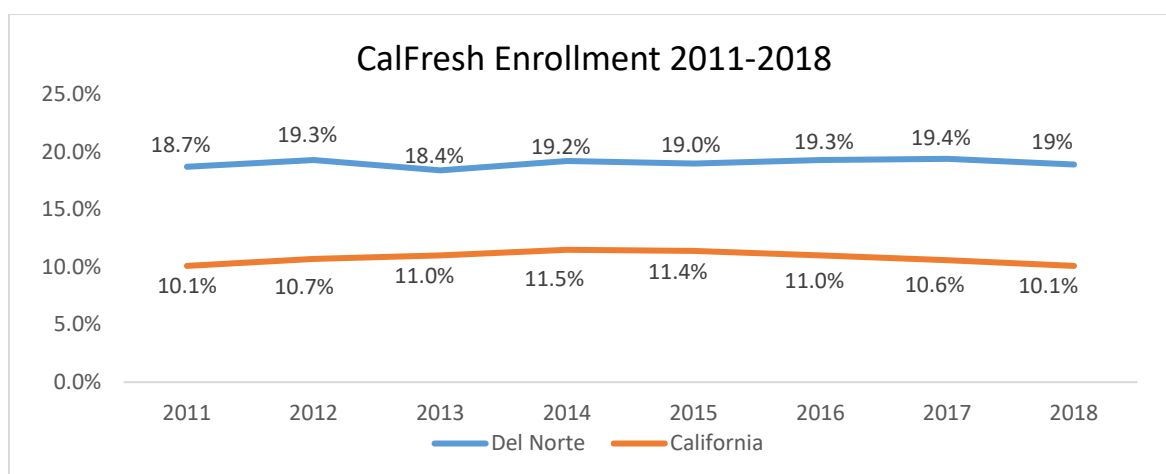
¹⁰⁹ Hanson, Kenneth. The Food Assistance National Input-Output Multiplier (FANIOM) Model and Stimulus Effects of SNAP. ERR-103. U.S. Dept. of Agriculture, Econ. Res. Serv. October 2010. <http://www.ers.usda.gov/publications/err103/>.

CalFresh plays a crucial role in access to food for 5,219 low-income individuals in Del Norte County, amounting to 21.7% of the population.¹¹⁰ Figure 17 shows that CalFresh enrollment for Del Norte County and California has stayed relatively steady since 2014.

DHHS 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.

Figure 15. Calfresh Enrollment 2011-2018



Sources: Kids Data, CalFresh Participation for Del Norte County, <https://www.kidsdata.org/topic/742/foodstamps/table#fmt=2261&loc=321,2&tf=84,79,73,67,64&sortType=asc>. California Department of Social Services, CalFresh data Dashboard, <http://www.cdss.ca.gov/inforesources/Data-Portal/Research-and-Data/CalFresh-Data-Dashboard>. United States Census Bureau, Quick facts, Del Norte County California. <https://www.census.gov/quickfacts/fact/table/ca,delnortecountycalifornia#viewtop>

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. In some states WIC has implemented an EBT card similar to CalFresh for ease of use and less stigma for users.

WIC is administered in Del Norte County and 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

¹¹⁰ American Fact Finder, 20120-2016 American Community Survey. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

enroll: Crescent City, Klamath, and Weitchpec. 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.

Humboldt DHHS has one WIC enrollment site in Crescent City. 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 30 million children each day of school in 2016.¹¹¹ 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.¹¹² 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.¹¹³

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. 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. Therefore when schools pursue Farm-to-School purchases with local farmers, the funds are channeled from the DoD. For the 2018-19 school year, reimbursement rates are as follows

¹¹¹ USDA Website. National School lunch Program Fact Sheet.

<https://www.fns.usda.gov/sites/default/files/cn/NSLPFactSheet.pdf>

¹¹² Ibid.

¹¹³ Hellmich, Nancy. "USDA calls for dramatic change in school lunches." USA Today. Jan 12, 2011.

http://www.usatoday.com/yourlife/food/diet-nutrition/2011-01-12-school-lunch13_ST_N.htm.

Table 12: Free Lunch Prices		
Free lunches	Reduced-price lunches	Paid lunches
\$3.00	\$2.60	\$0.30
Free snacks	Reduced-price snacks	Paid snacks
\$0.91	\$0.45	\$0.13

Source: 2018 - 2019 FNS USDA School lunch programs

<https://www.federalregister.gov/documents/2018/07/19/2018-15465/national-school-lunch-special-milk-and-school-breakfast-programs-national-average-paymentsmaximum>

According to a county profile put out by the California Food Policy Advocates, in the 2014-15 school year, 1,355 students county-wide ate free or reduced school lunches.¹¹⁴ In conducting new calculations for the data below, research found that for the 2011-12 school year, a total of 2,222 students were receiving free and reduced meals through National School Lunch and Breakfast Programs with a participation rate of 64%.¹¹⁵

In Del Norte County there are 11 schools ranging from K – 12th grade. NSLP participation data was analyzed for 13 schools. For the school year 2017-18 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 organized by the highest percent of students eligible for Free or Reduced Meals.

Table 13: Del Norte Unified School District: Free and Reduced Lunch Program Enrollment, 2017-18			
School	Total School Enrollment	# Children Qual for Free & Reduced Lunch	% Qual for Free & Reduced Lunch
Joe Hamilton Elementary School (K-5)	345	293	85%
Bess Maxwell Elementary School (K-5)	266	220	83%
Pine Grove Elementary School (K-5)	306	248	81%
Smith River Elementary School (K-8)	220	178	81%
Redwood Elementary School (K-8)	348	258	74%
Crescent Elk Middle School (6-8)	539	393	73%
Mary Peacock Elementary School (K-5)	295	189	64%
Margaret Keating Elementary School (K-6)	92	58	63%
Sunset High School (9-12)	68	43	63%
Del Norte High School (9-12)	915	506	55%
Mountain Elementary School (K-8)	75	34	45%

Sources: Del Norte Unified School District lunch participation and CA Department of Education, Free & Reduced Meal Claims. Created by D. Stubblefield and D. Kravitz. <https://dq.cde.ca.gov/dataquest/cbeds4.asp?cYear=2015-16&Tp=on&FreeLunch=on&cSelect=Bess%5EMaxwell%5EElement--Del%5ENorte%5ECount--0861820-6005375&cChoice=SchProf1&cLevel=School&cTopic=Profile&myTimeFrame=S&submit1=Submit>

Joe Hamilton Elementary School has the highest percentage of students eligible for free or reduced meals, at 85%. Table 12 also shows which school populations have the highest poverty

¹¹⁴ California Food Policy Advocates, State and County Profiles. <https://cfpa.net/county-profiles/>

¹¹⁵ Ibid.

rates through the “% Qualified for Free and Reduced Lunch” column. The two highest are Joe Hamilton and Bess Maxwell. In contrast to Joe Hamilton’s high rate of NSLP eligibility, Del Norte High has one of the worst rates at 55%. The two schools serve different ages, 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. In 2014-15 there were 867 students eating free breakfasts, a high fraction of the students eligible, causing the county to be ranked 1st best out of all California counties for SBP participation.¹¹⁶

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.¹¹⁷ 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) is 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. Through EFAP they provide 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.

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.

¹¹⁶ California Food Policy Advocates, State and County Profiles 2014. <https://cfpa.net/county-profiles/>

¹¹⁷ Commodities Procured for Domestic Food Assistance Programs, USDA. <http://www.dm.usda.gov/smallbus/CCC2.htm>.

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.¹¹⁸ 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

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 276 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.¹¹⁹

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 hundreds of individuals every month from all of the tribes in the area.

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.¹²⁰ 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.

United Indian Health Services (UIHS) offers two Elder Nutrition programs for the region.¹²¹ 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 Tolowa Dee-ni' lands. Hot congregate meals are available

¹¹⁸ Commodity Supplemental Food Program. Food and Nutrition Service, USDA.
<https://www.fns.usda.gov/csfp/commodity-supplemental-food-program-csfp>.

¹¹⁹ Food Distribution Program on Indian Reservations Fact Sheet. United States Dept of Agriculture .
<https://www.fns.usda.gov/fdpi/food-distribution-program-indian-reservations-fdpi>.

¹²⁰ Special Programs for the Aging, Federal Grants Wire. <http://www.federalgrantswire.com/special-programs-for-the-agingtitle-vi-part-a-grants-to-indian-tribespart-b-grants-to-native-hawaiians.html>.

¹²¹ Elder Nutrition/Title VI Program, United Indian Health Services. <http://www.uihs.org/client-services/elder-nutritiontitle-vi-program>.

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.

Participants are requested to pay what they’re able on a sliding scale from \$0-2, and the cost is \$7 for guests. 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.

Due to federal regulations protecting against health risks, though, food is only accepted from approved sources. Not just anyone, for example, who has caught a salmon can bring it in to be cooked – 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 dietician 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. Research on the nutritional value of traditional foods is available and can be used as evidence to support the USDA approving them for Native tribes to feed to elders.^{122 123}

Table 15. Senior/ Elder Meals in Del Norte and Tribal Lands				
Organization	Congregate Meals	Congregate Location	Home Delivered Meals	Contact Info
United Indian Health Services	Mon-Fri 12:00-1:00			
Del Norte Senior Center	Mon-Fri 11:30-12:30	Senior Center 1765 Northcrest Dr. Crescent City, CA	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.¹²⁴ 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.

¹²² Johnson, Suzanne. “First Nations Traditional Food Fact Sheet.” First Nations Health Authority. http://www.fnha.ca/documents/traditional_food_fact_sheets.pdf

¹²³ Center for Disease Control and Prevention. Traditional Foods in Native America.

https://www.cdc.gov/diabetes/ndwp/pdf/Part_IV_Traditional_Foods_in_Native_America.pdf

¹²⁴ Administration for Community Living website. <https://www.acl.gov/programs/health-wellness/nutrition-services>.

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 \$3.00.¹²⁵

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.

Local Food Assistance Programs

While federal programs represent millions of dollars' worth of food assistance that comes into the county and the 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.

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. Food is distributed at the Del Norte County Fairgrounds parking lot on the first Wednesday of the month except for July and August. In July and August, distribution is on the second Wednesday.¹²⁶ RHS also hosts a Food Bank program where residents can come pick up food for 3 days out of the month.

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.

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. 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.

¹²⁵ Del Norte Senior Center. Nutrition Programs. <http://www.delnorteseiorcenter.org/senior-services.html>.

¹²⁶ Ron Phillips, RHS manager, personal communication May 30, 2019.

As part of the Tolowa Dee-ni' 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. 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.

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).

Pacific Pantry

Pacific Pantry is a new food pantry opened in 2018, located at the Family Resource Center in Crescent City. Residents can pick up a box of food once a month. The hours are Thursday and Fridays from 2pm – 6pm and Saturdays from 10am – 2 pm. According to an employee at the Family Resource Center, the pantry serves over 500 families every month.¹²⁷ There are very few verifications in order to receive food from the pantry, just a valid ID, proof of residency and income verification.

Pacific Pantry is a first choice pantry, so people can walk in and chose whatever they want from the shelves, as long as they grab at least one item of produce. The size of the family determines how many items can be picked from the shelves. The shelves have many different kinds of canned vegetables and other goods, fresh produce, frozen meats, some local milk and cheese, baby food, formula, seeds and starts. The pantry takes donations from local restaurants, farmers and Alexandre Family Farm. Bulk foods such as uncooked rice and dried beans are also offered, but they move less than other items. Employees believe this is because many families do not know how to properly store and cook rice and beans so sometimes instructions and recipes will be provided. When those are attached, the bags move more often.¹²⁸

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.

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

¹²⁷ Family Resource Center employee, personal communication May 31, 2018.

¹²⁸ Ibid.

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 Tribal Lands.

Market Match at the Farmers' Market

In 2010 the Crescent City Saturday market began accepting CalFresh (via EBT cards that work like credit cards) for approved foods such as herbs, eggs, meat, produce and vegetable garden starts. 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 288 locations that welcome CalFresh customers.¹²⁹ USC conducted an impact report of Market Match on California families and local economies. This report showed that CalFresh redemption at farmers' markets has risen from \$2.5 million in 2015, to \$9.7 million in 2017.¹³⁰

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.

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.¹³¹ Nationally in 2017, 16,815 farmers, at 3,312 farmers' markets and 2,367 farmstands, were authorized to accept FMNP coupons and redeemed more than \$18.5 million in revenue.¹³² Both farmer's markets in Crescent City use the FMNP program.

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.

¹²⁹ Market Match. <https://marketmatch.org/about/history/>

¹³⁰ Market Match Impact Report 2018. https://marketmatch.org/wp-content/uploads/2018/09/Market-Match-Impact-Report-2018_web.pdf

¹³¹ WIC Farmers' Market Nutrition Program. USDA Food and Nutrition Service. <http://www.fns.usda.gov/wic/FMNP/FMNPfaqs.htm#1>.

¹³² WIC Farmer's Market Nutrition Program Fact sheet. 2017. <http://www.fns.usda.gov/sites/default/files/fmnp/WICFMNPFactSheet.pdf>

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 farmer's markets, where several farmers come over the border from nearby Oregon, the Seniors are not able to use them at their stalls. The program runs through November, at which point markets close and cannot be redeemed the following year.

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.

Now, the Del Norte Gleaning club collects produce from local farmers and homeowners. The food gathered at the end of the summer will be distributed to the Community Food Council's new food pantry, Pacific Pantry.¹³³ This year, apples are in abundance, and the Food Council's food project coordinator Connor Caldwell said they will have multiple cider presses available at Ocean Farms' annual event.

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 Tribal Lands.

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."

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.

¹³³ Del Norte Triplicate. "Gleaning Club calls for donations, volunteers". 2018.
<https://www.triplicate.com/home/6483853-151/gleaning-club-calls-for-donations-volunteers>

The Yurok Tribe is building more activities around traditional food practices. They have held workshops around improving agro-forestry management to increase supply of traditional foods.¹³⁴ More workshops will be created and integrated into youth camps, K-12 curriculum and for the community as well. Some will connect elders with youth to pass on knowledge of Native food gathering, processing and preservation, regalia making, and story-telling. “School and community gardens have Native plants, and workshops are created to teach gardening techniques as well as how to identify plants, cultural uses, preparation for food, fiber and medicine.”¹³⁵

Other traditional Yurok foods include: pine nuts, acorns, mussels, clams, seaweed, steelhead, eels, huckleberries, blackberries, herbs, bulbs and deer meat. 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 3 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.

Garden and Nutrition Education in the Schools

Del Norte Unified School District, providing for 11 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.

As mentioned in this report’s Food Production section, all of the 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.

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.

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-

¹³⁴ Comprehensive Yurok Food Systems Planning Guide. 2017.

¹³⁵ *ibid*

building and leadership skills. The teens chose the topic of accessible drinking water, made a video and have conducted a “water revolution” survey.

The final component of the Network’s comprehensive nutrition education takes place in the school cafeterias. 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.

Collaborative Food System Changes

CAN has taken the lead in convening a Community Food Council to serve the Del Norte and 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.” 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

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. The Natural Resources Defense Council stated that 40% of the food in the U.S. is never eaten.¹³⁶ In addition, US households throw away approximately 150,000 tons of food every day.¹³⁷

This section examines the various paths of food waste in Del Norte County and 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 others 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 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 25% of Del Norte’s solid waste stream (see Figure 17: Del Norte Residential Solid Waste, by Type).¹³⁸ This means that in 2016, out of the

¹³⁶ Natural Resource Defense Council, Food Waste. <https://www.nrdc.org/issues/food-waste>

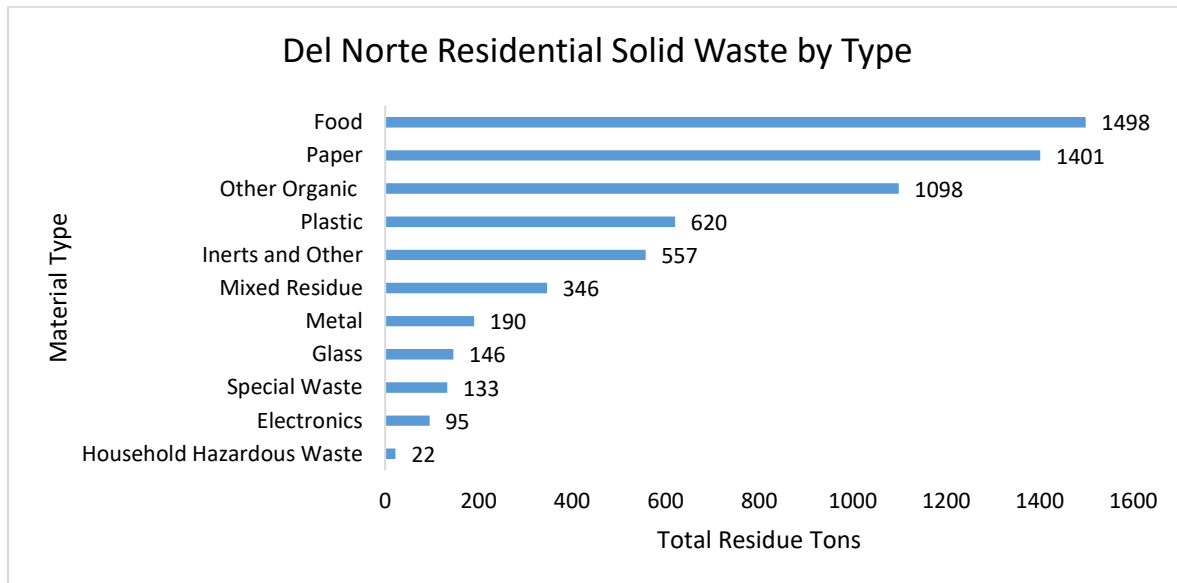
¹³⁷ The Guardian. 2018. “Americans waste 150,000 tons of food each day – equal to one pound per person”. <https://www.theguardian.com/environment/2018/apr/18/americans-waste-food-fruit-vegetables-study>

¹³⁸ Solid Waste Characterization Database: 2016.

<https://www2.calrecycle.ca.gov/WasteCharacterization/MaterialTypeStreams?lg=1008&cy=8>

total 12,725 tons of solid waste generated in the county,¹³⁹ approximately 3,927 tons, or 30%, of it was food waste. For residential areas, 23% of waste produced is food waste.

Figure 16. Residential Solid Waste



Source: Solid Waste Characterization Database: 2016. CalRecycle.
<https://www2.calrecycle.ca.gov/WasteCharacterization/ResidentialStreams?lg=1008&cy=8>. Accessed Sept 13, 2018.

Food waste was the single largest category of waste, as seen in the 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.

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, encouraging households to take care of their own food scraps on-site and then to use the compost to enrich gardens and landscaping.¹⁴⁰

State studies have shown that food packaging makes up 23% of the volume 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.¹⁴¹ 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

¹³⁹ Ibid.

¹⁴⁰ Composting. Del Norte Solid Waste Management Authority. 2018.
<http://www.recycledelnorte.ca.gov/composting/>. Accessed Oct 2018.

¹⁴¹ Reducing Waste. Del Norte Solid Waste Management Authority.
<http://www.recycledelnorte.ca.gov/index.php?PageID=1>.

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. 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 championed by Assembly member Wesley Chesbro and signed by Governor Brown in October 2011, sets a new goal that 75% of solid waste be diverted from landfills by 2020.¹⁴² 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 55%.¹⁴³

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.

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

¹⁴² Bill Information: AB 341. Official California Legislative Information. http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_0301-0350/ab_341_bill_20111006_chaptered.html. Accessed Oct 12, 2018.

¹⁴³ <http://www.recycledelnorte.ca.gov/wp-content/uploads/2016/12/Del-Norte-County-Final-Report-051514-Reduced-Size-pdf.pdf>

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.

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.

On the Tolowa Dee-ni' lands, a new Solid Waste Management Plan was developed in 2011 with the assistance of Indian Health Services. 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 smaller proportion of the commercial sector's solid waste stream than it does for residential, accounting for 18.5%.¹⁴⁴ But compared to other industries, food waste has one of the highest rates. This is because restaurants and other food retailers have a very high output of food waste.

Food manufacturers contribute 0.9% to the food waste stream, too small to show in Figure 18, though in 2016 this still added up to 91 tons. 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.

¹⁴⁴ Solid Waste Characterization Database: Details for Selected Material Types. CalRecycle. <https://www.calrecycle.ca.gov/DataCentral/Materials/>.

Figure 17. Food Waste by Business Group



Source: Solid Waste Characterization Database: Details for Selected Material Types. CalRecycle.
<http://www.calrecycle.ca.gov/WasteChar/wcabscrn.asp>. Accessed Sept. 13th, 2018.

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.¹⁴⁵

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.¹⁴⁶ 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

¹⁴⁵ About Us: Sustainability. Rumiano Cheese. <http://www.rumianocheese.com/about-us/our-company/sustainability>. Accessed Oct 15, 2018.

¹⁴⁶ Eco-Nutrients, About Us. <https://www.econutrients.com/>

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.

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 the company is not looking at further food waste composting for now.

Gleaning

According to a Family Resource Center employee in Crescent City, The Community Food Council is hoping to implement a new gleaning project after receiving a grant from Cal Recycle. As of now there aren’t many details about the project, but it’s expected to be a project to bring together restaurants and grocery stores to volunteer and donate to the project.

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.¹⁴⁷ 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.

A community member formerly active with Community Assistance Network collects food from Safeway 6 days a week. In 2018, it was estimated that over 20,000 lbs of food was picked up and distributed throughout Del Norte County. This food was donated to senior apartments, food banks and made 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.

Food is also purchased from the Redwood Empire food bank in Santa Rosa. This food is then donated to Grace Lutheran Church and distributed throughout Del Norte County. In 2018, 25,931 lbs of food was purchased. That is equivalent to 21,609 meals. An estimated 1,887 lbs of fresh

¹⁴⁷ Melissa Jones. 2011. Policy Conversations: Think Twice – Food or Trash? Humboldt State University: California Center for Rural Policy.

produce was purchased in 2018 at a retail value of \$52,766. Pickups do not follow a set schedule, it usually depends on how much stock is in the food bank.¹⁴⁸

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.¹⁴⁹ Models such as these could be replicated and relationships expanded between food assistance programs, restaurants and other food retailers throughout the area.

¹⁴⁸ Stewart Nichols, Community Assistance Network. Personal communication May 28, 2019.

¹⁴⁹ Melanie, personal communication May 29, 2019.

Section 8

Conclusions and Recommendations

This Community Food Assessment is an updated version of the original report written in 2011 by Danielle Stubblefield. Since the 2011 report, there have been some positive and negative changes to the local food system in Del Norte County. Rates of food insecurity nationwide and in Del Norte County have gone down. According to the Census estimates, while food insecurity has gone down, poverty rates in Del Norte County have gone up, but only slightly. The poverty of Del Norte County still has effects on its food system, such as difficulty fixing infrastructure to aid in transportation of food as well as fixing public transportation to get consumers to healthy food options. Most students in Del Norte County qualify for Free or reduced lunches, but many of the schools also have gardens now, so healthy food is available to them. Del Norte County has the highest rate of using the Market Match at that farmers markets in all of California, and its rate of direct market sales has gone up drastically since the last report, which shows that the community wants healthy food options and utilizes any chance to access healthy foods. The creation of the Community Food Council, an organization dedicated to creating a vibrant and sustainable food system for Del Norte County, has been helpful in creating workshops and events surrounding nutrition, food education, gardening classes and many other food related events in Del Norte County. So while there are still barriers that Del Norte County must work through, there have been positive changes made in many areas to increase healthy food access and education to Del Norte County and Tribal Lands.

This report is intended to be a living document that will be updated periodically. Comments and feedback from the community and organizations using this document will help improve it and are always welcome.

The following Strengths, Weaknesses, Recommendations and Challenges are conclusions after careful consideration of the data.

Strengths

- **Direct farmer-to-consumer sales within the county has skyrocketed.** Direct farms sales increased 19% since 2012, which means more people are willing to visit farm stands, buy from farmers markets, or roadside stands than ever before.
- **Rise in community supported agriculture.** There is more support for community supported agriculture, with community gardens at the Tribal Reservations, all schools and in public spaces.
- **Farm-to-school education/implementation.** All Del Norte County schools have school gardens and an educational program centered around local food production, health and nutrition, and taking care of gardens. The schools also provide lunches with locally made goods.
- **Del Norte County has the highest rate of participation in Market Match at farmers markets.** More people now than ever before are not only attending the farmers market,

but are utilizing their CalFresh benefits and using the Market match program to get healthy food.

Weaknesses

- **Lack of diversity in local agriculture.** Del Norte County farms use most of their land from pasture, raising cattle and other livestock, and selling dairy products. The land that is used for cropland is mainly used for nursery, sod and other floriculture. Very little land is left over for farming vegetables, because much of the land is also woodland and not the best for farming.
- **Lack of access to traditional foods for Tribal lands.** Tribes face difficulty harvesting traditional foods because of bureaucratic red tape. Federal regulations only allow so much harvesting of specific animals or plants and it's not enough.
- **Fishing populations have been diminishing with every year.** This could be because of climate change as well as more commercial fishing boats in the same ports. Salmon populations have dramatically decreased because of an increase in disease that spread quickly throughout the population.
- **Distribution trains of local goods can be difficult because of infrastructure in and out of county.** Del Norte County is an isolated county, with very few roads going in and out. When bad weather hits sometimes roads are closed, for unknown amounts of time, which affects transportation of goods and services in and out of the county.
- **Better access to nutritionally appropriate food for remote areas.** Many towns and reservations are 10 miles or farther away from the larger towns with grocery stores that stock healthy and affordable food. It's difficult for distribution companies to access remote areas because of poor infrastructure and no stores.
- **Minimal processing at the local level and limited access to locally produced foods.** There are very few local producers in Del Norte County because of the lack of available land for farming.
- **Lack of adequate public transportation for consumers in local areas to get to healthy food stores.** Public transportation routes don't always meet the needs of people living in remote towns and some routes have been completely removed.

Recommendations

- **More marketing/distribution of local goods within and outside of the county.** As of now, Wild Rivers Market is the only grocery store that sells locally produced items. If it's possible, other grocery stores can strike a deal with local farmers and producers to sell their items at fair prices.
- **Find a way to open more healthy grocery stores in remote locations OR provide more healthy food options in already established food stores in remote locations.**
- **More education for the local community on nutrition and healthy eating habits.** Re-introducing home economics/cooking classes for all school grades.
- **Finding more incentives to community members to attend cooking classes and nutrition workshops.** While there are opportunities for people to attend classes and

workshops, people don't always show up. Finding more incentives for people to show up or possibly more marketing for workshops and classes.

Challenges

- **Transporting and distributing fresh goods in and out.** Road infrastructure can be volatile depending on the weather, accidents and other factors.
- **Lack of economic opportunity for local farmers and producers.** There isn't a lot of usable free land space for new farms to start up. Existing farms are small and can only do so much with that they have.
- **Climate change and its effect on current food systems.**
 - Decreases in fishing, especially for Yurok because of damming issues and diseases.
 - Tsunami's affecting fishing and infrastructure surrounding fishing.
 - Changing weather patterns can have effects on crops.
- **Inability to increase agricultural land because of geography of county.**
- **Fishing industry changing.**
 - Its more expensive to become a fishermen now than before, younger fishermen are less likely to be successful in the long run
 - More fisherman than before but less fish to catch. This means lower prices per pound caught.
- **Getting community members to attend workshops, cooking classes and other events surrounding nutrition education.**
- **Tribes can't properly fish/hunt/harvest traditional foods because of federal regulations.**

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