



# Assessing the San Luis Obispo County Food System

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**UCDAVIS**  
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# Introduction

## Why a Food System Assessment?

Food systems play an important role in shaping a county's economic, environmental and social health. The processing, production and distribution of food affect a range of local issues including job creation, water and air quality, diet-related diseases and worker well-being. Food systems assessments help communities examine the connections between food production, distribution, processing, consumption, waste and their impacts on the environment, human health and livelihoods through a set of indicators over time. Understanding the trends and relationships between different elements in the food system will help community leaders and policy makers to identify areas of concern and work towards appropriate reforms.



This food system assessment is the product of collaboration among governmental, public health, social service, environmental and agricultural experts from throughout San Luis Obispo County and is intended to serve as a planning tool for community based change. In particular, the goal of this document is to examine the strength of San Luis Obispo's food system in order to identify opportunities and the key steps necessary to strengthen it.

## Process/Methodology

In April of 2012, the University of California Sustainable Agriculture, Research and Education Program (SAREP) began a collaboration with Central Coast Grown (CCG), and the San Luis Obispo County Food System Coalition to develop a food system assessment for San Luis Obispo (SLO) County. Many of the members of the Food Systems Coalition had previously worked together on "Paradox of Plenty," a report funded by the United States Department of Agriculture. The goal of conducting a food system assessment is to collect data about food production, marketing, distribution and consumption in order to understand trends in the entire food system. In addition, the assessment would help community members understand what changes need to be considered in order to make the food system **more profitable, resilient, equitable, and healthful**. The Food System Coalition identified these descriptors as a broad framework for a vision of a food system towards which they would like to work.

During the Food System Coalition's monthly meetings, members identified food system goals and potential indicators to assess progress on those goals. The process of goal-setting and indicator identification was supported by food system assessment expertise from UC SAREP. The goals identified for the food system assessment were meant to complement those created for "Paradox of Plenty", in order to ensure that the two documents supported each other.

Through a process of brainstorming and goal consolidation, fourteen goals were identified under the four elements of the food system vision. These are:

### **1. Profitability:**

- 1.1: The food production and distribution sector in San Luis Obispo County is profitable.
- 1.2: San Luis Obispo County increases markets for local food producers (farmers, ranchers and fisher-folk).
- 1.3: The San Luis Obispo food system improves infrastructure for local production and distribution.

## **2. Equitability:**

- 2.1: All residents of San Luis Obispo County have access to healthy, fresh, local, and culturally appropriate food.
- 2.2: There are opportunities for new and existing local food producers to enter the local food system.
- 2.3: All workers in San Luis Obispo County's local food system are fairly compensated.

## **3. Resiliency:**

- 3.1: San Luis Obispo County's food production supports the ability of the system to meet the needs of future generations.
- 3.2: San Luis Obispo County's agricultural land is preserved.
- 3.3: San Luis Obispo County's soil and water are conserved and support eco-system health.
- 3.4: There are increased relationships between producers, consumers and the community.
- 3.5: The integrity of local fishing grounds is maintained while access to local fishing enterprises is preserved.

## **4. Health Promoting:**

- 4.1: San Luis Obispo County's food system promotes community health.
- 4.2: Schools in San Luis Obispo County serve more fresh, local food.
- 4.3: San Luis Obispo County residents make healthy food choices.

As a way to measure progress toward these goals, the Food System Coalition then identified and selected a set of three to five indicators for each goal. As part of the selection process, the UC Davis team (Goldberg and Feenstra) examined many food system assessment studies from around the country, especially those in California, to provide examples of useful indicators. The Coalition discussed all the potential indicators and in collaboration with the UC Davis team, 46 indicators were selected. The UC Davis team took the lead in collecting the quantitative data for each of the potential indicators from county and state sources. Coalition members assisted the UC Davis team in data collection, as well as in the identification of technical experts who could shed more light on content and provide context for the indicator data and trends.

The graphic depiction of data over time forms the foundation for the report's analysis. After compiling and organizing data for each indicator, phone interviews and email conversations were conducted with coalition members and technical experts to assist in contextualizing the data and to provide help in analyzing the trends.

### **Major data sources**

One of the major county, state and national level data sources used in this report was the United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) which conducts a Census of Agriculture every five years, generating national, state and county level data on numerous topics of value to this report. Also used were the University of California-Los Angeles (UCLA) California Health Interview Survey (CHIS), California Department of Fish and Game, U.S. Bureau of Labor Statistics, the United States Census Geographic Series, the California Department of Public Health, the California Department of Food and Agriculture, the California Department of Conservation and others.

On the local level, the County of San Luis Obispo Department of Agriculture/Weights and Measures, the Central Coast Ambient Monitoring Program, the San Luis Obispo County Department of Public Works and the Food Bank Coalition of San Luis Obispo County all provided significant data.

### **Organization of the Report**

The report is organized by the four elements of the food system vision: profitability, equitability, resiliency and health promoting. For each of those vision elements, the report describes the goals and

indicators showing trends in that part of the food system. In each of those four sections, overall national trends are described first to provide background context. Each of the three to five goals for that vision element are described briefly. Then, under each goal, the indicators explaining progress toward that goal are described. Trend data is shown through graphs and any insights or analysis from expert interviews or background literature is summarized.

At the end of the report, we examine the trends overall and describe the themes that emerge from looking at all the data together as opposed to separately by vision statement. We conclude by making recommendations about what these themes suggest about next steps for the future of the food system in San Luis Obispo County.

## San Luis Obispo County Profile



Figure 1: Source: San Luis Obispo County Relief Map, County of San Luis Obispo Department of Planning and Building

### San Luis Obispo County Profile - Quick Facts:

- Climate and Geography:** San Luis Obispo County is located along California's Central Coast, midway between Los Angeles and San Francisco. San Luis Obispo enjoys a cool Mediterranean climate.
- Size of County:** San Luis Obispo (SLO) County encompasses 3,298.57 square miles<sup>1</sup> or approximately 2,114,750 acres.<sup>2</sup> With 80 miles of coastline,<sup>3</sup> San Luis Obispo County is the 16<sup>th</sup> largest county in California,<sup>4</sup> and is bordered by Santa Barbara County to the south, Monterey County to the north and Kern County to the east.<sup>5</sup>
- Population:** In 2012, the population of San Luis Obispo County reached an estimated 271,483, an increase of .4% since 2011.<sup>6</sup> San Luis Obispo is the 23<sup>rd</sup> most populous county out of the 58 counties in California.

<sup>1</sup> "State and County Quick Facts: San Luis Obispo County," United States Census Bureau, accessed January 26, 2012, <http://quickfacts.census.gov/qfd/states/06/06079.html>.

<sup>2</sup> Ibid.

<sup>3</sup> "San Luis Obispo County: Facts and Figures," San Luis Obispo County Visitors and Conference Bureau, accessed April 13, 2013, <http://www.sanluisobispocounty.com/media/facts-figures/>.

<sup>4</sup> "California Counties: Square Mileage By County," CSAC, accessed April 13, 2012, <http://www.counties.org/default.asp?id=398>.

<sup>5</sup> Ibid.

<sup>6</sup> E-1 Population Estimates for Cities, Counties, and the State with Annual Percent Change: January 1, 2011 and 2012 (Sacramento, CA: State of California Department of Finance, May 2012).

- **Density:** Major population centers in San Luis Obispo County are located along U.S. Highway 101. The largest city is San Luis Obispo with a population of 45,119, followed by Paso Robles, Atascadero, Arroyo Grande and Grover Beach. Approximately 118,100 people live in unincorporated areas of the County (mostly eastern and northern parts of the County).<sup>7</sup>
- **Demographics:** As the chart below shows, San Luis Obispo County's population is mostly white (71%), with Hispanic people being the next most common racial group (~21%). Other racial groups (African American, American Indian and Asian) comprise the remaining 8% of the population.

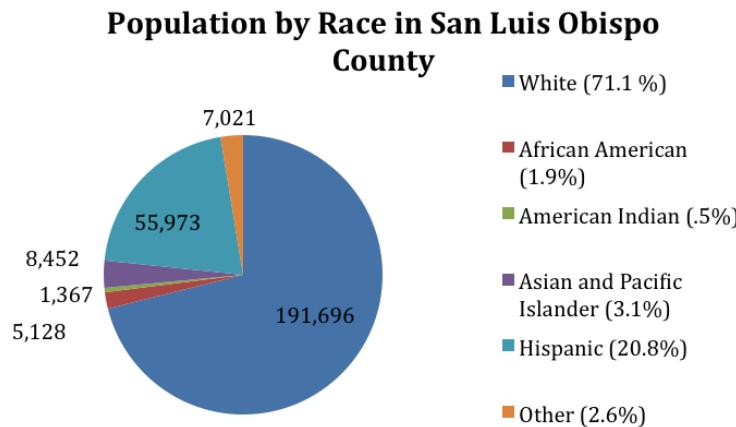


Figure 2: Source: U.S Census Bureau. (2010). "State and County Quick Facts: San Luis Obispo County."

- **Main Economic Drivers:** San Luis Obispo County's major industries are tourism and agriculture. Within the agricultural economy, wine grapes, cattle, and strawberries are San Luis Obispo County's largest commodities comprising over 50% of all agricultural sales.<sup>8</sup>
- **Unemployment and Cost of Living:** The median household income for San Luis Obispo County was \$54,195 in 2011,<sup>9</sup> with an annual per capita personal income of \$40,322 in 2011.<sup>10</sup> Unemployment in the County was approximately 7.3% as of December 2012,<sup>11</sup> putting it below that of the national average (7.8%) and the California state average (9.4%).
- **Poverty and Public Benefits:** As of 2011, the percentage of the County's population living below the federal poverty level was 13.2% compared to 14.4% in California.<sup>12</sup> Food insecurity in the County is estimated to be approximately 23%. In 2008, 29% of income eligible participants were participating in the CalFresh program, and San Luis Obispo was ranked 53<sup>rd</sup> out of the 58 counties in California for CalFresh participation.<sup>13</sup> However, San Luis Obispo County ranks 3<sup>rd</sup> in the state for National School Lunch Program Participation and 5<sup>th</sup> in the state for School Breakfast Program participation.<sup>14</sup>

<sup>7</sup> E-4 Population Estimates for Cities, Counties and the State: 2001-2010, with 2000 & 2010 Census Counts (Sacramento, CA: State of California Department of Finance, n.d.).

<sup>8</sup> *Protecting Our Resources: 2011 Annual Report* (San Luis Obispo County: Department of Agriculture/Weights and Measures, 2011).

<sup>9</sup> "Selected Economic Characteristics: 2011 American Community Survey 1-Year Estimates," *United States Census Bureau*, accessed January 28, 2013, [http://fact-finder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_10\\_1YR\\_DP03&prodType=table](http://fact-finder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_1YR_DP03&prodType=table).

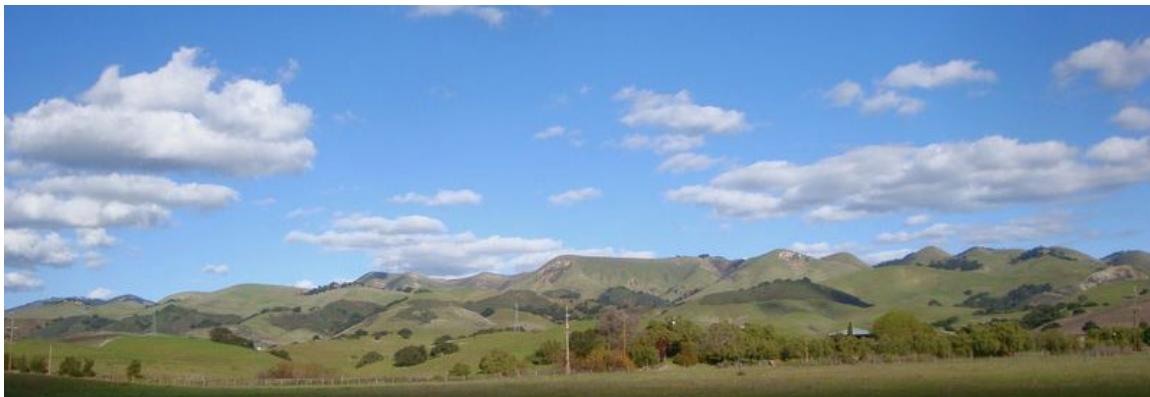
<sup>10</sup> "San Luis Obispo County Economic Profile," *State of California Employment Development Department*, accessed January 28, 2013, <http://www.labormarketinfo.edd.ca.gov/cgi/databrowsing/localAreaProfileQSResults.asp?selectedarea=San+Luis+Obispo+County&selectedindex=40&menuChoice=localareaprof&state=true&geogArea=0604000079&countyName=&submit1=View+Local+Area+Profile>.

<sup>11</sup> Ibid.

<sup>12</sup> "State and County Quick Facts: San Luis Obispo County," *United States Census Bureau*, accessed January 26, 2012, <http://quickfacts.census.gov/qfd/states/06/06079.html>.

<sup>13</sup> 2010 San Luis Obispo County Nutritional and Food Insecurity Profile (California Food Policy Advocates, 2010).

<sup>14</sup> Ibid.



## Vision 1: Profitability

### **National Trends:**

Our nation's food system is a complex web of production, transportation, processing, distribution, consumption and waste management, all of which contribute directly to the economic profitability of our national food system. The profitability of the agricultural industry in the United States continues to grow. According to the USDA Economic Research Service (ERS), net farm income is projected to grow nearly 14% in 2013, reaching the highest level since 1973.<sup>15</sup> Additionally, according to the 2007 Census of Agriculture, there was an 84% increase in net cash income for agricultural operations between 2002-2007.<sup>16</sup> During this period, the top five sectors in terms of net cash income nationally were: grains and oilseeds, milk, poultry and eggs, fruits and nuts, and nursery and greenhouse crops.<sup>17</sup> California's agricultural industry continued to lead the country with the value of agricultural products sold.

The number of farms in the country continues to stay relatively constant, with most of the growth in U.S. farming coming from small operations. The growth in small farm operations may represent a shift in a subset of the American food system toward more local food and direct sales. Small farms account for 91% of all U.S. farms and more than half of the land in farms. In 2007, 31% of small farmers who had annual sales between \$10,000- \$99,999 participated in direct to consumer sales. In 2008, sales of locally produced foods comprised 1.6% of the U.S. market for agricultural products.<sup>18</sup> Additionally, 5% of all U.S. farms are engaged in direct sales such as farmers' markets, farm-to-school programs, community-supported agriculture, community gardens, school gardens and, food hubs and market aggregators.<sup>19</sup>

### **San Luis Obispo County Trends:**

Overall, the San Luis Obispo County agricultural industry continues to grow, with an increase in both total farm sales and total number of farms. Total farm sales have increased from \$213,000,000 in 1992 to \$560,600,000 in 2007. This growth in total farm sales appears to be driven by wine grapes, strawberries, and cattle and calves. Additionally, the success of wine grapes, strawberries, and cattle and calves has influenced San Luis Obispo County's whole food system with growth not only in production but also in wholesale and processing establishments.

Direct sales increased from \$3.8 million in 2002 to \$4.3 million in 2007 (a \$400,000 increase).<sup>20</sup> Total farm sales increased from \$456 million in 2002 to \$560 million in 2007 (a \$104 million increase).<sup>21</sup> As

<sup>15</sup> Farm Sector Income Forecast, USDA Economic Research Service (U.S. Department of Agriculture, 2013).

<sup>16</sup> 2007 Census of Agriculture: Economics, USDA National Agricultural Statistics Service (U.S. Department of Agriculture, 2007).

<sup>17</sup> Ibid.

<sup>18</sup> Renee Johnson, Randy Alison Aussenberg, and Tadlock Cowan, *The Role of Local Food Systems in U.S. Farm Policy* (The Congressional Research Service, 2013).

<sup>19</sup> Ibid.

<sup>20</sup> 2007 Census of Agriculture: Table 2. Market Value of Agricultural Products Sold and Direct Sales, USDA National Agricultural Statistics Service (U.S. Department of Agriculture, 2007).

<sup>21</sup> Ibid.

a result of the success of both wine grapes and strawberries, total agricultural sales in San Luis Obispo County are growing faster than direct sales, resulting in a decrease in direct sales as a percentage of total sales. However, San Luis Obispo County has a thriving local food economy, with a growing number of farmers' markets, school gardens and farm-to-school programs.

The following goals and indicators provide data that describe the profitability of the San Luis Obispo County food system.

### **Goal 1.1: The food production and distribution sector in San Luis Obispo County is profitable**

A profitable food system stems from a thriving agricultural production base, with robust agricultural sales, new farms and a diversity of farm sizes and types of crops grown.

The following indicators provide a picture of the agricultural production sector in San Luis Obispo County, highlighting valuable agricultural products, number of producers, farm size, and farm size by sales.

#### **Indicator 1.1a: Number of producers by size and gross sales**

**Background:** The number of farms in the United States has been declining since World War II. In 1950, there were just over 25 million farmers in the U.S. Almost 60 years later (2007), there were only about 2.2 million.<sup>22</sup>,<sup>23</sup> In 2007, the USDA Census of Agriculture counted 2,204,792 farms, a 4% increase from 2002.<sup>24</sup> In addition, between 2002 and 2007, the total land in farms across the United States increased by 100 thousand acres to 920 thousand acres. Consequently, from 2002 to 2007, the average farm size stayed about the same, with the average farm in America at 418 acres.<sup>25</sup> The USDA's Economic Research Service classifies farm size in the United States into four categories. These four groups are: small family farms (gross sales less than \$250,000), large family farms (\$250,000- \$499,999), very large family farms (\$500,000 or more),<sup>26</sup> and nonfamily farms (any farm where the operator and persons related to the operator do not own a majority of the business). In 2007 small farms dominated the farm count, making up 88% of all U.S. farms. However, production is concentrated among large and very large family farms as well as nonfamily farms, which together account for 80% of the value of production.<sup>27</sup>



22 "Growing A Nation: The Story of American Agriculture," *Ag in the Classroom*, accessed July 22, 2013, [http://www.agclassroom.org/gan/timeline/farmers\\_land.htm](http://www.agclassroom.org/gan/timeline/farmers_land.htm).

23 "Ag 101: Demographics," *Environmental Protection Agency*, accessed July 22, 2013, <http://www.epa.gov/agriculture/ag101/demographics.html>.

24 *2007 Census of Agriculture: Farm Numbers*, USDA National Agricultural Statistics Service (U.S. Department of Agriculture, 2007).

25 *Farms, Land in Farms, and Livestock Operations, 2010 Summary*, National Agricultural Statistics Service (U.S. Department of Agriculture, 2011).

26 A new report by Robert A. Hoppe and James M. MacDonald from the USDA Economic Research Service entitled "Updating the ERS Farm Typology" reclassifies farm size. As of 2013, small farms are defined as those with \$350,000 in gross cash farm income or less, up from \$250,000. Additionally, a midsized group was added which includes farms with gross cash farm income between \$350,000 and \$999,999. Because our data is from the 2007 Census of Agriculture, we are using the older classifications. For more details see <http://www.ers.usda.gov/media/1070858/eib110.pdf>

27 *Agricultural Resources and Environmental Indicators, 2012* (U.S. Department of Agriculture, Economic Research Service, 2012).

### San Luis Obispo County Trends:

**Total Number of Producers in San Luis Obispo County**

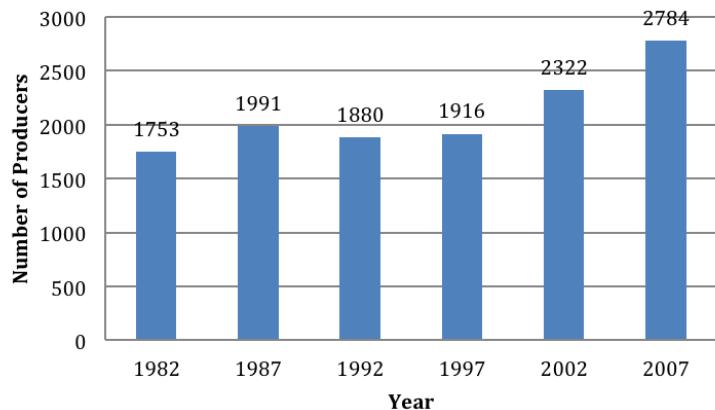


Figure 3: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales.

**Number of Producers by Value of Sales in San Luis Obispo County**

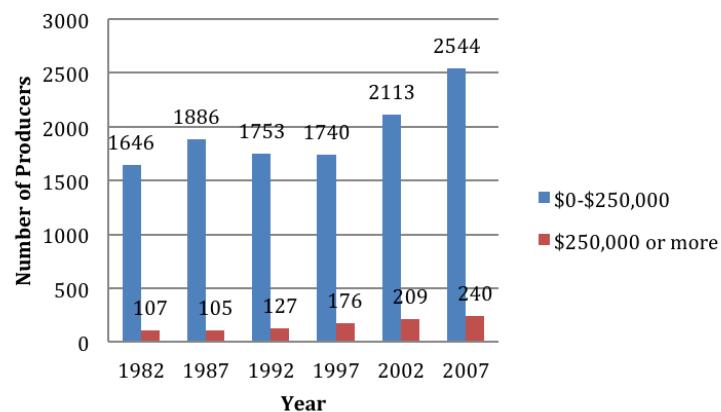


Figure 4: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales.

### Number of Producers in San Luis Obispo County by Value of Sales

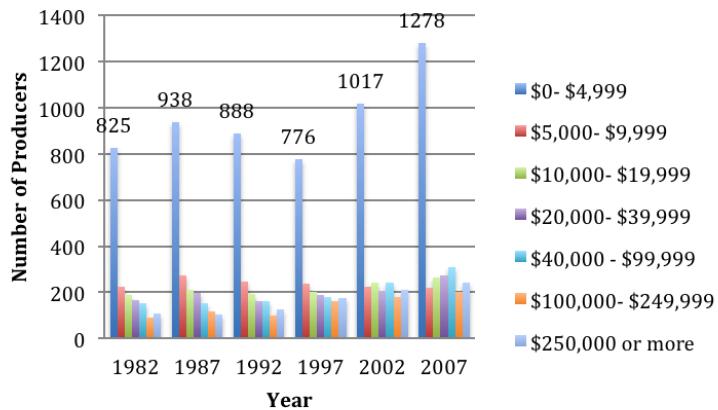


Figure 5: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales.

### Number of Producers by Acreage in San Luis Obispo County

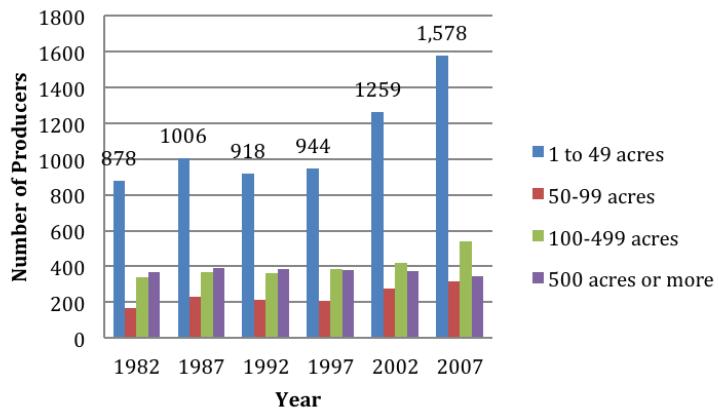


Figure 6: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales.

**Trends:** Since 1997 the number of producers in San Luis Obispo County has grown considerably from 1,916 producers in 1997 to 2,784 producers in 2007. The majority of the producers in San Luis Obispo County farm on 1-49 acres of land and are classified as small family farms with the majority of farmers making less than \$250,000 a year in gross sales. The majority of the farmers in San Luis Obispo County have gross sales between \$0-\$4,999. Similar to the national trends, most of the farms in San Luis Obispo County are small farms.

### Indicator 1.1b: Percent of all farms sales by farm size:

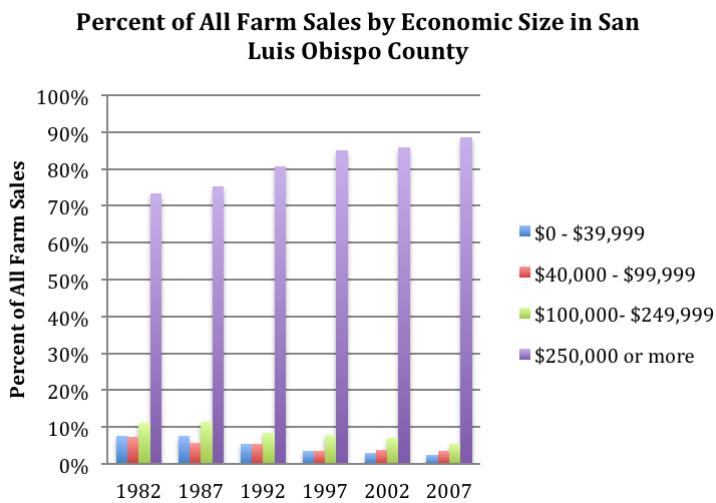


Figure 7: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales.

**Trends:** Although there are many more small and medium-sized farms in San Luis Obispo County, it is the large farms that dominate the farming economy, accounting for nearly 90% of farm sales. This trend is consistent with the national statistics in which large farms account for 80% of the value of production.

### Indicator 1.1c: The top three agricultural products by gross sales in San Luis Obispo County

**Background:** While milk and cream, almonds and grapes dominate commodity production in California, San Luis Obispo County's unique combination of climate and topography make it a prime area for strawberries, wine grapes, and cattle and calves.

#### San Luis Obispo County Trends:

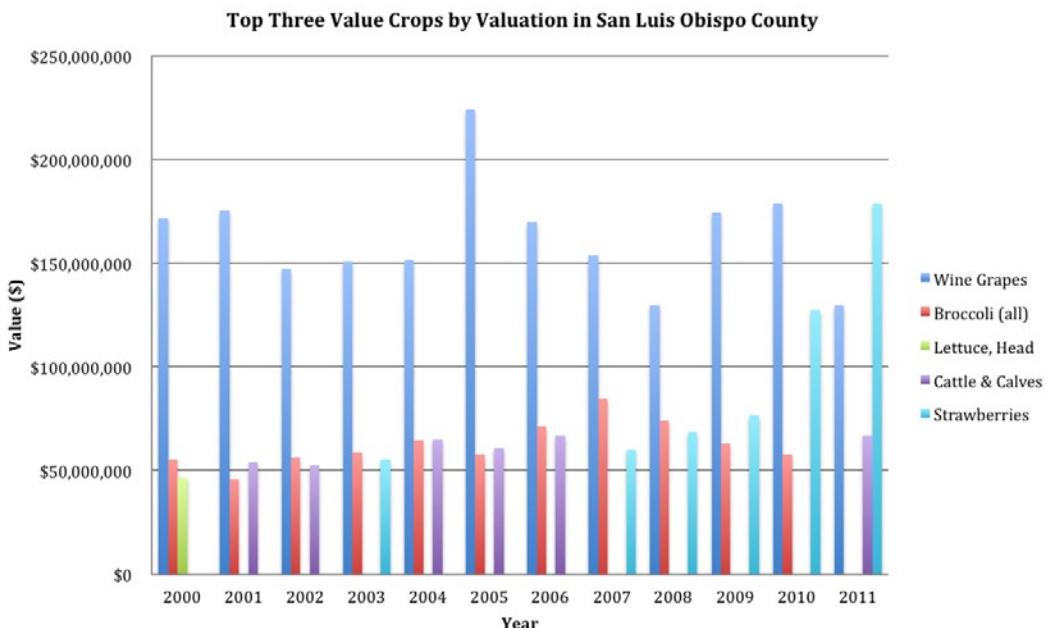


Figure 8: Source: San Luis Obispo County Department of Agriculture/Weights and Measures, 2000-2011 Annual Reports. Note: Adjusted to 2011 dollars

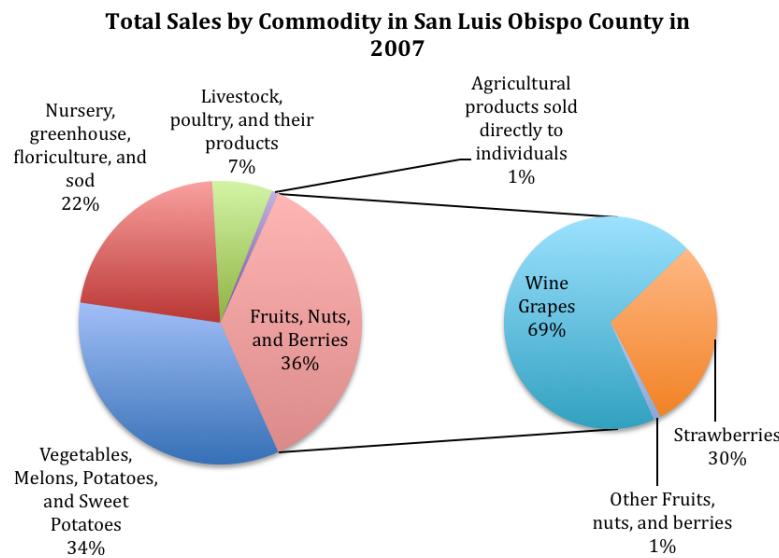


Figure 9: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales And San Luis Obispo County Department of Agriculture/ Weights and Measures, 2007 Annual Report.

**Trends:** From 2000-2011, the top crops in gross sales in San Luis Obispo County have included wine grapes, broccoli, head lettuce, cattle and calves, and strawberries. Throughout this period, wine grapes have consistently ranked in the top three crops in San Luis Obispo County. According to the San Luis Obispo County Agricultural Commissioner's crop report, wine grapes had occupied the number one spot for 20 years. However, in 2011, wine grapes became the second highest grossing crop, being replaced by strawberries. The 2011 decline in wine grape production was due to freezing temperatures experienced in April 2011; the resulting damage reduced countywide yields by 34% compared to 2010 totals.<sup>28</sup>

According to the USDA Census of Agriculture, in 2007 fruit, nuts and berries made up 36% of agricultural sales in San Luis Obispo County. Out of this 36%, the San Luis Obispo County Agricultural Commissioner's office reported that 69% were from wine grape sales and 30% were from strawberry sales. The most recent total sales data for San Luis Obispo County, California and the nation is from the 2007 Agriculture Census. Although, the Agricultural Commissioner's office has more recent numbers, this report uses the USDA Agricultural Census data and the crop report data from 2007 in order to make sure the numbers were comparable. It is important to note that as of 2011, strawberries surpassed wine grapes as the highest value crop in the county.

### Goal 1.2: San Luis Obispo County increases markets for local food producers (farmers, ranchers and fisherfolk)

One key marketing venue for small-scale local farmers is through direct sales. These are sales of agricultural products by producers directly to consumers. These transactions occur through a number of avenues such as community supported agriculture, farmers' markets, restaurant sales, and farm-to-school sales.

The following indicators help generate a picture of the direct sales avenues available to local producers in San Luis Obispo County, specifically highlighting the role that direct sales play in the larger agricultural economy.

28 Protecting Our Resources: 2011 Annual Report.

## Indicator 1.2a: Volume in dollars of direct sales, and non-direct sales in San Luis Obispo County.

**Background:** Direct sales take place through on-farm transactions such as u-pick, farm stand, or community supported agriculture shares (CSAs) or off-site through farmers' markets, or restaurant sales. The USDA classifies these sales into two separate categories: *direct-to-consumer* and *intermediated* (direct-to-grocer/restaurant). Nationally, the percent of farms participating in direct-to-consumer sales increased by 58% between 1992 and 1997 to 136,000 farms. Additionally, during this same period the value of direct sales increased by 77% to \$1.2 billion.<sup>29</sup>

### San Luis Obispo County Trends:

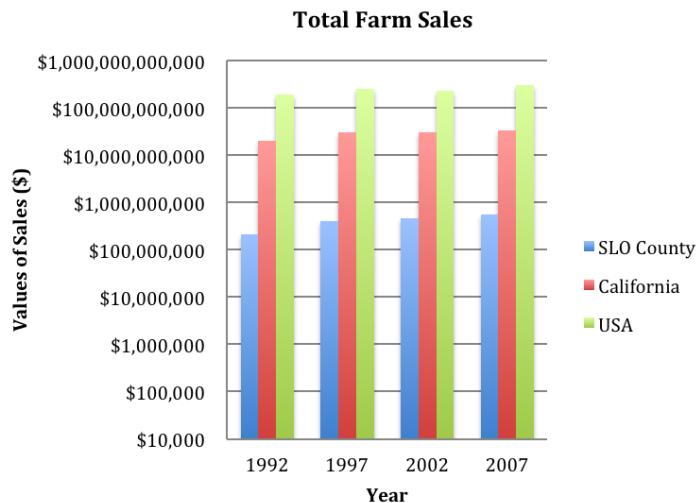


Figure 10: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales. Note: Logarithmic Scale. Adjusted to 2007 dollars

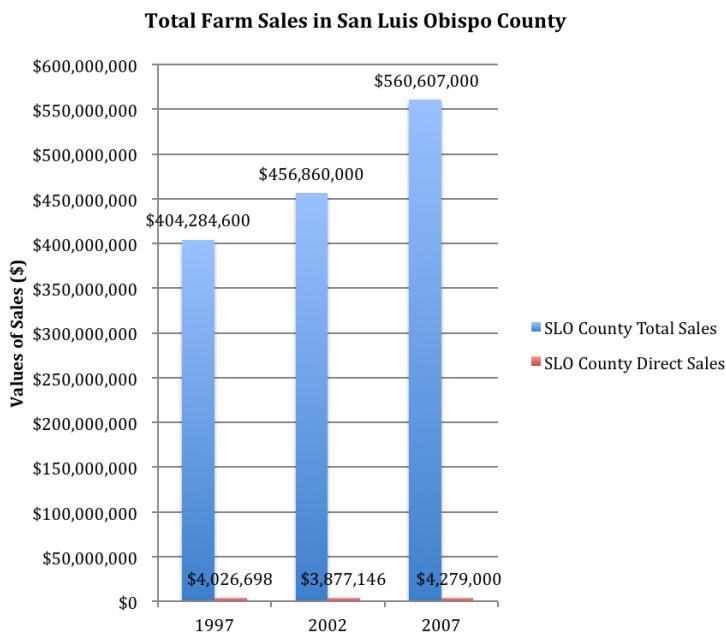


Figure 11: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales. Note: Adjusted to 2007 dollars

<sup>29</sup> Sarah A Low and Stephen Vogel, *Direct and Intermediated Marketing of Local Foods in the United States*, USDA Economic Research Service (U.S. Department of Agriculture, November 2011).

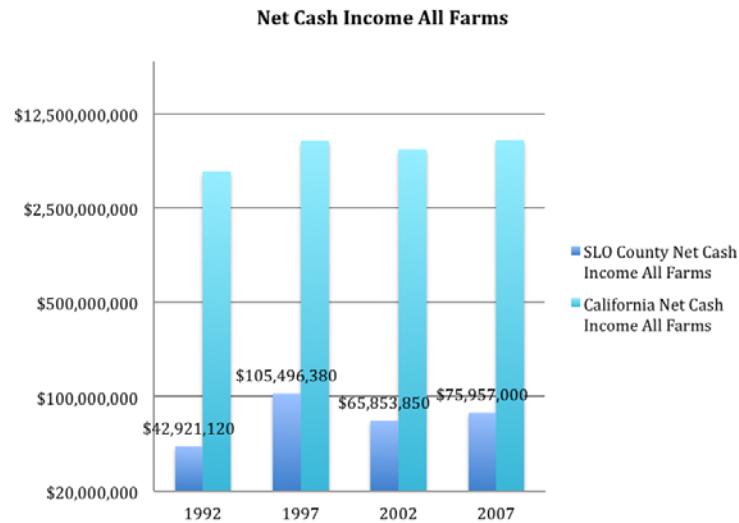


Figure 12: Sources: United States Department of Agriculture, NASS, Census of Agriculture, Net Cash Farm Income. Of Operations and Operators. Note: Logarithmic Scale. Adjusted to 2007 dollars.

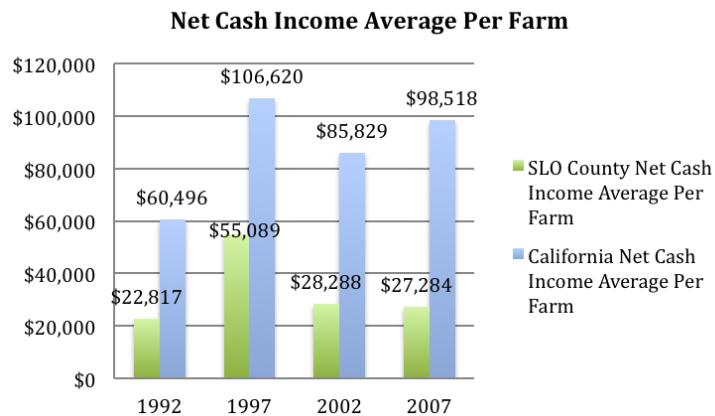


Figure 13: Source: United States Department of Agriculture, NASS, Census of Agriculture, Net Cash Farm Income. Of Operations and Operators. Adjusted to 2007 dollars.

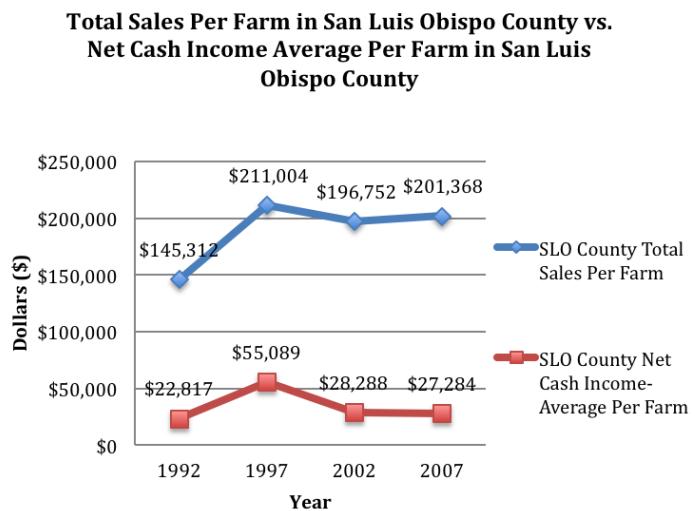


Figure 14: Source: United States Department of Agriculture, NASS, Census of Agriculture, Net Cash Farm Income. Of Operations and Operators. Market Values of Agricultural Products Sold Including Direct Sales Adjusted to 2007 dollars

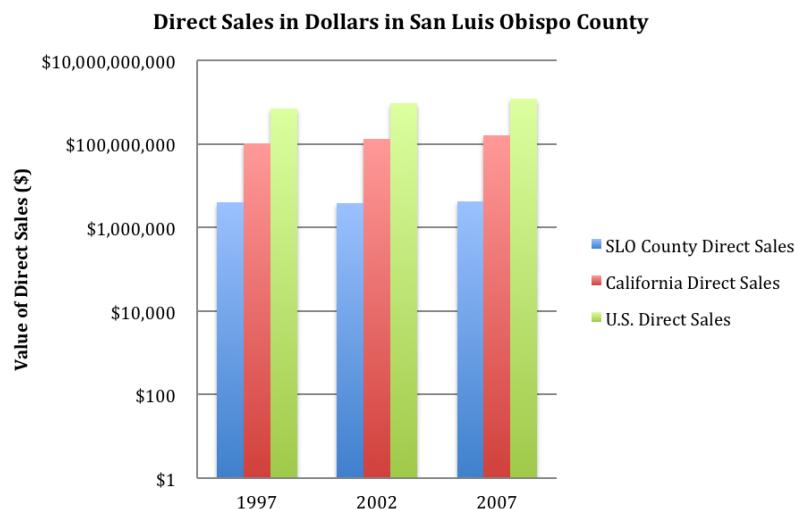


Figure 15: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales. Note: Logarithmic Scale. Adjusted to 2007 dollars



**Trends:** Total farm sales in San Luis Obispo County have been steadily increasing since 1997. Between 1997 and 2007 total farm sales increased from \$404 million to \$560 million. During this same period net cash income per farm in San Luis Obispo fluctuated as did total sales per farm. Additionally, while total sales per farm in San Luis Obispo County was \$201,368 in 2007, net cash income per farm was only \$27,284. This large difference likely reflects the fact that the majority of farmers in San Luis Obispo County are small farmers who hold other jobs in addition to farming.

In addition to farming, Direct sales in San Luis Obispo County have steadily increased since 1997. Between 1997 and 2007, direct sales increased from \$4,026,698 to \$4,279,000. The increase in both direct and non-direct sales represents San Luis Obispo County's healthy and growing agricultural market; however the fluctuation in net income per farm, indicates how difficult it is for small farmers in San Luis Obispo County to make a profit solely from farming.

#### Indicator 1.2b: Number of producers with direct sales in San Luis Obispo County

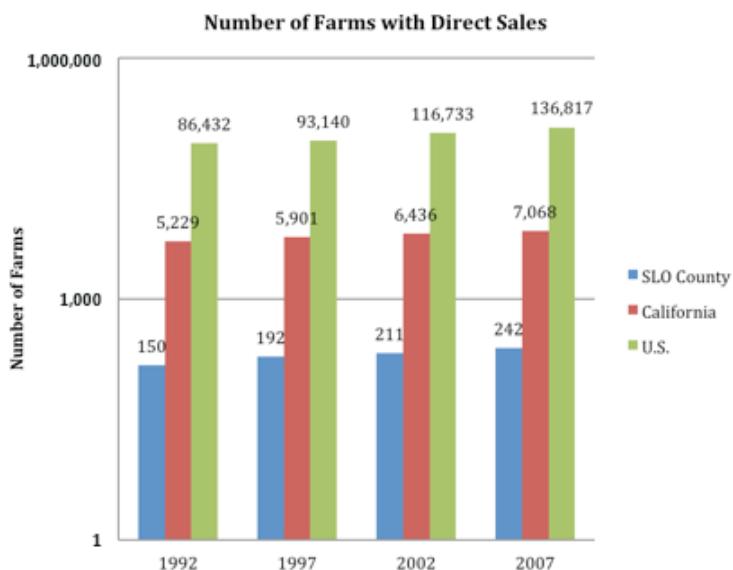


Figure 16: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales. Note: Logarithmic Scale.

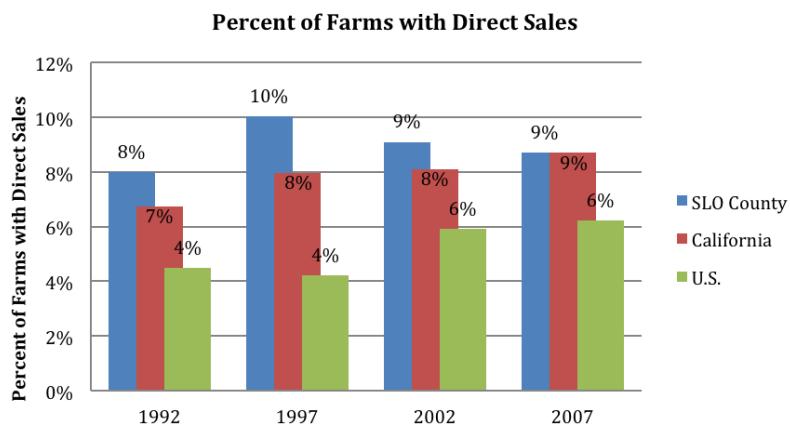


Figure 17: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales.

**Trends:** The number of farms with direct sales in San Luis Obispo County grew modestly between 1992 and 2007, and at a slightly slower rate than the number of farms with direct sales nationally or in California.

Between 1992 and 1997 the percentage of all farms participating in direct sales in San Luis Obispo County increased substantially. However, since 1997, the percentage of farms with direct sales in San Luis Obispo County has been decreasing. This decrease is happening despite an increase in farmers' market sales and an increase in the number of farms with direct sales.

#### **Indicator 1.2c: Direct Sales as a percent of total agriculture sales in San Luis Obispo County**

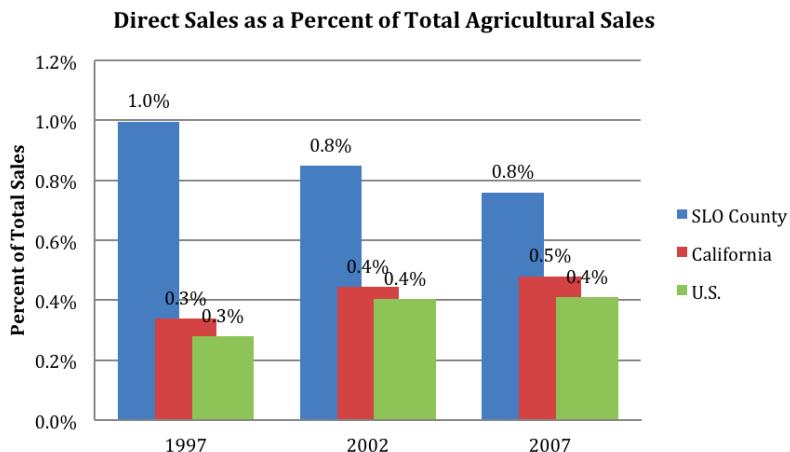


Figure 18: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales. Note: Adjusted for inflation to 2007 dollars.

**Trends:** Direct sales as a percent of total agricultural sales in San Luis Obispo County have decreased between 1997 and 2007. During this time, direct sales as a percent of total agricultural sales increased both nationally and in California. The decrease in direct sales as a percent of total agricultural sales in San Luis Obispo County can be attributed to the large increase in total farm sales, which includes strawberries and wine grapes. Strawberries and wine grapes have continued to grow in number of farms and sales in San Luis Obispo County.

On the other hand, although the percentage of direct sales compared to all agricultural sales is less than one percent in San Luis Obispo County, it is still much higher compared to the California or national average.

#### **Indicator 1.2d: Number of farm-to-school programs in San Luis Obispo County**



**Background:** Farm-to-school programs connect schools and local farms by buying and serving local farm fresh food in school cafeterias. Farm-to-school programs include introducing local products into school meals, teaching children about regional agriculture and seasonality, and providing experiential learning opportunities through school gardens, farm tours, classroom sessions, chefs in the classroom, and culinary education. Farm-to-school programs which are intended to improve the health and nutrition of youth as well as support local producers, have grown increasingly popular across the country over the past decade, with 12,429 schools involved across the 50 United States. According to the National Farm to School Network, an estimated 72 programs exist in California alone, working with more than 400 schools<sup>30</sup>. For this report, food service directors in all 11 of San Luis Obispo's County school districts were surveyed and asked if they sourced food from local farms, whether they had salad bars and how many school gardens<sup>31</sup> were in their districts. Information on school gardens was collected from Teresa Lees, Coordinator of Region 8 for the California Regional Environmental Education Community.

**San Luis Obispo County Trends:**

School District	Number of Schools	Serves local food	School Gardens	Salad Bars
Atascadero Unified School District	13	Yes	8	12
Bellevue-Santa Fe Charter School	1	No	1	Once a month (uses vegetables from the garden)
Cayucos Elementary School District	1	Yes	2	1
Coast Unified School District	4	No	3	3
Lucia Mar Unified School District	18	Yes	13	11
Paso Robles Joint Unified School District	15	Yes	7	13
Pleasant Valley Joint Union Elementary School District	1	Yes	1	0
San Luis Coastal Unified School District	17	Yes	16	15
San Miguel Joint Union School District	3	Yes	2	1
Shandon Joint Unified School District	3	Yes	2	1
Templeton Unified School District	4	Yes	4	4
<b>Total</b>	<b>80 schools</b>	<b>9 farm-to-school districts</b>	<b>59 school gardens</b>	<b>62 salad bars</b>

<sup>30</sup> "California Profile," *The Farm to School Network*, accessed March 29, 2013, <http://www.farmtoschool.org/state-home.php?id=4>.

<sup>31</sup> For this report school officials were only asked whether their school had a garden or not. It was not necessary that these gardens produced food that was being consumed or sold at school.

**Trends:** It seems that interest and support for farm-to-school programs (as defined by increasing local food procurement and school gardens) is on the rise in San Luis Obispo County. A survey of food service directors at all 10 San Luis Obispo County school districts and one charter school, representing 80 schools, revealed that 9 school districts in San Luis Obispo County were currently sourcing some of their produce from local growers directly or from local distributors. Many food service directors interviewed for this study expressed interest in increasing the amount of produce they get from local farmers, however none of them had specific plans, funds or resources to make it happen. Other farm-to-school related programming such as school gardens, farm visits and agricultural curricula are also present in the county. Out of the 80 public schools in the county, 59 of them have school gardens<sup>32</sup>. These activities serve as important mechanisms for educating youth about the local food system.

### Goal 1.3: The San Luis Obispo County food system improves infrastructure for local production and distribution

Processing and distribution infrastructures are key components of a profitable local food system. Access to infrastructure for processing, storing and wholesaling agricultural products can contribute to the local economy.

The following indicators help to generate a picture of how well San Luis Obispo County's food system infrastructure is faring by looking at the types and number of processing and distribution establishments in the county.

#### Indicator 1.3a: Number of farm product raw material wholesalers

**Background:** Farm product raw material wholesalers are establishments primarily engaged in the buying and/or marketing of farm products. Tracking the number of establishments involved in food distribution provides an indication of the extent of food distribution businesses within the food system. Food distributors and wholesalers range in scale and function from small trucks handling a limited range of products to wholesale operations sourcing and delivering a wide range of products. In San Luis Obispo County this category includes companies as large as Driscoll strawberries and as small as SLO Grown Produce.<sup>33</sup>



<sup>32</sup> School administrators were not asked if these 59 gardens were productive, only if they had a garden.

<sup>33</sup> Kim Pasciuto, *Community Food Resource Guide: San Luis Obispo County* (San Luis Obispo County, CA: Central Coast Grown, 2011).

## San Luis Obispo County Trends:

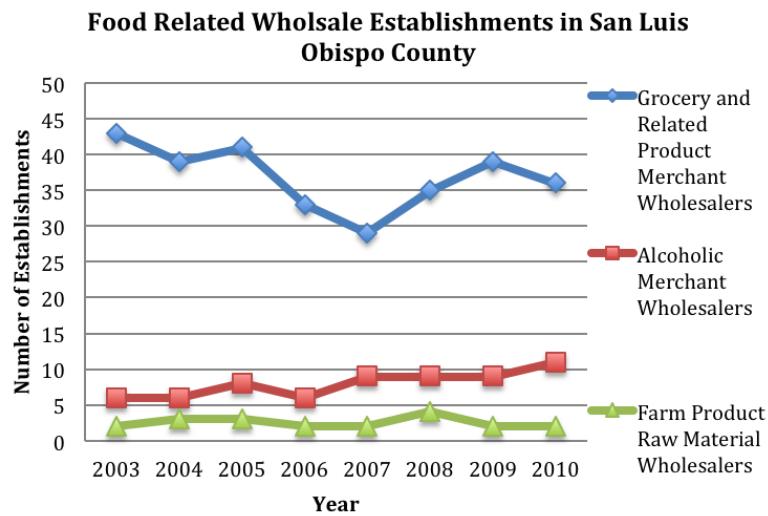


Figure 19: Source: United States Department of Commerce, United States Census Bureau, U.S. Economic Census- County Business Pattern Series: Geography Area Series.

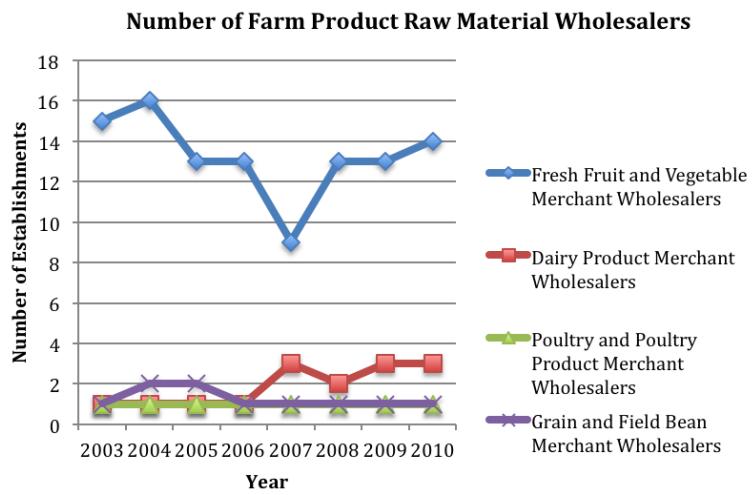


Figure 20: Source: United States Department of Commerce, United States Census Bureau, U.S. Economic Census- County Business Pattern Series: Geography Area Series.

**Trends:** Between 2003 and 2010, the number of wholesalers in San Luis Obispo County fluctuated but stayed relatively constant overall. The industries that saw the largest change were fruit and vegetable wholesalers and alcoholic merchant wholesalers. Fresh fruit and vegetable merchant wholesalers decreased drastically in 2007, but are currently rebounding, it is unclear why this is happening. Alcoholic merchant beverage wholesalers slowly started to increase in San Luis Obispo County in 2006. The alcoholic merchant beverage wholesale category includes establishments primarily engaged in the wholesale distribution of beer, wine and distilled alcoholic spirits. The start of the increase in alcoholic merchant beverage wholesalers corresponds with the increase in wine crops and wine manufacturers, indicating that their increase was potentially driven by the increase in wholesale wine production in San Luis Obispo County.

### Indicator 1.3b: Number of local food processing facilities in San Luis Obispo County

**Background:** The food manufacturing industry transforms raw agricultural products into products for consumption. The food manufacturing industry is one of the largest manufacturing sectors in the U.S., accounting for 10% of all manufacturing shipments.<sup>34</sup> Nationally, the processed food industry grew steadily from 2003-2006, but experienced a slight decline from 2005-2006.<sup>35</sup> The largest processed food subset is meat processing and manufacturing. Beverage manufacturing includes soft drink and ice manufacturing, breweries, wineries and distilleries.

#### San Luis Obispo County Trends:

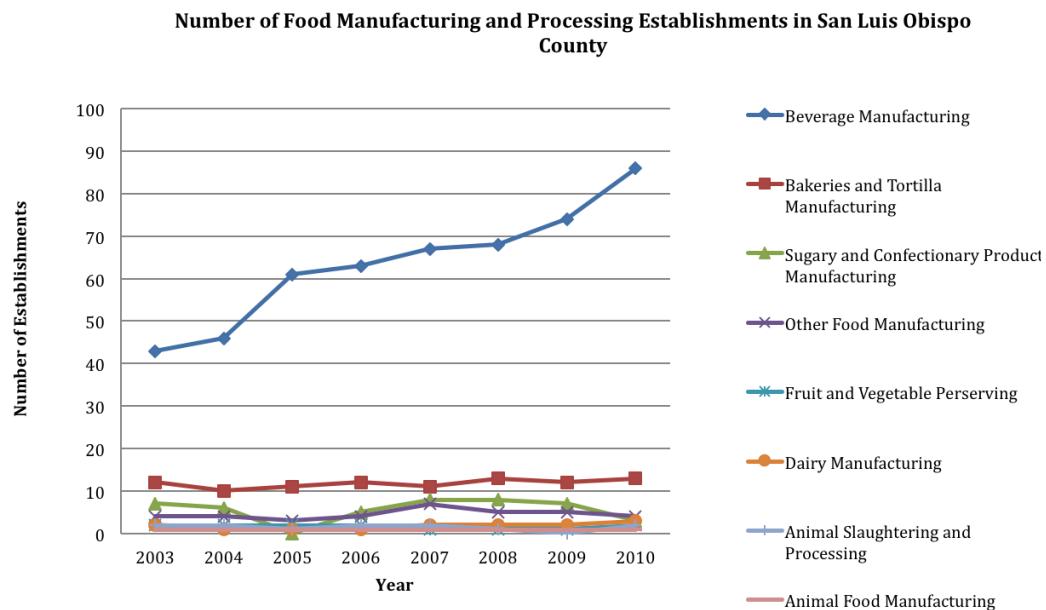


Figure 21: Source: United States Department of Commerce, United States Census Bureau, U.S. Economic Census- County Business Pattern Series: Geography Area Series.

**Trends:** Overall, the number of food manufacturing and processing establishments in San Luis Obispo County has remained stable from 2003-2010, with slight fluctuations in sugary and confectionery product manufacturing. However, during this time period, the number of beverage manufacturing establishments has drastically increased. The increase in beverage manufacturing is due to an increase in wineries. There are currently 83 wineries in San Luis Obispo County, while in 2002 there were only 41. The increase in wineries is supported by Figure 8 which shows that for the past ten years, wine grapes have been the top grossing crop in San Luis Obispo County. The increase in beverage manufacturing from 2004-2005 corresponds with a particularly high wine grape harvest during the same year. While the number of wineries reported by the census is 83, it is important to note that [www.sanluisobispocounty.com](http://www.sanluisobispocounty.com), a tourist information site, states that San Luis Obispo County has over 200 wineries. It is possible that these wineries do not have enough employees to be tracked by the census or, that the county site is counting tasting rooms and wineries, while the census would only count establishments that manufacture wine on site.

<sup>34</sup> *Food Manufacturing*, Industry Report (U.S. Department of Commerce), accessed April 29, 2013, [http://trade.gov/td/ocg/report08\\_processedfoods.pdf](http://trade.gov/td/ocg/report08_processedfoods.pdf).  
<sup>35</sup> Ibid





## Vision 2: Equitability

### **National Trends:**

Access to affordable food, fair wages and employment continue to be challenges for many Americans. A food system that is equitable ensures that all residents have access to affordable and healthy food, and that food system employees are fairly compensated. The 2008 recession caused increased instances of food and employment insecurity across the United States. More people were forced to rely on public assistance in order to receive healthy and affordable food. Overall, 15% of American households were food insecure (85% were food secure) throughout the entire year in 2011, meaning that they consistently did not have access to enough food for all members of their family.<sup>36</sup>

The USDA defines food security for a household as, “access by all members at all times to enough food for an active, healthy life”.<sup>37</sup> Food insecurity can be described as when a household has an “uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways”.<sup>38</sup> Food insecurity is often a result of a lack of employment opportunities and low wages. As the industrial base of our nation continues to erode, low-paying service sector jobs, many of them within the food system, are consistently taking their place. In 2012, the annual mean wage for food preparation and service workers (including fast food restaurants), one of the largest private sector occupation groups making up 7% of national employment<sup>39</sup>, was \$21,380, which is below the federal poverty guideline for a family of four (\$23,550).<sup>40</sup> Occupations in farming, fishing and forestry by comparison only make up 1% of total employment in the country and make one of the lowest mean hourly wages, at \$11.65 an hour (\$24,230 annually).<sup>41</sup>

### **San Luis Obispo County Trends:**

San Luis Obispo County experiences many of the same trends with regard to food insecurity, food systems employment and food systems wages as California and the nation as a whole.

Overall, food insecurity in San Luis Obispo County appears to be decreasing (from 28.6% in 2007 to 23% in 2009). However, despite a shift towards becoming a more food secure county and possibly because of the recession, more and more residents are relying on CalFresh and the Food Bank for securing

<sup>36</sup> Alisha Coleman-Jensen et al., *Household Food Security in the United States in 2011* (U.S. Department of Agriculture, Economic Research Service, September 2012).

<sup>37</sup> “Food Security in the U.S.,” *United States Department of Agriculture Economic Research Service*, accessed July 31, 2013, <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us.aspx#.Ufm73BqYZcQ>.

<sup>38</sup> Ibid

<sup>39</sup> *Industry Focus- Food Services and Drinking Places*, Occupation Employment Statistics (OES) Highlights (Bureau of Labor Statistics, U.S. Department of Labor, September 2009).

<sup>40</sup> *News Release: Occupational Employment and Wages* (U.S. Department of Labor, Bureau of Labor Statistics, 2013).

<sup>41</sup> *Economic News Release: Table 1: National Employment and Wage Data from the Occupational Employment Statistics Survey by Occupation* (U.S. Department of Labor, Bureau of Labor Statistics, May 2012).

their daily meals. Part of this seeming paradox may be explained by which people are counted and how. Food insecurity, a specific figure collected by a question on the CHIS survey (CHIS, 2009) from residents with incomes less than 200% of the poverty level is different than the number of people served by the Food Bank (includes people above 200% of poverty, the working poor), for example.

San Luis Obispo County's employment sector relies on both tourism and agriculture, both of which include some of the lowest wages in the county. This influences many county residents' ability to receive adequate wages and maintain food security. Food systems jobs, which include farming, fishing, and restaurant service, accounted for approximately 20% of employment in San Luis Obispo County in 2011, but made an average of \$17,846 less per capita annually than all other employment sectors in the County. The average wage of a food systems worker in San Luis Obispo County was \$21,946 per year in 2011. On average, San Luis Obispo County's food system employees received lower wages annually than food system employees in the rest of California.

The following goals and indicators provide data that describe the profitability of the San Luis Obispo County food system.

## **Goal 2.1: All residents of San Luis Obispo County have access to healthy, fresh, local, and culturally appropriate food**

With the ability to grow food year round, San Luis Obispo County has the potential to improve access to healthy food among all of its residents. Yet, only 77% of all adults whose incomes are less than 200% of the Federal Poverty Level are food secure.<sup>42</sup> That means that 23% of San Luis Obispo County residents are food insecure and facing real concerns about the source of their next meal. The following indicators help generate a picture of food security in San Luis Obispo County.

### **Indicator 2.1a: Percent of residents who are food secure**

**Background:** In the U.S., 15% of households were food insecure in 2011 (85% were food secure). Over the previous decade, food insecurity in the United States increased from 10.5% in 2000 to 14.6% in 2008.<sup>43</sup> Starting in 2008, the prevalence of food insecurity was higher than in any year since the first nationally representative food security survey in 1995, and has remained essentially unchanged in 2009 and 2010.<sup>44</sup> In comparison, in California, the average rate of food insecurity was 16.2% for 2009-2011, a statistically significant difference from the U.S. average for 2009-2011, which was 14.7%.<sup>45</sup>

The food insecurity figures for San Luis Obispo County and California, described below, reflect much higher levels of food insecurity. This is due to differences in surveys used. The USDA surveys 53,000 households which are representative on a state and national level of the civilian, non-institutionalized population of the United States. This survey found that 15% of the population of the United States is food insecure. For this report, we used The California Health Interview Survey (CHIS), which surveys adults with incomes less than 200% of the Federal Poverty Level. This means that the CHIS survey identified a higher percentage of the population as food insecure.

<sup>42</sup> *Food Security (ability to Afford Enough Food)*, California Health Interview Survey (University of California, Los Angeles, 2009).

<sup>43</sup> Coleman-Jensen et al., *Household Food Security in the United States in 2011*.

<sup>44</sup> Ibid

<sup>45</sup> Ibid

## San Luis Obispo County Trends:

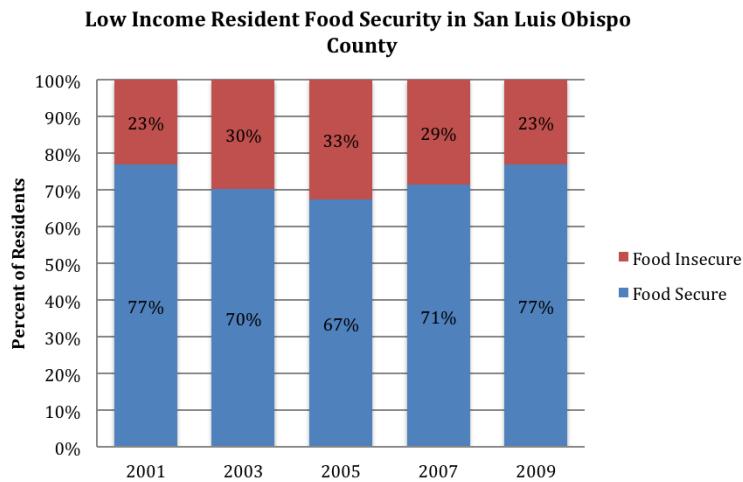


Figure 22: Source: California Health Interview Survey (CHIS), UCLA Center For Health Policy Research, Table: Food Security (ability to afford enough food). Note: Data Only For Adults

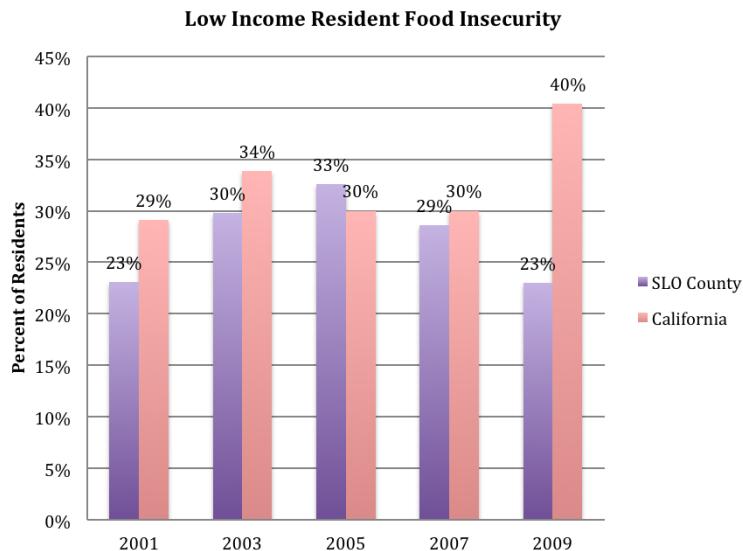


Figure 23: Source: California Health Interview Survey (CHIS), UCLA Center For Health Policy Research, Table: Food Security (ability to afford enough food). Note: Data Only For Adults

**Trend:** Low-income residents in San Luis Obispo County experience lower rates of food insecurity than the rest of California. While food insecurity for low-income residents has fluctuated in San Luis Obispo County from 2001-2009, it currently seems to be decreasing, despite the 2008 recession. This decrease suggests that reliable access to food for low-income residents is increasing, according to this measure of food security, even while food security in the rest of the state is decreasing.

### Indicator 2.1b: Redemption rate of CalFresh in San Luis Obispo County

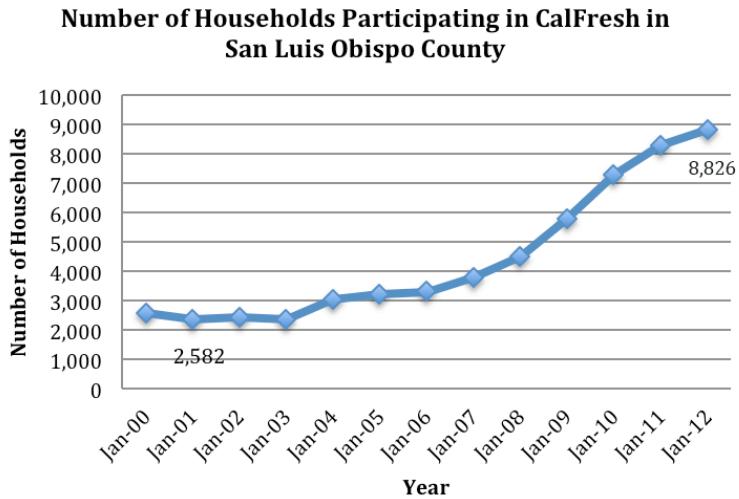


Figure 24: Source: Jill Powers, San Luis Obispo County Department of Social Services. Note: All data from in-house records of Food Stamp Program Participation and Benefit Issuance Report (DFA 256). Note: Point in time data, the number of households who received CalFresh benefits in a particular month.

**Trends:** CalFresh calculates eligibility at 130% of the Federal Poverty Level. Even though food security in the county appears to be increasing, the number of households participating in CalFresh is also increasing. The increase in households participating in CalFresh has been growing consistently since 2004, with a definitive increase in the rate of growth between 2008-2012 most likely due to the 2008 recession. The CalFresh data offers a more specific view of food insecurity in San Luis Obispo County, by looking at individuals who are more economically insecure. For the county's most vulnerable populations, food insecurity seems to be increasing.

### Indicator 2.1c: Redemption rate of WIC in San Luis Obispo County

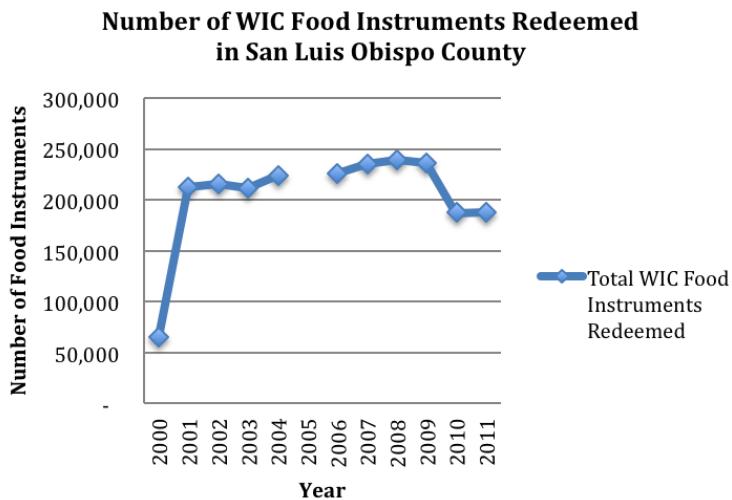


Figure 25: Source: California Women, Infant and Children's Program. Food Stamp Program Participation and Benefit Issuance Report (DFA 256).

**Trends:** To be eligible for WIC<sup>46</sup> in the state of California, participants' incomes must be 185% of the poverty level or less. Overall, WIC redemptions have remained stable over time and have even decreased a bit in the past two years. Linda McClure<sup>47</sup> attributes this drop in redemption from 2009-2010 to different foods being combined into one check, which means that fewer checks were redeemed, because there were fewer checks in the WIC booklet.

#### Indicator 2.1d: Amount of produce distributed by food banks



**Background:** Food banks have traditionally served as a mechanism for connecting food insecure populations with donated food and other products. Food banks obtain, store, transport and distribute food to serve an entire community or geographic area. Food banks generally serve non-perishable food, however as the health impacts of processed foods have become better understood, interest and support for fresh food distribution through food banks has grown.

#### San Luis Obispo County Trends:

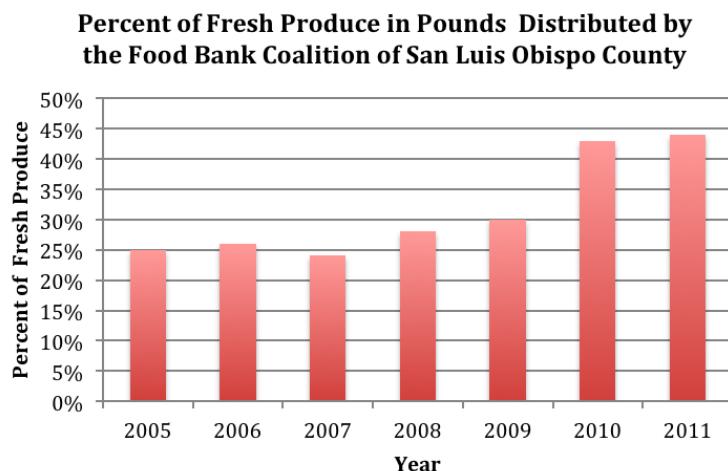


Figure 26: Source: Carl Hansen, Food Bank Coalition of San Luis Obispo County.

<sup>46</sup> The redemption rate of WIC checks are dependent on which foods are combined together in the booklet and the overall cost of food.

<sup>47</sup> Linda McClure is the WIC program manager for San Luis Obispo County

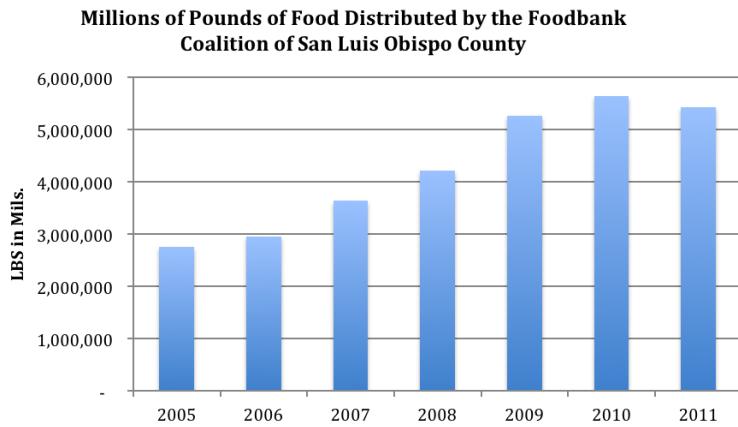


Figure 27: Source: Carl Hansen, Food Bank Coalition of San Luis Obispo County.

**Trends:** The Food Bank Coalition of San Luis Obispo County is increasing their overall distribution of food as well as their distribution of fresh produce. Several factors have contributed to the food bank increasing the amount of food they distribute including: more effective outreach to low-income residents, increased partnerships with public schools, and an increase in clients who do not technically fall into the category of food insecure based on their income, but require food assistance.<sup>48</sup>

#### **Indicator 2.1e: Number of food insecure persons in San Luis Obispo County who have access to healthy food**

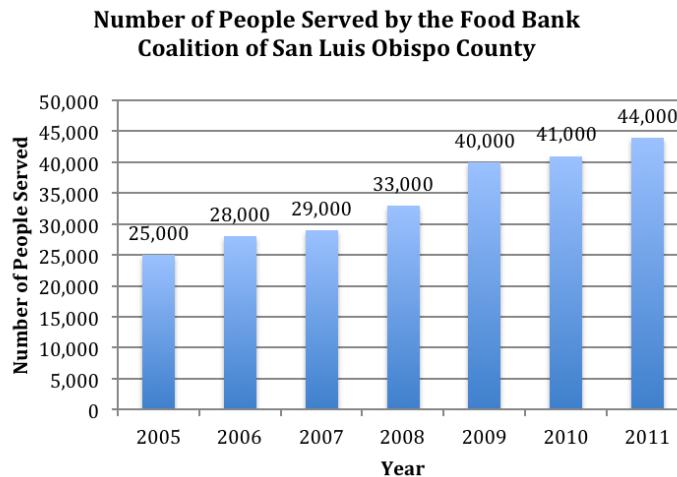


Figure 28: Source: Carl Hansen, Food Bank Coalition of San Luis Obispo County.

**Trends:** As the Food Bank Coalition of San Luis Obispo County engages in more community outreach activities, the number of people served by the food bank has increased. Additionally, the recession has had an impact on working families, who are technically not food insecure, yet have started to rely on the food bank to access free or affordable food for their families.<sup>49</sup>

<sup>48</sup> Carl Hansen, "Food Bank Coalition of San Luis Obispo County," February 16, 2013.

<sup>49</sup> Ibid.

## Goal 2.2: There are opportunities for new and existing local food producers to enter the local food system

Food system jobs include production, distribution, processing, manufacturing, wholesale and retail sales, and restaurant and food services. Restaurant and food services are the largest sector of the San Luis Obispo food system, but make the lowest annual salary. While there are some opportunities to enter the San Luis Obispo County food system as some industries expand, the largest industries in the local food system do not always provide wages that are equitable or enough to live on. The indicators in this section provide a picture of current employment opportunities within the San Luis Obispo County food system with specific attention to possibilities for entry for new farmers and ranchers.

### Indicator 2.2a Number food system jobs in San Luis Obispo County

**Background:** Services are the fastest growing sector within the U.S. economy, and are expected to have the most job growth, with the number of wage and salary workers increasing by 1.5% between 2010 and 2020<sup>50</sup>. However, most of the growth within the service sector will be driven by occupations such as healthcare and social assistance.<sup>51</sup> Of all the occupational groups, the food preparation and service sector is the fourth largest, comprising 20% of the U.S. workforce. By comparison, the fishing, farming and ranching sector makes up only about one percent of total employment across the nation.<sup>52</sup>

Currently, no specific data category exists for “food system related jobs” within the major data classification systems (NAICS, SIC) utilized by the Federal statistical agencies. Instead, food system job categories (food service and drinking places, alcoholic beverage wholesalers, etc.) are spread throughout other data categories. For this report, data on total food systems jobs and wages were independently compiled from seven job categories. This report includes those jobs that directly relate to production, distribution and consumption activities within the food system. To see which jobs were classified as a food system job by this report, along with their NAICS codes, and definitions please see Appendix A.

#### San Luis Obispo County Trends:

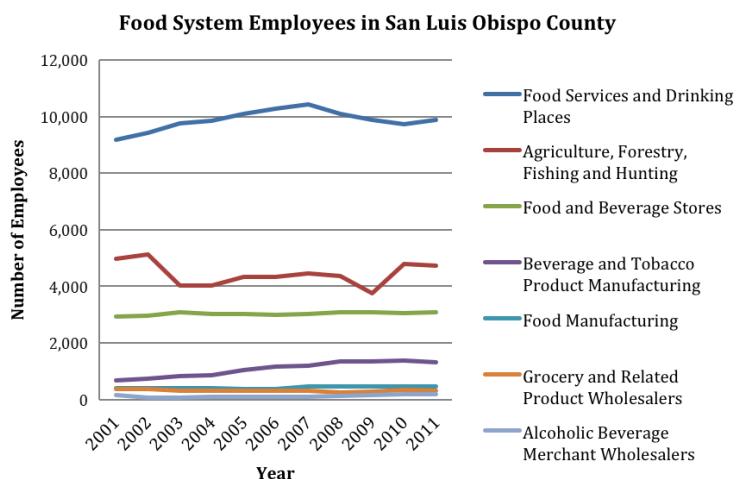


Figure 29: Source: United States Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages

**Trends:** San Luis Obispo County food systems jobs, which include the full range of production, transportation, serving and disposal activities, employ approximately 20,170 individuals. This accounts for 19.9% of total employment in the county and this sector is growing. The total number of jobs in this

<sup>50</sup> Richard Henderson, *Employment Outlook: 2010-2012, Industry Employment and Output Projection to 2020*, Monthly Labor Review (Bureau of Labor Statistics, U.S. Department of Labor, January 2012).

<sup>51</sup> *Occupational Outlook Handbook, 2012-13 Edition, Projections Overview* (Bureau of Labor Statistics, U.S. Department of Labor, 2012).

<sup>52</sup> *Occupational Employment Statistics Highlights* (Bureau of Labor Statistics, U.S. Department of Labor, 2012).

sector grew by 7% between 2001 and 2011. In particular, food service and drinking places, as classified by the Bureau of Labor Statistics make up 49% of jobs within the San Luis Obispo County food system. Though this sector grew at the fastest rate of all job categories until 2007, contraction between 2007 and 2010 resulted in an overall growth rate of 7% over the 10 year period.

The next largest sector with 4,732 employees is agriculture, forestry, fishing and hunting, which makes up 23% of total food system jobs. This sector shrank between 2003 and 2009, but has rebounded to near its original strength. Additionally, the apparent increase in the number of farms in the county may be attributable to an increase in part-time or lifestyle farms where agriculture is not the primary means of income. Food and beverage stores are the third largest job sub-sector with 3,092 jobs. Jobs within this sector stayed relatively constant between 2001 and 2011.

#### **Indicator 2.2b: Number of food system jobs as percent of total jobs in San Luis Obispo County**

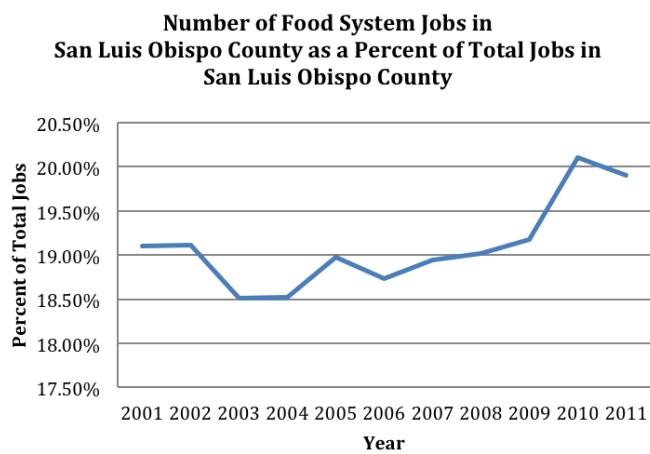


Figure 30: Source: United States Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

#### **Goal 2.3: All workers in San Luis Obispo County's local food system are fairly compensated**

The workers who help us put food on our tables are often among those least able to feed their own families. Many food system employees earn low wages, work only part-time or temporarily, lack access to benefits and rely on public support. The following indicators provide a snapshot of food system wages in San Luis Obispo County, and compare food system wages in the county to food system wages in California as a whole.

#### **Indicator 2.3a: Food system annual average wage by job category for San Luis Obispo County.**

**Background:** The food system employs a diversity of people in many sectors from waiters and chefs, to farmers and ranchers. Food preparation and serving jobs, which are the fourth most prevalent across the nation, have the lowest average annual wage of any sector at approximately \$21,430 a year.<sup>53</sup> Such positions which are frequently located within limited-service (fast food) establishments or full service restaurants, require little educational preparation and offer few opportunities for advancement. Nearly half of food and beverage workers are part-time and of those, few have healthcare or retirement benefits. However, employment opportunities for food and beverage workers are expected to grow in the future due to high turn-over rates in this industry.<sup>54</sup>

<sup>53</sup> *Beyond the Numbers: An Overview of U.S. Occupational Employment and Wages in 2011* (Bureau of Labor Statistics, U.S. Department of Labor, 2012).

<sup>54</sup> *Occupational Outlook Handbook, 2012-13 Edition, Food and Beverage Serving and Related Workers* (Bureau of Labor Statistics, U.S. Department of Labor, 2012).

Farming, fishing and forestry jobs, by comparison, are one of the smallest occupational sectors in the country employing just under 500,000 people, with an average annual wage of \$24,230 a year.<sup>55</sup> California has the highest number of farming, fishing and forestry jobs in the country, however employees in the state only make an annual average wage of \$20,610 a year.<sup>56</sup> Occupations included in the farming, fishing and forestry sectors include agricultural workers, fishers and related fishing workers, forest and conservation workers and loggers. Much of the work in this sector is seasonal, meaning that during the season, working hours exceed 40 hours a week. Although employment among forest, conservation workers and loggers is expected to grow moderately in the future, employment for agriculture workers and fishermen is expected to decline.<sup>57</sup>

### San Luis Obispo County Trends:

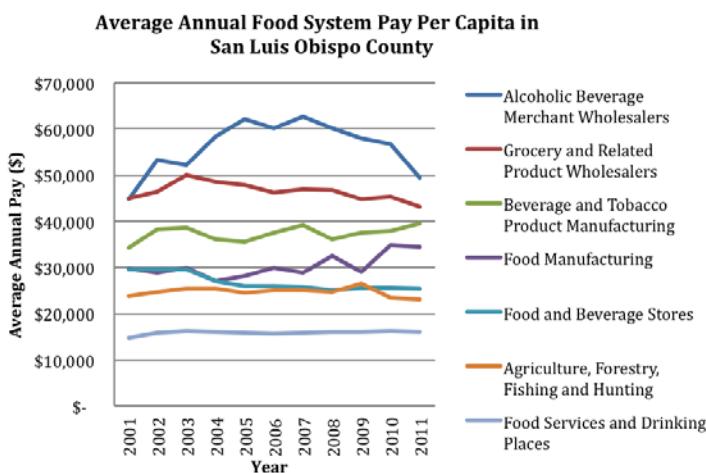


Figure 31: Source: United States Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages. Note: Adjusted to 2011 dollars.

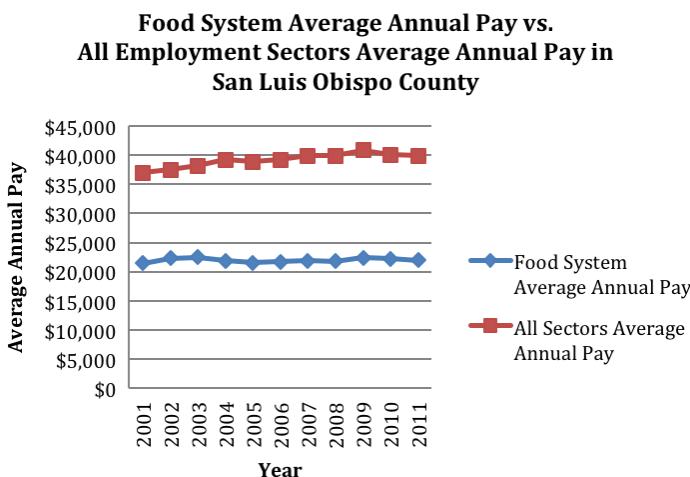


Figure 32: Source: United States Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages. Note: Adjusted to 2011 dollars.

<sup>55</sup> "Occupational Employment and Wages, May 2012, Farming, Fishing and Forestry," *United States Department of Labor, Bureau of Labor Statistics*, accessed July 31, 2013, <http://www.bls.gov/oes/current/oes450000.htm>.

<sup>56</sup> Ibid.

<sup>57</sup> *Occupational Outlook Handbook, 2012-13 Edition, Agricultural Workers* (Bureau of Labor Statistics, U.S. Department of Labor, 2012).

**Trends:** Wages within the food services and drinking places sub-sector in San Luis Obispo County were the lowest of all sub-sectors within the food system at \$16,036 per year in 2011, but stayed relatively constant.<sup>58</sup> In contrast, alcoholic beverage merchant wholesalers were the highest of all the sub-sectors within the food system at \$49,454.00 per year in 2011, but saw the most fluctuation between 2001-2011 and experienced the greatest overall growth in annual wages as well as largest overall decline between 2001-2011 (See figure 31).

Between 2001-2011, most food system jobs saw an increase in wages. This was likely tied to the slight increase in wages in its largest sub-sector, food services and drinking places. However the food system sub-sectors of agriculture, forestry, fishing and hunting, food and beverage stores, and grocery related product wholesalers all saw a decrease in annual wages.

The highest paying jobs within the San Luis Obispo County food system after alcoholic beverage merchant wholesalers are located within the following sub-sectors: grocery and related product wholesalers (\$43,186.00/year) and beverage and tobacco product manufacturing (\$39,641.00/year).

#### **Indicator 2.3b: Food system wage in San Luis Obispo County compared to food system wage in California**

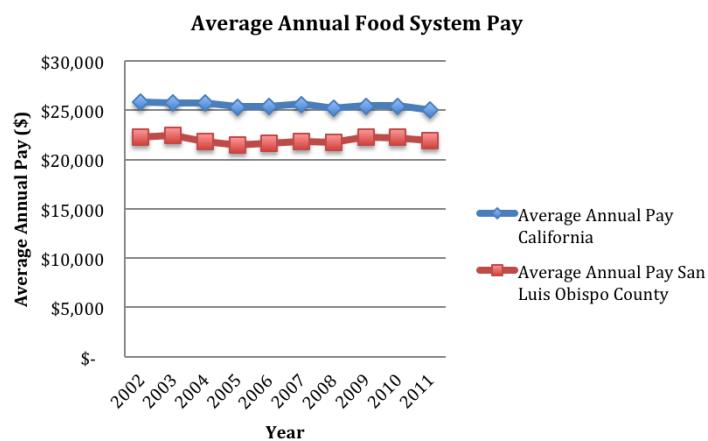


Figure 33: Source: United States Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages. Note: Adjusted to 2011 dollars.

<sup>58</sup> Wages in this sector may be influenced by higher than average seasonal and part-time employment; however we have not done the analysis to determine the extent to which this is an important factor.

**Trends:** Overall, food system average annual pay in San Luis Obispo County (\$21,946) is less than food system average annual pay for the state of California as a whole (\$25,023). This difference is driven by many factors including smaller industry size in San Luis Obispo County. However, this difference is primarily driven by lower wages in San Luis Obispo County's main employment sectors: food services and drinking places and agriculture, forestry, fishing and hunting. In San Luis Obispo County, food services and drinking places and agriculture, forestry, fishing and hunting make up 72% of all food system jobs in the county. However, these sectors make up 69% of all food system jobs in the state of California. This difference is a result of the large number of agriculture, forestry and fisheries workers in San Luis Obispo County. Agriculture, forestry, and fisheries workers make up 23% of workers in the San Luis Obispo County food system, but only 18% of workers in the state food system. This difference is important to point out, because in 2011, workers who were engaged in agriculture, forestry, fishing and hunting made about \$2,400 less per year than workers engaged in agriculture, forestry, fishing and hunting in the state of California. Additionally, food service workers in San Luis Obispo County made approximately \$1,500 less per year than food service workers in the state as a whole.







## Vision 3: Resilient

### **National Trends:**

A resilient local food system ensures that there are opportunities for future generations of farmers, ranchers and fisherfolk through the conscious and careful use of our natural resources.

As the national agricultural sector industrializes, many small farms struggle to compete. Additionally, as agricultural inputs have risen in price, and competition from lower cost foreign imports has increased, the U.S. agricultural sector has experienced a reduction in crop diversity and a dramatic decline in market share for small family farms.

Between 2002 and 2007, 7.5 million acres of rural land were converted to development or other urban uses; 4 million acres of that was agricultural land.<sup>59</sup> Much of this farmland conversion can be attributed to the increase in the value of land for development.

Efficient and responsible use of water and soil are important considerations for the continued viability of food systems across the nation. Soil and water health are deeply affected by agricultural inputs such as fertilizers and pesticides, and agricultural bi-products such as excessive nitrate from agricultural runoff. The *National Water Quality Inventory* reported that agricultural nonpoint source pollution is the leading source of water quality impacts to rivers and lakes across the country, the third largest source of impairments to surveyed estuaries, and a major contributor to groundwater contamination and wetland degradation.<sup>60</sup>

Agricultural runoff not only affects our rivers and streams, but also has impacts on our oceans and fishing industries, causing algae blooms and effecting ocean habitats. Seafood is an important food source for Americans and one that requires careful management for continued sustainability. Pollutants and overfishing has caused an increase in regulations and a decline in the fishing industry, which resulted in both reduced employment and diminished catch nationally.<sup>61</sup>

### **San Luis Obispo Trends:**

Overall, the number of farms in San Luis Obispo County continues to grow. In particular, the number of small farms in the county seem to be growing especially quickly as average farm size has declined. The increase in small farms has also contributed to increased relationships between farmers and the public. This is evident through an increase in direct sales, farmers' market sales and farm-to-school programs. However, despite many new, small farms in San Luis Obispo County, the average age of farmers continues to increase and remains higher than the average age of farmers in the state of California.

<sup>59</sup> Jennifer Dempsey, *2007 National Resources Inventory: Changes in Land Cover/Use*, FIC Fact Sheet and Technical Memo (Northampton, MA: Farmland Information Center, 2010).

<sup>60</sup> *Protecting Water Quality from Agricultural Runoff* (U.S. Environmental Protection Agency, March 2005).

<sup>61</sup> *Turning the Tide: The State of Seafood, Second Addition* (Monterey Bay Aquarium, 2011).

The crops primarily grown in San Luis Obispo County are changing. Although rangeland is still a dominant form of agricultural land use, acreage of fruit and nut crops, primarily strawberries and wine grapes, has increased significantly, while vegetable crops have decreased.

Similar to the national trend, total farm acreage in San Luis Obispo County is decreasing. However, instead of being converted for urban development, much of agriculture land in San Luis Obispo County is being converted to ‘Other land’, which is typically used for low density rural development, heavily forested land, mined land, or government land with restrictions on use. Additionally, the price of agricultural land in San Luis Obispo County has been steadily rising over the past five years, particularly land for row crops.

Much like the rest of California, water is an important resource for San Luis Obispo County. The county faces many water challenges including nitrate contamination of four of San Luis Obispo County’s lakes, streams and rivers. This contamination is likely due to agricultural runoff. Additionally, there is uncertainty about the availability of groundwater in the north county area to meet the future demand for agriculture and residents. The number of impaired waterways and pollution has impacted the health of the ocean habitats in San Luis Obispo County. Pollution combined with catch restrictions and declining habitats, have had a negative effect on the fishing industry in San Luis Obispo County.

### **Goal 3.1: San Luis Obispo County’s food production supports the ability of the system to meet the needs of future generations**

As San Luis Obispo County’s population continues to grow and as more and more of the county’s agricultural harvested acreage are dedicated to commodity crops such as strawberries and wine grapes, the county needs to ensure that its agricultural sector can support the food needs of future generations. A healthy, thriving agricultural sector means a food system, which is diversified, uses minimal agricultural chemicals and can provide opportunities for new, younger growers to enter the agricultural sector. The following indicators explore San Luis Obispo County’s capacity to support the needs of future generations by looking at trends in fossil fuel usage, farmer age, farm size and crop diversity.

#### **Indicator 3.1a: Amount of expenditures on fuels, fertilizers and pesticides in San Luis Obispo County**

**Background:** The use of fossil fuels, including petroleum, natural gas and coal, is one of the primary contributors to climate change in the United States. Agriculture in industrialized countries, such as the United States, relies on direct fossil fuel inputs in addition to embedded energy in fertilizers and transport to markets, contributing significantly to greenhouse gas emissions. Farm equipment, refrigeration, irrigation, greenhouses, animal waste and synthetic fertilizers are responsible for much of the greenhouse gas emissions from agriculture. The use of nitrogen based fertilizers make up 73% of national nitrous oxide emissions, while livestock management, including waste, makes up a third of all methane emissions.<sup>62</sup> An agricultural system less dependent on fossil fuels, synthetic fertilizers and pesticides will contribute less to greenhouse gas emissions.

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62 Emissions of Greenhouse Gases in the United States, Energy Information Administration (U.S. Department of Energy, 2011).

## San Luis Obispo County Trends:

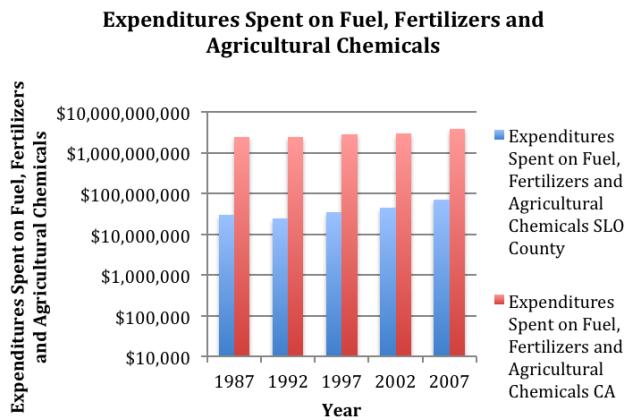


Figure 34: Source: United States Department of Agriculture, NASS, Census of Agriculture, Farm Production Expenses.  
Note: All Data adjusted to 2007 dollars. Logarithmic Scale.

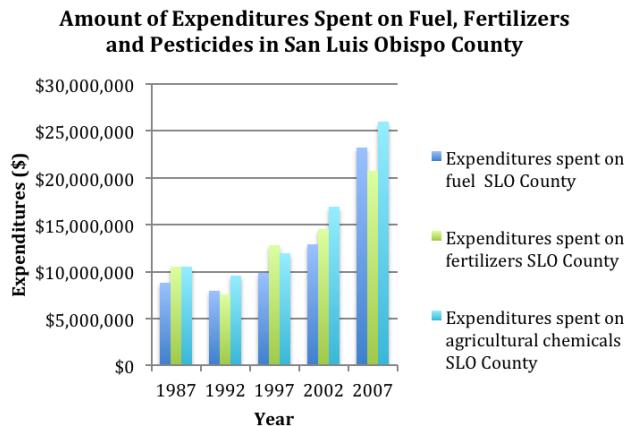


Figure 35: Source: United States Department of Agriculture, NASS, Census of Agriculture, Farm Production Expenses.  
Note: All Data adjusted to 2007 dollars.

**Trends:** In California and San Luis Obispo County, expenditures on fuel, fertilizers and agricultural chemicals have risen steadily between 1992 and 2007, with the majority of expenditures on agricultural chemicals. In 2007, fuel overtook expenditures on fertilizers for the first time. These figures may represent increasing prices, increasing usage, or both. Due to the availability of data, it is not possible to separate prices from usage.

### Indicator 3.1b: Average age of farmers and ranchers in San Luis Obispo County

**Background:** Since 1978, the average age of the principal farm operator has increased one year in each census cycle, from 50.3 in 1978 to 57.1 in 2007.<sup>63</sup> In the United States the majority of farm operators are between 45 and 64, however the fastest growing group of farm operators are those 65 years and older.<sup>64</sup> Many older farmers have established farming operations.<sup>65</sup>

<sup>63</sup> 2007 Census of Agriculture: Farmers by Age, USDA National Agricultural Statistics Service (U.S. Department of Agriculture, 2007).

<sup>64</sup> Ibid.

<sup>65</sup> Ibid.

### San Luis Obispo County Trends:

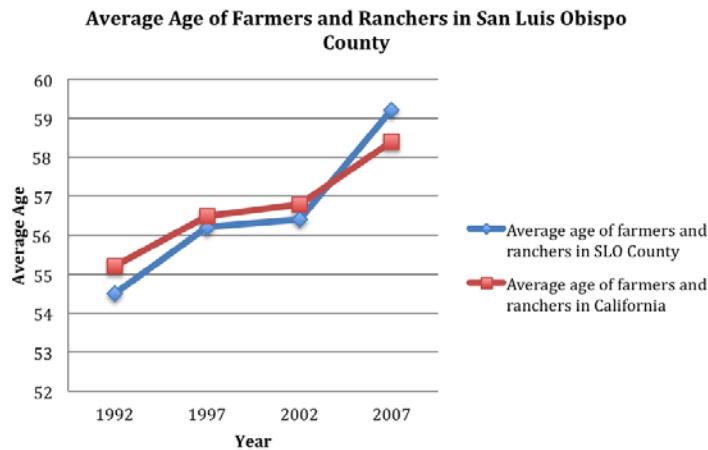


Figure 36: Source: United States Department of Agriculture, NASS, Census of Agriculture, San Luis Obispo County Profile and California State Profile.

**Trends:** The average age of farmers in San Luis Obispo County in 2007 was 59 years. This figure has increased by approximately one year for each five-year census period. The implications of an ageing agricultural base are that (1) there are fewer young people who want to farm and (2) increased conversion of farmland into non-agricultural uses is more likely as farmers retire and many do not pass on their land to the next generation.

#### Indicator 3.1c: Number of opportunities for new farmers/growers in San Luis Obispo County over time



**Background:** As the average age of farmers across the nation continues to rise, the need for new farmers to maintain our domestic agricultural base has become an issue of growing national concern. Beginning farmers are defined as farmers who have operated a farm or ranch for 10 years or less. Beginning farmers are typically younger than established farmers and make up approximately a fifth of all farms in the United States.<sup>66</sup> Beginning farmers face two primary barriers: high startup costs and a lack of land available for purchase or rent. Startup costs in farming are not significantly different from startup costs for other industries.<sup>67</sup> However, as indicated above, the number of jobs within the agricultural sector in the U.S. is declining.<sup>68</sup> Additionally the cost of agricultural land continues to increase, especially in the Pacific region where average farmland value for cropland is the highest in the country. However, historically low interest rates have helped with the affordability of farmland.<sup>69</sup>

<sup>66</sup> Mary Ahearn and Doris Newton, *Beginning Farmers and Ranchers* (U.S. Department of Agriculture, Economic Research Service, May 2009).

<sup>67</sup> Ibid.

<sup>68</sup> *Occupational Outlook Handbook, 2012-13 Edition, Agricultural Workers.*

<sup>69</sup> Cynthia Nickerson et al., *Trends in U.S. Farmland Values and Ownership* (U.S. Department of Agriculture, Economic Research Service, February 2012).

## San Luis Obispo County Trends:

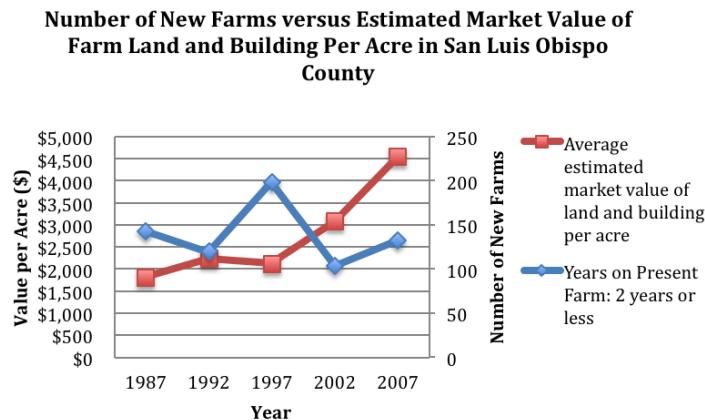


Figure 37: Source:, United States Department of Agriculture, NASS, Census of Agriculture, San Luis Obispo County Profile and California State Profile.<sup>70</sup>

**Trends:** The increase in employment in the agricultural sector corresponds to an increase in new farmers in San Luis Obispo County, which has grown from 2002-2007. However, the number of new farmers in 2007 is still markedly lower than in 1997. During this same period the estimated market value of land and buildings per acre in San Luis Obispo County also increased. This increase did not stop new farmers from entering the farm sector, however, this may prove to be a challenge in the future if land values continue to increase.

### Indicator 3.1d: Number of farms in San Luis Obispo County

**Background:** Over the past three decades the amount of farmland in the U.S. declined by 8%, however the number of farms has remained stable at around 2.2 million.<sup>71</sup> The stability in farm numbers masks shifts in the distribution of production towards very large farms.<sup>72</sup> For example, between 1978 and 2007 the number of farms operating fewer than 70 acres increased by 12 percentage points from 53,495 to 894,941 and the number of “thousand-acre farms” increased by 1 percentage point, while the number of farms in all acreage classes in between decreased.<sup>73</sup> From a gross sales perspective, large-scale farms (with gross sales more than \$250,000), were only 9% of all farms and accounted for 66% of the value of U.S production in 2007. However, small farms, farms with annual sales of less than \$250,000, still make up 88% of all farms in the United States.<sup>74</sup>

In California the total number of farms increased by 2% between 2002 and 2007, however during that time period, the average size of farms in acres decreased by 8%.<sup>75</sup>

<sup>70</sup> Although this appears lower than the numbers reported by the California Chapter of the American Society of Farm Managers and Rural Appraisers in their Trends report (2008), the Agricultural Census combines all types of land whereas the ASFMRA report separates rangeland (much lower land values) from wine grape land (much higher values). California Chapter of the American Society of Farm Managers and Rural Appraisers. (2008). 2008 California Trends in Agricultural Land and Lease Values. [[http://www.calasfmra.com/db\\_trends/2008%20Trends%20Book.pdf](http://www.calasfmra.com/db_trends/2008%20Trends%20Book.pdf).] (last viewed July 21, 2013).

<sup>71</sup> Erik O'Donoghue et al., *Changing Farming Practices Accompany Major Shifts in Farm Structure*, USDA Economic Research Service, Amber Waves (U.S. Department of Agriculture, 2011).

<sup>72</sup> Ibid.

<sup>73</sup> Robert A Hoppe and David E Bunker, *Structure and Finances of U.S. Farms: Family Farm Report*, USDA Economic Research Service (U.S. Department of Agriculture, July 2010).

<sup>74</sup> Ibid.

<sup>75</sup> 2007 U.S. Census of Agriculture: State Profile: California, USDA National Agricultural Statistics Service (U.S. Department of Agriculture, 2007).

### San Luis Obispo County Trends:

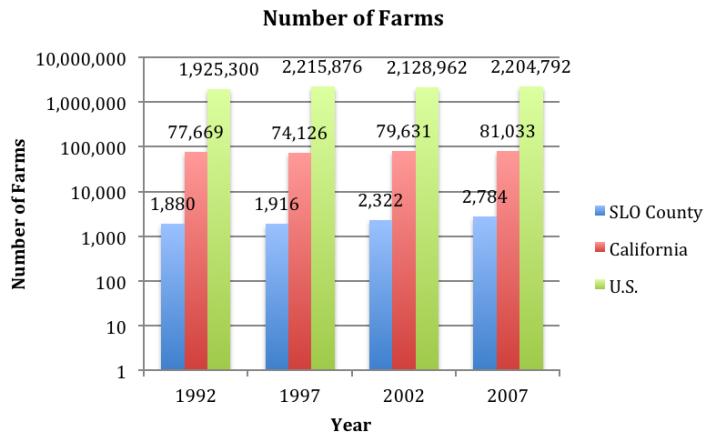


Figure 38: Source: United States Department of Agriculture, NASS Census of Agriculture, Summary Highlights.

**Trends:** The number of farms in San Luis Obispo County and in California continues to grow. The number of farms in San Luis Obispo has steadily increased since 1992. In 2007, San Luis Obispo County had 2,784 farms, and the number of new farms in the county is growing.

### Indicator 3.1e: Farm size by acreage in San Luis Obispo County

**Background:** As discussed above, farm size by acreage has significantly shifted over the past three decades in the U.S. with more farmers operating smaller farms in addition to an increase in “thousand-acre farms”. Small family farms account for most of the farm assets and land owned in the United States.<sup>76</sup> Nationally, in 2007 the median number of acres operated by “low-sales” farms, or farms with gross sales less than \$100,000 was 110 acres, 414 acres for a medium-sales farm, or farms with gross sales between \$100,000-\$249,000 and 1,062 acres for large scale farms, farms with \$250,000 in gross sales or higher.<sup>77</sup>

### San Luis Obispo County Trends:

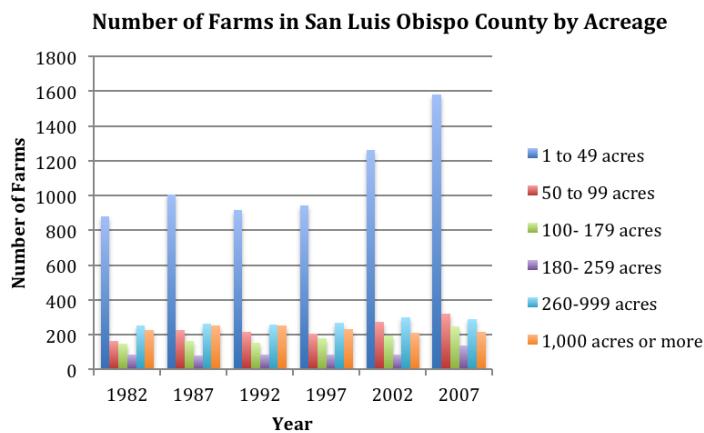


Figure 39: Source: United States Department of Agriculture, NASS, Census of Agriculture, Market Values of Agricultural Products Sold Including Direct Sales.

<sup>76</sup> Hoppe and Bunker, *Structure and Finances of U.S. Farms: Family Farm Report*.

<sup>77</sup> Ibid.

**Trends:** The majority of the farms in San Luis Obispo County are between 1 to 49 acres. In 2007, 1,578 out of 2,784 farms (57%) in San Luis Obispo County were between 1 to 49 acres. In 2007, 214 of the 2,784 (7.6%) farms in San Luis Obispo County were over 1,000 acres. The second largest category of farms in San Luis Obispo County in 2007 was for farms between 50-99 acres, comprising 319 farms, followed by farms between 260-999 acres. The median farm size in San Luis Obispo was 40 acres in 2007 down from 56 acres in 2002.<sup>78</sup> The number of farms in San Luis Obispo County continues to grow, particularly small farms between 1-49 acres.

#### Indicator 3.1f: Farm acres by crop variety in San Luis Obispo County

**Background:** Corn, soybeans, hay, wheat, cotton, grain and rice comprise the major crops grown in the United States.<sup>79</sup> However, because of the climate in California, the major crops include many more specialty crops.<sup>80</sup> Specialty crops include fruits, vegetables, tree nuts, horticulture and nursery crops. In the 2007 Census of Agriculture conducted by the USDA, California ranked first in the nation for the sales of fruits, tree nuts, and berries, all specialty crops. San Luis Obispo County follows the California trend by specializing in specialty crops which make up the majority of crops grown and sold in the county.

#### San Luis Obispo County Trends:

Land in Farms by Type of Land

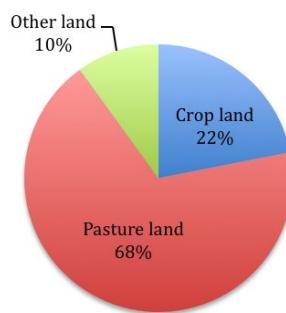


Figure 40: Source: United States Department of Agriculture, NASS, Census of Agriculture, San Luis Obispo County

Farm Acres By Crop Variety in San Luis Obispo County

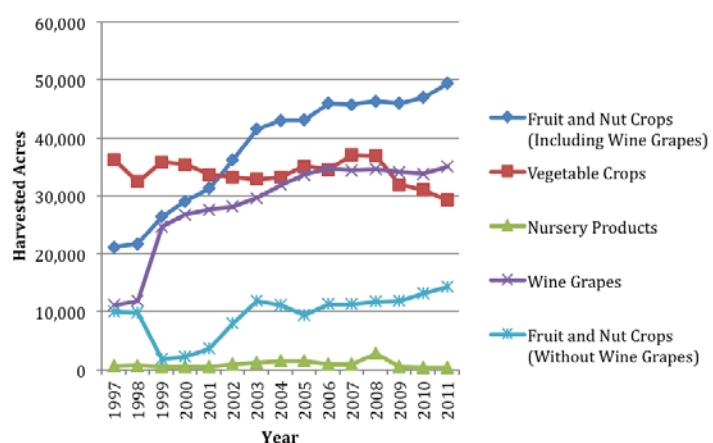


Figure 41: Source: San Luis Obispo County Department of Agriculture/ Weights and Measures, 2000-2011 Annual Reports.

78 USDA Census of Agriculture: County Summary Highlights 2007 and 2002, USDA National Agricultural Statistics Service (U.S. Department of Agriculture, 2007).

79 Ibid.

80 2011 Crop Year, California Agricultural Statistics (California Field Office: USDA National Agricultural Statistics Office, 2012).

**Trends:** Agricultural land in San Luis Obispo County is primarily composed of pasture land (68%) (as seen in figure 38). Cropland is the next largest category of agricultural land, comprising 22% of agricultural land in the county. Cropland is primarily used for the production of commodities such as fruit and nut crops, vegetable crops and nursery products. Fruit and nut crops (which are included in cropland in figure 35), primarily grapes and strawberries (49,490 acres), account for nearly half of harvested acres in San Luis Obispo County (1,141,592 acres).<sup>81</sup> Looking at wine grapes as its own category, it is evident that the increase in fruit and nut acreage between 1997 and 2011 has been driven primarily by wine grapes which account for 35,086 acres in San Luis Obispo County, nearly 71% of all harvested fruit and nut crops in the County. From 1997-2011, as fruit and nut crop acreage increased, vegetable crops, such as broccoli and lettuce, have declined in harvested acreage. The decline in vegetable crops is partially due to a decline in edible pea pods because of competition from foreign sources.<sup>82</sup> However, despite the decrease in acreage of some crops such as harvested head lettuce and edible pea pods, other specialty crops such as small leaf lettuce, spinach and carrots have increased, thus keeping the decline in acreage of vegetable crops from falling further.



### Goal 3.2: San Luis Obispo County agricultural land is preserved

The availability of affordable land for food production affects the ability of a food system to continue to grow food for future generations. The following indicators will provide a picture of land available for agricultural production, land conservation efforts, land conversion rates and the cost of agricultural land in San Luis Obispo County.

#### Indicator 3.2a: Number of acres of land in San Luis Obispo County available for all agricultural production (food, meat, hay, greenhouse, etc.)

**Background:** Land use is dynamic, with annual shifts to different uses. Examining annual change in land use shows general trends, but hides large changes over time. Typically the types of land available for agricultural production include pastureland, cropland, rangeland, grazed forestland and other rural land. As of 2007, land in the United States was divided as follows: Federal land covered 402 million acres (21%), Forest Land covered 406 million acres (21%), Rangeland covered 409 million acres (21%), Cropland covered 357 million acres (18%), Pastureland covered 119 million acres (6%), Developed land

81 Protecting Our Resources: 2011 Annual Report.

82 The Seasons of Agriculture: 2004 Annual Report (San Luis Obispo County: Department of Agriculture/Weights and Measures, 2004).

covered 111 million acres (6%), Water covered 51 million acres (3%), Other rural land covered 50 million acres (2%) and Conservation Reserve Program covered 33 million acre (2%).<sup>83</sup> Since 1982, crop-land acreage has declined by 63 million acres, about 15% of the total acreage of cropland. Between 1987 and 2007 11 million acres were lost to development.<sup>84</sup>

### San Luis Obispo County Trends:

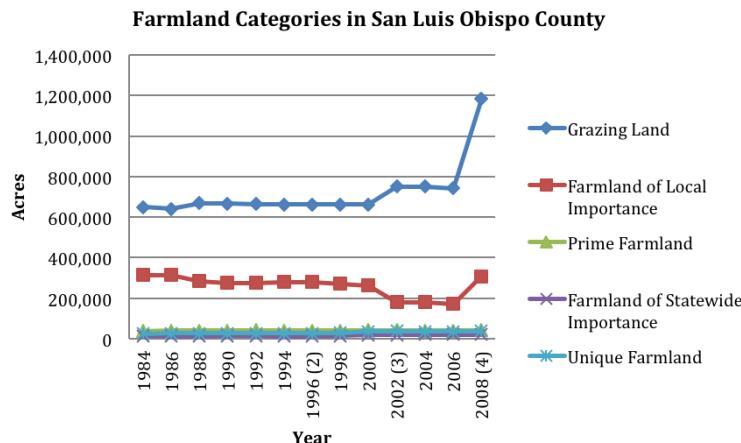


Figure 42: Source: California Department of Conservation, Division of Land Resource Protection, County Summary and Change by Land Use Category, San Luis Obispo, Table A-28.<sup>85</sup>

**Trends:** Grazing land composes most of the agricultural land in San Luis Obispo County, accounting for 1,183,000 acres in 2008. Grazing land increased between 2006-2008 because the Carrizo Plain was added to the survey area. Farmland of local importance makes up the second largest portion of agricultural land in San Luis Obispo County accounting for 309,000 acres. Between 2000 and 2004, a portion of farmland of local importance was converted to grazing land, however more farmland of local importance was added in 2008.

<sup>83</sup> 2007 National Resources Inventory: Land Use Status and Trends, National Resources Inventory (National Resource Conservation Service, 2013).

<sup>84</sup> Ibid.

<sup>85</sup> **Prime Farmland:** Irrigated land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for production of irrigated crops at some time during the four years prior to the mapping date. **Farmland of Statewide Importance:** Irrigated land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. Land must have been used for production of irrigated crops at some time during the four years prior to the mapping date. **Unique Farmland:** Lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date. **Farmland of Local Importance:** Areas of soils that meet all the characteristics of Prime or Statewide, with the exception of irrigation. Additional farmlands include dryland field crops of wheat, barley, oats, and safflower. **Grazing Land:** Land on which the existing vegetation is suited to the grazing of livestock. This category is used only in California and was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

**Indicator 3.2b: Number of acres of farm and ranchland converted for development in San Luis Obispo County<sup>86</sup>**

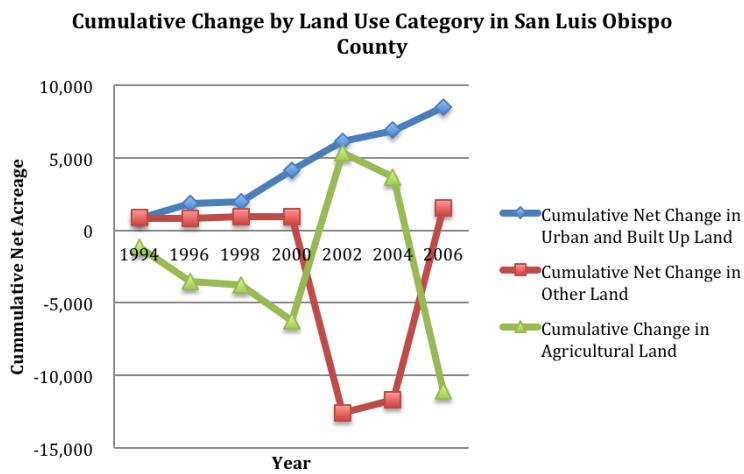


Figure 43: Source: California Department of Conservation, Division of Land Resource Protection, County Summary and Change by Land Use Category, San Luis Obispo, Table A-28.<sup>87</sup>

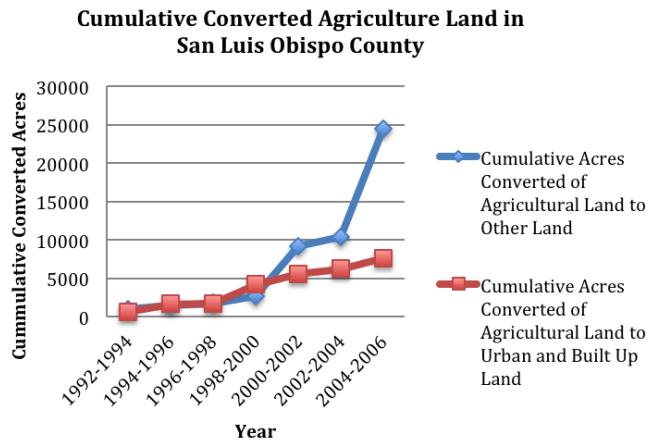


Figure 44: Source: California Department of Conservation, Division of Land Resource Protection, County Summary and Change by Land Use Category, San Luis Obispo, Table A-28.

**Trends:** Between 1992-2006, agricultural land (grazing and farm land) in San Luis Obispo County has decreased as acreage of Built-Up land and Other land have increased. The exception to this is between 2000 and 2002 when farmland increased and Other land decreased (see fig. 41). Since 1992 agricultural land in San Luis Obispo County has been lost to both Urban and Built-Up land and Other land. However, while agricultural land that has been lost to Urban and Built-Up land cannot be converted back to agricultural land, it appears that Other land can return to agricultural land. Overall, San Luis Obispo County has lost nearly 10,000 acres of agricultural land since 1992, most of which has been converted to Other land.

<sup>86</sup> In 2008, additional land was added to the Department of Conservation Survey Area. This additional land impacts the cumulative land use change data. As a result, data from 2008 was omitted from this report.

<sup>87</sup> **Other Land:** Land which does not meet the criteria of any other category. Typical uses include low density rural development, heavily forested land, mined land, or government land with restrictions on use. **Urban and Built Up-Land:** Urban and Built-Up land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.



### **Indicator 3.2c: Number of acres enrolled in the Williamson Act**

**Background:** The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, preserves agricultural and open space lands through property tax incentives and voluntary restrictive use contracts. In 2009 there were 15 million reported acres enrolled under the Williamson Act statewide.<sup>88</sup> This number represents half of California's farmland total and one-third of the State's privately owned land.<sup>89</sup> The recent economic downturn has had disastrous consequences to State and local budgets, forcing many counties to greatly reduce their planning staffs (who traditionally administer the Act). When new land is enrolled in the Williamson Act program it is done so with the expectation that the contracted land will remain agricultural for at least ten years. Therefore, new enrollments can be seen as an indicator of agricultural stability in a particular location. From 2007 to 2008, new enrollment acres decreased throughout the state by 27%.<sup>90</sup> From 2008-2009, San Luis Obispo County was in the top 10 counties with the greatest amount of new enrollments.<sup>91</sup>

#### **San Luis Obispo County Trends:**

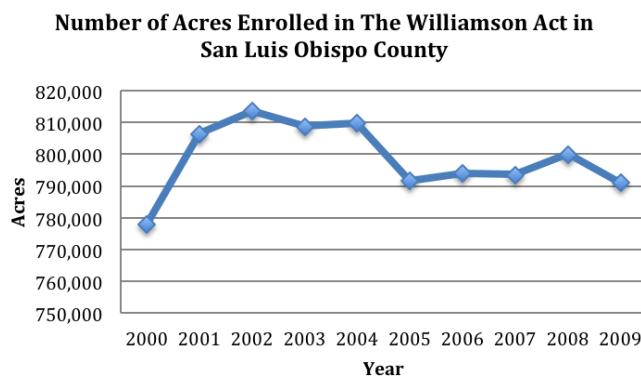


Figure 45: Source: California State Department of Conservation, Williamson Act Program: Report and Statistics

**Trends:** As of 2009, approximately 790,000 acres of San Luis Obispo County's agricultural land was enrolled in the Williamson Act. Over the past ten years the number of San Luis Obispo County agriculture

<sup>88</sup> *The California Land Conservation (Williamson) Act: 2010 Status Report*, Williamson Act Program (California Department of Conservation, 2010).

<sup>89</sup> Ibid.

<sup>90</sup> Ibid.

<sup>91</sup> Ibid.

acres enrolled in the Williamson Act have fluctuated, increasing between 2000-2002 and then slowly decreasing between 2004-2009. Therefore, while more agricultural land in San Luis Obispo County is currently enrolled in the Williamson act than in 2000, current enrollment is down from a county high of over 810,000 acres in 2002. Despite the slow decrease in San Luis Obispo County's protected acres, San Luis Obispo County continues to lead the state, consistently being listed as one of the top ten counties for new enrollments into the Williamson's Act's conservation program.

The 2011 San Luis Obispo County Department of Agriculture/Weights and Measures Crop Report focused on the Williamson Act and its benefits for the county. According to the 2011 Crop Report the Williamson Act has had two major effects on San Luis Obispo County: (1) as an incentive based program it has strengthened the local agricultural economy, and (2) as an effective land preservation program.<sup>92</sup> In 2011, 795,000 acres of land were under a land conservation contract, representing 37% of the total land in the county and 57% of land zoned for agriculture in San Luis Obispo County.<sup>93</sup>

#### **Indicator 3.2d: Real estate value of land zoned for agriculture in San Luis Obispo County**

**Background:** Farm real estate, which includes land and structures, is the primary asset in the farm sector, accounting for 84% of the total value of U.S. farm assets in 2009.<sup>94</sup> Changes in agricultural land values are a critical gauge of farm sector performance and the financial well-being of agricultural producers.<sup>95</sup> Since the farm crisis of the mid-1980s, farm real estate values (including land and buildings) have been rising. Between 2005 and 2006, values jumped 11%, before slowing 6-7% in 2007 and 2008.<sup>96</sup>

#### **San Luis Obispo County Trends:**

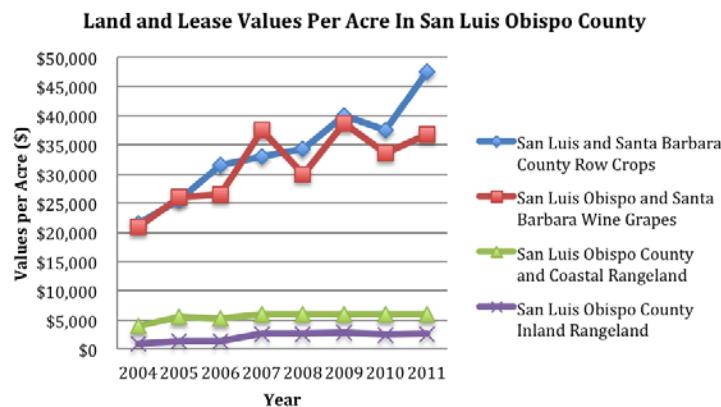


Figure 46: Source: American Society of Farm Managers and Rural Appraisers, California Chapter, California Trends in Agriculture Land and Lease Values.

<sup>92</sup> Protecting Our Resources: 2011 Annual Report.

<sup>93</sup> Ibid.

<sup>94</sup> Nickerson et al., *Trends in U.S. Farmland Values and Ownership*.

<sup>95</sup> Ibid.

<sup>96</sup> Ibid.

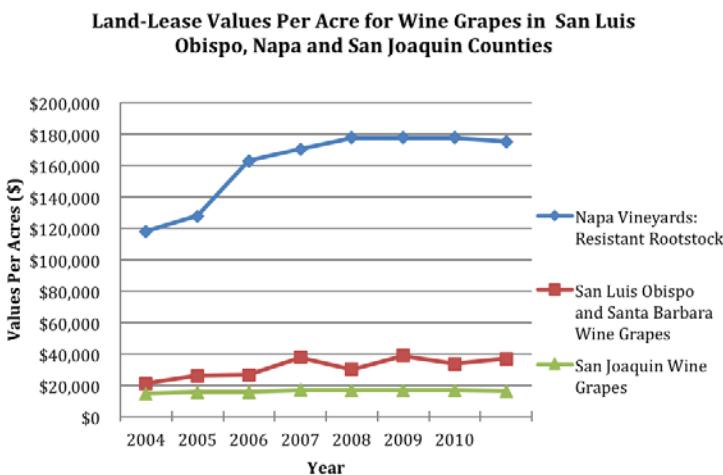


Figure 47: Source: American Society of Farm Managers and Rural Appraisers, California Chapter, California Trends in Agriculture Land and Lease Values

**Trends:** In San Luis Obispo County, land and lease values per acre have stayed relatively constant for coastal and inland rangeland. However, since 2004 the value per acre of land for row crops and wine grape has increased significantly. In 2011, it was more expensive to lease or buy row cropland in San Luis Obispo County than land for wine grapes. Despite the high value of land and lease values per-acre in San Luis Obispo for wine grapes (\$36,750/acre), these land values are actually quite low in comparison to some of California's other large wine growing regions, particularly Napa County; however, they are higher than San Joaquin County.

### Goal 3.3: San Luis Obispo County's soil and water are conserved and support eco-system health

Water and soil resources are the foundation for meeting demands for food today and in the future. Pesticides, fertilizers and animal waste, however, can leach into surface and groundwater. Protecting soil and water resources creates a more resilient food system through ensuring that there will be clean and healthy soil and water for future generations.

#### Indicator 3.3a: Number of farmers and ranchers involved in NRCS conservation programs

**Background:** The Natural Resource Conservation Service is the U.S. Department of Agriculture's principal agency for providing conservation technical assistance to private landowners. NRCS conservation programs help reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat and reduce damages caused by floods and other natural disasters. The Equality Incentives Program (EQIP) is a voluntary program providing financial and technical assistance to agricultural producers through contracts up to a maximum term of ten years. EQIP contracts provide financial assistance to improve soil, water, plant, animal, air and related resources on agricultural land. In fiscal year 2011, the state of California had 1,691 active or completed EQIP contracts.<sup>97</sup>

97 FY 2011 EQIP Total Acres Treated, Contracts, Dollars Obligated, Natural Resources Conservation Service (U.S. Department of Agriculture, 2011).

### San Luis Obispo County Trends:

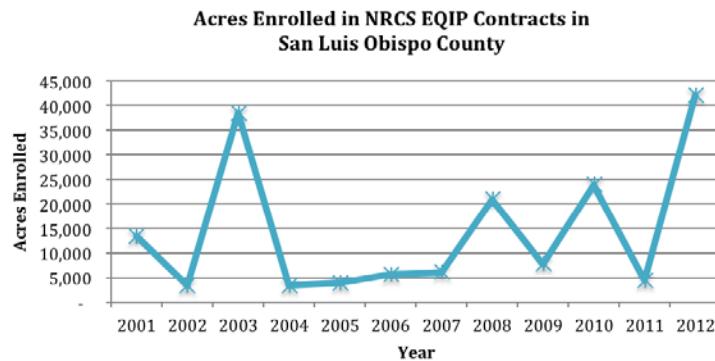


Figure 48: Source: National Resource Conservation Service, Financial Assistance Program Activity, State of California, San Luis Obispo County

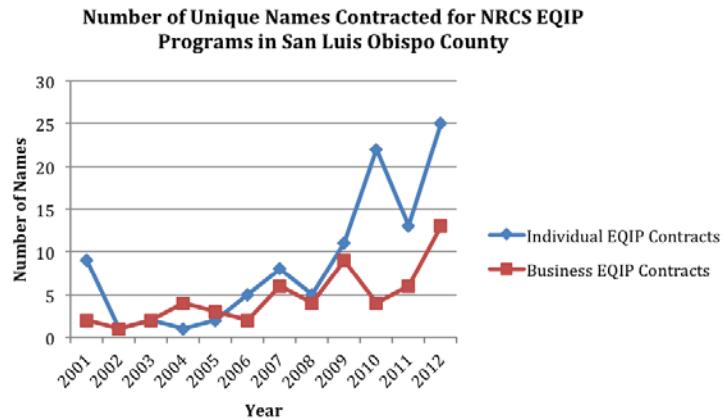


Figure 49: Source: National Resource Conservation Service, Financial Assistance Program Activity, State of California, San Luis Obispo County.

**Trends:** While the number of acres enrolled in NRCS EQIP contracts has consistently fluctuated between 2001-2012, the number of acres overall enrolled in the EQIP programs has grown since 2001, representing an increase in land where soil, water, plant and air related resources are being improved. Additionally, during this same period, the number of unique names contracting for the NRCS EQIP program in San Luis Obispo County has steadily increased, showing that an increasing number of farmers are enrolling in EQIP programs in San Luis Obispo County. However, because of the low numbers reported by the NRCS it seems that in San Luis Obispo County only a small but growing number of producers have been able to take advantage of the NRCS EQIP Program.

### Indicator 3.3b: Measured nitrate concentration in surface water for agricultural areas in San Luis Obispo County

**Background:** Nitrates are a form of nitrogen found in terrestrial and aquatic ecosystems. Nitrates are plant nutrients, but in excess amounts, they can contribute to significant water quality problems. Sources of nitrates include wastewater treatment plants, runoff from fertilized lawns and cropland and runoff from animal manure storage areas. Nitrates can become toxic to warm-blooded animals at concentrations higher than 10 mg/L under certain conditions.<sup>98</sup>

98 Water: Monitoring and Assessment: 5.7 Nitrates (U.S. Environmental Protection Agency, 2013).



### San Luis Obispo County Trends:

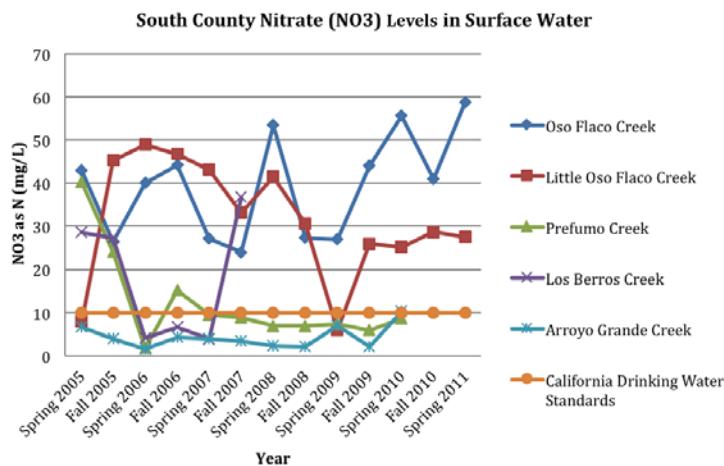


Figure 50: Source: California Environmental Protection Agency, Central Coast Regional Water Quality Control Board, Central Coast Ambient Monitoring Program, Agricultural Program Data.

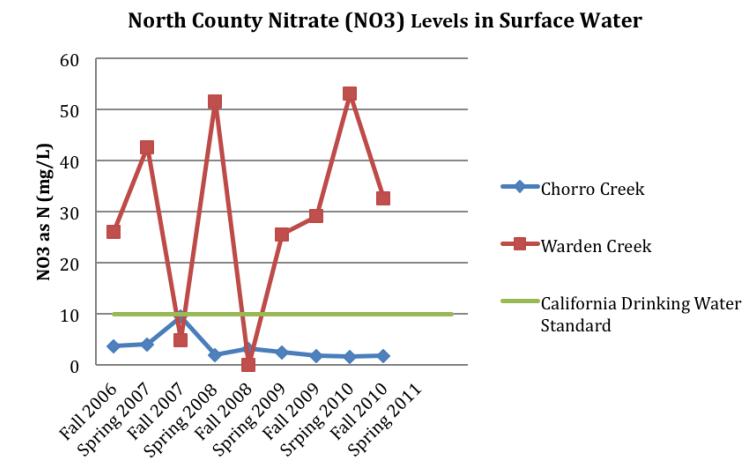


Figure 51: Source: California Environmental Protection Agency, Central Coast Regional Water Quality Control Board, Central Coast Ambient Monitoring Program, Agricultural Program Data.

**Trends:** Although nitrate levels tend to fluctuate, the majority of the creeks and rivers measured by the Central Coast Ambient Monitoring Program in San Luis Obispo County have nitrate levels above 10mg/L, the California drinking water standard. Although levels fluctuate, 4 of the 7 creeks evaluated tend to consistently have nitrate levels above the California drinking water standard. Furthermore, there does not seem to be any significant improvement. In some areas such as Oso Flaco Creek, nitrate contamination of surface water appears to be getting worse. The high amount of nitrates in San Luis Obispo surface water is not only a risk to human health, but also to marine and eco-system well-being. As a result of the high nitrate levels in the Central Coast, several marine protected areas are at risk of pollution.<sup>99</sup>

### Indicator 3.3c: Groundwater Basin levels in San Luis Obispo County over time

**Background:** In the United States, groundwater is the source of drinking water for about half the total population and nearly all of the rural population. Groundwater provides over 50 billion gallons per day for agricultural needs.<sup>100</sup> Groundwater management and depletion is especially an issue in California. Californians obtain 43% of their drinking water and 30% of their urban and agricultural water from groundwater.<sup>101</sup> California is the largest user of groundwater in the nation, and extracts 20% of the groundwater in the United States.<sup>102</sup> The Central Coast Hydrologic Region covers 7.22 million acres and includes Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties. Within the Central Coast region, groundwater accounts for 83% of the annual supply for agricultural and urban purposes.<sup>103</sup>

San Luis Obispo County was divided into three sub-regions for the 2012 Master Water Report: the north coast, the south coast and inland.<sup>104</sup> These sub-regions were then further divided into water-planning areas, with each region containing about five water-planning areas. Groundwater levels are judged by safe basin yield, or the available acre-feet per year (AFY) which is the amount of groundwater withdrawal that does not exceed annual recharge, or permanently lower the water table to allow intrusion of poor quality groundwater. In San Luis Obispo County, each water-planning area has its own AFY level. AFY determines the amount of groundwater available for both agriculture and human consumption, and not the level of groundwater in particular wells. Therefore, it is difficult to generalize groundwater levels for all of San Luis Obispo County. Instead, this assessment will use two area-specific reports

<sup>99</sup> Karen Worcester, *Assessment of Surface Water Quality and Habitat in Agricultural Areas of the Central Coast of California, and Associated Risk to the Marine Environment* (Surface Water Ambient Monitoring Program, 2011).

<sup>100</sup> "Groundwater Depletion," *The USGS Water Science School*, accessed June 1, 2013, <http://ga.water.usgs.gov/edu/gwdepletion.html>.

<sup>101</sup> *California's Groundwater: Bulletin 118* (California Department of Water Resources, 2003).

<sup>102</sup> Ibid.

<sup>103</sup> Ibid.

<sup>104</sup> *San Luis Obispo County Master Water Report* (San Luis Obispo County Flood Control and Water Conservation District, 2012).

to describe the state of groundwater in San Luis Obispo County: Paso Robles in North County and the Northern Cities Management Area in South County.

**Trends:** The Paso Robles Groundwater Basin, located in northern San Luis Obispo County and southern Monterey County supplies water for 29% of the County's population and an estimated 40% of the agricultural production of the county. Safe yield for Paso Robles is 97,700 acre-feet per year.<sup>105</sup> Groundwater levels from the spring of 2009 show that groundwater levels in the Paso Robles Basin range from approximately 1,500 feet above mean sea level in upland areas to less than 600 feet in the northwestern Bradley area.<sup>106</sup> Since 1997, groundwater levels in the western portion of the Paso Robles Basin have declined in excess of 70 feet as a result of low precipitation rates.<sup>107</sup> Currently groundwater demand in Paso Robles is taking up 92% of the annual safe yield for the groundwater basin, however it is estimated that by 2025, the groundwater demand in Paso Robles will outstrip the annual safe yield by 10,000 acre-feet per year.<sup>108</sup> In response to these demands, the City of Paso Robles developed the Paso Robles Groundwater Basin management plan.

The cities of Arroyo Grande, Grover Beach, Pismo Beach and the Oceano Community Services District<sup>109</sup> are all located in the Santa Maria Groundwater Basin. These cities comprise the northern cities management area (NCMA) of the Santa Maria Groundwater Basin. In the NCMA, groundwater is primarily used to satisfy urban demand and applied irrigation demand.<sup>110</sup> In 2010, the total available supply of safe yield groundwater was 15,669 acre-feet per year, and the total water demand was estimated at 9,636 acre feet per year. Urban water demand made up the majority of groundwater uses in the NCMA.<sup>111</sup>

While groundwater demand is not as severe in the South County region as it is in the North County region, it is important to note that groundwater is a major source of agricultural and drinking water for much of the county. This means that it is important to continue monitoring groundwater resources. This is especially true for areas such as Paso Robles where groundwater is not expected to continue to meet the agricultural and urban demands of residents by 2025.

### **Goal 3.4: There are increased relationships between producers, consumers and the community.**

Increased relationships between producers, consumers and community through direct sales avenues such as community supported agriculture (CSA's), farmers' markets, and farm-to-school programs help foster customer loyalty, and give consumers knowledge about farming and the challenges farmers face. The more consumers know about agriculture, and the stronger their relationships are with the farmers from whom they buy their food, the more likely they will be to support these farmers in the future. The following indicators will provide a picture of the current success of direct sales outlets in San Luis Obispo County.



<sup>105</sup> *Paso Robles Groundwater Basin Management Plan* (Paso Robles, CA: City of Paso Robles, 2011).

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

<sup>109</sup> Oceano Community Services District is a multi-service special district, serving 7,600 residents and the people of Oceano and Halycon.

<sup>110</sup> Robert Almy, *2010 Annual Monitoring Report: Northern Cities Management Area* (San Luis Obispo County, CA, 2010).

<sup>111</sup> Ibid.

### **Indicator 3.4a: Number of farms with direct sales in San Luis Obispo County**

Direct farm sales are agricultural sales which take place through Community Supported Agriculture Programs (CSAs), farmers' markets, or at u-pick operations or farm stands. Direct sales are sales of agricultural products by producers directly to consumers. These sales expose consumers to a diversity of local food crops, while also providing insight into the practices involved in production. Direct farm sales often help create customer loyalty, which many smaller producers depend on. In 2007, there were 2,784 direct sale producers in San Luis Obispo County, an increase from 2002, when there were only 2,322 direct sale producers. Additionally, direct sales in San Luis Obispo County have grown from \$3,877,145 in 2002 to \$4,279,000 in 2007.

For more information on direct farm sales in San Luis Obispo County, see indicator 1.2a.

### **Indicator 3.4b: Number of farmers' markets in San Luis Obispo County (including value of sales)**

**Background:** In the past decade, farmers' markets have increased across the nation as well as in California and San Luis Obispo County. Farmers' markets offer consumers an opportunity to interact directly with producers, gaining a better understanding of when and how products are grown. Markets also enable producers to develop a loyal customer base while providing an important sales outlet for smaller growers.

#### **San Luis Obispo County Trends:**

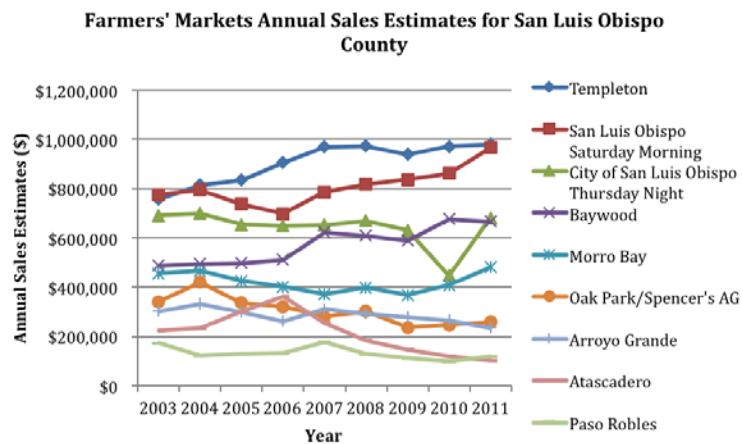


Figure 52: Source: Peter Jankay, San Luis Obispo County Farmers' Market Association. Sandra Diamond, North County Farmers' Markets Inc. Note: Adjusted to 2011 dollars.<sup>112</sup>

**Trends:** There are currently 21 farmers' markets in San Luis Obispo County. Sales at San Luis Obispo County farmers' markets have fluctuated between 2003-2011. In 2011, the estimated annual sales for the 10 farmers' markets listed above was \$4,494,908. The Templeton Farmers' Market is the largest farmers' market in the county bringing in \$982,420 in sales in 2011. The market with the second largest annual revenue is the San Luis Farmers' Market, which takes place in the City of San Luis Obispo. Even though total market sales have fluctuated, farmers' markets in the county continue to create a valuable space for small-scale farmers to sell their products and for consumers to interact with local farmers.

<sup>112</sup> Data looks at farmers' market sales as a whole and does not distinguish between certified and non-certified sales.

#### **Indicator 3.4d: Number of farm-to-school programs in San Luis Obispo County**



Farm-to-school programs are a primary avenue for increasing relationships between farmers and consumers. In addition to their role in increasing profitability for San Luis Obispo County farmers (indicator 1.2d), San Luis Obispo County school districts have the opportunity to reach out to local growers in this rich agricultural region, to provide fresh, less processed foods to school children and increase relationships between consumers and producers. The creation of more farm-to-school programs would not only make it possible to provide more fresh

food to schools, but also provide an educational opportunity for students to learn from where their food comes and who grows it.

For more information on farm-to-school programs in San Luis Obispo County and the number of farm-to-school programs in San Luis Obispo County, see indicator 1.2d.

#### **Goal 3.5: The integrity of local fishing grounds are maintained while preserving access to local fishing enterprises.**

San Luis Obispo County has three commercial fishing harbors: Port San Luis, Morro Bay and San Simeon. Although commercial fishing is an important source of revenue and employment for San Luis Obispo County, like other California ports, landing in pounds have decreased steadily between 1985 and 2006.<sup>113</sup> This is a result of the extreme cutback in groundfish quotas, gear and spatial closures, catch limits, rising costs, and a network of marine preserves.<sup>114</sup> As a result of this decline, the City of Morro Bay, Port San Luis, and the fishing community have partnered with environmental organizations to preserve and support this essential industry. The indicators below provide a snapshot of the current state of commercial fishing in San Luis Obispo County. There is currently no comprehensive way of looking at the fishing industry in San Luis Obispo County; for the purpose of this assessment we have used data from the Bureau of Labor Statistics and the California Department of Fish and Game.

#### **Indicator 3.5a: Number of fishing operations in San Luis Obispo County**



**Background:** Employment in the fishing industry has declined nationally as regulations intended to ensure the continued viability of fisheries have resulted in lower catch quotas, reduced days at sea and regulations on method of capture. Currently, about 32,000 individuals are employed in the San Luis Obispo County fishing industry.<sup>115</sup> Growth in aquaculture combined with rising seafood imports is adversely affecting fishing income and causing fishers to leave the industry. This shift combined with coastal pollution, overfishing and regulation are expected to cause continued decline in the number of individuals employed in this sector.<sup>116</sup>

<sup>113</sup> Lisa Wise Consulting, *Morro Bay and Port San Luis: Commercial Fisheries Business Plan* (San Luis Obispo County, CA, 2008).

<sup>114</sup> Ibid.

<sup>115</sup> "Occupational Employment and Wages, May 2012, Farming, Fishing and Forestry."

<sup>116</sup> Ibid.

### San Luis Obispo County Trends:

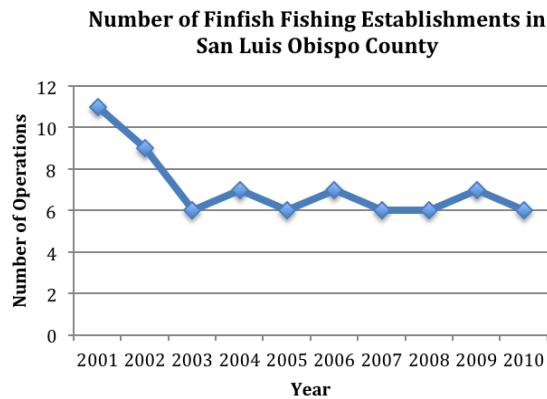


Figure 53: Source: United States Department of Commerce, United States Census Bureau, U.S. Economic Census- County Business Pattern Series: Geography Area Series.

**Trends:** Currently in California it is difficult to get consistent data on the number of fishing establishments. An extensive exploration of fisheries data from San Luis Obispo County yielded conflicting information. For example, according to the Bureau of Labor Statistics, the number of finfish<sup>117</sup> fishing establishments in San Luis Obispo County has remained relatively constant since 2002, fluctuating between 6-7 establishments. However, a report conducted by a private consulting agency argues that there has been a 21% increase in the number of active fishing vessels.<sup>118</sup> In this report, it is unclear if a fishing vessel is owned by an individual or an establishment. So while the number of fishing vessels might be increasing, this number is different from the number of establishments, which appear to be staying relatively constant over time.

### Indicator 3.5b: Total wage for fisherfolk in San Luis Obispo County over time

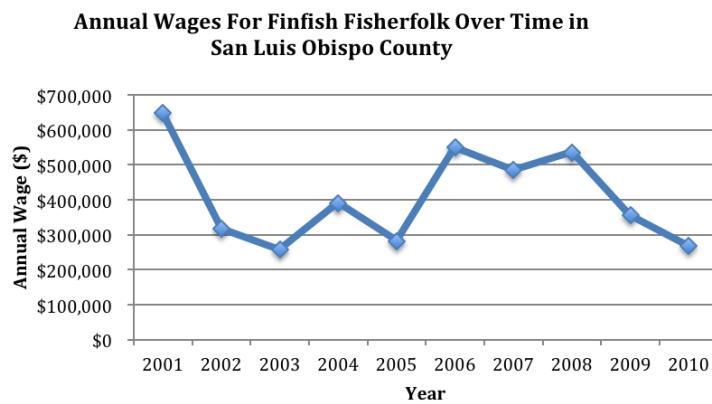


Figure 54: Source: United States Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages. Note: Data Adjusted to 2011 Dollars.

<sup>117</sup> Finfish are defined as any fish with fins.

<sup>118</sup> "Occupational Employment and Wages, May 2012, Farming, Fishing and Forestry."

**Trends:** According to the California Employment Development Department, the total wages for finfish fisherman has fluctuated between 2001-2010, however wages have decreased overall, with total wages in 2010 at approximately \$270,000. In 2010, the average San Luis Obispo fisherfolk earned only \$33,416 annually.<sup>119</sup> This decrease in total wages is in line with the Bureau of Labor Statistics industry projections, which projects that between 2010-2020 fishing income will decrease across the nation as a result of rising seafood imports and competition from farm-raised fish.<sup>120</sup>

Nevertheless, industry assistance from The Nature Conservancy and the Environmental Defense Fund provides some hope to the fishing industry of San Luis Obispo County through programs like the Trawler Buyout Program and the Conservation Fishing Agreement. Both programs focus on fishery habitat management and growth through conservation and management. Additionally, increased use of a fixed gear fleet which targets sablefish, and strong showings in swordfish, spot prawn, thornyheads, and blackgill rockfish combined with strong landings in near shore fisheries show that the San Luis Obispo County fisheries sector is in the process of rebounding.<sup>121</sup>

#### **Indicator 3.5c: San Luis Obispo County commercial ocean fish landing by weight and value**

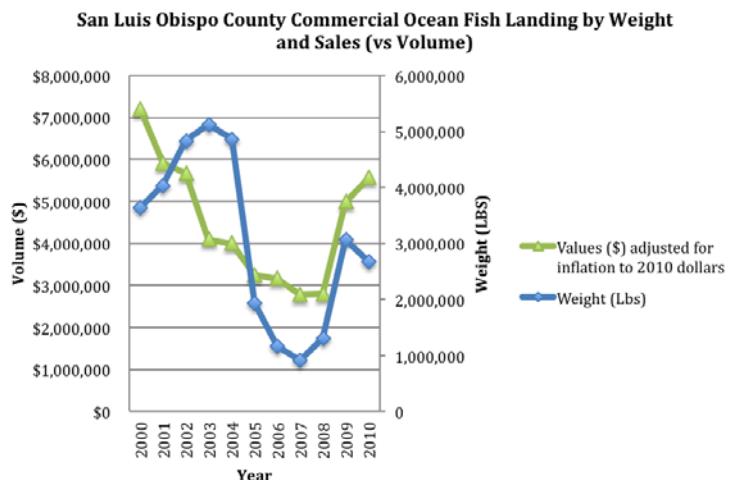


Figure 55: Source: California Department of Fish and Game, California Commercial Landings

**Trends:** Fisheries landings are a good measure of the economic performance of a specific fisheries sector. Between 2002 and 2007, overall landings at both the port of Morro Bay and the Port of San Luis have decreased drastically. This decline resulted in a decrease in the volume of sales. Starting in 2007, the fisheries industry appeared to be rebounding with an increase in landings in pounds and volume of sales. The sharp increase in volume of sales can be attributed to the emergence of live-fish landings, primarily catering to sushi restaurants, and the increasing value of fish.<sup>122</sup>

Between 1990 and 2006, 13 species represent between 88% and 98% of all landings in San Luis Obispo County.<sup>123</sup> These included: sole, rockfish, thornyheads, market squid, shrimp, sablefish, crab, salmon, swordfish, spot prawns, cabezon, and halibut. Additionally, since 2000, commercial fishermen in San Luis Obispo County have landed over \$3 million in swordfish landings, the third highest ex-vessel value in the state of California. The port of Morro Bay leads the state in swordfish landings among small ports.<sup>124</sup>

<sup>119</sup> "San Luis Obispo County Economic Profile."

<sup>120</sup> *Occupational Outlook Handbook, 2012-13 Edition, Fishers and Related Fishing Workers* (Bureau of Labor Statistics, U.S. Department of Labor, 2012).

<sup>121</sup> Lisa Wise Consulting, 2012 Morro Bay Commercial Fisheries Economic Impact Report (San Luis Obispo County, CA, 2012).

<sup>122</sup> Lisa Wise Consulting, *Morro Bay and Port San Luis: Commercial Fisheries Business Plan*.

<sup>123</sup> Ibid.

<sup>124</sup> Lisa Wise Consulting, 2012 Morro Bay Commercial Fisheries Economic Impact Report.

**Indicator 3.5d: Number of polluted waterways in San Luis Obispo County**

**Background:** California is home to some of the best water resources in the nation. However, rapid development, a large agricultural industry and other human activities place these resources and the creatures that live in and around them at risk of contamination. The Federal Clean Water Act Section 303D requires each state to provide a list of impaired and threatened waters every two years. For those water bodies which do not meet applicable water quality standards, states must develop a plan to establish total maximum daily loads (TMDL) in order to address the issue.

**Trends:** 33 out of San Luis Obispo County's 57<sup>125</sup> water bodies are impaired, or classified as 303D. These water bodies include the Pacific Ocean in certain areas and are classified as 303D because of the impacts of agriculture, urban run-off, resource extraction, municipal wastewater and, construction and land development.

In an effort to address these issues of water quality, the Central Coast Regional Water Quality Control Board is responsible for developing and implementing a restoration plan for each impaired water way. The plans, referred to as Total Maximum Daily Loads (TMDLs), depend on sophisticated research and monitoring, and are costly and time intensive to implement. Currently 23 TMDL projects have been approved for the Central Coast and seven TMDL projects are currently in development for 2012-2013.

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<sup>125</sup> This number is an estimate and is based on reports from [www.slocountywater.org](http://www.slocountywater.org)



## Vision 4: Health Promoting

### **National Trends:**

Our relationship to our local food system, and the consumption choices we make play a role in whether food helps nourish us or causes adverse health risks. These potential health risks, including obesity and diabetes have been rapidly increasing across the United States over the past 20 years. Currently more than one third of U.S. adults and approximately 17% of all children and adolescents are obese.<sup>126</sup> Diabetes, which can be a consequence of obesity, currently affects 25.8 million people in the U.S., approximately 8.3% of the population.<sup>127</sup>

In order to prevent obesity and other chronic diseases such as diabetes, heart disease, high blood pressure and cancer, the Center for Disease Control recommends that citizens eat a diet high in fruits and vegetables. However, currently fewer than 1 in 10 Americans eat enough fruits and vegetables to meet current dietary recommendations.<sup>128</sup>

Strategies to combat obesity and other chronic diseases include increasing the access and availability of fruits and vegetables. One way of increasing fruit and vegetable consumption among children and adolescents is through farm-to-school programs. Currently farm-to-school programs across the nation reach over 5.5 million students in over 12 thousand schools.<sup>129</sup>

### **San Luis Obispo County Trends:**

San Luis Obispo County experiences many of the same trends in health indicators as the nation as a whole. However, health indicators such as incidences of diabetes, healthy fitness zones, and intake of sugary drinks are generally lower in San Luis Obispo County than in the rest of the state of California.

To improve nutritional health for all residents, San Luis Obispo County has worked on increasing consumption of fresh, regional fruits and vegetables through opportunities such as salad bars in schools, school gardens and farm-to-school programs—all of which are currently on the rise.

### **Goal 4.1: San Luis Obispo County's food system promotes community health**

A food system that provides fresh fruit and vegetables helps promote a healthier community. One indicator of a food system's ability to adequately promote community health is the rate of chronic disease such as diabetes in a county. The following indicators provide a picture of diabetes rates, specifically those related to the food system in San Luis Obispo County.

126 "Overweight and Obesity Facts," *Centers for Disease Control and Prevention*, accessed April 17, 2013, <http://www.cdc.gov/obesity/data/facts.html>.

127 "Diabetes Public Health Resource: 2011 National Diabetes Fact Sheet," *Centers for Disease Control and Prevention*, accessed April 3, 2013, <http://www.cdc.gov/diabetes/pubs/estimates11.htm>.

128 *Strategies to Prevent Obesity and Other Chronic Diseases: The CDC Guide to Strategies to Increase the Consumption of Fruits and Vegetables*, Centers for Disease Control and Prevention (U.S. Department of Health and Human Services, 2011).

129 "California Profile."

### **Indicator 4.1a: Percent of population diagnosed with diabetes in San Luis Obispo County**

**Background:** As of 2010, 25.8 million people, 8.3% of the population in the U.S. have been diagnosed with diabetes.<sup>130</sup> Of these, over 90% are attributed to Type 2 diabetes, which is associated with obesity and inactivity. Data on diabetes in youth and young adults in San Luis Obispo County is being gathered by the California Health Interview Survey (CHIS); however the number of cases is relatively small for this age group and cannot be accurately reported at this time. Therefore, the data reported below only looks at adults.

#### **San Luis Obispo County Trends:**

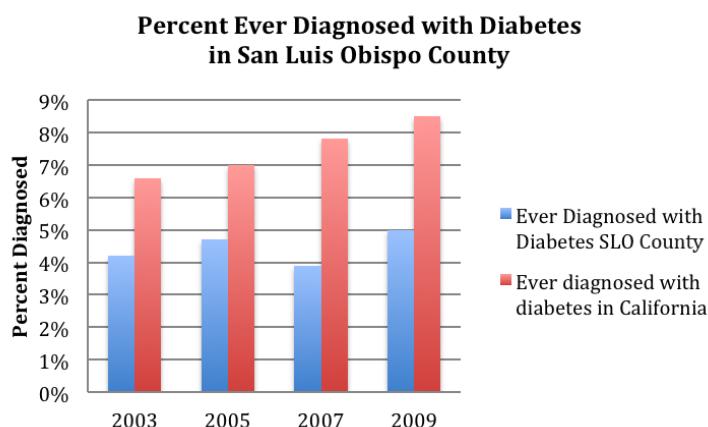


Figure 56: Source: California Health Interview Survey (CHIS), UCLA Center For Health Policy Research, Table: Ever Diagnosed With Diabetes. Note: Data Only For Adults

**Trends:** According to CHIS, the overall rate of adult diabetes in San Luis Obispo County in 2009 was 5%, up from 4.2% in 2003, but much lower than the rate in California (~8.5%). Of these diagnoses, more than 88.3% are Type II, which is often associated with a lack of physical activity or overweight. The rate in San Luis Obispo County is also higher than the Type II rate in CA (~83%). This may suggest that these adults in San Luis Obispo County may also have related health issues such as overweight or obesity.<sup>131</sup>

### **Indicator 4.1b: Percent of 5<sup>th</sup> - 9<sup>th</sup> graders not in a healthy fitness zone or of healthy Body Mass Index (BMI)**

**Background:** Since 1980, childhood obesity had doubled in children and tripled in adolescents. According to the 2009-2010 National Health and Nutritional Examination Survey (NHANES) approximately 17% of children under the age of 19 are obese.<sup>132</sup> Children and adolescents who are obese are likely to be obese as adults and are therefore more at risk for adult health problems such as heart disease, Type II diabetes, stroke, several types of cancer, and osteoarthritis.<sup>133</sup> In order to monitor adolescent health and fitness, the California Department of Education (DOE) administers the physical fitness testing which includes a BMI measurement in its assessment. For these physical fitness tests the DOE uses a chart called the Healthy Fitness Zone; the standards were established by The Cooper Institute to represent levels of fitness that offer some degree of protection against diseases that can result from sedentary living.

130 "Diabetes Public Health Resource: 2011 National Diabetes Fact Sheet."

131 This data is pulled from the California Health Interview Survey (CHIS) which only asked questions about Type II diabetes to the 5% of respondents who responded to ever having diabetes, which means that this data was pulled from a relatively small sample size.

132 Carroll Ogden, Margaret D. Carroll, Brian K. Kit, and Katherine M. Flegal, "Prevalence of Obesity and Trends in Body Mass Index Among U.S. Children and Adolescents, 1999-2010," *JAMA* 307, no. 5 (2012): 483-490.

133 "Childhood Obesity Facts," *Centers for Disease Control and Prevention*, accessed April 3, 2013, <http://www.cdc.gov/healthyyouth/obesity/facts.htm>.

## San Luis Obispo County Trends:

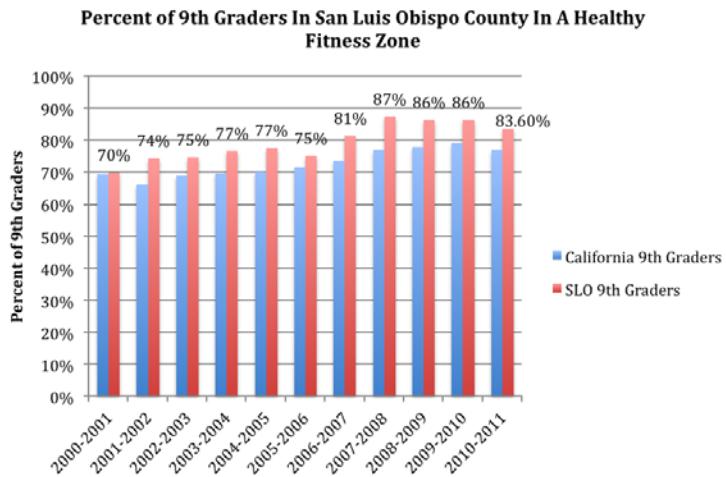


Figure 57: Source: California Department of Education, Physical Fitness Report. Average Percentage of all the components of the physical fitness test

**Trends:** Physical fitness as measured through testing of school age children in grades five, seven, and nine has improved over the last decade. For youth in ninth grade, the percentage who were in a “healthy fitness zone” in 2010-2011 is 83.6%. This rate is higher than the state of California, in which the average score is 79%.

## Goal 4.2: Schools in San Luis Obispo County serve more fresh, local food.

Farm-to-school programs connect school age children and youth with area farms through local sourcing of school food, farm visits and other agriculturally related curricula. These programs are intended to improve the health and nutrition of youth as well as support small and medium scale farmers. The following indicators will provide a snapshot of the current state of farm-to-school programs in San Luis Obispo County.

### Indicator 4.2a: Number of salad bars in San Luis Obispo County Schools

**Background:** Salad bars are one growing venue for delivering fresh fruits and vegetables to children in schools. Many school children increase their consumption of fruit and vegetables when given a variety of choices.<sup>134</sup> Additionally, increased daily access to fruit and vegetables provide students with a personal experience about choices that can shape behavior beyond the cafeteria.

**Trends:** Since data on how many schools there are with salad bars in San Luis Obispo County does not exist, each Food Service Director for every school district in the county was contacted by phone and asked if their schools had salad bars. There are currently 62 salad bars in San Luis Obispo County public schools (75% of the county’s public schools). Not all of the salad bars are available daily, however, some of the weekly or monthly salad bars attempt to source their fruits and vegetables from their school gardens. Food service directors who were interviewed for this study expressed interest in sourcing more local food for their salad bars, representing an opportunity to increase local produce in San Luis Obispo schools through salad bars.

For more information on salad bars in San Luis Obispo County, see indicator 1.2c.

<sup>134</sup> Anupama Joshi, Andrea Misako Azuma, and Gail Feenstra, “Do Farm to School Programs Make A Difference? Findings and Future Research Needs,” *Journal of Hunger & Environmental Nutrition* 3, no. 2/3 (2008): 229–246.



#### **Indicator 4.2b: Number of school gardens in San Luis Obispo County**

**Background:** School gardens provide a dynamic environment to enhance student health, achievement and serve as a vehicle to connect students with their food. While integrating gardens into the curriculum is not new, increased interest in local food production has led to the establishment of school garden programs across the United States. In California, the passage of AB 1352, the California Instructional School Garden Program, in 2006, enabled the disbursement of \$11 million for the establishment of school gardens throughout the state.

**Trends:** Fifty-nine school gardens currently exist in 80 schools (approximately 73% of all schools in San Luis Obispo County), with a range in focus, including native species, job skills training, nutrition, and food preparation. These programs provide a unique opportunity for engaged hands-on-learning.

For more information on school gardens in San Luis Obispo County, see indicator 1.2c.

#### **Goal 4.3: San Luis Obispo County residents make healthy food choices**

What people choose to eat is influenced by what is available locally. In California, fast food restaurants are four times as prevalent as fresh food outlets or grocery stores. In San Luis Obispo County this number is lower, with only two times as many fast food restaurants as fresh food outlets and grocery stores.<sup>135</sup> The prevalence of fast food restaurants and low consumption of fruits and vegetables across the nation puts residents at high risk for a number of chronic diseases including obesity, heart disease and diabetes. A local food system, which makes fresh fruit and vegetables available for everyone, helps lower the rate of chronic diseases and therefore promotes community health. The following indicators will provide a picture of the current health status of many of the residents of San Luis Obispo County through an exploration of what kind of foods youth in the county are consuming on a daily basis.

#### **Indicator 4.3a: Percent of youth that consumed two or more sugary drinks within the past day**

**Background:** The quantity and quality of food consumed plays a significant role in the overall health and well being of individuals. Choosing foods that provide essential nutrients without excessive saturated fat, sugar or salt is necessary to avoid chronic and diet related diseases. Diets rich in fruits and vegetables have been shown to reduce risk of heart disease, diabetes, stroke and high blood pressure.

<sup>135</sup> Searching for Healthy Food: The Food Landscape in San Luis Obispo County (Davis, CA: California Center for Public Healthy Advocacy, 2007).

## San Luis Obispo County Trends:

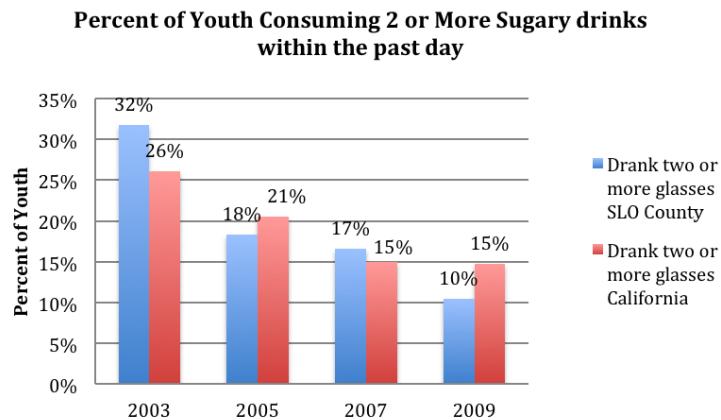


Figure 58: Source: California Health Interview Survey (CHIS), UCLA Center For Health Policy Research, Table: Percent of Youth Consuming 2 or More Sugary Drinks within the past day.

**Trends:** The amount of sugary drinks consumed by youth in San Luis Obispo has declined by 67% since 2003, from 31.8% of youth consuming two or more sugary drinks a day in 2003 to only 10.4% in 2009. This reduction in consumption may be attributed to two different pieces of state legislation; the first banning soda sales in elementary schools and middle schools in 2003 and the second banning sales in high schools in 2005. Sugary drink consumption in San Luis Obispo County is also much lower than in California.

### Indicator 4.3b: Number of teens in San Luis Obispo County who eat five or more fruit and vegetables a day

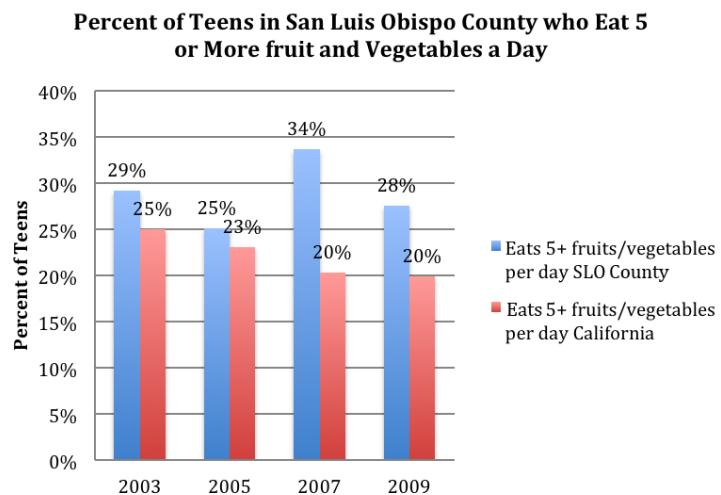


Figure 59: Source: California Health Interview Survey (CHIS), UCLA Center For Health Policy Research, Table: Percent of Teens Who Eat 5 or More Fruits and Vegetables A Day. Note: Data statistically unstable due to small sample size.

**Trends:** The number of teens in San Luis Obispo County who meet the CDC recommended daily servings of fruits and vegetables (5+ servings) has fluctuated since 2003. According to the CHIS survey, the percentage of teens consuming the recommended servings declined by 2% from 2003 to 2009, from 29% to 27%; nevertheless, the rates remain above the state average.



# Conclusions and Observations:

## San Luis Obispo County Food System Assessment

This report has highlighted significant trends in the profitability, equitability, resiliency and health of San Luis Obispo County's food system and residents. In this section, the authors summarize some of the key findings and draw connections within and between sectors of the food system. Opportunities for future action are suggested at the end of each summary section below.

### Vision 1: Profitability

In an effort to understand the overall picture of profitability in the agricultural production and distribution sectors, indicators focused on **overall agricultural production** (gross sales and net cash income for San Luis Obispo farmers, number of farms, changes in top valued commodities), **local food production and sales** (direct sales and number of farms with direct sales, and farm-to-school programs as a potential buyer of local food), and **distribution infrastructure for local production and distribution** (number of wholesalers, food manufacturers and processors).

Total farm sales have continued to rise over the last 15 years as has total net cash income. However, when expressed on an average per farm basis, total sales per farm has leveled out to around \$200,000 per farm since 2002 and net cash income per farm has leveled out to \$27,500 since 2002. These figures reflect the growing number of farms in the county (2,784 in 2007), most of them with gross sales less than \$250,000 (less than \$250,000 is a small farm, defined by USDA before 2013) and almost half with gross sales less than \$5,000. This suggests that many farmers are farming part-time, relying on non-farm income. Wine grapes continue to dominate sales in agricultural commodities grown in San Luis Obispo County (69% of all fruits, nuts and berries), with strawberries (30% of fruits, nuts and berries) as the other major fruit/nut crop. Although wine grapes may not contribute to the nutritional goals of county residents, they contribute significantly to other food system goals, such as the economic viability of many of the county's growers, farmland preservation and agricultural tourism, in turn contributing to overall county economic development and health.

Local food production continues to increase slowly in San Luis Obispo County with almost \$4.3 million in direct sales in 2007 and more than 240 growers participating. Although direct sales represent only a small percentage of all agricultural sales (~ .8% in 2007), this percentage is still higher than the national average (~.4% in 2007) and the rest of California (~.5%). The declining percentage of direct sales compared to total agricultural sales in San Luis Obispo since 1997 reflects the larger increase in sales of commodity crops including wine grapes and strawberries during the same period. When compared with other counties in California, however, direct sales are quite modest. The top three counties with direct sales in California in 2007 were Fresno (\$17.2 million), San Joaquin (\$11.8 million) and Tulare (\$11.7 million).<sup>1</sup> These counties sell more than twice the amount of products locally as San Luis Obispo. San Luis Obispo's total direct sales represent only about .17% of all total direct sales in California. This area may represent more room for growth, especially for small and/or young, beginning farmers. Local food production and sales through farm-to-school programs and school gardens is on the rise in San Luis Obispo County with almost all 80 schools serving some local food in school meals, many undoubtedly through the 62 salad bars found county-wide. Almost three quarters of all schools educate children about local food through school gardens.

Food system infrastructure growth (including some agricultural product wholesalers, food manufacturers and processors) reflects the growth in the wine grape industry. The especially large increase in beverage manufacturers is potentially due to the increase in wineries which have at least doubled in number since 2002.

<sup>1</sup> "Local and Regional Markets," *University of California Agricultural Issues Center*, accessed July 21, 2013, [http://www.cdfa.ca.gov/agvision/docs/Local\\_and\\_Regional\\_Markets.pdf](http://www.cdfa.ca.gov/agvision/docs/Local_and_Regional_Markets.pdf).

**Recommendations:**

- Encourage more sustainable production and local distribution of the top two sectors (winegrape and strawberry industries) with local agri-tourism. Agri-tourism provides educational venues for consumers to learn about local agriculture. Agriculture presents many opportunities for educating the public about their food system; outreach can emphasize the importance of local agriculture for the economy and the environment. Building alliances between consumer groups and agriculture will benefit both sectors.
- Support programs, such as SIP (Sustainability in Practice) Certified that encourage sustainable production/ certification programs for local agriculture industries.
- Find ways to incorporate more San Luis Obispo County produced strawberries and broccoli into school meals, as well as, afterschool and preschool programs.
- Continue promoting local, direct marketing through farmers' markets, CSAs, U-picks and roadside stands. Direct marketing is a good first step for many small, beginning farmers and could serve as an avenue to assist new farmers in entering the market place.
- Take advantage of the growing interest in farm-to-school programs; partner with school districts, NGOs, University of California Cooperative Extension Program, and other organizations to educate children about local food and agriculture, gardening, and cooking food from scratch. Continue to support salad bars in schools, school gardens, and farm-to-school programs. Given the popularity of farm-to-school in the county it might be worthwhile to explore farm-to-preschool.
- Identify existing regional food processing and distribution capacity and begin conversations about expanding it if economically feasible.

**Vision 2: Equitability**

Equitability in San Luis Obispo County's food system is described through three lenses—**food security/food access for county residents** (food security, participation in CalFresh and WIC, food access through the San Luis Obispo Food Bank Coalition), **opportunities for new food producers** (number of food systems jobs) and **fair wages for food system workers** (average wages by job category).

Although food insecurity for San Luis Obispo residents has been decreasing, according to the California Health Interview Survey, and food insecurity is lower than the rest of the state, still, almost a quarter of surveyed residents with incomes less than 200% of poverty were food insecure. Increases in other indicators including CalFresh participation and the number of people served by the Food Bank Coalition of San Luis Obispo County, suggest that there are still significant groups of residents who need access to nutritious, affordable food.

The ability to access nutritious food is closely related to income and the existence of jobs and employment opportunities in the county. For this report, we focused on food system-related jobs directly related to food production, distribution and consumption activities, a set of job categories created for this report using NAICS codes. Using this data, we found that about 20% of all the jobs in the county are related to the food system. Within this category, almost half of the jobs are within the subcategory, “food services and drinking places;” and almost a quarter of food systems jobs are in the category, “agriculture, forestry, fishing and hunting.” Both of these sectors continue to grow in terms of number of employees.

Although employment is growing in food services and agriculture, average annual wages for these two categories are among the lowest of all food system jobs (~\$16,000/yr for food service and ~\$23,000/yr for agriculture/forestry/fishing/hunting). Further, food systems average annual pay in San Luis Obispo is only about \$21,900, which is less than food systems annual pay for the state (~\$25,000) and significantly less than average annual pay for all employment sectors in the county (~\$40,000/yr). It should be noted, however, that food systems jobs often include many part-time jobs and seasonal labor which likely contributes to reducing the overall annual wages.

### **Recommendations:**

- Continue to support government food programs (CalFresh, WIC, school meals, elderly food programs such as Meals on Wheels) and especially those that provide subsidies for fresh food sold by local farmers such as the WIC Farmers' Market Program, EBT at Farmers' Markets and the Elderly Nutrition Program at Farmers' Markets. Make sure all farmers' markets have EBT access. Some counties and states are using "double up coupon programs" to encourage greater use of these subsidies and meet goals of nutritious food for low income consumers and more sales for local farmers. Explore strategies and partnerships for expanding these programs.
- Explore the potential for engaging community organizations and residents in other programs that provide food to low-income consumers including mobile markets, community gardens, food banks or community farms, as additional sources of fresh, nutritious food.
- Review findings from "The Hands that Feed Us: Challenges and Opportunities for Workers Along the Food Chain," by Food Chain Workers Alliance (2012) and select one or two goals for change, such as ensuring minimum wages and health benefits for employees, especially in the two food system sectors with lowest wages in San Luis Obispo County—food service and agriculture.
- Review findings of the "Hunger-Free Communities: Characterizing vulnerable populations in San Luis Obispo County" report (2012) and collect some of the same key indicators within the next five years to monitor progress on community food security.

### **Vision 3: Resiliency**

The concept of resiliency in San Luis Obispo County's food system includes more diverse goals than any of the other three visions. A resilient food system is one in which **current food production supports the needs of future generations** (use of agricultural chemicals, age of farmers, number of new farmers, number of farms, concentration in farming, crop variety); **farmland is preserved** (change in land use, acres converted for development, acres in Williamson Act, land and lease values), and **soil and water are conserved** (NRCS involvement, nitrate in surface water, basin groundwater changes). In addition to healthy natural resources, resiliency also includes **strong relationships among producers, consumers and communities** (direct sales, farmers' markets, farm-to-school programs). Finally, resiliency includes a **healthy fishing industry** (number of operations, wages, fish landings, polluted waterways).

It is becoming increasingly difficult for new farmers and ranchers to start their own farms in San Luis Obispo County. The number of new farmers in the county decreased between 1997 and 2007 (from about 200 to 130) while the average market value of land and buildings per acre increased from about \$2,000 per acre to \$4,500 per acre. The average age of farmers and ranchers in San Luis Obispo County continues to rise. As of 2007, the average age of farmers and ranchers in San Luis Obispo County was 59, which is higher than the average age of farmers and ranchers in the state (58 years). However, despite the aging agricultural population and the decreasing number of new farmers, the number of farms in the county continued to grow reaching 2,784 in 2007.

Farmland in San Luis Obispo County is changing. Most agricultural land in San Luis Obispo County is pasture land (68%). Between 1997-2007, the types of crops planted on cropland (22% of agricultural land) shifted, with strawberries and wine grapes increasing significantly and vegetable crops decreasing. Yet, for both wine grapes and row crops, the land and lease values per acre have steadily increased over the past nine years (nearly \$50,000 per acre for row crops in 2011).

Perhaps partly as a result of increasing land values, agriculture land in San Luis Obispo County is being converted to other uses. The most drastic of these conversions occurred between 2004 and 2006, when 15,000 acres of agriculture land was converted to rural low density development and government controlled land. During this same period, the total number of acres of San Luis Obispo County farmland enrolled in the Williamson act also decreased from 810,000 acres in 2004 to 795,000 acres in 2009, which is about 57% of total land zoned for agriculture in the County.

While San Luis Obispo County is making efforts to preserve its water and soil for future generations it still faces many hurdles in order to provide clean and plentiful water for future generations. Four out of

the seven San Luis Obispo County creeks and rivers measured by the Central Coast Ambient Monitoring Program have nitrate levels above the California drinking water standard of 10mg/L. Additionally, groundwater resources in North County are in danger of not being able to provide enough water for both residents and agriculture by 2025.

Despite increasing limitations to natural resources, local food production in San Luis Obispo County has fostered increased relationships between producers, consumers and the community. This movement has been primarily driven by direct sales with almost \$4.3 million in sales and more than 240 growers participating in 2007. Direct sales primarily happen at farmers' markets, where shoppers get a chance to meet and communicate with farmers. There are currently 21 farmers' markets in San Luis Obispo County. The estimated annual sales for 10 of these farmers' markets were almost \$4,500,000 in 2011. Relationships between community members and their food system are also fostered by farm-to-school programs and school gardens. Farm-to-school programs and school gardens are on the rise in San Luis Obispo County with almost all 80 schools serving some local food in school meals, many undoubtedly through the 62 salad bars.

San Luis Obispo County faces a difficult set of challenges in order to preserve the integrity of fishing grounds for future generations while maintaining access to local fishing enterprises. Over the past ten years, the number of finfishing establishments has decreased, with only six operating establishments in 2010. During this same period the average annual wage for fishermen also decreased to \$33,416 annually in 2010. Fisheries landings are a good measure of the economic performance of a specific fisheries sector. Between 2002 and 2007, overall landings at both the port of Morro Bay and the Port of San Luis have decreased drastically. This decline resulted in a decrease in the volume of sales. Starting in 2007, the fisheries industry appeared to be rebounding with an increase in landings in pounds and volume of sales.

#### **Recommendations:**

- Support diversity in crop production in the county, especially among new farmers, if it is economically viable.
- Support reduced use of agricultural chemicals over time. Be especially attentive to the use of fertilizer and the potential for runoff into surface waterways.
- Review animal agriculture systems and waste management, especially the potential for runoff into surface water.
- Encourage participation in Natural Resource Conservation Services programs and the Williamson Act in order to preserve healthy farmland for future generations.
- Explore opportunities for sourcing local fish in schools.
- Continue to encourage direct marketing opportunities, especially for new or beginning farmers.
- Consider programs to attract or assist beginning farmers and ranchers in San Luis Obispo county.
- Explore opportunities for marketing fish more locally in venues that pay higher prices per pound. Take advantage of the growing interest in direct sourcing in restaurants, institutions and some retail.

#### **Vision 4: Health Promoting**

A health promoting food system in San Luis Obispo County is described as a food system that—**promotes community health** (percent of population with diabetes, percent of youth in a health fitness zone), **serves fresh and local food in schools** (number of salad bars, number of school gardens) and **allows residents to make healthy food choices** (youth consuming two or more sugary drinks per day, teens who eat five or more servings of fruit and vegetables per day).

San Luis Obispo continues to outshine the rest of the state of California in relation to health indicators. As of 2009 only 5% of the population in San Luis Obispo County had ever been diagnosed with dia-

tes. In contrast, 8.5% of Californians have been diagnosed with diabetes. Additionally 83.6% of 5<sup>th</sup>, 7<sup>th</sup> and 9<sup>th</sup> graders in San Luis Obispo county were identified as in a “healthy fitness zone”, five percentage points higher than the rest of the state of California.

School-aged children have increased opportunities to eat more fruits and vegetables through growing farm-to-school programs, school gardens and salad bars in schools. Currently 75% of the County's public schools have salad bars at least monthly. School gardens also continue to be popular in San Luis Obispo County schools with 73% of schools having at least one garden. In some cases, vegetables grown in the garden are used in the salad bar.

Increasing fruit and vegetable consumption in schools through salad bars is important, but it is also critical that residents have the option to make healthy food choices wherever they are in the county. San Luis Obispo County is making strides at ensuring that residents make healthy food choices. In 2009 only 10.4% of San Luis Obispo County's youth drank two or more sugary drinks per day (down from almost 17% in 2007). However, during the same survey year the percentage of teens that ate five or more servings of fruit and vegetables per day dropped to 27% (down from almost 34% in 2007).

### **Recommendations:**

- Encourage physical activity (perhaps through school gardens, 4-H) in addition to healthful eating in school aged children.
- Take advantage of the growing interest in farm-to-school programs and school gardening. Begin building relationships between schools and farms. Suggest farm tour programs countywide.
- Encourage fruit and vegetable consumption through nutrition education and salad bars in all schools.

### **Overall**

San Luis Obispo County's food system offers engaged citizens and policy makers a unique blend of opportunities and challenges. To create a more profitable, equitable, resilient and health promoting food system, urban and rural residents will need to find ways to meet their goals simultaneously. The areas mentioned in several sections of this food system assessment suggest areas that may warrant further exploration including:

- Farm-to-school programs and other forms of regional marketing to institutions as well as direct marketing, especially for lower-income communities (include beginning farmers, nutrition education for children, feasibility studies for regional aggregation, processing and distribution and support for maintaining land in agriculture);
- Subsidies that support continued and expanding programs that create a safety net for San Luis Obispo's hungry population and programs to support its food system workers, especially those that create positive linkages with local agriculture;
- Programs and policies that can help growers and ranchers transition to a reduced use of agricultural chemicals that are currently contaminating surface water; and
- Consumer and policymaker education about regional agriculture and its value in supporting a vibrant regional food system (include agri-tourism, especially with San Luis Obispo's expanding wine growing and strawberry growing regions).

Food system coalitions and food policies that can provide ongoing education and attention to San Luis Obispo's food system priorities are one mechanism for moving forward. The goal is a sustainable, profitable, equitable, resilient and healthful food system for all.

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## **Appendices**

- A. Food Systems Industry Definitions**
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## Appendix A

### Food Systems Industry Definitions

#### Food Systems Industry Definitions From the United States Census Bureau

Category	Sub Category	NAICS Code <sup>1</sup>	NAICS Title	Definition
Distribution	Wholesalers	4248	Beer, Wine, and Distilled Alcoholic Merchant Wholesalers	Establishments primarily engaged in the merchant wholesale distribution of beer, ale, porter, and other fermented malt beverages; as well as wine, distilled alcoholic beverages, and/or neutral spirits and ethyl alcohol used in blended wines and distilled liquors.
	Wholesalers	4244	Grocery and Related Product Merchant Wholesalers	This Industry Group includes establishments classified in the following Industries: General Line Grocery Merchant Wholesalers; Packaged Frozen Food Merchant Wholesalers; Dairy Product (except Dried or Canned) Merchant Wholesalers; Poultry and Poultry Product Merchant Wholesalers; Confectionery Merchant Wholesalers; Fish and Seafood Merchant Wholesalers; Meat and Meat Product Merchant Wholesalers; Fresh Fruit and Vegetable Merchant Wholesalers; and Other Grocery and Related Products Merchant Wholesalers.
	Wholesalers	4245	Farm Product Raw Material Merchant Wholesalers	This group comprises establishments primarily engaged in the merchant wholesale distribution of agricultural products (except raw milk, live poultry, and fresh fruit and vegetables), such as grains, field beans, livestock, and other farm product raw materials (excluding seeds).
	Wholesalers	42443	Dairy Product Merchant Wholesalers	This industry comprises establishments primarily engaged in the merchant wholesaler distribution of dairy products (except dried or canned).
	Wholesalers	42444	Poultry and Poultry Product Merchant Wholesalers	This industry comprises establishments primarily engaged in the merchant wholesale distribution of poultry and/or poultry products (except canned and packaged frozen).
	Wholesalers	42448	Fresh Fruit and Vegetable Merchant Wholesalers	This industry comprises establishments primarily engaged in the merchant wholesale distribution of fresh fruits and vegetables.
	Wholesalers	42451	Grain and Field Bean Merchant Wholesalers	This industry comprises establishments primarily engaged in the merchant wholesale distribution of grains, such as corn, wheat, oats, barley, and unpolished rice; dry beans; and soybeans and other inedible beans. Included in this industry are establishments primarily engaged in operating country or terminal grain elevators primarily for the purpose of wholesaling.

## APPENDIX A

<b>Category</b>	<b>Sub Category</b>	<b>NAICS Code<sup>1</sup></b>	<b>NAICS Title</b>	<b>Definition</b>
Processing	Food	311	Animal Food Manufacturing	This industry comprises establishments primarily engaged in manufacturing food and feed for animals from ingredients, such as grains, oilseed mill products, and meat products.
	Food	3116	Animal Slaughtering and Processing	This industry comprises establishments primarily engaged in one or more of the following: (1) slaughtering animals; (2) preparing processed meats and meat byproducts; and (3) rendering and/or refining animal fat, bones, and meat scraps. This industry includes establishments primarily engaged in assembly cutting and packing of meats (i.e., boxed meats) from purchased carcasses.
	Food	3118	Bakeries and Tortilla Manufacturing	This Industry Group includes establishments classified in the following NAICS Industries: Bread and Bakery Product Manufacturing; Cookie, Cracker, and Pasta Manufacturing; and, Tortilla Manufacturing.
	Food	311	Food Manufacturing	Industries in the Food Manufacturing subsector transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food products. The food products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers, but establishments primarily engaged in retailing bakery and candy products made on the premises not for immediate consumption are included.
	Food	3115	Dairy Manufacturing	This industry group comprises establishments that manufacture dairy products from raw milk, processed milk, and dairy substitutes.
	Food	3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	This industry group includes (1) establishments that freeze food and (2) those that use preservation processes, such as pickling, canning, and dehydrating. Both types begin their production process with inputs of vegetable or animal origin.
	Food	3119	Other Food Manufacturing	This industry group comprises establishments primarily engaged in manufacturing food (except animal food; grain and oilseed milling; sugar and confectionery products; preserved fruit, vegetable, and specialty foods; dairy products; meat products; seafood products; and bakeries and tortillas). The industry group includes industries with different productive processes, such as snack food manufacturing; coffee and tea manufacturing; concentrate, syrup, condiment, and spice manufacturing; and, in general, an entire range of other miscellaneous food product manufacturing.
	Food	3133	Sugar and Confectionery Product Manufacturing	This industry group comprises (1) establishments that process agricultural inputs, such as sugarcane, beet, and cacao, to give rise to a new product (sugar or chocolate), and (2) those that begin with sugar and chocolate and process these further.
	Beverage	312	Beverage and Tobacco Product Manufacturing	Industries in the Beverage and Tobacco Product Manufacturing subsector manufacture beverages and tobacco products. The industry group, Beverage Manufacturing, includes three types of establishments: (1) those that manufacture nonalcoholic beverages; (2) those that manufacture alcoholic beverages through the fermentation process; and (3) those that produce distilled alcoholic beverages. Ice manufacturing, while not a beverage, is included with nonalcoholic beverage manufacturing because it uses the same production process as water purification.

<b>Category</b>	<b>Sub Category</b>	<b>NAICS Code<sup>1</sup></b>	<b>NAICS Title</b>	<b>Definition</b>
Production	Crops, Livestock and Fishing	11	Agriculture, Forestry, Fishing and Hunting	<p>The Agriculture, Forestry, Fishing and Hunting sector comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats. The establishments in this sector are often described as farms, ranches, dairies, greenhouses, nurseries, orchards, or hatcheries. A farm may consist of a single tract of land or a number of separate tracts which may be held under different tenures. For example, one tract may be owned by the farm operator and another rented. It may be operated by the operator alone or with the assistance of members of the household or hired employees, or it may be operated by a partnership, corporation, or other type of organization. When a landowner has one or more tenants, renters, crop-pers, or managers, the land operated by each is considered a farm. The sector distinguishes two basic activities: agricultural production and agricultural support activities. Agricultural production includes establishments performing the complete farm or ranch operation, such as farm owner-operators, tenant farm operators, and sharecroppers. Agricultural support activities include establishments that perform one or more activities associated with farm operation, such as soil preparation, planting, harvesting, and management, on a contract or fee basis.</p> <p>Excluded from the Agriculture, Forestry, Hunting and Fishing sector are establishments primarily engaged in agricultural research and establishments primarily engaged in administering programs for regulating and conserving land, mineral, wildlife, and forest use. These establishments are classified in Industry 54171, Research and Development in the Physical, Engineering, and Life Sciences; and Industry 92412, Administration of Conservation Programs, respectively.</p>
Service	Restaurants	722	Food Services and Drinking Places	<p>Industries in the Food Services and Drinking Places subsector prepare meals, snacks, and beverages to customer order for immediate on-premises and off-premises consumption. There is a wide range of establishments in these industries. Some provide food and drink only; while others provide various combinations of seating space, waiter/waitress services and incidental amenities, such as limited entertainment. The industries in the subsector are grouped based on the type and level of services provided. The industry groups are full-service restaurants; limited-service eating places; special food services, such as food service contractors, caterers, and mobile food services; and drinking places. Food and beverage services at hotels and motels; amusement parks, theaters, casinos, country clubs, and similar recreational facilities; and civic and social organizations are included in this subsector only if these services are provided by a separate establishment primarily engaged in providing food and beverage services.</p>
	Stores	445	Food and Beverage Stores	<p>Industries in the Food and Beverage Stores subsector usually retail food and beverage merchandise from fixed point-of-sale locations. Establishments in this subsector have special equipment (e.g., freezers, refrigerated display cases, refrigerators) for displaying food and beverage goods. They have staff trained in the processing of food products to guarantee the proper storage and sanitary conditions required by regulatory authority.</p>

## Appendix B

### **San Luis Obispo County Food System: Breakdown of Goals, Desired and Final Indicators**

Vision	Desired Indicator	Status	Final Indicator
<b>Vision 1: Profitability</b>			
Goal 1.1 The food production and distribution sector in San Luis Obispo County is profitable.			
	Number of producers by size and gross sales	Data Available as Requested	Number of producers by size and gross sales
	Percent of all farm sales by farm size	Data Available as Requested	Percent of all farm sales by farm size
	Top ten agricultural products by gross sales in SLO County	Data Available as Requested	The top three agricultural products by gross sales in San Luis Obispo County
Goal 1.2 San Luis Obispo County increased markets for local food producers (farmers, ranchers and fishermen)			
	Volume in dollars of direct sales, and non-direct sales in SLO County	Data Available as Requested	Volume in dollars of direct sales, and non-direct sales in San Luis Obispo County
	Number of producers with direct sales in SLO County	Data Available as Requested	Number of producers with direct sales in San Luis Obispo County
	Direct sales as a percent of total agriculture sales in SLO County	Data Available as Requested	Direct sales as a percent of total agriculture sales in San Luis Obispo County
	Number of farm to institution programs in SLO County	Data not available for institutions, used schools instead	Number of farm-to-school programs in San Luis Obispo County
Goal 1.3 The San Luis Obispo County food system improves infrastructure for local production and distribution			
	Number of farm product raw material wholesalers (packers, shippers)	Data Available as Requested	Number of farm product raw material wholesalers
	Number of local food processing facilities in SLO County	Data Available as Requested	Number of local food processing facilities in San Luis Obispo County
	Number of marine supplies vendors in SLO County	Data Not Available	Indicator Not Available
	Number of freight/trucking companies in SLO County	Data Not Available	Indicator Not Available
	Number of fuel suppliers in SLO County	Data Not Available Specifically for the Food System	Indicator Not Available
	Number of ice makers and distributors in SLO County	Data Not Available Specifically for the Food System	Indicator Not Available
	Number of research and development agencies in SLO County	Data Not Available	Indicator Not Available

Vision	Desired Indicator	Status	Final Indicator
<b>Vision 2: Equitability</b>			
Goal 2.1 All residents of San Luis Obispo County have access to healthy, fresh, local, and culturally appropriate food			
	Percent of residents who are food secure	Data Available as Requested	Percent of residents who are food secure
	Redemption rate of CALFresh in SLO County	Data Available as Requested	Redemption rate of CALfresh in San Luis Obispo County
	Redemption rate of WIC in SLO County	Data Available as Requested	Redemption rate of WIC in San Luis Obispo County
	Amount of produce distributed by foodbanks	Data Available as Requested	Amount of produce distributed by foodbanks
	N/A	Additional Indicator Added	Number of food insecure persons in San Luis Obispo County who have access to healthy food
	Number of farmers markets that accept EBT	Data Not Currently Available	Indicator Not Available
Goal 2.2 There are opportunities for new and existing local food producers to enter the local food system			
	Number of food system jobs as a percent of total jobs in SLO County (in each category)	Data Available as Requested	Number of food system jobs in San Luis Obispo County
	N/A	Additional Indicator Added	Number of food systems jobs as percent of total jobs in San Luis Obispo County
	Number of opportunities for new farmers/growers in SLO County over time	Indicator moved to resiliency section	
Goal 2.3: All workers in SLO County's local food system are fairly compensated			
	Food systems annual average wage by job category for SLO County	Data Available as Requested	Number of food system annual average wage by job category for San Luis Obispo County
	N/A	Additional Indicator Added	Food systems wage in San Luis Obispo County vs. Food systems wage in California
	Livable wage in SLO County overtime	Data Not available at the County level	Indicator Not Available

Vision	Desired Indicator	Status	Final Indicator
<b>Vision 3: Resiliency</b>			
Goal 3.1 San Luis Obispo County's food production supports the ability of the system to meet the needs of future generations			
	Amount of expenditures spent on fuels, fertilizers and pesticides in SLO County	Data Available as Requested	Amount of expenditures spent on fuels, fertilizers and pesticides in San Luis Obispo County
	Average age of farmers and ranchers in SLO County	Data Available as Requested	Average age of farmers and ranchers in San Luis Obispo County
	N/A	Additional Indicator Added	Number of opportunities for new farmers/growers in San Luis Obispo County
	Number of farms in SLO County	Data Available as Requested	Number of farms in San Luis Obispo County
	Farm size by acreage in SLO County	Data Available as Requested	Farm size by acreage in San Luis Obispo County
	Farm acres by crop variety in SLO County	Data Available as Requested	Farm acres by crop variety in San Luis Obispo County
Goal 3.2 San Luis Obispo County agricultural land is preserved			
	Number of acres of land in SLO county available for all agricultural production (food, meat, hay, greenhouse, etc.)	Data Available as Requested	Number of acres of land in San Luis Obispo county available for all agricultural production (food, meat, hay, greenhouse, etc.)
	Number of acres of farm and ranchland converted for development in SLO County	Data Available as Requested	Number of acres of farm and ranchland converted for development in San Luis Obispo County
	Number of acres enrolled in the Williamson Act	Data Available as Requested	Number of acres enrolled in the Williamson Act
	Real estate value of land zoned for agriculture in SLO County	Data Available as Requested	Real estate value of land zoned for agriculture in San Luis Obispo County
Goal 3.3 San Luis Obispo County's Soil and water are conserved and support eco-system health			
	Number of farmers and ranchers involved in soil conservation programs	Data Not Available- Proxy Data Used	Number of farmers and ranchers involved in NRCS conservation programs
	Average nitrate concentration in agriculture well water (or related indices of quality)	Data Not Available- Proxy Data Used	Measured nitrate concentration in surface water for agricultural areas in San Luis Obispo County
	Basin ground water levels in SLO over time	Data Available in Report Format	Basin Ground water levels in San Luis Obispo County over time

<b>Vision</b>	<b>Desired Indicator</b>	<b>Status</b>	<b>Final Indicator</b>
Goal 3.4 There are increased relationships between producers, consumers and the community			
	Number of farms with direct sales in SLO county	Data Available as Requested	Number of farms with direct sales in San Luis Obispo County
	Number of boats with direct sales in SLO County	Data Not Available	
	Farm direct sales as a percentage of total farm sales in SLO County	Data Available, but indicator removed from this section.	Indicator used in Goal 1.2
	Boat direct sales as a percentage of total boat sales in SLO county	Data Not Available	Indicator Not Available
	Number of Farmers Markets in SLO County (including value of sales, # attending)	Data Available for value of sales and number of markets	Number of farmers markets in San Luis Obispo County (including value of sales)
	Number of Farm to School programs in SLO county	Data Available as Requested	Number of farm to school programs in San Luis Obispo County
	Number of Schools in the County with "Agriculture in the Classroom"	Data Not Available over time	Indicator Not Available
Goal 3.5 The integrity of local fishing grounds are maintained while preserving access to local fishing enterprises			
	Number of fishing operations in SLO County	Data Available as Requested	Number of fishing operations in San Luis Obispo County
	Total wages for fisherfolk in SLO County over time	Data Available as Requested	Total wages for fisherfolk in San Luis Obispo County over time
	Volume of sales in dollars for fishing operation in SLO County	Data Available as Requested	Indicator used in conjunction with Indicator 3.5: San Luis Obispo County Commercial Ocean Fish Landing by Weight and Value
	Number of fishing operations using direct sales in SLO County	Data Not Available	Indicator Not Available
	SLO County commercial ocean fish landing by weight and value	Data Available as Requested	San Luis Obispo County Commercial ocean fish landing by weight and value
	Number of polluted waterways and relevant clean-up plans in SLO County (run off fertilizers and oxy deprivation)	Data Not Available- Proxy Used	Number of polluted waterways in San Luis Obispo County
	Acreage of fishing grounds per square mile in SLO County	Data Not Available	Indicator Not Available
	Fish Catch Per Unit Effort in SLO County	Data Not Available	Indicator Not Available

Vision	Desired Indicator	Status	Final Indicator
<b>Vision 4: Health Promoting</b>			
Goal 4.1 San Luis Obispo County's food system promotes community health			
	Percent of population diagnosed with Type II diabetes in SLO County	Data Available, however the data had a small sample size. So a proxy indicator was used	Percent of population diagnosed with diabetes in San Luis Obispo County
	Percent of 5th-9th graders not in healthy fitness zone or BMI	Data Available as Requested	Percent of 5th-9th graders not in a healthy fitness zone or BMI
	Percent of eligible population served by WIC	Data not available	Indicator Not Available
Goal 4.2 Schools in San Luis Obispo County serve more fresh, local food			
	Total dollars spent on local produce by schools in SLO County	Data not available	Indicator Not Available
	Number of salad bars in SLO County Schools	Data Available as Requested	Number of salad bars in San Luis Obispo County Schools
	Number of school gardens in SLO County	Data Available as Requested	Number of school gardens in San Luis Obispo County
Goal 4.3 SLO County residents make healthy food choices			
	Percent of youth consuming two or more sugary drinks within the past day	Data Available as Requested	Percent of youth that consume two or more sugary drinks within the past day
	Number of Teens in SLO county who eat five or more fruit and vegetables a day	Data Available as Requested	Number of teens in San Luis Obispo County who eat five or more fruit and vegetables a day
	Number of adults with diabetes in SLO County	Data Available as Requested	Included in Goal 4.1

## Appendix C

### Data Advisors

Name	Affiliation
Alan Forkey	National Resource Conservation Service
Amy Sinsheimer	PMC
Andrew Christie	Santa Lucia Chapter of the Sierra Club
Aubrey White	UC SAREP
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Jackie Crabb	San Luis Obispo County Farm Bureau
Jeff Legato	San Luis Obispo County Planning Department
Jenna Smith	Central Coast Grown
Jill Powers	San Luis Obispo County Social Services
Joel Diringer	Joel Diringer and Associates
Joyce Fields	San Luis Obispo County Social Services
Kari Graton	San Luis Obispo County Department of Public Works
Kathleen Karle	San Luis Obispo Healthy Agency
Leetisha Toomer-Jones	USDA NRCS
Linda McClure	WIC Program
Lorraine Clark	Agriculture Education Committee, San Luis Obispo County Farm Bureau
Lynn Langford Walton	
Maggie Young	California Women, Infants and Children's (WIC) Program
Martin Settevendemie	Department of Agriculture/Weights and Measures
Mary Hamilton	Central Coast Water Quality Control Board
Matthew Keiling	Central Coast Water Quality Control Board
Michael Clayton	Trade and Trust
Patrick Hennessy	California Department of Conservation
Peter Jankay	San Luis Obispo County Farmers' Market Association
Rick Algert	
Sandra Diamond	North County Farmers' Markets
Sonja Brodt	UC SAREP
Stephanie F. Teaford	STRIDE
Susan Ellsworth	Alameda County Conservation partnership
Susan Garcia	San Luis Obispo County Social Services
Sylas Cranor	San Luis Obispo County Department of Public Works
Teresa (Tree) Lee	CREEC
Todd Johnson	Bureau of Labor Statistics
Wayne Howard	Cal Poly

## Appendix D

### **Data Limitations**

The analysis contained in this report is based upon data gathered by federal and state entities and is highly regarded for its methodology and data quality. However, all methods have limitations, which are important to understand when interpreting data accurately. The following is a list of some major data sources utilized in this report and their methodological considerations.

**United States Department of Agriculture, NASS, Census of Agriculture:** The agricultural census is a survey undertaken every five years in order to generate a count of all farms, ranches and farmers. The survey is conducted by mail and online and as with the general census, responses are required by law. The 2012 census was still being conducted during the assessment process and therefore only 2007 data is used.

**California Health Interview Survey (CHIS), UCLA Center for Health Policy Research:** The California Health Interview Survey is the largest state survey in the nation, covering issues related to health and health behaviors. Interviewees are randomly selected and statistical adjustments are made to ensure that the survey reflects the California adult population. However, CHIS is a phone survey, which means that only individuals with phones are eligible for interviews and the accuracy of the survey depends on the precise and honest estimation or recollection of behaviors.

## Appendix E

Community Members and Members of the San Luis Obispo County Food System Coalition who identified the Visions, Goals, and Indicators for this study:

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Cal Poly State University

## Appendix F

### **Foodshed Assessment Resource List (By State, City, County)**

#### **National**

- Anderson, Molly, Proj. Manager. *Charting Growth: Sustainable Food Indicators*. Wallace Foundation. (2009)
  - » [www.wallacecenter.org/our-work/current-initiatives/sustainable-food-indicators](http://www.wallacecenter.org/our-work/current-initiatives/sustainable-food-indicators)

#### **California**

- Brady, Eileen, Proj. Manager. The New Mainstream: A Sustainable Food Agenda for California. The Vivid Picture Project, A Project of Eco-Trust
  - » Feenstra, Gail et al. *Proposed Indicators for Sustainable Food Systems* as part of the Vivid Picture Project (2005)
  - » [www.vividpicture.net/documents/l6\\_Proposed\\_Indicators.pdf](http://www.vividpicture.net/documents/l6_Proposed_Indicators.pdf)

#### **Alameda County**

- Cozad, Shauna, Gail Feenstra, Shawn King et al. *Alameda County Foodshed Report*. (2002). UC Sustainable Agriculture Research and Education Program.
  - » [www.sarep.ucdavis.edu/CDPP/Report/alamedareport.pdf](http://www.sarep.ucdavis.edu/CDPP/Report/alamedareport.pdf)

#### **Humboldt County**

- Stubblefield, Danielle, Sheila Lakshmi Steiniberg, Alexis Ollar, Amanda Ybarra and Connie Stewart. Humboldt County Community Food Assessment (2010). California Center for Rural Policy
  - » <http://www.humboldt.edu/ccrp/sites/ccrp/files/publications/Community%20Food%20Assessment.pdf>

#### **Lake Country**

- Saccato, Joann, David Goolsbee, Hileri Shand and Andrew Mcleod. *Lake County Community Food Assessment*. (2009).

#### **Los Angeles**

- Ashman, Linda, Jamie de la Vega, Marc Dohan et al. *Seeds of Change: Strategies for Food Security for the Inner City*. (1993)
  - » [www.foodsecurity.org/pub/Seeds\\_of\\_Change.pdf](http://www.foodsecurity.org/pub/Seeds_of_Change.pdf)

#### **Oakland**

- Unger, Serena, Heather Wooten. *A Food Systems Assessment for Oakland, CA: Toward a Sustainable Food Plan*. (2006)
  - » [http://oaklandfoodsystem.pbworks.com/f/Oakland%20FSA\\_6.13.pdf](http://oaklandfoodsystem.pbworks.com/f/Oakland%20FSA_6.13.pdf)

#### **Placer County**

- King, Shawn, Gail Feenstra. *Placer County Foodshed Report*. (2001). UC Sustainable Agriculture Research and Education Program.
  - » [www.sarep.ucdavis.edu/CDPP/Report/placerreport.pdf](http://www.sarep.ucdavis.edu/CDPP/Report/placerreport.pdf)

#### **San Diego County**

- Ellsworth, Susan, Gail Feenstra. *Assessing the San Diego County Foodsystem: Indicators for a More Food Secure Future*. (2010). UC Sustainable Agriculture Research and Education Program
  - » [http://dl.dropbox.com/u/16398832/SD\\_FoodshedReport\\_Final.pdf](http://dl.dropbox.com/u/16398832/SD_FoodshedReport_Final.pdf)

**San Francisco**

- Thompson, Edward Jr., Alethea Harper, Sibella Kraus. *Think Globally, Eat Locally: San Francisco Foodshed Assessment.* (2008)
  - » [www.farmland.org/programs/states/ca/Feature%20Stories/documents/ThinkGloballyEatLocally-FinalReport8-23-08.pdf](http://www.farmland.org/programs/states/ca/Feature%20Stories/documents/ThinkGloballyEatLocally-FinalReport8-23-08.pdf)
- Jones, Paula, Fernando Ona et al. *2005 San Francisco Collaborative Food System Assessment.* (2005)
  - » [www.sffoodsystems.org/pdf/FSA-online.pdf](http://www.sffoodsystems.org/pdf/FSA-online.pdf)

**Sonoma County**

- Sonoma County Food System Alliance. *Sonoma County: Community Food Assessment.* (2011).
  - » [http://aginnovations.org/images/uploads/SCFSA\\_Assessment\\_FINAL\\_72711.pdf](http://aginnovations.org/images/uploads/SCFSA_Assessment_FINAL_72711.pdf)

**Stanislaus County**

- Anderson, Jamie, Gail Feenstra, Shawn King. *Stanislaus County Food System Project.* (2002). UC Sustainable Agriculture Research and Education Program.

**Yolo and Solano Counties**

- Boule, Danielle, George Hubert, Anna Jensen, Alannah Kull, Julia Van Soelen Kim, Courtney Marshall, Kelsey Meagher and Thea Rittenhouse. *Context Matters: Visioning A Food Hub In Yolo and Solano Counties.* (2011).
  - » [http://asi.ucdavis.edu/resources/publications/ContextMatters\\_VisioningAFoodHubInYoloAndSolanoCounties\\_6-17-11\\_FINAL.pdf](http://asi.ucdavis.edu/resources/publications/ContextMatters_VisioningAFoodHubInYoloAndSolanoCounties_6-17-11_FINAL.pdf)

**Illinois**

- French, Kimberly and Jan Gardner (eds). *Feeding Ourselves: Strategies for a New Illinois Food System.* (2002). Red Tomato.

**Iowa**

- Tagtown, Angela, Susan Roberts. *Cultivating Resilience: A Food System Blueprint that Advances the Health of Iowans, Farms and Communities.* (2011).
  - » <http://www.iowafoodsystems.org/storage/Cultivating%20Resilience%20Food%20System%20Blueprint%20Feb%202011%20Low.pdf>

**Audubon County**

- Gradwell, Shelly, Matt Russell, Wendy VanDyke Evans. *Audubon County Food System Atlas.* (2002)
  - » [www.leopold.iastate.edu/pubs/other/files/AudubonCountyFoodSystemAtlas.pdf](http://www.leopold.iastate.edu/pubs/other/files/AudubonCountyFoodSystemAtlas.pdf)

**Johnson County**

- Gradwell, Shelly, Matt Russell, Wendy VanDyke Evans. *Johnson County Food Systems Atlas.* (2002)
  - » [www.leopold.iastate.edu/pubs/other/files/JohnsonCountyFoodSystemAtlas.pdf](http://www.leopold.iastate.edu/pubs/other/files/JohnsonCountyFoodSystemAtlas.pdf)

**Montana****Missoula**

- Hassanein, Neva, Maxine Jacobson. *Our Foodshed in Focus: Missoula County Food and Agriculture by the Numbers.* University of Montana, (2004)
  - » [www.umt.edu/cfa/indicator.htm](http://www.umt.edu/cfa/indicator.htm)

- Hassanein, Neva, Maxine Jacobson. *Food Matters: Missoula County Community Food Assessment*. University of Montana, (2004)
  - » <http://www.umt.edu/cfa/research.htm>

## Oregon

### Benton County

- Rosenberger, Nancy, Leslie Richards, Liv Nevin Gifford et al. *From Our Own Soil: A Community Food Assessment, Benton County, Oregon, and Its Foodshed*. (2006)
  - » [www.emoregon.org/pdfs/CorvallisFoodAssessmentReport-logo.pdf](http://www.emoregon.org/pdfs/CorvallisFoodAssessmentReport-logo.pdf)

### Lane County

- *Lane County Community Food Security Assessment*. Lane County Food Policy Council (2006)

## Oregon/Washington

- Martin, Sheila, Meg Merrick, Tia Henderson et al. *Planting Prosperity and Harvesting Health: Trade-offs and Sustainability in the Oregon-Washington Regional Food System*. Dillon, Tracy, ed. (2008)
  - » [www.pdx.edu/sites/www.pdx.edu.ims/files/media\\_assets/ims\\_foodsystemsfinalreport.pdf](http://www.pdx.edu/sites/www.pdx.edu.ims/files/media_assets/ims_foodsystemsfinalreport.pdf)

## Washington

- *Lane County Food System Atlas*. (2005). Small Farms Program, Washington State University. CSANR Technical Report 2005-10-31.

## Wisconsin

- Allan, Majid, Greg Baker, Terese Berceau et al. *Fertile Ground: Planning for the Madison/Dane County Food System*. (1997)

## **Foodshed Assessment Resources:**

- *Whole Measures for Community Food Systems: Values-Based Planning and Evaluation*. Community Food Security Coalition. (2009).
  - » <http://www.foodsecurity.org/pub/WholeMeasuresCFS-web.pdf>
- King County, WA Food Assessment Page: <http://king.wsu.edu/foodandfarms/KCFFICommunityAssessment.html>
- Community Food Security Coalition:
  - » [http://www.foodsecurity.org/cfa\\_survey.html](http://www.foodsecurity.org/cfa_survey.html)
- Pothukuchi, Kami, Hugh Joseph, Hannah Burton, Andy Fisher. *What's Cooking in Your Food System? A Guide to Community Food Assessment*. Kai Siedenburg, Kami Pothukuchi Ed. (2002)
  - » [http://www.foodsecurity.org/pub/whats\\_cooking.pdf](http://www.foodsecurity.org/pub/whats_cooking.pdf)
- Rimkus, Leah (ed). *The San Francisco Food Systems Guidebook* (2003).

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