STANISLAUS COUNTY FOOD SYSTEM PROJECT

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October 2002

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The Stanislaus County Food System Project offers an overview of the most significant trends in Stanislaus County's food system. To analyze this complex web of activity, this study discusses three broad sections of the food system—Agricultural Production, the Food Distribution Network, and Consumers and Food Access. Within each of these topics, we address three questions: 1) What are the trends?, 2) Why are these trends occurring?, and 3) Why are these trends important for the food system? Charts, maps, and a brief narrative describe how each trend impacts the local food system.

The Stanislaus County Food System Project is intended to give readers a working knowledge of the county's food system. We hope that its readers—county residents and consumers, farmers, agricultural business owners, extension agents, policymakers, researchers, and community organizers—use this data and information to advance their role in working toward a healthy food system.

The Stanislaus County Food System Project is one of three county-wide food system assessments in California. A similar project, *The Placer County Foodshed Report*, was completed in 2001 and another study is underway in Alameda County. Our research at the Sustainable Agriculture Research and Education Program at the University of California is part of a collaboration of 18 land-grant universities around the country. This national study, titled "Consumers, Commodities, and Communities: Local Food Systems in a Globalizing Environment," examines local food production, distribution, and consumption in a globalizing economy. Participating institutions studied the food system of three counties in their state (one urban, one rural, and one urbanizing) and compared results.

We would like to thank the many farmers, business leaders, educators, community activists, government employees, and residents of Stanislaus County who so generously contributed their time and expertise to this study. We hope that our work will contribute to their success and the increasing vitality of the food system throughout Stanislaus County.

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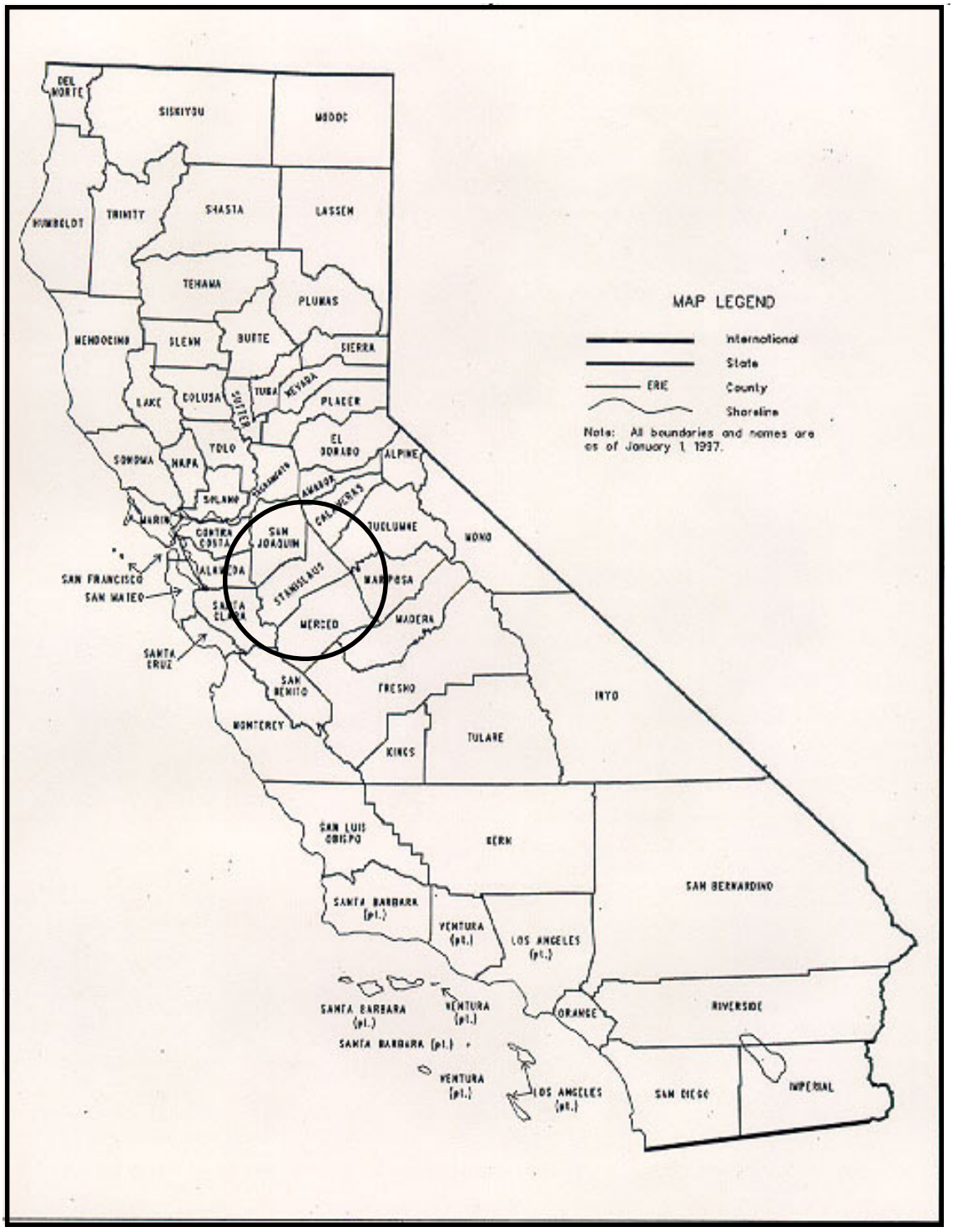
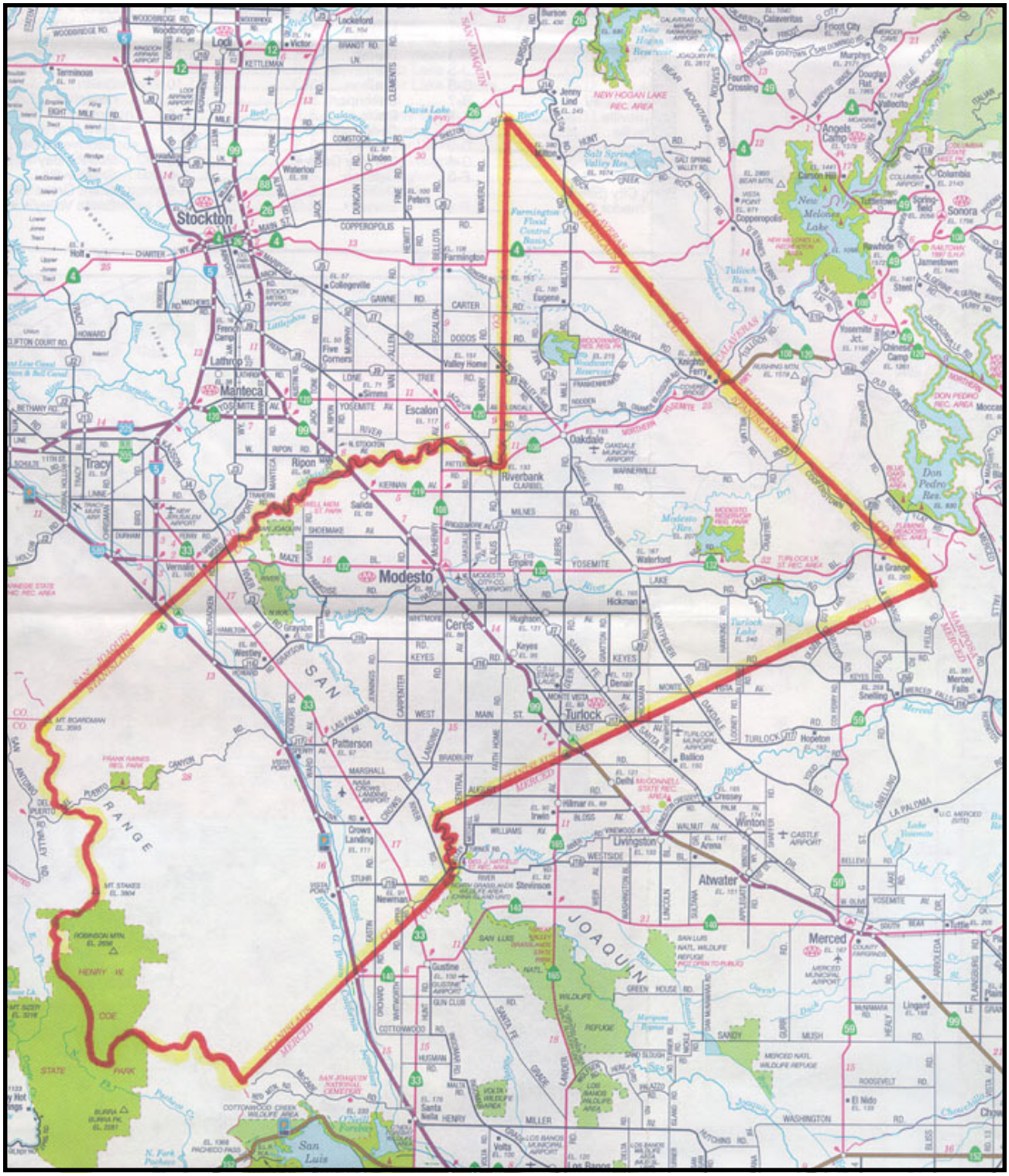
MAP ONE: CALIFORNIA



From the 1997 Census of Agriculture



From the AAA "Central California" Map

Stanislaus County is found in the heart of California's Central Valley, one of the nation's most fertile agricultural regions. Bordered by mountains—the Sierra Nevada to the east and the coastal range to the west—its rich soils, mild climate, and skilled farmers produce an abundance of agricultural products. Stanislaus County is a leading producer of almonds, apricots, boysenberries, chickens, peaches, dry beans, grapes, and nursery products. As one of the top ten agricultural counties in the U.S., Stanislaus County annually produces more than $1 billion of gross farm income. Its location also offers proximity to major ports, highways, railways, and urban areas such as San Francisco and Sacramento, the state capitol.[1]

There were over 4,000 farms in Stanislaus County in 1997.

Farming and food processing are central to the county's economy. There are more than 4,000 farms and ranches in Stanislaus County. For every dollar of agricultural production from these farms, approximately $3.50 of economic activity is generated through food processing, packaging, marketing, and retailing.[2] Food manufacturers—including major companies like E&J Gallo Winery, Signature Foods, and ConAgra Grocery Products—employed 6% of Stanislaus County's workforce in 1997. Almost one-third of the county's workers—36,000 people—are employed in agriculture's core supplier and producer businesses.

Though farms of all sizes are struggling to stay afloat in the global economy, small farms have been hit the hardest. Between 1945 and 1997 in Stanislaus County, the number of farms under 50 acres fell 45% while the number of farms over 100 acres remained relatively constant. Despite this dramatic loss, in 1997 over 65% of the county's farms were less than 50 acres. Though these smaller farms seldom have the capacity or scale to compete in global markets, they typically offer a diverse array of fresh and value-added products and sell directly to customers through roadside stands and farmers markets.

The county's population increased 116% between 1970 and 1997.

Stanislaus County is noted for its increasing population and demographic diversity. In 2000, approximately 450,000 people lived in the county; 70% were white, 22% were Hispanic, and 5% were Asian.[3] In addition to its growing diversity, Stanislaus County's population increased over 116% between 1970 and 1997.

Population growth and development threaten to convert an alarming amount of farmland in Stanislaus County to urban uses such as housing and infrastructure. An average of 600 acres of county farmland was

QUICK FACTS
ABOUT STANISLAUS COUNTY'S FOOD SYSTEM

- The total amount of farmland declined 19% and the total number of farms and ranches fell 40% between 1945 and 1997 in Stanislaus County.
- In 1997 there were over 4,000 farms in Stanislaus County. Over 65% of these farms were less than 50 acres.
- Milk, chicken, chicken eggs, and cattle and calves have been among the top five agricultural products in Stanislaus County since the 1970's.
- Per capita earnings across the food distribution sector declined 22% between 1977 and 1997.
- Consumers in Stanislaus County spend over twice as much on food to be cooked and eaten at home than they spend on food eaten in restaurants.
- In Stanislaus County, 18% of individuals and 27% of children live below the poverty line. Approximately 9% of county residents receive welfare benefits and 40% of students eat free or reduced-price meals at school.
- There are many opportunities for agricultural education via elementary schools, high schools, universities, special events like "Agriculture in the Classroom," and clubs like 4-H in the county.

converted to development *every year* between 1984 and 1998. Strategies to preserve farmland are critical to the county's rural communities and economy, but to be effective they must also enable farms to be viable, profitable businesses.

As the county's demographics changed, its consumer patterns shifted too. Between 1972 and 1997, per capita spending on food declined 20% in Stanislaus County. By 1997, the county's average consumer spent 11% of their annual income—less than $2,200—on food. This decline in per capita spending on food was offset by the skyrocketing population. Total consumer expenditures on food in Stanislaus County climbed to approximately $914 million in 1997. (All figures adjusted for inflation.)

The average consumer in Stanislaus County spent $2,200 on food in 1997.

Poverty has a significant presence in the county. Approximately 18% of individuals and 27% of children in Stanislaus County live below the

poverty line. In 1997, 12% of county residents received Food Stamps and, in 2000, 40% of all Stanislaus County students between the ages of five and 19 ate free and reduced-price meals at school. The county's unemployment rate fluctuated between 12% and 15% between 1970 and 1998, consistently about 7% higher than the rate in California.

New generations of growers and consumers are exploring food and farming through the Stanislaus County's community gardens, consumer advocacy groups, extensive agricultural education programs, and opportunities for agricultural tourism. People who learn about agriculture better understand its significance in the area's economy and history and may more actively participate in their local food system. There are many positive individuals, organizations, and institutions that are creating healthy changes in and celebrating the history of Stanislaus County's food system.

Many positive individuals, organizations, and institutions are creating healthy changes in and celebrating the history of the county's food system.

[1] Stanislaus County Economic Development Corporation website. Accessed at *http://www.scedco.org/2scedco.htm* on October 18, 2002.
[2] Ibid.
[3] Ibid.

Summary

Farming and food processing are central to the economy in Stanislaus County. There are currently over 4,000 farms and ranches in the county, each with its own network of suppliers, food processors, distributors, and customers. The agricultural sector is a significant employer. Almost one-third of the county's total workforce—approximately 36,000 workers—is employed in agriculture's core supplier and producer businesses.

Farming and food processing are central to the economy in Stanislaus County.

Farms of all sizes are struggling to stay afloat in the global economy, but small farms have been hit the hardest. Between 1945 and 1997, the total number of farms in Stanislaus County under 50 acres fell 45% while the number over 100 acres remained relatively constant. Despite this dramatic loss, in 1997 over 65% of all farms in the county were less than 50 acres. Though these smaller farms often lack the capacity or scale to compete in the global marketplace, they could develop a successful niche in local and regional markets. They typically offer a more diverse, unique array of fresh and value-added products and sell directly to customers through farmers markets and the county's numerous roadside stands.

The profitability of agriculture in Stanislaus County, and therefore its continued viability, rests on the availability of farmland. An average of 600 acres of county farmland was converted to development *every year* between 1984 and 1998. As development blazes across Stanislaus County, farmland preservation strategies such as the Williamson Act are critical to promote the success of farm businesses, protect agricultural land, and sustain rural communities.

QUICK FACTS

- The total amount of farmland declined 19% and the total number of farms and ranches fell 40% between 1945 and 1997 in Stanislaus County.
- Over 65% of farms in the county were less than 50 acres in 1997.
- Milk, chicken, chicken eggs, and cattle and calves have been among the top five agricultural products in Stanislaus County since the 1970's.
- One-third of the county's workforce was employed in agriculture's core producer and supplier industries in 1997.

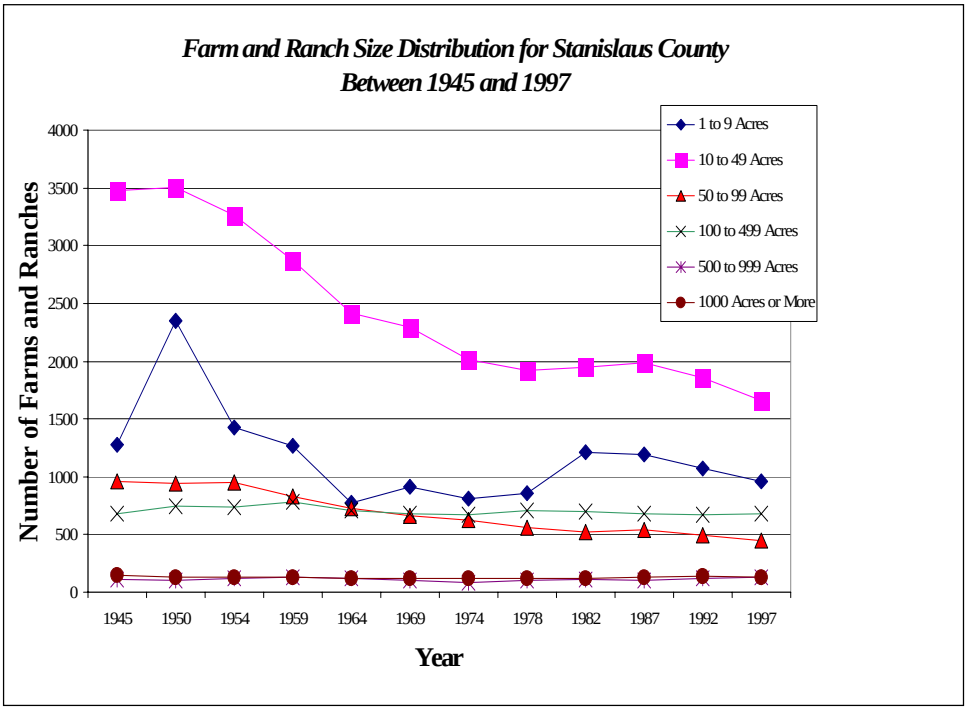
What are the trends?

The number of farms and ranches in Stanislaus County has fallen by 40% since 1945.

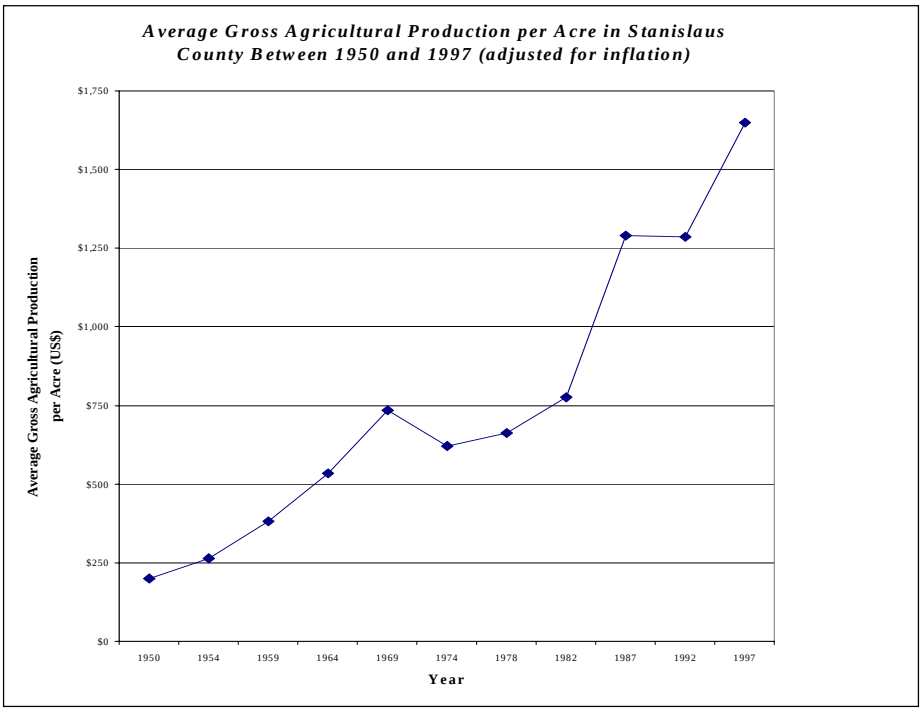
Since 1945, the number of farms and ranches has fallen by 40% and the total acreage devoted to agriculture has decreased 19% in Stanislaus County. In comparison, the total number of agricultural acres in California has dropped 21%. Despite the overall decline, Stanislaus County has consistently been home to about 6% of California's farms and 2% of the state's total agricultural acreage. In 1997 there were over 4,000 farms in the county.

The loss of small and medium-sized farms has driven the decline in the total number of farms in Stanislaus County. Since 1945, the number of farms under nine acres dropped 25%, farms from ten to 49 acres dropped 52%, and farms from 50 to 99 acres dropped 53%. In contrast, the number of farms of 100 to 1,000 acres remained relatively steady. Despite the significant decline in the number of small farms, over 65% of farms in Stanislaus County were less than 50 acres in 1997. Typically these small operations were farmed only part-time and grew higher value crops like almonds, walnuts, or grapes.

Over 65% of farms in Stanislaus County were less than 50 acres in 1997.



Between 1950 and 1997, gross agricultural production in Stanislaus County rose almost 620% and consistently represented about 5% of total agricultural production in California. Average gross agricultural production per acre of farmland jumped from approximately $200 to $1,600 per acre, an increase of 725%. (All figures have been adjusted for inflation.)



Between 1960 and 2000, the top ten agricultural products in Stanislaus County have included milk, cattle and calves, chicken and chicken eggs, peaches, tomatoes, almonds, walnuts, and grapes. Milk has been in the number one spot since 1970, while chicken, chicken eggs, and cattle and calves have consistently appeared in the top five. As peaches moved down the list of top crops, almonds moved up; in 2000, almond production ranked second and peach production stood at ninth. In 1990 and 2000, tomatoes ranked sixth while grapes fell from tenth to eighth on the list.

The top five agricultural crops in Stanislaus County were milk, almonds, chickens, cattle and calves, and fruit and nut nurseries in 2000.

Why are these trends occurring?

After World War II, new technology—including hybrid seeds, genetically-improved livestock breeds, and internal combustion engines and electrical machinery like tractors—was widely adopted in fields and packing houses across the state. As a result, yields and labor productivity improved dramatically, which allowed farmers to specialize in one crop on a much larger scale or to diversify their

output. Agriculture in California was revolutionized and has been a major industry in the state ever since. [4]

In Stanislaus County, the influence of technology made once-marginal ground productive. Back hoes, tractors, and deep rippers were used to modify soil structure and break up hard pan. The back hoe could dig down at each tree site to break up the soil; as a result, dry-land pastures were converted to more profitable fruit and nut orchards . Mechanical harvesters led to greater production of melons and tomatoes. New irrigation methods such as drip tape, sprinklers, and micro-sprinklers allowed growers to farm uneven ground.[5]

The number of farms has declined more sharply than the amount of agricultural acreage in Stanislaus County.

The agricultural sector has also been consolidating since World War II. In Stanislaus County, the number of farms has declined more sharply than the amount of agricultural acreage has fallen, indicating that many farms were purchased by and integrated into other farms. As a result, fewer growers and ranchers managed larger and larger operations. They hoped to increase their profit margin by expanding production and develop an advantage in the market based on economies of scale.

Why is this important for the local food system?

Large-scale, highly efficient, mechanized agriculture generates enormous amounts of food. Though some of Stanislaus County's agricultural production is consumed locally—particularly dairy products and fresh fruits and vegetables—much more is produced than could possibly be absorbed by local demand. Larger growers sell in national and international markets and ship a great deal of their production out of the area, exporting raw goods in exchange for dollars. These larger operations have earned the greatest economic benefit from the dramatic increases in agricultural productivity in the last 50 years, thanks to their ability to operate in the global food market.

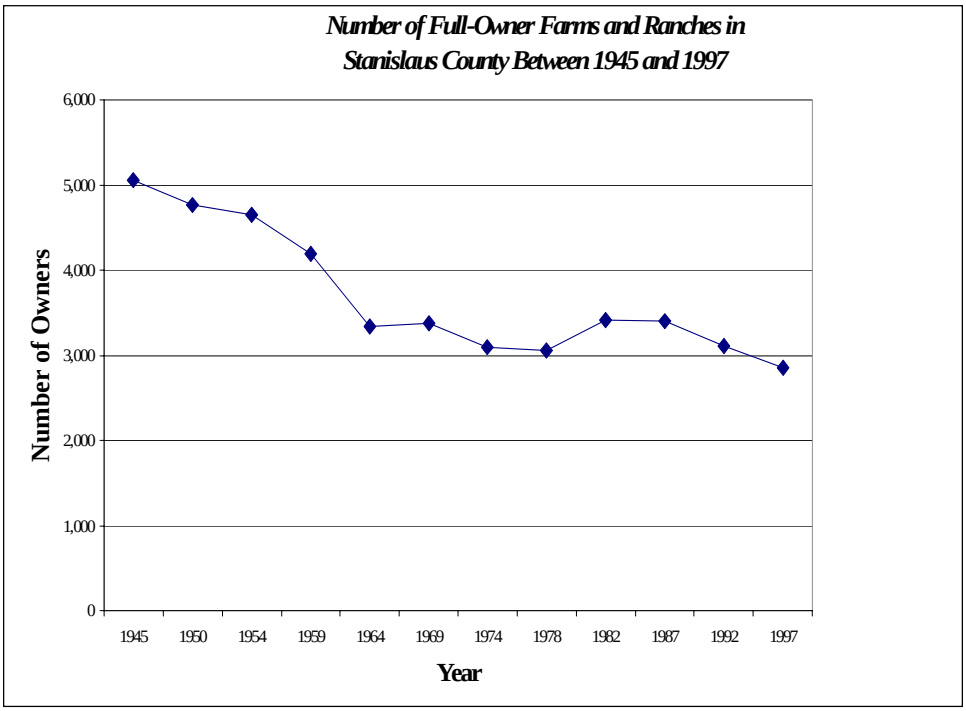
Though smaller farms have had a much harder time than larger farms surviving in the global food system, they could be better positioned in local and regional markets. Their diversity, smaller scale, and regional connections make them more flexible and responsive to consumer demand than the larger operations that invest heavily in relatively few commodities. Smaller farms with strong sales connections in their local food system often offer an array of unique products directly to customers through roadside stands, websites, farmer's markets, and local restaurants. [See more about direct marketing in Section Two on page 40.] These kinds of opportunities could exist for more of the hundreds of small-scale farmers in Stanislaus County.

[4] Morton Rothstein, "Chapter Two: California Agriculture Over Time," *California Farmland and Urban Pressures*, pgs. 41-43.
[5] Ed Perry, UC Cooperative Extension, March 27, 2002.

What are the trends?

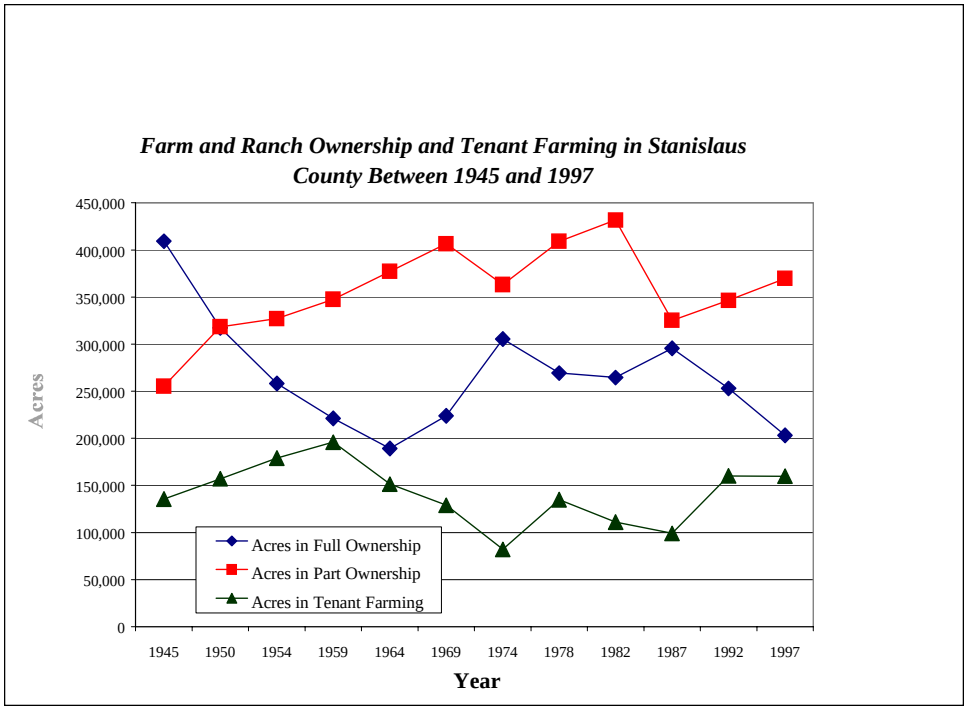
Between 1950 and 1997, the number of farm and ranch owners declined 40% in Stanislaus County (to 2,850 owners) and 46% in California. Between 1974 and 1997 the average age of farmers in the county rose from 51 to 56 years old. The average age of farmers in the US has also been increasing and currently stands at 54 years old. The number of minorities who manage farms in Stanislaus County increased over 20% to 192 operators (or almost 7% of all county farm operators) in 1997.

The average age of farmers in the county was 56 in 1997.



The number of farm and ranch owners declined 40% in Stanislaus County between 1950 and 1997.

Trends in farm ownership in Stanislaus County between 1945 and 1997 show a shift away from full ownership to part ownership of land. Farmers that are "full owners" own all the land that they farm. "Part owners" own land and rent land from someone else, while "tenant farmers" own no land and rent all the land that they farm. By 1997, agricultural acreage under full ownership had dropped 50% to 200,000 acres (or 28% of county farmland) while acreage in part ownership had increased 45% to 370,000 acres (or 50% of county farmland). Acreage in tenant farming had increased 18% to 160,000 acres (or 22% of farmland).



Agricultural acreage under full ownership dropped 50% between 1945 and 1997 in Stanislaus County.

Over 36,000 workers—almost one-third of the county's total workforce—were employed in agriculture's core producer and supplier industries in 1997. The number of people working on farms more than 150 days per year increased 57% in Stanislaus County between 1969 and 1997, though these workers represented only about 4% of the total workforce. The annual rate of turnover among farm workers is approximately 20%.[6]

One-third of the workforce in Stanislaus County was employed in agriculture's core producer and supplier industries in 1997.

Across the agricultural sector, per capita annual earnings were $22,449 but varied considerably among sub-sectors. Per capita earnings were over $30,000 for workers in manufacturing or industrial jobs related to food production or processing, but farm workers earned much less money and had no health benefits. Per capita earnings for farm workers hired on-farm were $16,000 and per capita earnings for farm workers hired through contractors were only $6,100.[7]

Why are these trends occurring?

In both Stanislaus County and the US, the proportion of farms that are full-owner operations has been steadily falling. Across the country, medium-sized farms that are expanding into large-sized farms make this transition not by buying land (since they cannot afford it) but by renting it. When this occurs, a full-owner, medium-scale farm converts to a part-owner, large-scale farm. Due to this trend, the proportion of large farms that are full-owner operations has declined.[8]

In Stanislaus County, the increase in tenant farming is linked to the zoning requirement that land parcels cannot be less than 40 acres in areas zoned for agriculture. Landowners, including the older children of families who used to farm, may live off the land in cities or outside the county and are often not interested in farming. Since they want to keep the land in their family, they will lease a portion of their land to other growers.[9] Another critical issue in farm ownership is the inheritance tax. Families may be forced to sell part of the farm in order to pay the tax after the owner dies.

In regard to farm labor, the incentive to mechanize agriculture, despite advances both generally and for certain field crops like tomatoes, has been constrained in California due to the relatively high number of available workers from Mexico. In addition, the higher-value specialty crops typical of California—fruits, vegetables, and horticultural or nursery products—tend to be more labor intensive. While agriculture in California did make a radical shift toward mechanization after World War II, some think this transition would have been even more remarkable without the ready pool of labor south of the U.S. border.[10]

In Stanislaus County, production of almonds, peaches, apricots, and horticultural products has been increasing since the 1990's, though the county has been a leading producer of nuts and fruits for the last 25 years. This trend toward more labor-intensive crops, combined with other possible factors such as new varieties or cropping patterns that extend the growing season, may explain the increase in the number of workers employed on farms.

Why are these trends important for the local food system?

Agriculture is a major component of the economy in Stanislaus County. The agricultural sector provides a significant amount of employment from production to processing to distribution, though per capita wages vary considerably. In addition, farming is an increasingly expensive, risky venture that is hard to sustain and keep in the family. Fewer and fewer farmers are able to own all their land. Stanislaus County has the resources, land, and labor to continue to make agriculture a major sector of its economy, but the difficulties of the global marketplace threaten to make the area's historical strength increasingly vulnerable.

[6] David Lighthall, California Institute for Rural Studies, interview with author, May 23, 2002.
[7] Jim King, Applied Development Economics, Cluster Analysis Study for the Stanislaus County Economic Development Corporation, pages 7-8. Accessed at *http://www.scedco.org/scedco.htm* on January 18, 2002. Annual per capita wages for farmworkers hired through contractors seems quite low, in addition to the low hourly wage, because these workers often work less than one year.
[8] *Family Farming*, Marty Strange, 1988, Institute for Food and Development Policy, pps. 49-50.
[9] Phil Osterli, interview with author, April 2, 2002.
[10] David Lighthall

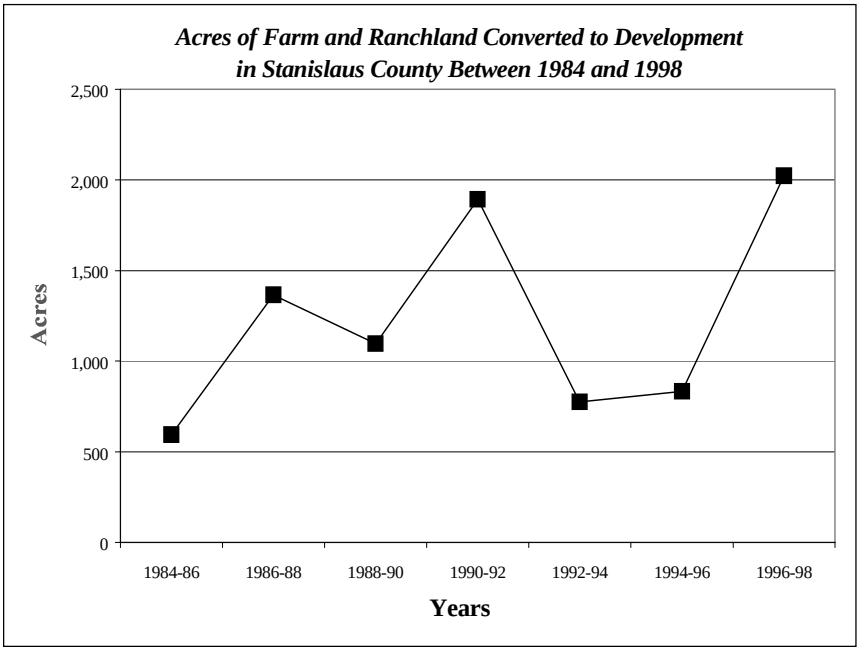
What are the trends?

The growth of urban and suburban areas in Stanislaus County began to accelerate in the 1980's and continues at all margins of the county. Turn to the maps of Stanislaus County's farmland on pages 20 and 21 to see the county's distribution of agricultural and urban areas and its changing land use patterns.

Prime farmland north of Modesto that had grown peaches, grapes, and almonds has been developed into new homes. Even the population in smaller towns like Patterson and Newman is exploding. Many newcomers to the county commute to the Bay Area for work, both in the corporate world and the service sector. Wages in the Bay Area are significantly higher and go farther in Stanislaus County's economy, although the one-way commute can be up to three hours long.

As the population has grown in Stanislaus County, the amount of farmland converted to development has also increased. Between 1996 and 1998, over 2,000 acres of farmland in the county were converted to development. One projection of growth patterns in the Central Valley warns that at the current rate of growth and development, the area will have lost so much farmland that it will no longer be able to feed itself by 2080.[11]

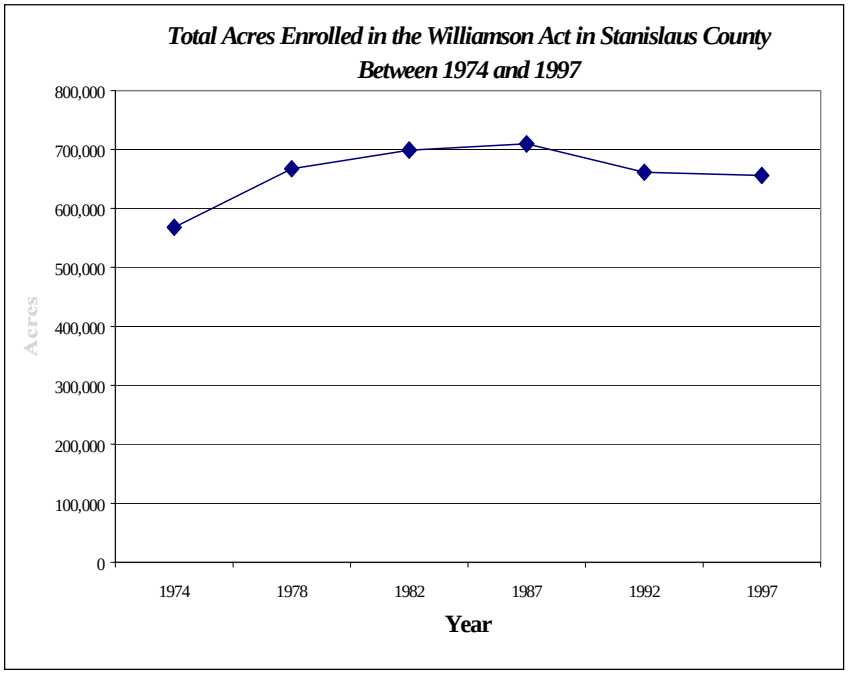
Over 2,000 acres of farmland were converted to development in Stanislaus County between 1996 and 1998.



Since 1978, about 650,000 acres of farmland in Stanislaus County (80-88% of total county farmland) have consistently been protected under the Williamson Act. [12] This state program preserves agricultural land and open spaces in California through land-use agreements between local governments and landowners. When landowners agree to preserve their private land through the Williamson Act, their property tax assessments are substantially reduced.

Another incentive to keep land in agriculture for longer periods of time is the Super Williamson Act. This policy is similar to the Williamson Act but goes a step further. It even prevents schools from exercising eminent domain and taking farmland for development purposes. Stanislaus County has not yet adopted this additional measure of farmland protection.

About 650,000 acres of farmland in Stanislaus County are currently protected under the Williamson Act.



MAP THREE: STANISLAUS COUNTY FARMLAND, 1984

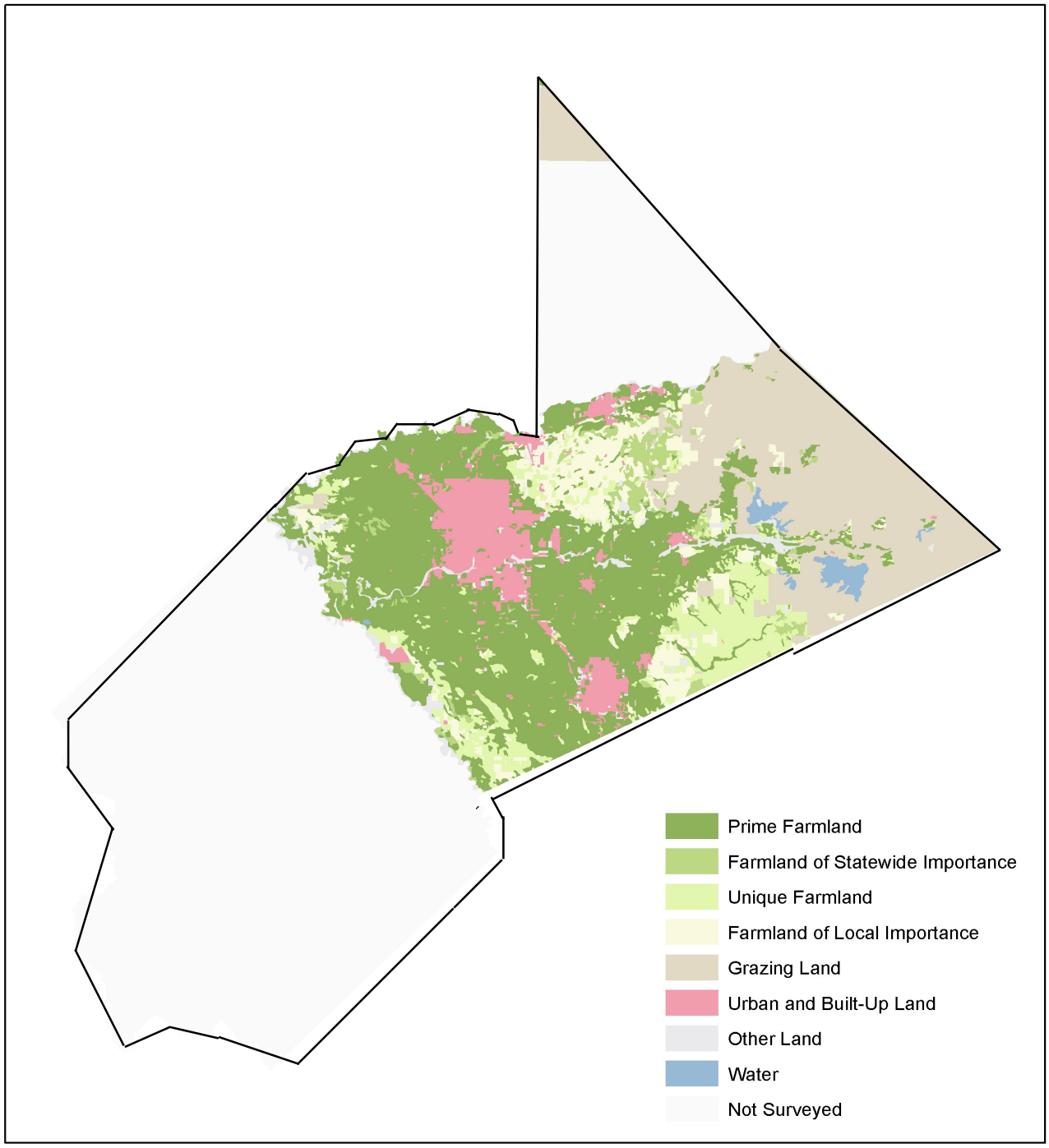
STATE OF CALIFORNIA
Gray Davis, Governor

THE RESOURCES AGENCY
Mary D. Nichols, Secretary for Resources

DEPARTMENT OF CONSERVATION
Darryl Young, Director

Stanislaus County Important Farmland 1984

DEPARTMENT OF CONSERVATION
DIVISION OF LAND RESOURCE PROTECTION
FARMLAND MAPPING AND MONITORING PROGRAM



Map data, categories and statistics are available on the World Wide Web at: www.consrv.ca.gov/dlrp/fmmp
or contact the Farmland Mapping and Monitoring Program, 801 K Street, MS 13-71,
Sacramento, CA 95814. Phone (916) 324-0859; e-mail: fmmp@consrv.ca.gov

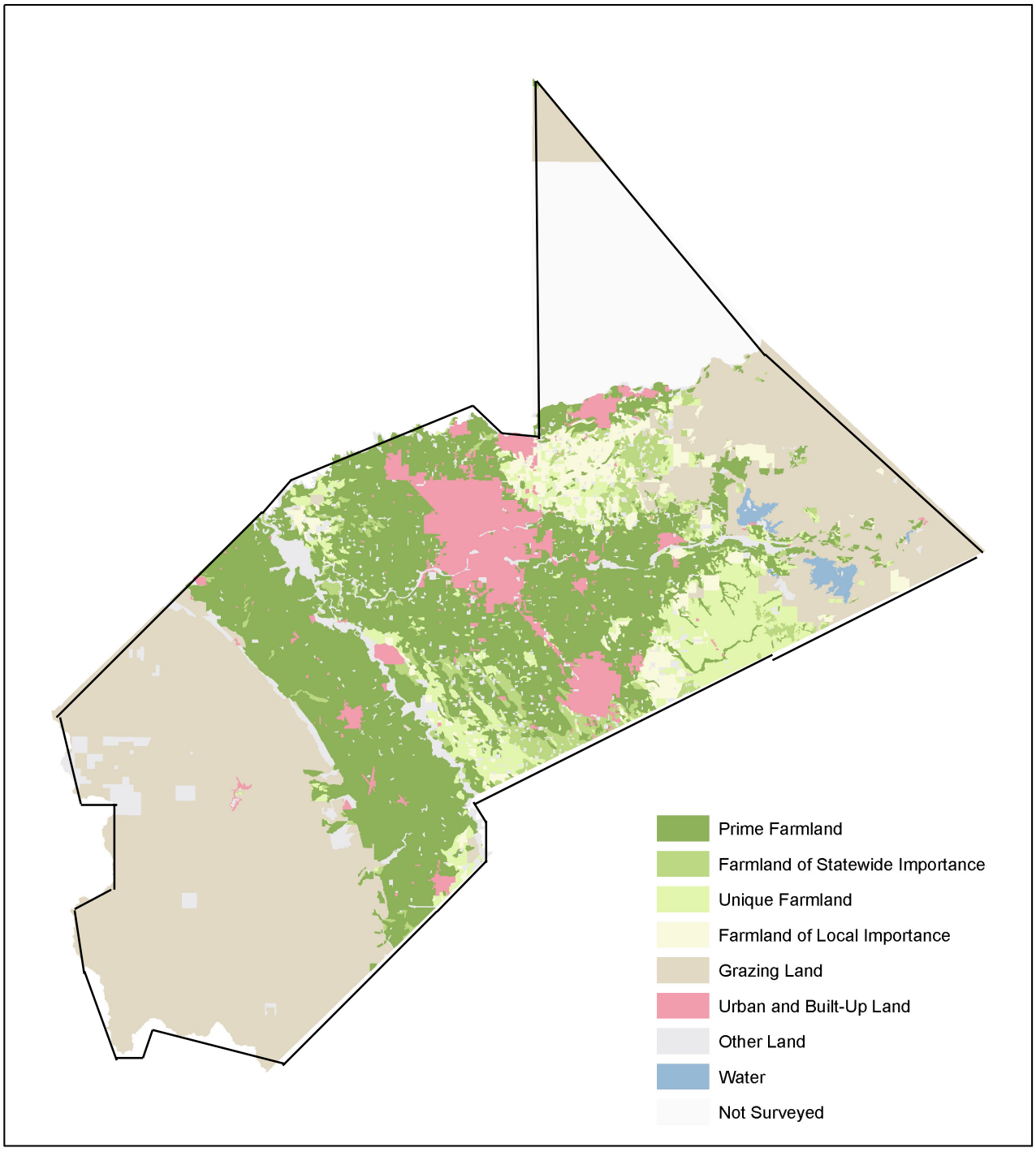
STATE OF CALIFORNIA
Gray Davis, Governor

THE RESOURCES AGENCY
Mary D. Nichols, Secretary for Resources

DEPARTMENT OF CONSERVATION
Darryl Young, Director

Stanislaus County Important Farmland 2000

DEPARTMENT OF CONSERVATION
DIVISION OF LAND RESOURCE PROTECTION
FARMLAND MAPPING AND MONITORING PROGRAM



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Strawberry fields border a new housing development along Monte Vista Avenue in Turlock.

Why are these trends occurring?

The demographic trends in Stanislaus County—rapid population growth, increasing population density, and changing ethnic composition—are occurring throughout California as well. As more and more people move to California both from within the US and outside its borders, the county and the state have experienced major demographic changes. While local governments and commercial developers attempt to meet the demands of this exploding population, farmers are struggling to maintain the economic viability of their operations. Faced with falling commodity prices and increasing costs, growers are under increasing pressure to sell their land and get out of agriculture altogether. In addition, when family members are uninterested in taking over the farm business, offers from developers become more and more attractive.

Why are these trends important for the food system?

Population growth and development threaten to convert an alarming amount of farmland to urban uses such as housing and infrastructure. Strategies to preserve farmland are important, but to be effective they must also enable farms to be viable, profitable businesses.

Farmers, working hard for often little economic return, may see a developer's check as a way out of a failing business or as the financial opportunity to retire. In addition, older growers who don't have family members who want to take over the business may be more likely to sell their land. The increase in the average age of farmers also suggests that more people are leaving the profession than entering it.

As the area rapidly urbanizes, Stanislaus County must find ways to meet the needs of its new residents while it promotes the viability of farm businesses and protects its farmland, the backbone of its economy.

[11] Rudy Platzek, Valley Vision Project. May 1, 2002 conversation with author.
[12] After World War II, California's open spaces and agricultural lands faced increasing conversion pressure from growing populations, new commercial enterprises, and rising property taxes. Valuable farmland began to disappear at an alarming rate when many property owners found that converting land to urban uses was their only financially viable alternative. In response, the state legislature passed the Land Conservation Act of 1965 (the Williamson Act) to preserve California's prime agricultural land. From the California Department of Conservation website, *http://www.consrv.ca.gov/dlrp/LCA/*, accessed on January 24, 2002.

What are the trends?

Sustainable agriculture integrates efforts to improve farm profitability, environmental stewardship, and quality of life for farm families and rural communities.

"Sustainable agriculture" does not refer to a prescribed set of practices. Instead, it encourages producers to consider the long-term implications of their farming practices and the broad interactions and dynamics of agricultural systems. One fundamental goal is to understand agriculture from an ecological perspective—including the dynamics of nutrients and energy, and interactions among plants, animals, insects, and other organisms in agricultural ecosystems—and then balance this with profits and the needs of consumers and the local community. The concept of sustainable agriculture also invites consumers to learn more about farming and become an active participant in their food system.[13]

What is "sustainable agriculture"?

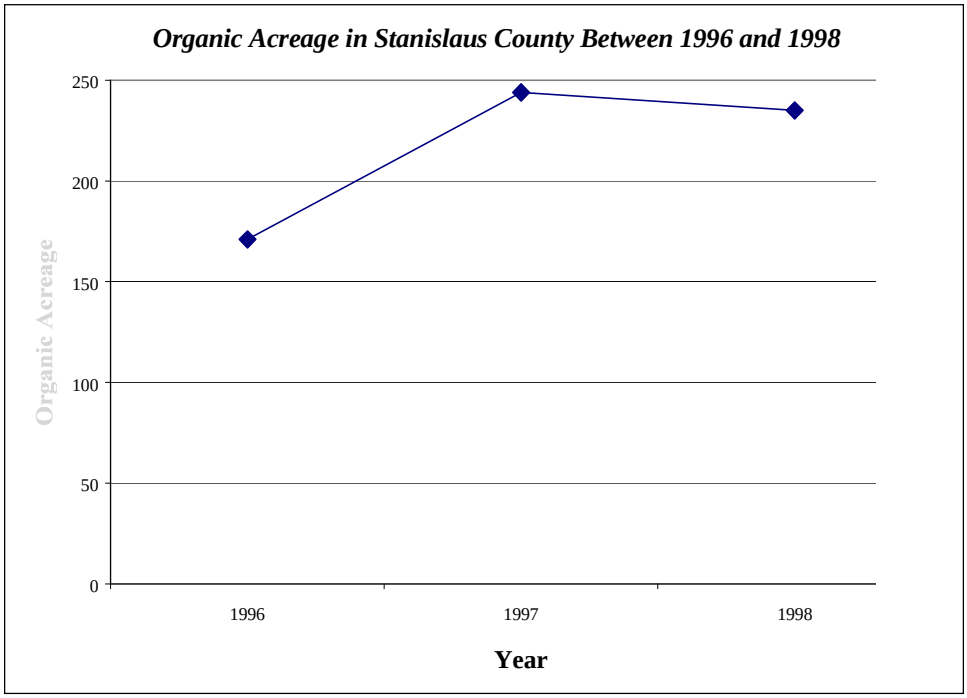
Sustainable agriculture refers to an agricultural production and distribution system that:

- Achieves the integration of natural biological cycles and controls,
- Protects and renews soil fertility and the natural resource base,
- Optimizes the management and use of on-farm resources,
- Reduces the use of nonrenewable resources and purchased production inputs,
- Provides an adequate and dependable farm income,
- Promotes opportunity in family farming and farm communities, and
- Minimizes adverse impacts on health, safety, wildlife, water quality, and the environment.[15]

Some, but certainly not all, farmers who make decisions based on the concept of sustainable agriculture choose to certify their farm as organic. Organic farming focuses on the development of biological diversity in the field to disrupt habitat for pest organisms and the purposeful maintenance and replenishment of soil fertility.[14] Organic farmers raise crops, build healthy soil, and prevent erosion by using techniques such as crop rotation and cover cropping. To control weeds and pests, they apply non-toxic agents like insecticidal soap, release beneficial insects,

and use hand-hoeing and specific cultivation methods instead of synthetic fertilizers, pesticides, or herbicides.

Since there is some overlap between sustainable agriculture and organic farming, one indicator of the prevalence of sustainable agriculture in an area is the number of certified organic farms. That being said, the vast majority of "conventional" farmers care deeply about preserving the quality of their land too. And not all farmers who use organic methods choose to become a fully certified organic farm. The number of certified organic farms only gives a broad indication of how a county's farmers are managing their land.



In 1998, 12 certified organic farms cultivated about 230 acres in Stanislaus County.

Though the total number of organic acres in Stanislaus County increased 37% between 1996 and 1998, certified organic acreage represented less than 1% of all agricultural land in the county. In 1998, 12 organic farms were cultivating approximately 230 acres in the county.

Why are these trends occurring?

Organic farming in Stanislaus County remains relatively uncommon since there appears to be almost no local market for organic produce and products. Farms that do grow organically often market their produce to the more affluent consumers of the East Bay and San Francisco through farmer's markets. While other direct marketing opportunities like Community Supported Agriculture subscription programs still exist for small-scale, organic farmers, most Bay Area farmer's markets are full

and currently have no open slots for growers.

Some farmers are interested in using organic methods more extensively on their farm, but are also wary about completely making the transition from conventional to organic practices. They are unsure about how to manage their crops for weeds and pests organically and are nervous about losing their crop during the transition.

In other cases, farmers use organic methods but choose not to go through the official certification process. Such farms may consider the paperwork, fees, and monitoring of organic certification an unnecessary hassle. Often their customers have a relationship with them through their roadside stand or a farmer's market. They know the quality of the product and simply trust the grower's word that they are farming in a responsible, healthy way.

Other farmers who use organic methods but choose not be certified perceive organic farming as a fringe enterprise or even an anti-conventional statement. They do not want to associate their farm with that image and do not perceive significant customer interest in official certification.

Why are these trends important for the food system?

The reduction in use of agricultural chemicals benefits the long-term health of a region by reducing the amount of pesticides, herbicides, and fertilizers that leach into soils, drain into aquifers, and flow into rivers and streams.[16] Farms who use organic, sustainable, Integrated Pest Management, or precision agricultural[17] techniques limit or eliminate the use of agricultural chemicals on their farm and protect their land, family, and workers.

In the U.S., organic sales increased 20% each year in the 1990's, growing to $7.8 billion in total sales in 2000.

Very few farmers in Stanislaus County are taking advantage of the market for certified organic products. In the U.S., organic sales increased 20% every year during the 1990's, growing from $1 billion in 1990 to $7.8 billion in 2000.[18] This boom in organic sales gives struggling conventional farms a significant incentive to transition to organic production. With the continued growth in sales of organic products and the increasing local consumer demand from newly-arrived residents from the Bay Area, farms in Stanislaus County may have strong financial and environmental reasons to move into organic crop production.

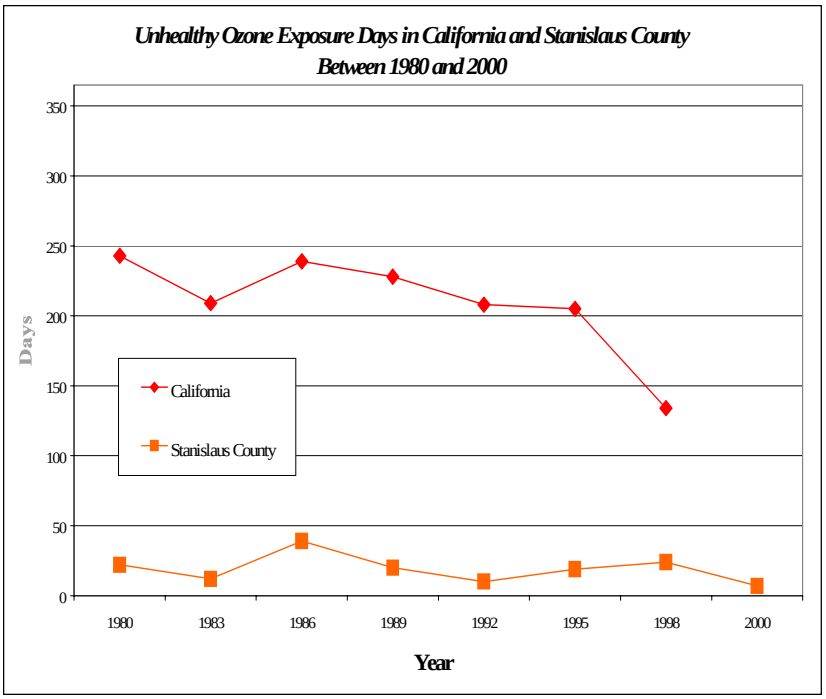
[13] From the Sustainable Agriculture Network. Available at *http://www.sare.org*; accessed on October 8, 2002.
[14] From the Organic Farming Research Foundation. Available at *http://www.ofrf.org/general/about_organic/index.html*; accessed on October 8, 2002.
[15] Sustainable Agriculture Network.
[16] Great Valley Center, *Indicators Report: The Environment*. April 2001.
[17] "Precision agriculture" optimizes production through technology (e.g., geographic information systems, global positioning system), information (e.g., soil properties, fertility requirements, plant growth response data), and management (e.g., synthesizing information, using technology effectively). From the North Carolina State University Cooperative Extension website, *http://www.bae.ncsu.edu/programs/extension/agmachine/precision/*, accessed on May 30, 2002.
[18] Nina Rao, "Organic labeling process unnatural, growers declare," *Springfield News-Leader*, June 23,2002. Available from *http://www.springfieldnews-leader.com/business/organic0602302.html*; accessed on May 30, 2002.

What are the trends?

Ground water quality. The level of nitrate (NO_3) contamination in ground water indicates the general human impact on the environment.[19] In Stanislaus County, the level of nitrate contamination in well water was stable between 1986 and 1997 at around 20 mg/L of NO_3. The limit for acceptable drinking water is 45 mg/L of NO_3.[20]

Air quality. The level of ozone indicates the general air quality in the area.[21] Stanislaus County averaged 23 unhealthy ozone exposure days per year between 1980 and 1998. In 2001, the total number of unhealthy days fell to eight, among the county's lowest numbers in 20 years. In comparison, the San Joaquin air basin, which includes Stanislaus County, recorded 83 unhealthy days, while the San Francisco Bay basin had nine days and the South Coast basin, home to Los Angeles, reported 126 days.

Stanislaus County averaged 19 unhealthy ozone exposure days per year between 1980 and 2000.



Why are these trends occurring?

As human impact continues to intensify, groundwater will become more contaminated. Even if all current aboveground pollution stopped today, groundwater tests would show increasing contamination because of the delay between the introduction of a contaminant and its observable effects. These measurements say little about ongoing sources of contamination, or even about what happened in the late 20th century,

but they do reveal the impact of earlier practices or accidents.[22]

Thanks to improved emissions control technology and stricter emissions standards, air quality in the state of California has improved dramatically since the 1970s. The Central Valley itself, however, has not had as much success. The number of unhealthy exposure days has been relatively consistent in this region. The very topography that defines the Central Valley—wide, flat plains surrounded by mountain ranges—creates a collection basin for air pollutants that originate both in the Valley and the San Francisco Bay Area.[23]

Why are these trends important for the food system?

Water quality is important both to the public who drink it and the growers who irrigate with it. Levels of contamination will continue to rise as substances released decades ago on the surface filter down to the water table. To improve water quality by mid-century, additional efforts are necessary to restrict surface pollution today in Stanislaus County, particularly as the population increases.

Air pollution also impacts both public health and the agricultural community. It restricts visibility, reduces crop yield, and contributes to asthma and allergies, especially among children and the elderly. To continue to benefit from significant agricultural production, Stanislaus County should care for its fundamental "comparative advantage," the region's natural resources.

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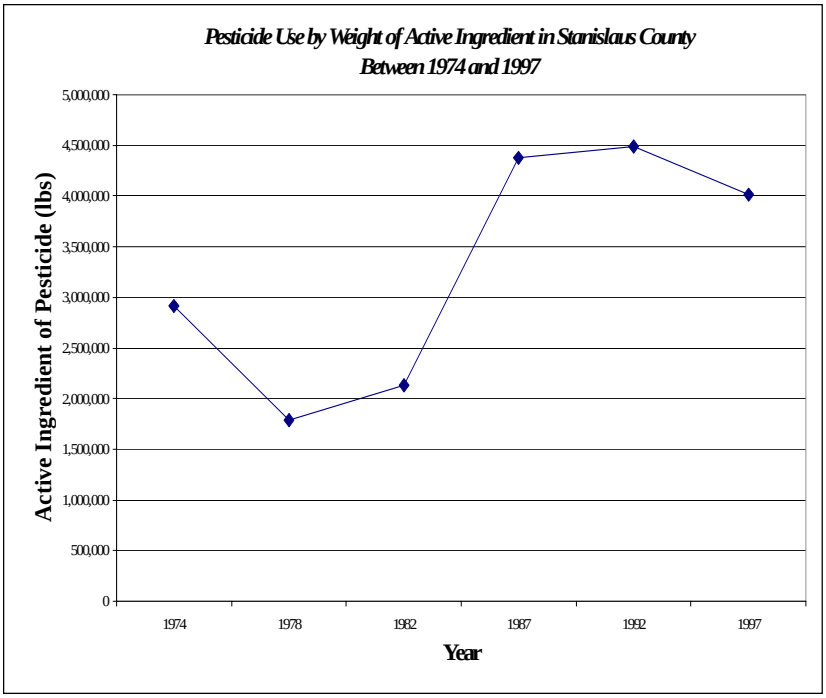
[19] Historically, human activity has generated surface contaminants through fertilizer use, livestock waste, and human waste. These contaminates then take 30 to 100 years to filter down through the root zone to deep, groundwater aquifers. The nitrate contamination that we measure today was first released into the environment decades ago.
[20] Graham Fogg, UC Davis, Land Air Water Resources Department. November 26, 2001.
[21] Sunlight initiates a reaction between nitrogen dioxide and hydrocarbons that forms smog and ground-level ozone. A day is designated an "unhealthy ozone exposure day" when this ozone level, measured in a series of localized or ambient readings, exceeds the state's standard for acceptable levels in any one-hour period during the day. Great Valley Center. *Indicators Report: The Environment*. April 2000.
[22] Graham Fogg, UC Davis, Land Air Water Resources Department. September 2001.
[23] Great Valley Center. *Indicators Report: The Environment*. April 2000.

What are the trends?

Though pesticide use in Stanislaus County dropped 11% between 1992 and 1997, it has increased 38% overall since 1974. In 1997, over four million pounds of pesticides were applied in Stanislaus County.[24]

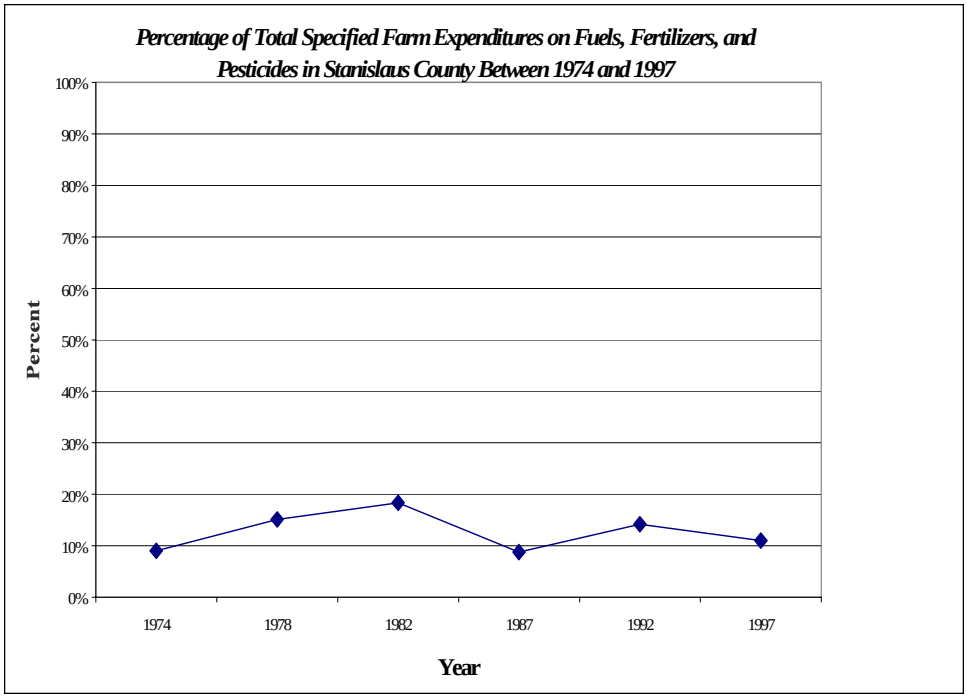
Pesticide use increased 38% in Stanislaus County between 1974 and 1997.



As a percentage of total specified farm expenditures, farm spending dedicated to fuels, fertilizers, and pesticides showed no clear trend. Expenditures on fuels, fertilizers, and pesticides averaged 13% of total farm spending between 1974 and 1997, though they peaked at 18% in 1982 and dropped as low as 9% in 1987. (See chart on the next page.)

Why are these trends occurring?

After World War II, the production practices of agriculture in California changed markedly. Advances in science and technology led to the increasing availability of agricultural chemicals designed to improve fertility, limit weed growth, and control pests. Production slowly shifted to larger operations that relied on these synthetic inputs, used increasingly complex machinery, and employed relatively fewer laborers to raise field crops. Now, 50 years later, Californians apply over 100 million pounds of pesticides to our farms, golf courses, yards, roadsides, and parks every year. [25]



Farms in Stanislaus County dedicated 11% of their total expenditures to fuel, fertilizer, and pesticide in 1997.

Why are these trends important for the food system?

Compared to the 1950's, today's "softer" chemicals are less environmentally damaging and target a more narrow range of pests. Despite these improvements, the application of pesticides still affects every aspect of the ecosystem, including small invertebrates, fish, birds, wildlife, and people, as well as rivers and streams. On farms, pesticide use represents a significant cost to growers and puts the health of farmers and farm workers at risk. In Stanislaus County, farms have dedicated an increasing proportion of their expenditures to costly fuels, fertilizers, and pesticides. This is a disturbing trend, given that crop prices are falling. The limit of expensive farm inputs like pesticides (a transition best accomplished with the help of other farmers and advisors) protects farmers and workers, cares for the ecosystem, and improves the financial picture of struggling operations.

[24] Pesticide use is calculated by determining only the pounds of active ingredient in a pesticide, not the total amount of pesticide. The active ingredients used to calculate this rate do not include sulfur, inert ingredients, or organically acceptable materials. Sulfur is excluded because it is applied at several pounds to the acre, while other chemicals are used in much smaller amounts. If sulfur were included with these other ingredients, small changes in its use would obscure larger changes in the use of other chemicals. It would therefore be difficult to determine how the use of more toxic and more persistent pesticides like organophosphates has changed. Shawn King and Gail Feenstra, UC SAREP, UC Davis. *Placer County Foodshed Report*. October 3, 2001.

[25] "Disrupting the Balance: Ecological Impacts of Pesticides in California," S. Kegley, Ph.D., L. Neumeister, T. Martin, Pesticide Action Network. Found on the web at *http://www.panna.org* in February 2002.

Summary

Stanislaus County has an enormous capacity to grow, process, and distribute agricultural products. Food manufacturers—including major companies like E&J Gallo Winery, Signature Foods, and ConAgra Grocery Products—employed 6% of the county's total workforce (over 11,200 people) in 1997. They also increased their gross receipts by 142% between 1977 and 1997, though the number of businesses remained steady at 74.

Food manufacturerrs employed 6% and restaurants employed 5% of the county's total workforce in 1997.

Employment with restaurants is rapidly becoming as significant as employment with food manufacturers in Stanislaus County. It increased over 145% between 1977 and 1997 and employed 5% of the county's workforce in 1997. At the same time, gross receipts for restaurants grew 65% and the number of these businesses increased 67% to 634. The booming population in Stanislaus County has contributed to the growth of the food distribution sector, especially among food retailers and restaurants. The health of the county's economy is linked to the continued success of this sector, given that it employs such a significant portion of the workforce.

Though these sectors of the food distribution network were expanding, annual per capita earnings for workers in these businesses dropped 22% between 1977 and 1997. Per capita wages in the sector declined from approximately $27,000 to $21,000.

Stanislaus County's extensive food distribution sector also offers farm businesses and food manufacturers the opportunity to keep a certain portion of the county's harvest close to home for local customers. Local growers could explore avenues that get more of their fresh and value-added foods into the expanding restaurants and food processors in Stanislaus County, while bring more profits straight back to the farm.

QUICK FACTS

- Major food manufacturers, including E&J Gallo Winery, Signature Foods, ConAgra Grocery Products, Patterson Frozen Foods, Hershey Chocolate, and Del Monte Foods, are located in the county.
- Per capita earnings across the food distribution sector declined 22% between 1977 and 1997.
- Roadside stands are the most significant aspect of direct marketing in the county.

What are the trends?

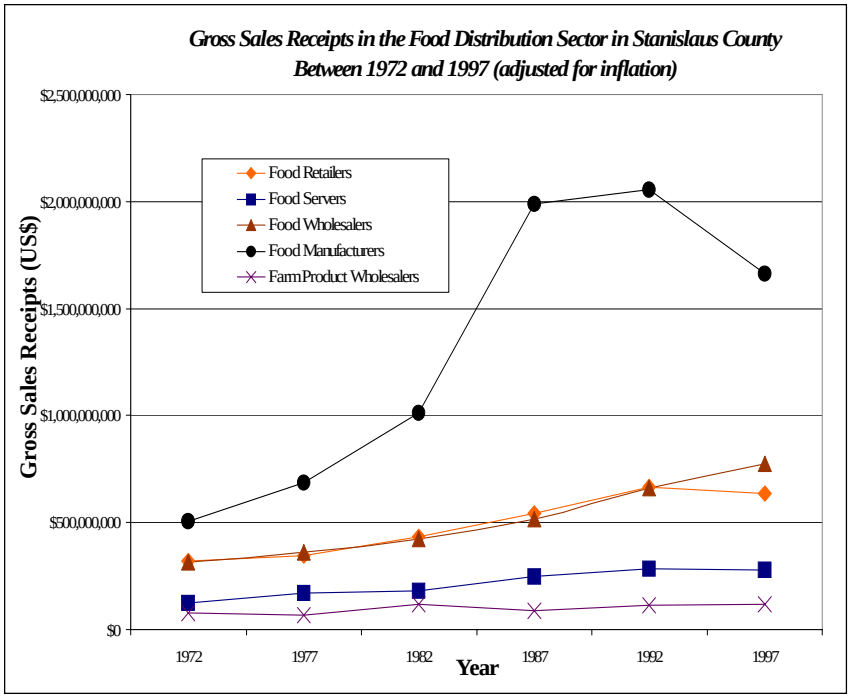
The food distribution sector channels raw agricultural products, produce, and processed foods through six avenues: *raw material wholesalers*, *food wholesalers*, *food retailers*, *food servers*, *food manufacturers*, and *direct marketing sales*.

- *Raw material wholesalers* are packers and merchants who sell unprocessed farm products on the wholesale market.
- *Food manufacturers* are large-scale food processors.
- *Food wholesalers* sell food products to institutions and businesses like grocery stores and restaurants.
- *Food retailers* (*grocery stores*) sell produce and food products that are ready for preparation to the general public.
- *Food servers* (*restaurants*) sell ready-to-eat, prepared foods.
- *Direct sales* connect producers directly to consumers through farmers' markets, farm stands, and Community Supported Agriculture subscription programs.

Gross sales receipts increased dramatically throughout the food distribution sector between 1977 and 1997. Gross receipts for *food manufacturers* increased over 142%, the largest growth in the sector, though the number of businesses remained around 74. *Food wholesalers* increased gross receipts by 113% as the number of these businesses increased 30% to 61. Gross receipts for *restaurants* grew 65% while the number of these businesses increased 67% to 634.

Food manufacturers increased gross sales receipts over 142% between 1977 and 1997 in Stanislaus County.

Other food distribution subsectors saw the number of businesses decline as gross sales receipts increased. Gross receipts for *grocery stores* rose 82% while the number of businesses dropped 21% to 208 businesses. Farms using *direct marketing* strategies boosted gross receipts 105%, although the number of farms using this approach dropped 16% to 228.



Gross sales receipts for food retailers in Stanislaus County rose 82% while the number of businesses dropped 21% between 1977 and 1997.

Why are these trends occurring?

The booming population in Stanislaus County has contributed to the expansion of the food distribution sector, particularly for grocery stores and restaurants. The decline in the number of grocery stores is probably linked to the ongoing consolidation of the retail food industry in the US. In 2000, five large supermarket companies accounted for 40% of all grocery sales in the US.[26]

The increase in direct marketing sales represents an opportunity for farms that manage roadside retail operations and sell at farmer's markets. This increase is probably driven by the sale of value-added items made from farm products. These unique products, items like sauces, dried fruits and nuts, salsas, and jams, extend the farm's harvest and keep more profits on the farm.

Why are these trends important for the food system?

Local restaurants and regional food markets are potential markets for local small-scale growers and food processors. Larger, national grocery store chains and fast food outlets are unlikely to show interest in suchproducts, given that they are supplied through a central distributor and offer a consistent, homogenous range of products. Marketing directly to consumers could also be a good opportunity for farms to sell produce more locally and capture a greater share of the profits. [See more about direct marketing on page 40.]

Stanislaus County has a great deal of capacity to both grow and process agricultural products, as it has clearly demonstrated in the last 50 years. While the connections are in place to send county-grown agricultural products across the country and around the globe, what remains to be fully developed is a complementary network that more directly links farms and consumers within the region. This web of local and regional connections—including farmstands, farmer's markets, and locally-owned food markets and restaurants—would give farmers more opportunities to sell and consumers more chances to buy local food products. The volume of food production in Stanislaus County is much greater than what its residents alone could ever consume, but this capacity could also be directed in ways that better serve farmers and customers in the region.

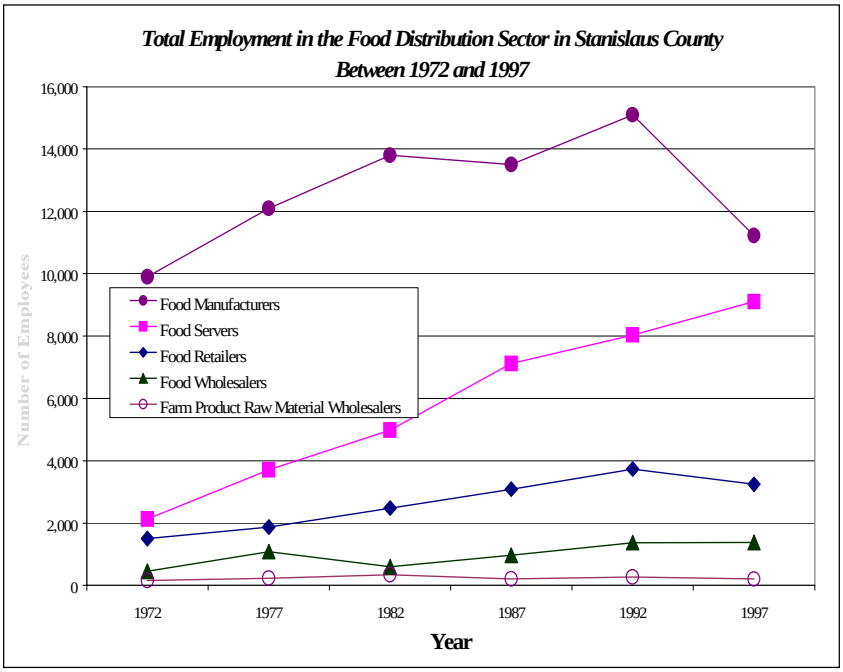
[26] Robin Fields and Melinda Fulmer, "Markets' Shelf Fees Put Squeeze on Small Firms," Los Angeles Times, January 29, 2000.

What are the trends?

In Stanislaus County between 1977 and 1997, the total number of workers in the food distribution sector increased 32%, though their proportion of the entire workforce fell from 17% to 13%.

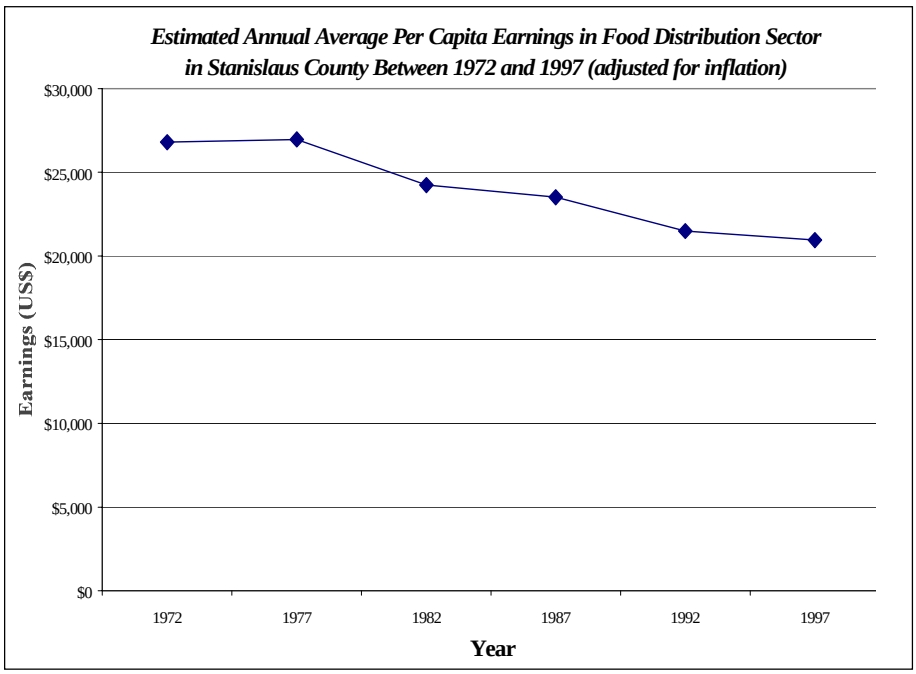
Employment with *food manufacturers* has consistently been the most significant part of the food distribution sector. In terms of the number of people they employ, the most significant *food manufacturers* in Stanislaus County include the E&J Gallo Winery, Signature Foods, ConAgra Grocery Products, Patterson Frozen Foods, Hershey Chocolate, and Del Monte Foods. Despite a 26% drop in employment at these businesses between 1992 and 1997, these jobs employed 6% of the county's total workforce (over 11,200 jobs) in 1997.

Food manufacturers employed 6% of the county's workforce in 1997.



Employment with *food servers* (restaurants) is rapidly becoming as significant as employment with food manufacturers in Stanislaus County. Employment with *food servers* increased over 145% between 1977 and 1997 and represented 5% of the county's workforce in 1997.

Annual per capita earnings for workers in the food distribution sector dropped 22% between 1977 and 1997. Per capita wages in the sector declined from approximately $27,000 to $21,000 while the total wages paid increased only 3%. As a proportion of the county's total wages, earnings in the food distribution sector fell from 21% to 14%. (All figures adjusted for inflation.)



Per capita wages for workers in the food distribution sector fell 22% to $21,000 between 1977 and 1997.

Why are these trends occurring?

The food distribution system employs a significant proportion of the workforce in Stanislaus County. Per capita income is only slightly higher in the food distribution sector ($21,000) than the county average ($20,295). For food servers, the increase in employment (145%) follows an increase in the number of businesses (67%), as well as the rapid growth in population.

Why are these trends important for the food system?

Businesses in the food distribution sector, especially food manufacturers and food servers, are an important source of employment for workers in Stanislaus County. In addition, the county's food manufacturers process the area's harvest close to home. This dual role as both employers and agricultural processors makes food manufacturers a critical piece in the county's economy. However, as the overall number of jobs and the per capita wages decline across the food distribution sector, a core sector of business activity in Stanislaus County may be waning.

What are the trends?

Methods of directing marketing include roadside stands, community supported agriculture (CSA) subscription programs, and farmer's markets. The Farm Bureau's *Central Valley Harvest Trails* paper lists 25 roadside stands in Stanislaus County, though they do report that the actual number is significantly higher.

The Stanislaus County Farm Bureau's* Central Valley Harvest Trails *paper listed 25 roadside stands in 2002.

CSA programs are much less prevalent in Stanislaus County. CSAs connect consumers and farmers through a weekly subscription. Every week the farm's subscribers receive six or seven fresh, in-season produce items, as well as a newsletter with recipes, news from the farm, and storage tips for their veggies. They pay up-front for their subscription on a quarterly or yearly basis. This gives farmers a steady, secure market for their crops and the flexibility to put whatever is freshest and most abundant into the subscription each week. This connection also allows farms to better understand their consumers' tastes and preferences, which informs what they plant and how they market. According the "Local Harvest" website (*www.localharvest.com*),[27] a resource for finding roadside stands, CSAs, and farmer's markets across the country, there are approximately three CSAs serving the Modesto area.

The* www.local harvest.com *website has a searchable database of farm stands, markets, and CSAs around the country.

Farms also sell directly to their customers through farmer's markets. Two seasonal farmers' markets currently operate in Stanislaus County, one in Modesto and a smaller one in Turlock. The Modesto Farmer's Market, open since 1979, runs on Thursdays and Saturdays mornings from May through November. The Market reaches its peak number of visitors in July and August, serving about 8,000 shoppers each market day. The Modesto Market stretches the length of two blocks and attracts 60 to 100 vendors selling fresh produce, pastries, and more.[28]

In Turlock, the Downtown Association hosted a bustling farmer's market 10 years ago. The pace of the market began to slow down about three years ago and then it was cancelled entirely during a reconstruction project. Since that time, the market has been held informally in conjunction with the opening of the downtown shopping district. A local restaurant hosts a few area growers in its parking lot to sell produce on Thursday nights and another market location is underway for Tuesday mornings. The Downtown Association may reopen the farmer's market in 2003 to showcase Turlock's newly-refurbished downtown.[29]

Direct Marketing at Fontana Farms

At Fontana Farms in Ceres, Sharon Fontana and her husband farm 20 acres of stone fruit, nuts, and vegetables. In addition to selling through retail stores and farmer's markets in Stanislaus County and the Bay Area, they sell produce and an array of value-added products through their roadside stand. Fontana Farms' products include dessert toppings, pear and plum marinades, strawberry-rhubarb preserves, and the popular "pepper-cot" sauce, a spicy blend of dried red chili peppers and apricots. Their varieties of flavored almonds range from butter toffee to hickory smoked, while their dried fruits include apricots, peaches, and nectarines. Fontana Farms' products are made in the certified processing kitchen inside their roadside market right behind the retail space. About half of the farm's business now comes from selling their value-added products and making them for other farms. Fontana Farms is a vibrant, successful small farm, thanks in part to their high quality, unique, value-added farm products and their attractive roadside stand.

Why are these trends occurring?

There are considerably fewer CSAs in Stanislaus County than in the Sacramento-Bay Area corridor. Stanislaus County has a weaker economy than that region and, as a result, fewer people are willing to pay the premium for local, often organically grown produce. Fresh and relatively inexpensive fruits and vegetables are often accessible at the many roadside stands in the county, so a CSA subscription may seem unnecessary to some consumers. In addition, farmers often want to farm their crops, not market them. Many farmers do not have the time or are not interested in developing innovative, creative ways to market their products, even if the potential profit is greater. These farmers instead often focus only on production and choose to sell their crops through a broker or cooperative like Blue Diamond.

Why are these trends important for the food system?

National restaurant and grocery store chains are tied to a uniform, national distribution system that severely limits their flexibility to source local produce. As more food retailers consolidate and large restaurants open, the opportunities for growers to sell produce in their area diminishes. However, as commodity prices stay low or fall and the costs of farming increase, small growers could benefit from finding ways to market their produce more directly to consumers. Direct marketing

yields higher returns for growers because it eliminates the transporters and brokers in the middle and gives more income directly to the farm. Direct marketing also connects consumers to their food source and gives them a way to support local farms in their area.

While direct marketing is a great opportunity for small farms, growers who use this method must be willing to dedicate substantial time and creativity to selling their products. Farms that make direct marketing successful attract consumers with quality products and packaging and a distinctive brand. They find convenient points of purchase and delivery and develop charming websites or brochures that tell the story of the farm and how their products come to market.

Farms that use direct marketing successfully dedicate substantial time and creativity to developing and selling their products.

An effective, smoothly running food distribution system connects farmers and consumers who live both across the country and on the other side of town. Such a healthy system offers a spectrum of access to food, including avenues of direct marketing like roadside stands, CSAs, and farmer's markets. Farmers in Stanislaus County have been very successful with roadside stands and could now explore other means of direct marketing as well. Growers could explore opportunities with local or regional retail markets, cafés, and restaurants, as well as consumer subscription programs. These farms could offer regional buyers fresh, high-quality produce that is superior to its mainstream competition in both taste and origin. Stanislaus County farms might capitalize on this advantage and continue to reach out directly to their consumers.

[27] Local Harvest: *www.localharvest.org*
[28] Steve Christy, Modesto Certified Farmers' Market, conversation October 29, 2001.
[29] Tony Walker, Wellington Station Restaurant, Turlock, via email, October 29, 2001.

Summary

Stanislaus County's demographics have changed dramatically in the past thirty years. Between 1970 and 1997 the population of Stanislaus County increased over 116% and became more dense and urban. While in 1970 about one-third of county residents lived in Modesto or Turlock, by 1997 this proportion had climbed to one-half.

As demographics changed, consumer patterns shifted too. Between 1972 and 1997, per capita spending on food declined 20% in Stanislaus County though it increased over 10% in the US. By 1997, the average consumer in the county spent 11% of their annual income—less than $2,200—on food. Per capita spending on food was falling, but population was skyrocketing. This drove total consumer expenditures on food in Stanislaus County to approximately $914 million in 1997. (All figures adjusted for inflation.)

18% of individuals and 27% of children in Stanislaus County lived in poverty in 2000.

Poverty has a significant presence in Stanislaus County. About 11% of families and 27% of children in the county live below the poverty line. The unemployment rate in Stanislaus County fluctuated between 12% and 15% between 1970 and 1998, consistently about 7% higher than in California. In 1997, 12% of residents received Food Stamps and, in 2000, 40% of all students between five and 19 years old ate free and reduced-price meals at school.

New generations of growers and consumers in Stanislaus County are exploring food and farming through its community gardens, consumer advocacy groups, extensive agricultural education programs, and opportunities for agricultural tourism. People who learn about agriculture better understand its significance in the area's economy and history and may more actively participate in their food system. Many individuals, organizations, and institutions are creating healthy changes in and celebrating the history of Stanislaus County's food system.

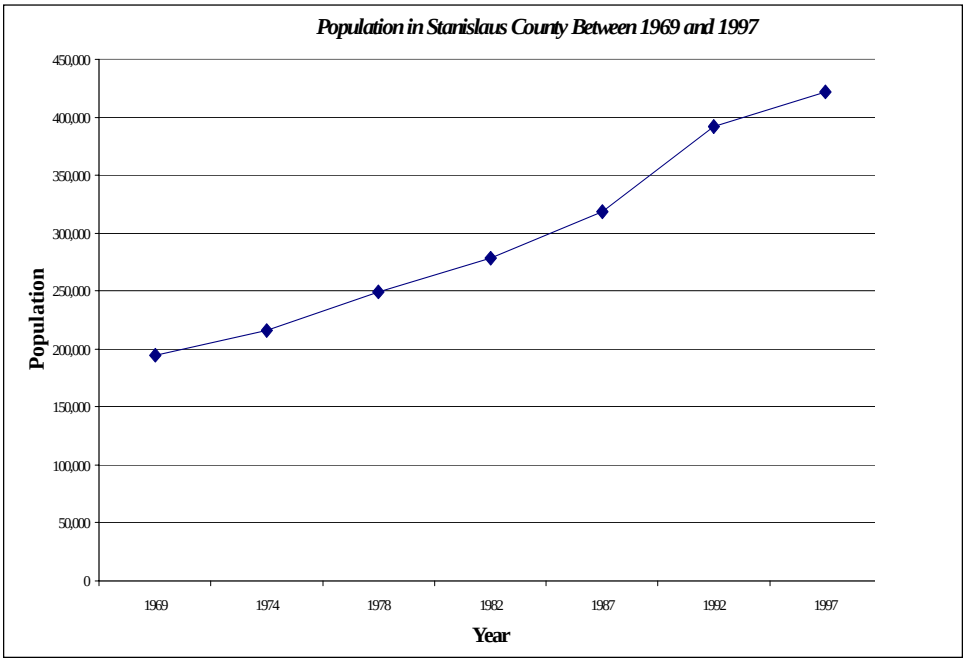
QUICK FACTS

- Consumers in Stanislaus County spend over twice as much on food to be cooked and eaten at home than on food eaten in restaurants.
- In Stanislaus County, 11% of families, 18% of individuals, and 27% of children live below the poverty line. Approximately 9% of county residents receive welfare benefits, 12% collect food stamps, and 40% of students eat free or reduced-price meals at school.

What are the trends?

Between 1970 and 1997 the population of Stanislaus County increased over 116% and became more dense and urban. In 1997, 422,000 people lived in the 1,500 square miles of the county. While about one-third of county residents lived in Modesto or Turlock in 1970, this proportion had climbed to one-half by 1997.

One-half of county residents lived in Modesto or Turlock in 1997.



The population of Stanislaus County jumped 116% between 1970 and 1997.

The representation of ethnic groups also changed significantly over this period of time. As the proportion of Latinos in the county grew from 10% to 26%, the proportion of Caucasians declined from 88% to 64%. Despite these major demographic shifts, about 1% of all Californians has consistently lived in Stanislaus County.

In 1997, the per capita annual income in Stanislaus County was $20,295 (compared to $26,742 in California) and ranked 37th out of the state's 58 counties.

Why are these trends occurring?

Stanislaus County is rapidly urbanizing, as is the rest of California. New residents are drawn to the county's low cost of living and rural character, as well as its proximity to the Bay Area, a major center of employment. A significant number of both white-collar and blue-collar workers make the daily commute to jobs in urban centers like Oakland, Berkeley, and San Francisco.

The shift in ethnicity also follows the larger trend in California. The state's population changed dramatically in the last fifty years as new residents arrived from both within the US and outside its borders.

Why are these trends important for the food system?

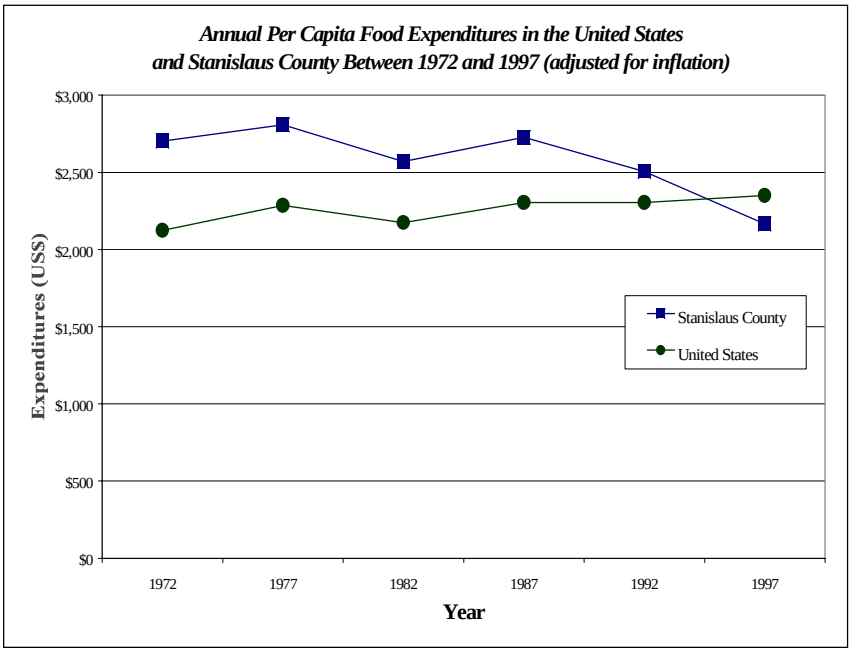
Stanislaus County's booming population means more customers for farmers and food processors. Its increasing ethnic diversity calls for more products that appeal to the array of tastes and preferences that these communities bring to the marketplace.

A rapidly increasing population brings challenges as well. There is intense development pressure on land to meet the needs of new residents for homes, schools, and services while farmers struggle to make a living from growing crops.

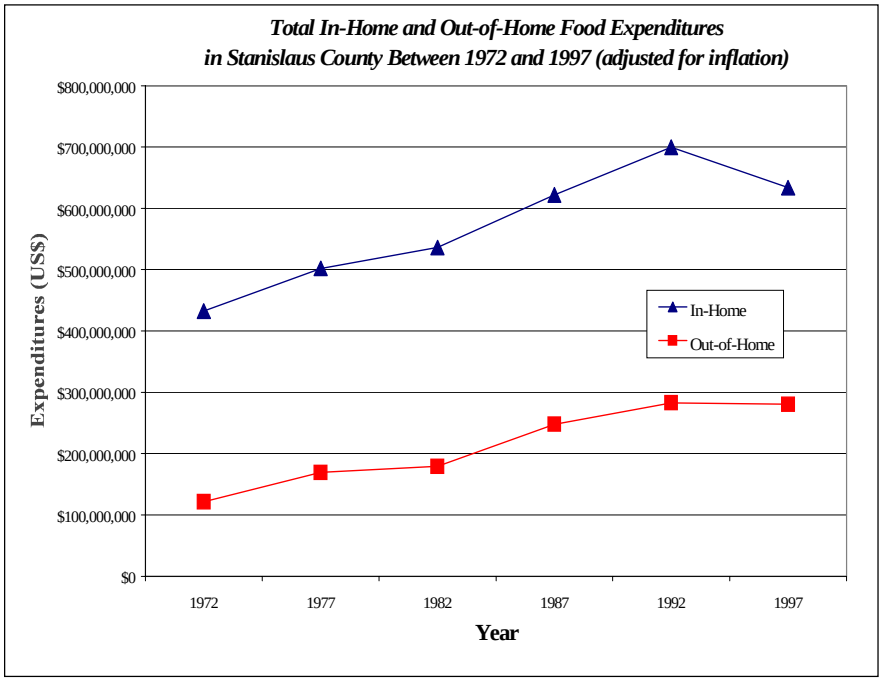
What are the trends?

The average consumer in Stanislaus County spent 11% of their income on food in 1997.

In 1997, the average consumer both in Stanislaus County and across the US spent 11% of their annual income on food. Between 1972 and 1997, per capita spending on food declined 20% in Stanislaus County, while it increased over 10% in the US. By 1997, the average consumer in Stanislaus County spent less than $2,200 per year on food; the average American consumer spent $2,350. Overall, total consumer expenditures on food in Stanislaus County were approximately $914 million in 1997. (All figures adjusted for inflation.)



In Stanislaus County, in-home food expenditures rose 47% while out-of-home food expenditures jumped 131% between 1972 and 1997.[30] (See the chart on the next page.) For every $1.00 spent on food away from home in 1997, consumers in Stanislaus County spent $2.26 on food to be cooked and eaten at home. In the US, for every $1.00 spent on away-from-home food, the average shopper spent only $1.63 on in-home food. Thus, people in Stanislaus County are much more likely to purchase food for meals at home than the average American.



For every $1.00 spent on away-from-home food in 1997, consumers in Stanislaus County spent $2.26 for in-home food.

Why are these trends occurring?

In the US, consumers are spending more on out-of-home food in part because of their taste for fast food. Americans spend over one-third of their food budget in restaurants; about 80% of these expenditures are in fast food restaurants.[31]

Despite the increase in overall expenditures on food, American consumers spend a smaller percentage of their total income on food than ever. In the 1920's, the average American spent about 25% of their income on food, while today's consumer spends only 11%. This is a dramatic change, but it is important to recognize that consumer spending is not down because food has become less expensive. Due to the increased productivity of farms, the price of food has not increased as rapidly as the price of other necessities like housing, transportation, and clothing. American incomes have risen as well.[32]

Compared to consumers around the world, Americans spend the smallest proportion of their income on food. If current trends continue, residents of Stanislaus County will soon spend even less than the American average, though the reasons for this remain unclear. Housing costs have risen substantially in Stanislaus County and demand a greater proportion of consumers' income, which impacts expenditures on food. Demographic trends may also drive down consumer spending on food. Families with children tend to spend less on food than single people or couples without children. In addition, an increasing number

of people live in the county but commute to the Bay Area for work. They may patronize retailers and restaurants along their commute, not just in their county of residence.

Why are these trends important for the food system?

Despite the decline in per capita spending on food, consumers in Stanislaus County spend almost $1 billion on food each year. This enormous amount of consumer demand and spending could be a rich market for the county's farms. Farmers and food processors could develop ways to better access consumers in their region and keep more of the dollars spent on food within Stanislaus County.

To capture more of this consumer spending, farms in Stanislaus County could develop a common brand or label that identifies products as grown in or made in the county. Consumers could then more easily identify and purchase the bounty that comes from their own backyard. In addition, given that consumers in Stanislaus County spend more money on food to be consumed at home than average, local growers and processors could develop more products that appeal to people who like to cook or eat at home. These products could include sauces or marinades, packaged and ready-to-eat fresh products along the lines of "salads in a bag," or quick heat-and-serve foods like tamales or ravioli. Even if farms and food processors in Stanislaus County can only capture 1% of residents' expenditures on food, this would still amount to over $9 million in sales.

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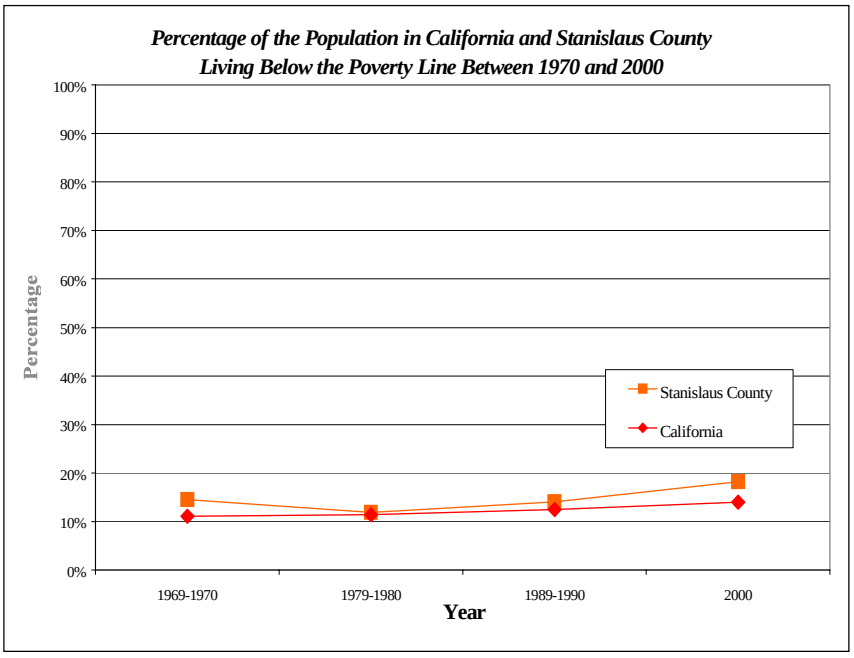
[30] In-home expenditures are made on produce and foods to be prepared and consumed at home; they are calculated using food retailers' gross receipts. Out-of-home food expenditures are made on meals and ready-to-eat foods purchased in restaurants and other private establishments; they are calculated from food servers' gross receipts.
[31] *The Food System Building Youth Awareness through Involement*, Alison Harmon, Rance Harmon, Audrey Maretzki, Pennsylvania State University College of Agricultural Sciences, 1999, p. 96.
[32] Harmon, p. 96.

What are the trends?

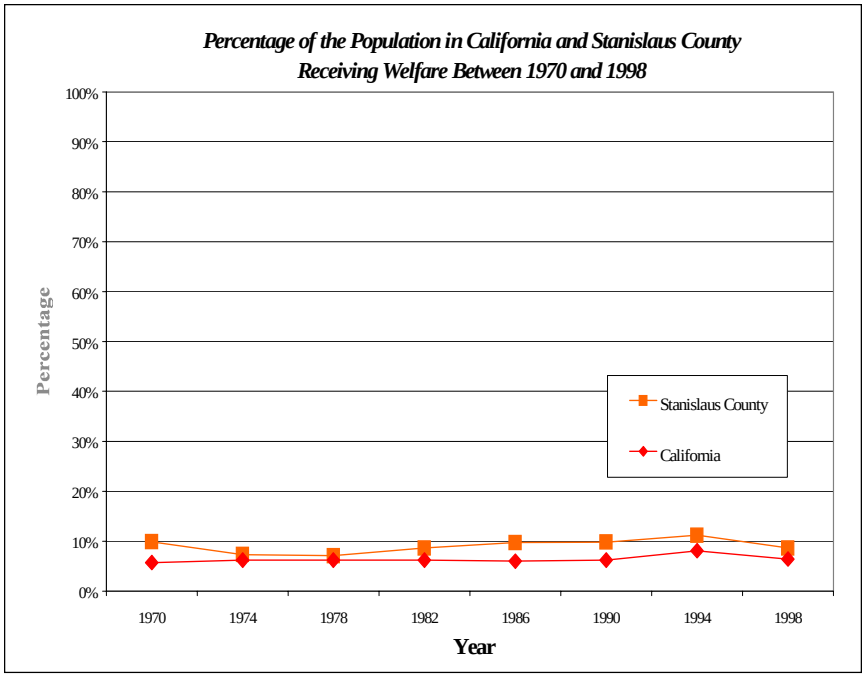
The "poverty line" calculates the minimum income level that individuals and families must earn to meet their basic expenses. In 2000, families of four earning less than $17,050 and individuals earning less than $8,350 were considered below the poverty line.

Since 1970, about 11% of *families* in the county have been living below the poverty line. In contrast, between 1970 and 2000 the percentage of *individuals* living in poverty increased from 15% to 18% in Stanislaus County and from 11% to 14% in California. The level of poverty among *children* under the age of 18 is more severe. In 2000, 27% of children in Stanislaus County and 20% of children in California lived below the poverty line.



18% of Stanislaus County residents lived below the poverty line in 2000.

California offers cash aid, childcare services, and job training to eligible low-income families and individuals through the California Work Opportunity and Responsibility to Kids program (CalWORKs).[33] (See chart on the next page.) Between 1970 and 1998, the percentage of Stanislaus County residents who received CalWORKs benefits averaged 9%, about 3% higher than in the state. Over 37,000 county residents received welfare benefits in 1998. In addition, the unemployment rate in Stanislaus County fluctuated between 12% and 15%, consistently about 7% higher than the rate in California.



Over 8% of Stanislaus County residents—37,000 people—received welfare benefits in 1998.

The University of California Cooperative Extension in Stanislaus County conducts nutrition education programs for low-income families. The Nutrition, Family, and Consumer Science program helps individuals better manage their family and personal resources through programs in food and nutrition, food safety, food preservation, and money management.

Why are these trends occurring?

Unfortunately there have always been more people who qualify for cash assistance, food stamps, and MediCal than those who actually access these benefits. Many of the working poor do not apply for these benefits because they do not know they are eligible or due to the perceived social stigma for receiving public benefits.

Why are these trends important for the food system?

In a strong and healthy food system, consumers earn enough income to access adequate amounts of healthy, fresh, culturally-appropriate foods through mainstream food sources, not through emergency services or government programs. Given that about 18% of people in Stanislaus County live below the poverty line, clearly not everyone is able to meet their family's food needs. Poverty and unemployment severely impact individuals' and families' access to healthy, nutritious foods.

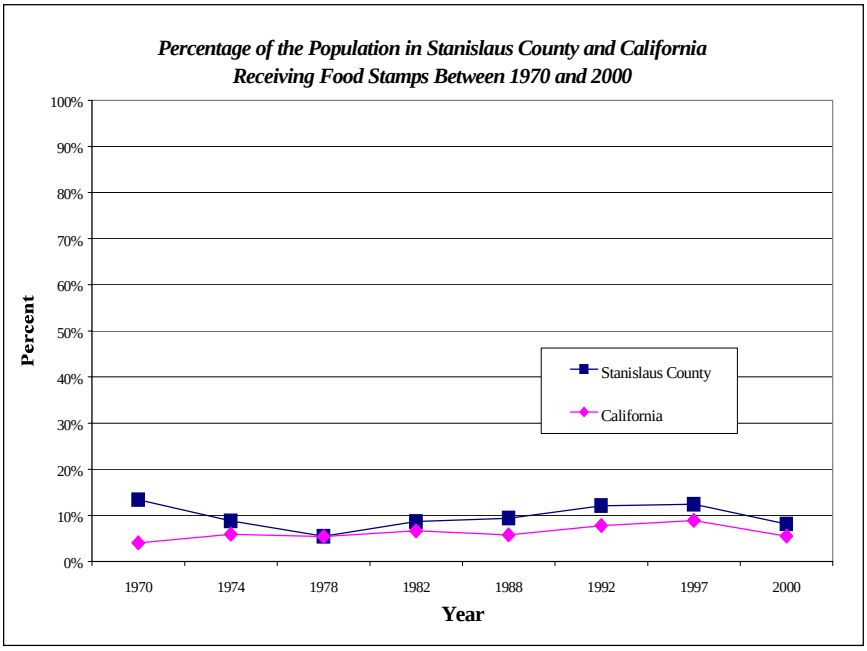
[33] In 1996, federal "welfare reform" legislation repealed the Aid to Families with Dependent Children program and established the Temporary Assistance for Needy Families block grant that funds CalWORKS.

What are the trends?

Federal food programs in Stanislaus County include Food Stamps, the Women, Infants, and Children Program, and the National School Lunch Program.

Food Stamps enable people with low incomes to purchase the food they need for good health.[34] In Stanislaus County in 1997, 12% of the population received Food Stamps, an increase of 125% since 1978. By 2000, however, this proportion dropped to 8% of the population (about 36,000 people). The state and county show the same overall trend with Food Stamps, but the rate in Stanislaus County was consistently about 3.5% higher than in California.

8% of county residents—about 36,000 people—received food stamps in 2000.



Women, Infants, and Children (WIC) is a supplemental nutrition program funded by the federal government for low-income pregnant women, new mothers, and their children up to five years old.[35] The number of people participating in this program in Stanislaus County expanded from 2,500 in 1980 to 14,600 in 2000, an increase of over 480%. About 3.5% of Stanislaus County residents participated in the WIC program in 2000. Elaine Emery, director of the county WIC program, reports that the program currently serves as many women and

children as their funding permits, though they estimate that this is only two-thirds of the people who are eligible for WIC services in Stanislaus County.

Schools provide low-income students free or reduced-price meals, depending on the family's income level, with the aid of subsidies from the federal National School Lunch Program (NSLP).[36] Between 1988 and 2000, the number of school children in Stanislaus County who participated in the NSLP increased 119%. In 2000, about 40% of all students between five and 19 years old—over 45,000 children—were served these free and reduced-price meals. In California, 47% of all students, more than 2.8 million children, were enrolled in the NSLP.

40% of all school children in Stanislaus County—over 45,000 students—were served free and reduced-price meals at school in 2000.

The Second Harvest Food Bank of San Joaquin and Stanislaus Counties distributes food through local non-profit groups like churches, youth groups, afterschool programs, and the Salvation Army. Each week these organizations visit the Second Harvest Food Bank warehouse in Manteca to choose from a wide range of packaged foods and canned goods, fresh produce, frozen products, breads, and personal care items. They pay Second Harvest 16 cents per pound for these goods to help defray the costs of the organization. The local organizations then distribute these items to their clients through food pantries or as prepared hot meals.[37] Second Harvest estimates that in 2001 they distributed over 12 million pounds of food in the San Joaquin Valley through about 96 local food pantries.

Second Harvest food bank distributed over 12 million pounds of food in the San Joaquin Valley in 2001.

Harvest of Hope in west Modesto participates in the Share Program, a monthly sale of prepared or processed foods like luncheon meats, meat patties, fruits, and vegetables at a significantly reduced rate. They coordinate seven pick-up sites that serve 40 to 60 families each. There is no income or citizenship requirement to purchase food through the Share Program, so anyone can participate. The "Fresh From the Garden" Share Program package includes one pound of kiwi, one melon, two avocados, one pound of spinach, one package of broccoli or mixed vegetables, two red bell peppers, two pounds of pears, two mangoes, and four artichokes for $10. Another package includes all the ingredients to prepare four family-sized meals—a lasagna dinner, soft tacos, roasted chicken, and chicken stir-fry—for $20. People who purchase the Share meals are asked to do two hours of community service or to prepare, serve, and eat at least one of their meals with family or others in their community. Harvest of Hope reports that interest in the Share Program has increased markedly since welfare reform in 1996.[38]

Why are these trends occurring?

According to the Economic Research Service of the USDA, policy changes and the strong economy drove down participation in the Food Stamp Program after 1994. These policy changes—including increased reporting requirements for participants, changes in welfare policy, the disqualification of some legal immigrants, and misunderstandings among people who would be eligible—accounted for the majority of the decline.[39]

According to the director of the WIC program in Stanislaus County, WIC received more funding between 1980 and 2000 and was able to serve more women, infants, and children. The increase in the number of people participating in WIC was largely driven by greater program funding, not changes in the local economy.

Why are these trends important for the food system?

The needs and constraints of consumers are central to the complex web of a food system. Ideally, consumers choose and obtain adequate amounts of healthy, fresh, and culturally-appropriate foods through their own purchasing power, not through emergency services or government-sponsored distribution. Federal food programs like Food Stamps, WIC, and NSLP offer critical food assistance to at-risk populations, including pregnant and lactating women, small children, and growing students. Local food banks also meet a significant and increasing need in the community. These anti-hunger and nutrition programs are critical to the public health and well-being of Stanislaus County residents.

[34] Food Stamps can purchase items for human consumption as well as seeds or plants that grow food for household use, but cannot buy non-food items like soap, pet food, alcohol, vitamins, or ready-to-eat food. The average monthly issuance of Food Stamps in California is $70 per recipient or $189 per household. From the California Department of Social Services, Food Stamp Program website, *http://www.dss.cahwnet.gov/getser/foodsta.html*, accessed January 14, 2002.

[35] WIC provides voucher coupons for nutritious food, individual counseling, and health care referrals in an effort to promote healthy childbirth and good nutrition. About half of all participants in WIC are children.

[36] In 1946, Congress established the National School Lunch Program (NSLP). Participating schools are required to follow national nutrition guidelines to ensure that each meal contains an adequate level of key nutrients. In California, over 10,000 public and private schools participate in the NSLP and serve an average of 2.4 million children each school day. Of these students, 70% receive a free lunch, 8% a reduced-price lunch (which costs no more than 40 cents), and 22% pay full-price for their meal. "California National School Lunch Program Facts," California Food Policy Advocates website, *http://www.cfpa.net/School_Food/Lunch/School%20Lunch.htm* accessed on January 14, 2002.

[37] Information accessed at *http://www.ashfoodbank.org* on January 17, 2002.

[38] Bob Schmal, Harvest of Hope, interview with author, April 2, 2002.

[39] Nutrition Week Update, April 1, 2002, Vol. 2, No. 6. Via email.

Community gardens bring vibrant green oases to suburban and urban areas. Vacant lots and open spaces can become thriving green patches of fruits, vegetables, herbs, and flowers when a dedicated group of community gardeners takes over. The following profiles highlight some of the community gardens in Stanislaus County.

What is happening?

The Bridge

The Bridge is a community-based organization in west Modesto working to build understanding and friendship between people from different backgrounds. Serving primarily the Southeast Asian community, the Bridge offers interpreters and homework help, explains state and federal regulations, and provides English as a Second Language classes and monthly "Connect with Careers" discussions.

The Bridge started a community garden through its Women's Support Group and provides training in organic gardening.

To reach out to women in the community, the Bridge started a one-half acre garden through its Women's Support Group.[40] Now five or six women get together to garden, prepare traditional foods, and share a meal every week. The Bridge also provides training in organic gardening and has ample space for demonstration and community gardens. As the gardens develop, the Bridge plans to provide training in greenhouse and container gardening and host garden fairs where neighbors can trade produce, plants, flowers, and seeds. Horticulture and agriculture students at CSU Stanislaus and Modesto Junior College assist and learn from people in the Bridge's gardening program. They also offer informal workshops on nutrition for children, teens, and adults.[41]

Harvest of Hope

Harvest of Hope has a small one-half acre garden in west Modesto where many Southeast Asian immigrants tend plots. They have also started a Neighborhood Garden Project that lends out gardening tools and helps people start at-home gardens. Harvest of Hope would also like to start a neighborhood farmer's market, particularly if some of the area's immigrant farmers could grow crops on the Tuolomne River Regional Park site through the Modesto Garden Project.[42]

Why are these trends important for the food system?

Community-based food production generates a range of health and social benefits. Community gardens improve the local quality of life, enhance the environment, provide nutritional benefits by increasing access to fresh produce, and promote social equity and local economic development. The gardeners themselves choose to participate for a range of reasons. According to a national survey by a community gardening association, community gardeners got involved primarily to save money and grow better tasting and more nutritious vegetables.[43] The community gardens of Stanislaus County are excellent examples of the how such locally-led initiatives can have a positive impact on the surrounding neighborhood, the gardeners who participate, and the local food system.

Gardener Vang Lee in Modesto's Harvest of Hope Community Garden

[40] In the Hmong community in Modesto, it is not considered acceptable for women to shop or run errands without their husbands, though gardening or participating in neighborhood meetings is fine. Often their husbands commute to the Bay Area to do custodial or construction work because the pay in the Bay Area is about twice as high there for these jobs and the cost of living in the Modesto area is much lower.
[41] Marge Leopold, The Bridge, interview with author, April 2, 2002.
[42] Bob Schmal, Harvest of Hope, interview with author, April 2, 2002.
[43] *Seeds of Change: Strategies for Food Security for the Inner City*, Southern California Interfaith Hunger Coalition, Los Angeles, 1993, pps. 190-191.

Organizations that educate and mobilize stakeholders in the food system are key to improving consumers' access to healthy foods and supporting local farms. These profiles highlight just two of the organizations dedicated to consumer advocacy and sustainable agriculture in Stanislaus County.

What is happening?

Slow Food Modesto

Slow Food Modesto hosts dinners and wine tastings that feature local foods, cheeses, and beverages.

Slow Food is an international nonprofit organization based in Italy that is dedicated to regionally-grown and produced foods. Slow Food Modesto (SFM), one of 11 or 12 Slow Food chapters in California, explores and improves the local culture of food and preserves their agricultural heritage by enjoying regional crops and cuisine.[44] One of SFM's members, Terese Tuttle, reports that SFM formed in the fall of 2000 and attracts between 25 and 45 people to their events. They host dinners that feature local foods and cheeses and wine tasting gatherings. In November of 2001, SFM partnered with the Community Alliance with Family Farmers for a fundraiser.[45]

Community Alliance with Family Farmers

Founded in 1978, the Community Alliance with Family Farmers (CAFF) is a nonprofit member-activist organization based in Davis with field offices across the state. CAFF's political and educational campaigns are building a movement of rural and urban people who foster family-scale agriculture that cares for the land, sustains local economies, and promotes social justice. Members are urbanites, farmers, environmentalists, rural activists, and students concerned with the social and environmental dimensions of agriculture.

CAFF's major initiatives include the Biological Farming initiative and the Economic Options for Farmers program. Through the Biological Farming initiative, CAFF promotes ecological agricultural practices to farmers by coordinating pesticide reduction and water quality workshops, hosting field days with the Biologically Integrated Orchard Systems initiative, and promoting wildlife habitat on farm edges. In the Economic Options program, CAFF connects schools, businesses, and consumers with small-scale growers in their region who offer a steady,

reliable supply of locally-grown goods. CAFF members in Stanislaus County are active in both the Biological Farming initiative and the Economic Options program.

CAFF promotes ecological agriculture and connects schools and businesses to small-scale growers in the region.

Why are these trends important for the food system?

SFM both celebrates and promotes the continued vitality of agriculture in Stanislaus County. They educate consumers about why such unique, regional products are superior in quality and taste and, as a result, expand the market for them. While SFM reaches out to consumers, CAFF works with producers. Working with CAFF, farmers in Stanislaus County are exploring agricultural practices that meet their production requirements as well as preserve the quality of their farmland. These organizations focus on different points in the food system, but both work to expand the connections between consumers and farmers and increase the consumption of fresh, local food.

[44] Slow Food website, *http://www.slowfood.com*, accessed December 19, 2001.
[45] Terese Tuttle, Director, Slow Food Modesto, interview with the author, November 6, 2001.

There are numerous examples of agricultural education programs from the primary grades to universities in Stanislaus County. To name just a few, Enslen Elementary School students maintain flower gardens at school, Blaker-Kinser Junior High teachers complement science classes with hands-on gardening experience, and Cal State Stanislaus's Bio-Ag program demonstrates ecological principles of farming and coordinates seed saving projects. Students of all ages are learning more about agriculture in Stanislaus County in both classrooms and gardens.

What is happening?

Enslen Elementary School, Modesto

Enslen Elementary School in Modesto first planted their school gardens three years ago with the help of Modesto Junior College's Department of Agriculture. Since then, six gardens have been established and two active garden clubs have formed at the school.

Two garden clubs at Enslen Elementary maintain the many gardens at the school.

The 30 students in the Enslen Garden Club, most of whom are fifth and sixth graders, planted a rose garden, a vegetable garden, one for parents and students, and one for the Girl Scouts. They manage all the gardens at the school and occasionally take fieldtrips to places like Filoli Gardens in Woodside. The Enslen Garden Club also observed Red Ribbon Week (drug awareness week) in October by planting 500 red bulbs that flowered in April. The head custodian coordinates another group of student gardeners. The "Village People" is a team of sixth-grade students that gardens, weeds, and prunes during recesses, lunchtimes, and sometimes afterschool and on weekends.

Work in the classroom at Enslen is linked to events in the gardens. In the fourth-grade science classes, students study flowers and seeds and visit the garden for hands-on learning. Language arts classes also write about what happens in the gardens. Outside the classroom, students share what they harvest. Flowers they pick from the school gardens go to appreciation events for parents and school volunteers and twice a year produce is harvested from the vegetable gardens for the school's Salad Day.

Four elementary schools in the Modesto area have started school gar-

dens and two more are planned for next year. Other elementary schools are starting to get involved in school gardens as well, but it takes a committed core group of parents, teachers, administrators, and custodial staff to pull everything together.[46]

Blaker-Kinser Junior High, Ceres

Both junior high schools in the Ceres School District have quarter- to half-acre gardens. Each year, about 100 students at Blaker-Kinser and 1,600 students in the district work in the gardens through science classes, the "Introduction to Agriculture" elective, and afterschool clubs like the Junior Leaders of Agriculture. Student demand is high to participate in garden activities.

Over 100 students at Blaker-Kinser Junior High in Ceres work in the school garden through science classes, clubs, and electives.

Mike James, a science teacher at Blaker-Kinser, uses the garden in his class to illustrate concepts like the life cycle and to link students to the surrounding agricultural community. Small groups of students are assigned to a four-by-15-foot plot in the garden. With Mike's help, they choose what to grow and tend the vegetables. As the class works in the garden, Mike also incorporates social concepts like responsibility and teamwork into their curriculum.[47]

Modesto City Schools, Modesto

In five Modesto high schools, a unique, comprehensive agriculture program combines classroom and on-farm education with tours and career development opportunities for students. Each high school has a small garden, greenhouse, and lathe house and they all share two working farms. The Davis-Byer farm has about 40 hogs, some sheep, and pasture and the Johansen Farm has three acres of flowers and vegetables. In the 2000-2001 school year, over 1,300 students from the five high schools participated. In addition, floriculture classes are offered in 4 of 5 Modesto high schools and a summer landscaping class attracts about 60 students. Program organizers believe that since a significant amount of jobs in California are related to agriculture, students need to be familiar with the industry.

Over 1,300 students in Modesto City Schools participate in a program that combines on-farm experience, classroom instruction, and career development opportunities.

Students in the agriculture program grow a range of crops in the gardens and at the farms, including onions, tomatoes, gourds, flowers, peppers, and almonds. The gardens and farms operate year-round, though there is a lull between September and December while students come back to school and settle in. Most of the food from the farms and gardens goes home with the kids, though some produce is grown for the

county fair. The proceeds from the sale of the almonds go into students' accounts and to agriculture organizations like the Future Farmers of America.[48]

Agriculture in the Classroom

Every year "Ag in the Classroom" brings farmers and ranchers to five elementary schools in Stanislaus County for fun presentations and events.

Agriculture in the Classroom is a nonprofit foundation based in Sacramento. Each year, the foundation trains about 300 teachers in the "Ag in the Classroom" (AIC) curriculum through the University of the Pacific and California State University at both Sacramento and Stanislaus. Nancy Harris, an AIC trainer, describes the program as "not another subject, but [a way] to integrate agriculture into what [teachers] are already doing and to make learning more participatory and hands-on." AIC is a one-day school event with a curriculum that threads through schoolwork over the entire year.

In Stanislaus County, five schools have participated in AIC in the last 10 years. At the event, over 50 guest farmers and ranchers visit each grade in the elementary school and make presentations on agricultural topics ranging from animals to commodities. The second graders learn about dairy cattle and the fourth and fifth graders study grapes, cotton, and organic farming. In addition to the classroom presentations, each school hosts a story-writing contest. Students write stories, both fiction and nonfiction, about agriculture and the winner of the contest reads their story at the Farmer-Teacher Breakfast. Each school also sponsors an art contest. Students enter black and white drawings with an agricultural theme and the winner has their design printed on t-shirts for the visiting farmers and placemats for the Farmer-Teacher Breakfast which the younger students color.

Nancy has also written a play called "Try It, You'll Like It" about a boy who refused to eat his vegetables. In the play, the boy is visited by his "Berry Godmother" who explains where our fruits and vegetables come from and what nutritional value they have. The play is light and silly (Elvis the corn cob sings "Ain't Nothin' But a Corndog") and every year the students perform the play for the senior citizens.[49]

70 youth in Stanislaus County are involved in horticulture and vegetable gardening through 4-H clubs.

University of California Cooperative Extension in Stanislaus County

Cooperative Extension in Stanislaus County has a long history of youth development and informal education through its 4-H programs. There are currently 14 clubs in the county that offer vegetable gardening as one of their projects. Other clubs offer other horticultural projects such

as landscape horticulture. A total of 70 youth are enrolled in these projects, which are managed by 17 adult volunteer leaders.

California State University, Stanislaus, Turlock and Modesto Junior College

The BioAg (biological agriculture) program at California State University (CSU) Stanislaus is an outdoor laboratory that demonstrates ecological principles of farming and coordinates seed saving, biodiversity, and soil conservation projects. BioAg has served students at CSU Stanislaus and teachers and students in the community for the last two years.

The BioAg Program at CSU Stanislaus demonstrates ecological farming and serves as a resource for students and teachers in the community.

The agriculture programs at Modesto Junior College and CSU Stanislaus work well together. Students often spend their first two years at Modesto Junior College in the extensive agriculture program and then spend two more years at CSU Stanislaus in the Agricultural Studies major. Within the program at CSU Stanislaus, students choose a specific area of study that ranges from permaculture to economics to ecology.[50]

Why are these trends important for the food system?

Students who study gardening and agriculture connect with the history of their community, learn how to care for plants, explore healthy food choices, and better understand concepts in math, science, and the arts by observing them in nature. In addition, students who are familiar with farming and ranching are more likely to consider a career in agriculture. This is particularly important in Stanislaus County, where agriculture is central to both the way of life and the economy.

[46] Doug Frazier, Principal, Enslen Elementary School, Modesto, interview with author, April 18, 2002.
[47] Mike James, Blaker-Kinser Junior High, interview with the author, November 13, 2001.
[48] Rodney Owen, Modesto City Schools, High School Agricultural Coordinator, interview with the author, April 18, 2002.
[49] Nancy Harris, Agriculture in the Classroom, interview with the author, November 6, 2001.
[50] Ida Bowers, Professor of Geography, California State University, Stanislaus, interview with author, March 27, 2002.

VII. Agricultural Tourism

Agricultural tourism is designed to connect consumers and producers in a way that generates a meaningful, enjoyable exchange of values. These events take many forms, including educational tours, agricultural heritage festivals, tastings, museums, county fairs, on-farm bed and breakfasts, and commodity festivals like the Gilroy Garlic Festival.[51]

What is happening?

According to the Small Farm Center at the University of California, there are 33 farms, ranches, businesses, and nonprofit organizations engaged in agricultural tourism in Stanislaus County. About 25 food processing businesses and farms sell their value-added products and produce directly to customers at their manufacturing facility or farm. Students, travelers, and locals can tour food production facilities like the Oakdale Cheese factory and visit museums like the Great Valley Museum of Natural History in Modesto and the Cowboy Museum in Oakdale.[52]

Over 33 farms, nonprofits, businesses, and ranches in Stanislaus County are engaging in agricultural tourism.

Why are these trends important for the food system?

Agricultural tourism is an important way for community members to connect with the agricultural sector. Consumers enjoy the ambiance, experience, and products at the farm or production facility. They connect a farmer's face with their food and better understand the link between the farm and the table. For their part, farmers value the relationships that develop with their customers, and the opportunity to diversify their income.[53]

Some people are skeptical about the potential for agricultural tourism in Stanislaus County and elsewhere in the Central Valley. They fear that the region lacks the country romance or down-home coziness of an area like the Napa Valley and wonder if tourists would be interested in visiting the larger, more industrial farm operations during the hot, Central Valley summer.

Others see enormous potential for agricultural tourism, particularly at the small farms and ranches so prevalent in Stanislaus County. Advocates for agricultural tourism identify the need to develop and expand these activities and then coordinate with travel companies to promote them. At the moment there are plans underway for a world-class sci-

ence and learning center with an agricultural theme in Modesto. As we have seen from this discussion of community gardening, consumer advocacy, agricultural education, and agricultural tourism in Stanislaus County, there are many aspects of the local food system in which county residents can take pride. Many individuals, organizations, and institutions are creating healthy changes in and celebrating the history of Stanislaus County's food system.

[51] Desmond A. Jolly, "Agricultural Tourism: Emerging Opportunities for Family Farmers and Rural Business." Accessed at *http://www.sfc.ucdavis.edu/agritourism/jolly.html* on December 20, 2001.
[52] Small Farm Center, University of California, Davis, California Agri-Tourism Database, *http://www.sfc.ucdavis.edu*, accessed on December 19, 2001.
[53] Jolly, "Agricultural Tourism."

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DATA SOURCES: DEMOGRAPHIC INDICATORS

Indicator	Years	Measure/Graph	Source
Population			
State Population	69, 74, 78, 82, 87, 92, 97	Number of people in state vs. time.	California Department of Finance Demographic Research Unit
County Population	69, 74, 78, 82, 87, 92, 97	Number of people in county vs. time.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
County Population as Percent of State Population	69, 74, 78, 82, 87, 92, 97	Percent of state population resident in county vs. time.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
Population Density, Persons per sq. Mile	69, 74, 78, 82, 87, 92, 97	Number of persons per sq. mile average for county vs. time.	California Department of Finance Demographic Research Unit.
Urban Growth			
Percent of County Population in Cities over 50K	69, 74, 78, 82, 87, 92, 97	Percent of county population in cities over 50,000 vs. time.	California Department of Finance Demographic Research Unit.
Ethnic Distribution			
Asian and Pacific Islander Black Caucasian Latino Native American	69, 74, 78, 82, 87, 92, 97	Percentage of county population that classify themselves in each of the following groups: Asian and Pacific Islander, Black, Caucasian, Latino, Native American.	California Department of Finance Demographic Research Unit.
Income			
Inflation Adjustment	69, 74, 78, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Consumer Price Index data compiled by Robert Sahr, Political Science Department, Oregon State University, Corvalis, Oregon.
Total Employment for the County	69, 74, 78, 82, 87, 92, 97	Number of people employed vs. time for census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
Total Earnings for the County	69, 74, 78, 82, 87, 92, 97	Total earnings vs. time for census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
County Per Capita Annual Income	69, 74, 78, 82, 87, 92, 97	County per capita annual income vs. time.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
County's Rank in the State for Per Capita Income	69, 74, 78, 82, 87, 92, 97	Rank of county per capita income in state vs. time.	Bureau of Economic Analysis Regional Economic Analysis CD ROM .
Poverty			
Number of Welfare Recipients (AFDC/TANF)	88, 91, 94, 97	Number of people receiving AFDC/TANF assistance in the county vs. time.	AFDC Caseload Movement and Expenditures Reports, Statistical Services Bureau, Dept. of Social Services; Compiled by RAND Co.
Percent of County's Population Receiving Welfare	88, 91, 94, 97	Percentage of county population receiving AFDC/TANF assistance in the county vs. time.	Calculated from sources on this page.
Civilian Unemployment Rate, Percent	85, 88, 91, 94, 97	Percent of county labor force unemployed vs. time.	Employment Development Department, Compiled by RAND Co.
Percent of County's Population Below Poverty Line	70, 80, 90	Percent of county's population below poverty level vs. time.	Calculated from County and City Data Book published by The Census Bureau and population data, this pg.
Percent of County's Families below poverty	50, 60, 70, 80, 90	Percent of total number of families in county below poverty level vs. time.	County and City Data Book published by The Census Bureau.

DATA SOURCES: AGRICULTURAL RESOURCE BASE INDICATORS

Indicator	Years	Measure/Graph	Source
Farm Numbers and Acreage			
Number of Farms in State	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	No graph – used for comparison calculations only.	U.S. Census of Agriculture, Geographic (Area) Series.
Acres in Farming, State Total	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	No graph – used for comparison calculations only.	U.S. Census of Agriculture, Geographic (Area) Series.
Number of Farms in Placer County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Total number of farms in the county vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Acres in Farming in Placer County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Acres in farming for county vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Percent of California's Farms in Placer County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Number farms in county as percent of state total vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Percent of California's Farm Acreage in Placer County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Acreage in farming for county as percent of state total vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Average Farm Size, Acres	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Total acres in farming in county divided by total number of farms in the county vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Number Farms by Acreage Size Class	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	As a bar graph with each bar containing one year's distributions for 1-9, 10-49, 50-179, 180-499, 500-999, and 1000 + acre categories for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Farm Ownership			
Acres in Full Ownership Acres in Part Ownership Acres in Tenant Farming	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Acres under full owner, part owner, and tenant owner (3 lines on a single graph) in county vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Number Full Owners in County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Number of full owners of farms in Placer County vs. time for ag. census years	U.S. Census of Agriculture, Geographic (Area) Series.
Minority Farm Operators, Number of Farms	74, 78, 82, 87, 92, 97	Number minority-operated farms in county vs. time, ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Age of Farmers			
Average Farmer Age	59, 64, 69, 74, 78, 82, 87, 92, 97	Average farmer age in county vs. time, ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Organic Farming			
Number of Organic Farms	92, 94, 96, 98	Number of organic farms in the county vs. time, ag. census years.	County Agricultural Commissioner Crop Reports.
Acreage in Organic Farming	92, 94, 96, 98	Acreage in organic farming in the county vs. time, ag. census years.	County Agricultural Commissioner Crop Reports.
Land Conservation			
Acres of Farmland Converted for Development	86, 88, 90, 92, 94, 96, 98	Acreage converted to urban or suburban development in county vs. time, ag. census years.	California State Department of Conservation Farmland Mapping Program.
Acres enrolled in the Williamson act	74, 78, 82, 87, 92, 97	Acres enrolled in the Williamson act in the county vs. time for ag. census years.	California State Department of Conservation Division of Land Resource Protection

DATA SOURCES: ENVIRONMENTAL INDICATORS

Indicator	Years	Measure/Graph	Source
Groundwater Pollution			
Well Water Pollution, Average Nitrate (NO3)	89, 92, 95, 97	Concentration of nitrate in well samples averaged countywide vs. time.	California Department of Health Services.
Total Supplemental Water Use by Agriculture			
Use of State and Federal Subsidized Water by Agriculture	82, 87, 92, 97	Acre feet of water supplied by federal and state water projects to county for agriculture vs. time for ag. census years.	California Department of Water Resources.
Number of Farms Using Irrigation	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Number of farms in county using irrigation vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Total Number of Irrigated Acres in the County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Total county irrigated acreage vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Synthetic Input Use and Dependence			
Pesticide Use, Total Pounds A. I. Applied	74, 78, 82, 87, 92, 97	Total pounds of active ingredient* applied in the county vs. time for ag. census years.	Department of Pesticide Regulation Pesticide Use Reporting Data compiled by Environmental Toxicology Dept. researchers at UCD.
Expenditures on Fuel, Fertilizer, and Pesticides	74, 78, 82, 87, 92, 97	Sum of expenditures on fuel, fertilizer, and pesticides reported under specified farm expenditures, ag. census years . Not graphed.	U.S. Census of Agriculture, Geographic (Area) Series.
Total Specified Farm Expenditures	74, 78, 82, 87, 92, 97	Total specified farm expenditures, ag. census years. Not graphed.	U.S. Census of Agriculture, Geographic (Area) Series.
Cost of Inputs as Percent Total Farm Costs	74, 78, 82, 87, 92, 97	Percent total specified expenditures spent on synthetic chemicals and fuels for all farms in county vs. time for ag. census years.**	U.S. Census of Agriculture, Geographic (Area) Series.

* Excludes sulfur, inert ingredients, and organically acceptable materials.

** Calculated using total specified farm expenditures and summed expenditures on fertilizer, fuel, and pesticides.

DATA SOURCES: FOOD DISTRIBUTION NETWORK INDICATORS (U.S. Economic Census categories)

Indicator	Years	Measure/Graph	Source
Number of Farm Product Raw Material Wholesalers (Packers, Shippers)	72, 77, 82, 87, 92, 97	Number establishments in the county vs. time for economic census years.	U.S. Economic Census, Geographic Area Series.
Number of Food Manufacturers	72, 77, 82, 87, 92, 97	Number establishments in the county vs. time for economic census years.	U.S. Economic Census, Geographic Area Series.
Number of Food Wholesalers	72, 77, 82, 87, 92, 97	Number establishments in the county vs. time for economic census years.	U.S. Economic Census, Geographic Area Series.
Number of Food Retailers	72, 77, 82, 87, 92, 97	Number establishments in the county vs. time for economic census years.	U.S. Economic Census, Geographic Area Series.
Number Food Servers (incl. Restaurants)	72, 77, 82, 87, 92, 97	Number establishments in the county vs. time for economic census years.	U.S. Economic Census, Geographic Area Series.
Number Farmer's Markets	1999	Number of farmers' markets in the county.	Sustainable Agriculture Research and Education System, UC Davis.
Number CSA's	?		
Number Roadside Stands	?		

DATA SOURCES: ECONOMIC PRODUCTIVITY INDICATORS

Indicator	Years	Measure/Graph	Source
Top Ten Agricultural Products			
Top Ten Agricultural Products by Gross Sales	63, 67, 73, 77, 82, 86, 92, 97	List of products produced in county ranked by gross sales, ag. census years since 1963.	County Agricultural Commissioners, compiled by California Farmer magazine.
Gross Agricultural Productivity			
Inflation Adjustment, Agricultural Producers	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Bureau of Labor Statistics Producer Price Index data, non-seasonally adjusted annual average, farm products group.
State Gross Agricultural Production	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	State gross agricultural production, all agricultural products. Not graphed.	U.S. Census of Agriculture, Geographic (Area) Series.
Gross Agricultural Productivity, County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Gross earnings from sale of all ag. products in the county vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series; County Annual Crop Reports.
County Gross Production as Percentage of State Total	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Gross earnings from sale of all ag. products in the county vs. time for ag. census years presented as percent of state total calculated from census data.	U.S. Census of Agriculture, Geographic (Area) Series; County Annual Crop Reports.
Direct Marketing			
Gross Receipts From Direct Marketing, all Types, all Farms	78, 82, 87 extr., 92, 97	Gross receipts for direct marketing, all types, for county vs. time, ag. census years (1987 no data published, extrapolated).	U.S. Census of Agriculture, Geographic (Area) Series.
Number of Farms Engaged in Direct Marketing, all Types	78, 82, 87 extr., 92, 97	Number of farms participating in direct marketing, all types, for county vs. time, ag. census years (1987 no data published, extrapolated).	U.S. Census of Agriculture, Geographic (Area) Series.
Estimated Dollar Value, Farmer's Market Sales	1999	Estimated total sales from all farmer's markets in the county. Single year.	Sustainable Agriculture Research and Education Program, UC Davis
Estimated Dollar Value, CSA Sales	?	Estimated total sales from all community supported sustainable agriculture (CSA) programs in the county. Single year.	None yet found
Estimated Dollar Value, Roadside Stand Sales	?	Estimated total sales from roadside stands in the county. Single year.	None yet found

Food Distribution System			
Inflation Adjustment, Food Manufacturers	72, 77, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Bureau of Labor Statistics Producer Price Index data, non-seasonally adjusted annual average, processed foods and feeds group.
Inflation Adjustment, Farm Product Wholesalers	72, 77, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Bureau of Labor Statistics Producer Price Index data, non-seasonally adjusted annual average, crude foodstuffs and feedstuffs group.
Inflation Adjustment, Food Wholesalers and Retailers	72, 77, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Bureau of Labor Statistics Producer Price Index data, non-seasonally adjusted annual average, finished consumer foods group.
Inflation Adjustment, Food Servers	72, 77, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Consumer Price Index data compiled by Robert Sahr, Political Science Department, Oregon State University, Corvalis, Oregon.
Food Manufacturers Net Value Added to Products	72, 77, 82, 87, 92, 97	Total earnings for the county vs. time, economic census years.	U.S. Economic Census, Geographic Area Series.
Farm Product Wholesalers Gross Receipts	72, 77, 82, 87, 92, 97	Total earnings for the county vs. time, economic census years.	U.S. Economic Census, Geographic Area Series.
Food Wholesalers Gross Receipts	72, 77, 82, 87, 92, 97	Total earnings for the county vs. time, economic census years.	U.S. Economic Census, Geographic Area Series.
Food Retailers Gross Receipts	72, 77, 82, 87, 92, 97	Total earnings for the county vs. time, economic census years.	U.S. Economic Census, Geographic Area Series.
Food Servers Gross Receipts	72, 77, 82, 87, 92, 97	Total earnings for the county vs. time, economic census years.	U.S. Economic Census, Geographic Area Series.

DATA SOURCES: FOOD SYSTEM WAGES AND EMPLOYMENT INDICATORS

Indicator	Years	Measure/Graph	Source
Agricultural Production			
Employment as Farmers			
Number Full Owners of Farms in the State	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Number of full owners of farms in state vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Number Full Owners of Farms in the County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Number of full owners of farms in county vs. time for ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Percent of State Full Farm Owners from County	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Number of full owners of farms in county as percent of total number full farm owners in state vs. time for ag. census years.	Calculate using U.S. Census of Agriculture, Geographic (Area) Series data.
Farm Labor Wages			
Inflation Adjustment	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Consumer Price Index data compiled by Robert Sahr, Political Science Department, Oregon State University, Corvalis, Oregon.
County Total Wages	69, 74, 78, 82, 87, 92, 97	Total wages earned by the labor force in the county, all occupations, vs. time for ag. census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
Farm Labor Wages	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Wages paid to all farm workers working 150 days/year or more in county vs. time, ag. census years.	U.S. Census of Agriculture, Geographic (Area) Series, specified farm expenditures data.
Farming Labor Wages as Percent County Total Wages	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Wages paid to all farm workers in county as % of total wages in county vs. time for ag. census years.	Calculated from the two preceding data sets.
Average Annual Earnings for a Farm Laborer (adjusted for inflation)	50, 54, 59, 64, 69, 74, 78, 82, 87, 92, 97	Total county farm labor wages for the county divided by total county farm labor employment times inflation adjustment vs. time for ag. census years.	Calculated using total farm labor wage data and total farm labor employment data from this section, adjusted with inflation adjustment factor from this section.
Farm Labor Employment			
County Total Employment	69, 74, 78, 82, 87 extr., 92, 97	Total number of people employed in the county, all occupations, for time vs. ag. census years. (1987 not reported, extrapolated). Not graphed.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
State Farm Labor Employment	50, 54, 59, 64, 69, 74, 78, 82, 87 extr., 92, 97	Number people employed on farms in state for 150 days/year or more vs. time, ag. census year. (1987 not reported, extrapolated). Not graphed.	U.S. Census of Agriculture, Geographic (Area) Series.
County Farm Labor Employment	50, 54, 59, 64, 69, 74, 78, 82, 87 extr., 92, 97	Number of farm workers working 150 days/year or more in county vs. time, ag. census years. (1987 not reported, extrapolated).	U.S. Census of Agriculture, Geographic (Area) Series.
County Farm Labor Employment as Percent of State Total	50, 54, 59, 64, 69, 74, 78, 82, 87 extr., 92, 97	Number hired farm workers in county as percent state total vs. time, ag census years. (1987 not reported, extrapolated).	Calculated from the two preceding data sets.
Farm Labor Employment as Percentage of County Total Employment	69, 74, 78, 82, 87 extr., 92, 97	Number workers employed in farming as % of total county work force vs. time for ag. census years. (1987 not reported, extrapolated).	Calculated using county total employment and county farm labor employment data sets.

Food Distribution System			
Food Distribution System Wages			
Inflation Adjustment	72, 77, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Consumer Price Index data compiled by Robert Sahr, Political Science Department, Oregon State University, Corvalis, Oregon.
Total Food Distribution System Wages for the County	72, 77, 82, 87, 92, 97	Wages paid to all food distribution system workers in county vs. time for economic census years.	Summed from U.S. Economic Census, Geographic Area Series data in this section.
Food Distribution Wages as Percent of County Total Wages	72, 77, 82, 87, 92, 97	Wages paid to all food distribution system workers in county as percent of total wages in county vs. time for economic census years.	Calculated using total county wages from demographic section and sum of all food system wages from this section.
Average Annual Earnings for a Food Distribution System Employee (adjusted for inflation)	72, 77, 82, 87, 92, 97	Total food distribution system wages for the county divided by total food distribution system employment times inflation adjustment vs. time for economic census years.	Calculated using sum of all food distribution system employment and sum of all wages from this section, adjusted with inflation adjustment factor from this section.
Farm Product Raw Material Wholesaler Wages Paid, County	72, 77, 82, 87, 92, 97	One graph with a line for each measure in dollars vs. time, economic census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Food Manufacturers Wages Paid, County			
Food Wholesalers Wages Paid, County			
Food Retailers Wages Paid, County			
Food Servers Wages Paid, County			
Food Distribution System Employment			
Total Food Distribution System Employment for the State	72, 77, 82, 87, 92	Number workers employed in food system in state, sum of state totals for each food system category from economic census. Not graphed.	Summed from U.S. Economic Census, Geographic Area Series data in this section.
Total Food Distribution System Employment for the County	72, 77, 82, 87, 92, 97	Number workers employed in food distribution system in the county vs. time, economic census years.	Summed from U.S. Economic Census, Geographic Area Series data in this section.
Total County Food Distribution System Employment as Percent State Total	72, 77, 82, 87, 92	Total number workers employed in the county for all parts of food distribution system as percent of state total food system employment vs. time for economic census years.	Calculate summing food system data in this section.
Food Distribution System Employment as Percent County Total Employment	72, 77, 82, 87, 92, 97	Number workers employed in food distribution system as percent of total county work force vs. time for economic census years.	Calculate using total county employment from demographic section and sum of all food system employment from this section.
Farm Product Raw Material Wholesaler Employment, County	72, 77, 82, 87, 92, 97	One graph with a line for each measure vs. time, economic census years.	U.S. Census of Agriculture, Geographic (Area) Series.
Food Manufacturers Employment, County			
Food Wholesalers Employment, County			
Food Retailers Gross Employment, County			
Food Servers Gross Employment, County			

DATA SOURCES: FOOD CONSUMPTION INIDICATORS

Descriptor	Years	Measure/Graph	Source
Inflation Adjustment	72, 77, 82, 87, 92, 97	Factor used as multiplier to convert dollar values for a given year to 1997 equivalent.	Consumer Price Index data compiled by Robert Sahr, Political Science Department, Oregon State University, Corvalis, Oregon.
Total Food Expenditures			
Total Food Expenditures, County	72, 77, 82, 87, 92, 97	Sum of food retailer and food server gross receipts reported in the Economic Census vs. time, Economic Census years.	U.S. Economic Census, Geographic Area Series.
Total Food Expenditures in County Derived from National Average	72, 77, 82, 87, 92, 97	County population divided by US population, multiplied by total US food expenditures from Food Consumption, Prices, and Expenditures vs. time, Economic Census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM; US Census Bureau Historical National Population Estimates; Food Consumption, Prices, and Expenditures, USDA.
Total County Earnings	72, 77, 82, 87, 92, 97	Total county wages vs. time, Economic Census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
Total Food Expenditures in County as % Total County Earnings	72, 77, 82, 87, 92, 97	Total food expenditures as percent of total county earnings vs. time for Economic Census years.	Calculated from Economic Census and Bureau of Economic Analysis data in this section.
Per Capita Food Expenditures			
County Population	72, 77, 82, 87, 92, 97	County population vs. time, Economic Census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
County Per Capita Income	72, 77, 82, 87, 92, 97	County per capita income vs. time, Economic Census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.
Per Capita Food Expenditures, National Average	72, 77, 82, 87, 92, 97	Total US food expenditures reported in Food Consumption, Prices, and Expenditures divided by US population vs. time, Economic Census years.	Food Consumption, Prices, and Expenditures, USDA; US Census Bureau Historical National Population Estimates.
Per Capita Food Expenditures, County	72, 77, 82, 87, 92, 97	Total food expenditures for county from Economic Census data divided by county population vs. time for Economic Census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.; U.S. Economic Census, Geographic Area Series.
Per Capita Food Expenditures, County Deviation from National Average	72, 77, 82, 87, 92, 97	Difference between per capita food expenditures, county and per capita food expenditures, national average, vs. time for Economic Census years.	Calculated from preceding two variables.
County Per Capita Food Expenditures as % Per Capita Income (adjusted for inflation)	72, 77, 82, 87, 92, 97	Per capita food expenditures, county, as percent county per capita income vs. time, Economic Census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.; U.S. Economic Census, Geographic Area Series.
National Average Derived County Per Capita Food Expenditures as % Per Capita Income (adjusted for inflation)	72, 77, 82, 87, 92, 97	Inflation adjusted per capita food expenditures, national average, divided by inflation adjusted county per capita income times 100 vs. time, Economic Census years.	Bureau of Economic Analysis Regional Economic Analysis CD ROM.; U.S. Economic Census, Geographic Area Series.

Dollars Spent on Food, Home vs. Away			
Food Retailers' Gross Receipts (Home)	72, 77, 82, 87, 92, 97	Food retailers' gross receipts vs. time, Economic Census years.	U.S. Economic Census, Geographic Area Series.
Food Servers' Gross Receipts (Away)	72, 77, 82, 87, 92, 97	Food servers' gross receipts vs. time, Economic Census years.	U.S. Economic Census, Geographic Area Series.
Money Spent on Food at Home in County, Derived from National Average	72, 77, 82, 87, 92, 97	Total US food expenditures for home reported in Food Consumption, Prices, and Expenditures divided by US population, multiplied by county population vs. time for Economic Census years.	Food Consumption, Prices, and Expenditures, USDA; US Census Bureau Historical National Population Estimates; Bureau of Economic Analysis Regional Economic Analysis CD ROM.
Money Spent on Food Away from Home in County, Derived from National Average	72, 77, 82, 87, 92, 97	Total US food expenditures away from home reported in Food Consumption, Prices, and Expenditures divided by US population, multiplied by county population vs. time for Economic Census years.	Food Consumption, Prices, and Expenditures, USDA; US Census Bureau Historical National Population Estimates; Bureau of Economic Analysis Regional Economic Analysis CD ROM.
Ratio, Food Consumed Home vs. Away, County	72, 77, 82, 87, 92, 97	Ratio, food retailers' gross receipts divided by food servers' gross receipts for county vs. time for Economic Census years.	U.S. Economic Census, Geographic Area Series.
National Averages, Ratio Food Consumption, Home vs. Away	72, 77, 82, 87, 92, 97	Ratio, total US food expenditures for home divided by expenditures away, data reported in Food Consumption, Prices, and Expenditures vs. time for Economic Census years.	Food Consumption, Prices, and Expenditures, USDA.

DATA SOURCES: COMMUNITY FOOD SECURITY AND ACCESS INDICATORS

Indicator	Years	Measure/Graph	Source
Government Food Program Participation			
County Population	69, 74, 78, 82, 87, 92, 97	Number of People in the county vs. time. Not graphed.	California Department of Finance Demographic Research Unit.
Number of People Receiving Food Stamps	69, 74, 78, 82, 87, 92, 97	Number of individuals participating in the food stamp program in the county vs. time.	California Department of social Welfare, Public Assistance in California (Periodical).
Percent of County Population Receiving Food Stamps	69, 74, 78, 82, 87, 92, 97	Number of individuals participating in the food stamp program in the county as a percent of total county population vs. time.	Calculated from preceding two measures.
County Population	90, 92, 94, 96, 98	Number of People in the county vs. time. Not graphed.	California Department of Finance Demographic Research Unit.
Number of People in WIC Programs	90, 92, 94, 96, 98	Number of people in WIC programs in the county vs. time.	California State WIC Office.
Percent of County Population in WIC Programs	90, 92, 94, 96, 98	Number of people in WIC programs as a percent of county population vs. time.	California State WIC Office.
Number of FMNP's	Single year?	Number of FMNP's in the county.	California State WIC Office.
Number of People Reached by FMNP's	1997	Number of people reached by FMNP's vs. time.	California State WIC Office.
Number of Children Enrolled in School Meal Programs	Single year?	Number of students receiving free and reduced price lunches.	California Department of Education, Compiled by RAND Corporation.
Community Kitchens			
Number of Community Kitchens	Single year?	Number of community kitchens in the county.	Cooperative Extension.
Food Banks			
Number of Food Banks	Single year?	Number of food banks in the county.	SAREP, NE-185 phone survey
Number of People Served by Food Banks	Single year?	Number of people served by county food banks.	None yet found
Pounds of Food Served at Food Banks	Single year?	Pounds of food served at county food banks.	None yet found
Gleaning Programs			
Number of Gleaning Programs	Single year?	Number of gleaning programs active in the county.	None yet found
Pounds of Food Gleaned	Single year?	Pounds of food gleaned from sources in the county.	None yet found
Number of Gleaning Program Participants	Single year?	Number of people participating in gleaning programs and activities.	None yet found
Community Gardens			
Number of Community Gardens	Single year?	Number of community gardens in the county.	SAREP, NE-185 phone survey
Number of Community Gardeners	Single year?	Number of people using community gardening space in the county.	SAREP, NE-185 phone survey

DATA SOURCES: EDUCATION AND ADVOCACY INDICATORS

Indicator	Years	Measure/Graph	Source
K-12 Schools with Agriculture/Food Education			
Number of Schools in the County with Educational Gardens	Single year?	Number of schools in the county with educational garden programs.	SAREP, NE-185 phone survey
Number of Schools in the County with Agricultural Vocational Education	Single year?	Number of schools in the county with courses in agriculture as a vocation.	SAREP, NE-185 phone survey
Number of Schools in County with "Agriculture in the Classroom"	Single year?	Number of schools in the county with "Agriculture in the Classroom" programs.	None yet found
Higher Education Institutions with Sustainable Agriculture Courses			
Number of Universities, Colleges, and Community Colleges in the County with Sustainable Agriculture Courses	Single year?	Number of universities, colleges, and community colleges in the county with courses in sustainable, organic, or other alternative agriculture.	SAREP, NE-185 phone survey
Sustainable Agriculture and Consumer Advocacy			
Number of Sustainable Agriculture Organizations Active in the County	Single year?	Number of sustainable agriculture organizations active in the county.	None yet found
Number of Consumer Advocacy Organizations Active in the County	Single year?	Number of consumer advocacy organizations active in the county.	None yet found
Number of County-Resident Members in Sustainable Agriculture Organizations	Single year?	Number of county-resident members in sustainable agriculture organizations.	None yet found
Number of County-Resident Members in Consumer Advocacy Organizations	Single year?	Number of county-resident members in consumer advocacy organizations.	None yet found
Agricultural Tourism			
Number of Agricultural Tourism Programs in the County	Single year?	Number of agricultural tourism programs in the county.	County Cooperative Extension?
Community Food Security			
Number of Community Food Security Projects in the County	Single year?	Number of community food security projects in the county.	SAREP, NE-185 phone survey
Number of Hunger Advocacy Organizations Active in the County	Single year?	Number of hunger advocacy organizations active in the county.	None yet found

DEMOGRAPHIC INDICATORS - STANISLAUS COUNTY

Year	1969(70)	1974	1977/78	1982	1987	1992	1997		
Population									
State Population	*19,711,000*	*21,172,548*	*22,350,247*	*24,820,007*	*27,777,160*	*30,854,222*	*32,182,118*		
County Population	194,506	216,400	249,400	278,400	318,900	392,100	421,900		
Year	1969	1974	1978	1982	1987	1992	1997		
County Population as Percent of State Population	0.0099	0.0102	0.0112	0.0112	0.0115	0.0127	0.0131		
Year	1969	1974	1978	1982	1987	1992	1997		
Population Density, Persons per sq. mile	130	145	167	186	213	262	282		
Year	1969	1974	1978	1982	1987	1992	1997		
Urban Growth									
Percent of County Population in Cities over 50K	32%	36%	39%	42%	44%	44%	55%		
Year	1969	1974	1978	1982	1987	1992	1997		
Ethnic Distribution									
Caucasian	87.54%	84.34%	81.93%	78.06%	72.90%	68.65%	64.05%		
Latino	10.11%	12.48%	14.32%	16.97%	20.37%	22.41%	26.11%		
Asian and Pacific Islander	1.19%	1.46%	1.66%	2.64%	4.22%	5.89%	6.75%		
Native American	0.32%	0.68%	0.96%	1.02%	0.96%	1.21%	1.21%		
Black	0.93%	1.04%	1.13%	1.30%	1.54%	1.85%	1.87%		
Year	1969	1974	1978	1982	1987	1992	1997		
Income									
Total Employment for the County	82,119	98,371	116,110	124,890	147,937	174,665	192,362		
Year	1969	1974	1978	1982	1987	1992	1997		
Total Wages for the County, adj. for infl.	$2,200,628,821	$2,845,247,557	$3,401,576,355	$3,155,677,205	$4,385,008,475	$5,013,201,373	$5,273,037,000		
Year	1969	1974	1978	1982	1987	1992	1997		
County Per Capita Annual Income, adj. for inf.	$15,983	$17,935	$19,931	$18,145	$20,528	$19,633	$19,650		
Year	1969	1974	1978	1982	1987	1992	1997		
County's Rank in the State for Per Capita Income	38	35	31	28	30	36	37	out of 58 total	
Year	1969	1974	1978	1982	1987	1992	1997		
					Expanded Time Scale				
			1985	1988	1991	1994	1997		
Poverty									
Number Welfare Recipients (AFDC/TANF) in Stanislaus County	19,266	15,752	17,640	24,005	29,819	37,170	46,557	37,625	
	1970	*1974*	*1978*	*1982*	*1986*	*1990*	*1994*	*1998*	
Number Welfare Recipients (AFDC/TANF) in California	1,141,086	1,319,756	1,416,678	1,533,345	1,636,050	1,856,691	2,603,110	2,149,897	
	1970	*1974*	*1978*	*1982*	*1986*	*1990*	*1994*	*1998*	*Ave*
Percentage of Stanislaus County Population Receiving Welfare	0.099	0.073	0.071	0.086	0.097	0.098	0.112	0.086	0.09025
	1970	*1974*	*1978*	*1982*	*1986*	*1990*	*1994*	*1998*	*Ave*
Percentage of California's Population Receiving Welfare	0.057	0.062	0.062	0.062	0.06	0.062	0.081	0.064	0.06375
	1970	*1974*	*1978*	*1982*	*1986*	*1990*	*1994*	*1998*	
County Civilian Unemployment Rate, Percent			0.1530	0.1230	0.1460	0.1570	0.1220		
			1985	1988	1991	1994	1998		
State Civilian Unemployment Rate, Percent			0.072	0.053	0.075	0.086	0.059		
			1985	1988	1991	1994	1998		
Percentage Stanislaus County Population Below Poverty Line	14.5%	11.9%	14.1%	18.20%					
	1969-1970	1979-1980	1989-1990	2000					
Percentage California Population Below Poverty Line	11.10%	11.40%	12.50%	14.00%					
	1969-1970	1979-1980	1989-1990	2000					
% of County's Families Below Poverty Line		31.4%	24.5%	11.9%	10.0%	11.4%	11.0%		
		1950	1960	1970	1980	1990	2000		
Year	**1969**	**1974**	**1977**	**1982**	**1987**	**1992**	**1997**		

AGRICULTURAL RESOURCE BASE INDICATORS - STANISLAUS COUNTY

Year	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Farm Numbers and Acreage													
Number of Farms in State	138,917	137,168	123,075	99,274	80,852	77,875	67,674	73,194	82,463	83,217	77,669	74,126	
Acres in Farming, State Total	35,054,379	36,613,291	37,794,780	36,887,948	37,010,500	35,722,348	33,385,619	32,727,202	32,156,894	30,598,178	28,978,997	27,698,779	
Number of Farms in Stanislaus County	6,660	6,610	6,629	6,000	4,881	4,772	4,325	4,268	4,611	4,630	4,354	4,009	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Acres in Farming in the County	904,924	843,174	884,726	847,395	811,591	759,532	750,565	813,145	807,199	719,845	759,649	732,736	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Percent of California's Farms in Stanislaus County	4.79%	4.82%	5.39%	6.04%	6.04%	6.13%	6.39%	5.83%	5.59%	5.56%	5.61%	5.41%	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Percent of California's Farm Acreage in Stanislaus County	2.58%	2.30%	2.34%	2.30%	2.19%	2.13%	2.25%	2.48%	2.51%	2.35%	2.62%	2.65%	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Average Farm Size, Acres	135.90	127.60	133.50	141.20	166.30	159.00	174.00	191.00	175.00	155.00	174.00	183.00	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Number Farms by Acreage Size Class													
	6660	7787	6629	6000	4881	4772	4325	4264	4611	4630	4354	4009	
1 to 9	1275	2354	1427	1266	777	913	812	856	1209	1190	1068	962	
10 to 49	3482	3502	3264	2868	2419	2293	2011	1919	1948	1987	1854	1662	
50 to 99	958	942	954	831	728	662	625	558	518	539	498	449	
100 to 499	680	748	732	780	712	679	668	710	701	682	674	677	
500 to 999	112	106	117	127	123	105	87	101	112	105	121	126	
1000 or more	153	135	135	128	122	120	122	120	123	127	139	133	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Farm Ownership													
Acres in Full Ownership	409,321	317,403	258,241	221,202	189,337	223,939	305,346	269,291	264,496	295,566	253,013	203,221	
Acres in Part Ownership	255,481	318,508	326,968	347,567	377,342	406,654	363,141	409,065	431,754	325,157	346,566	369,700	
Acres in Tenant Farming	135,579	157,080	178,984	195,846	151,296	128,939	82,078	134,789	110,949	99,122	160,070	159,815	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Number of Full Owners in County	5,052	4,770	4,651	4,190	3,341	3,381	3,097	3,057	3,408	3,407	3,106	2,849	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Minority Farm Operators, Number of Farms							159	103	100	111	152	192	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
Age of Farmers													
Average Farmer Age				50.7	51.1	50.4	52.3	50.0	51.0	52.8	53.9	55.6	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	
										Expanded	Time	Scale	
						1986	1988	1990	1992	1994	1996	1998	
Organic Farming													
Number of Organic Farms										11	12	12	
										1996	1997	1998	
Acreage in Organic Farming										171	244	235	
										1996	1997	1998	
Land Conservation													
Acres of Farmland Converted for Development						594	1,366	1,097	1,892	775	834	2022	
(time interval)						1984-86	1986-88	1988-90	1990-92	1992-94	1994-96	1996-98	
Acres Enrolled in the Williamson Act							568,329	667,629	699,038	709,431	661,487	656,101	660,336
							1974	1978	1982	1987	1992	1997	
Year	**1945**	**1950**	**1954**	**1959**	**1964**	**1969**	**1974**	**1978**	**1982**	**1987**	**1992**	**1997**	
									1				
Number of Farms in Stanislaus County	6,660	6,610	6,629	6,000	4,881	4,772	4,325	4,268	4,611	4,630	4,354	4,009	
Number of Full Owners in County	5,052	4,770	4,651	4,190	3,341	3,381	3,097	3,057	3,408	3,407	3,106	2,849	
1 to 9	1275	2354	1427	1266	777	913	812	856	1209	1190	1068	962	
10 to 49	3482	3502	3264	2868	2419	2293	2011	1919	1948	1987	1854	1662	
	1945	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997	

FOOD CONSUMPTION INDICATORS - STANISLAUS COUNTY

Year	1972	1977	1982	1987	1992	1997
inflation adjustment	*3.85*	*2.65*	*1.66*	*1.41*	*1.14*	*1.00*
Total Food Expenditures						
Total Food Expenditures, County (a)	$143,946,000	$253,689,000	$429,847,000	$615,623,000	$858,479,000	$913,781,000
adjusted for inflation	*$553,638,462*	*$671,134,921*	*$715,219,634*	*$869,524,011*	*$982,241,419*	*$913,781,000*
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
Total Food Expenditures in County Derived from National Average (b)	$113,043,687	$206,510,256	$364,006,463	$520,292,761	$789,643,562	$991,635,982
adjusted for inflation	*$434,783,412*	*$546,323,429*	*$605,667,992*	*$734,876,781*	*$903,482,336*	*$991,635,982*
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
Total County Earnings	$667,859,000	$1,234,793,000	$1,886,017,000	$3,024,540,000	$4,257,292,000	$5,090,785,000
adjusted for inflation	*$2,568,688,462*	*$3,266,648,148*	*$3,138,131,448*	*$4,271,949,153*	*$4,871,043,478*	*$5,090,785,000*
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
Total Food Expenditures in County as % Total County Earnings	21.55%	20.55%	22.79%	20.35%	20.16%	17.95%
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
Per Capita Food Expenditures						
County Population	204,900	239,000	278,400	318,900	392,100	421,900
County Per Capita Income	$4,641	$7,184	$10,905	$14,534	$17,159	$19,650
adjusted for inflation	*$17,850*	*$19,005*	*$18,145*	*$20,528*	*$19,633*	*$19,650*
Per Capita Food Expenditures, National Average (c)	$552.00	$864.00	$1,307.00	$1,632.00	$2,014.00	$2,350.00
adjusted for inflation	*$2,123.08*	*$2,285.71*	*$2,174.71*	*$2,305.08*	*$2,304.35*	*$2,350.00*
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
Per Capita Food Expenditures, County	$703	$1,061	$1,544	$1,930	$2,189	$2,166
adjusted for inflation	*$2,702.00*	*$2,808.10*	*$2,569.03*	*$2,726.64*	*$2,505.08*	*$2,165.87*
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
Per Capita Food Expenditures, County Deviation from National Average (d)	$150.52	$197.46	$236.99	$298.46	$175.44	-$184.13
adjusted for inflation	*$578.92*	*$522.38*	*$394.33*	*$421.55*	*$200.73*	*-$184.13*
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
	11.89%	*12.03%*	*11.99%*	*11.23%*	*11.74%*	*11.96%*
County Per Capita Food Expenditures as % Per Capita Income	15.14%	14.78%	14.16%	13.28%	12.76%	11.02%
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
Dollars Spent on Food, Home vs. Away adj for infl						
	$112,403,000	$189,766,000	$322,178,000	$440,213,000	$611,389,000	$633,557,000
In-Home: Food Retailers' Gross Receipts	*$432,319,231*	*$502,026,455*	*$536,069,884*	*$621,769,774*	*$699,529,748*	*$633,557,000*
Out-of-Home: Food Servers' Gross Receipts	*$121,319,231*	*$169,108,466*	*$179,149,750*	*$247,754,237*	*$282,711,670*	*$280,224,000*
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
	$31,543,000	$63,923,000	$107,669,000	$175,410,000	$247,090,000	$280,224,000
Food Servers' Gross Receipts (Away)	*$121,319,231*	*$169,108,466*	*$179,149,750*	*$247,754,237*	*$282,711,670*	*$280,224,000*
	$82,391,081	$143,027,072	$238,424,834	$327,733,107	$494,449,707	$614,927,746
Money Spent on Food at Home in County, Derived from National Average (h)	*$316,888,773*	*$378,378,497*	*$396,713,534*	*$462,899,869*	*$565,731,930*	*$614,927,746*
Money Spent on Food Away from Home in County, Derived from National Average (i)	*$117,519,177*	*$167,944,931*	*$208,954,458*	*$271,976,911*	*$337,750,406*	*$376,708,235*
	1972	**1977**	**1982**	**1987**	**1992**	**1997**
Money Spent on Food Away from Home in County, Derived from National Average (f)	$30,554,986	$63,483,184	$125,581,629	$192,559,653	$295,193,855	$376,708,235
adjusted for inflation	*$117,519,177*	*$167,944,931*	*$208,954,458*	*$271,976,911*	*$337,750,406*	*$376,708,235*
Ratio, Food Consumed Home vs. Away, County (j)	3.56	2.97	2.99	2.51	2.47	2.26
National Averages, Ratio Food Consumption, Home vs. Away (k)	2.70	2.25	1.90	1.70	1.68	1.63
Year	**1972**	**1977**	**1982**	**1987**	**1992**	**1997**

(a) Sum of food retailer and food server gross receipts reported in the Economic Census.
(b) County population divided by US population times total US food expenditures reported in Food Consumption, Prices, and Expenditures.
(c) Total US food expenditures reported in Food Consumption, Prices, and Expenditures divided by US population.
(d) Difference, preceding two variables.
(e) Total US food expenditures for home reported in Food Consumption, Prices, and Expenditures divided by US population times county population.
(f) Total US food expenditures away from home reported in Food Consumption, Prices, and Expenditures divided by US population times county population.
(g) Ratio, food retailers gross receipts divided by food servers gross receipts for county.
(h) Ratio, total US food expenditures for home divided by expenditures away, data reported in Food Consumption, Prices, and Expenditures.

	11.89%	12.03%	11.99%	11.23%	11.74%	11.96%
	1972	**1977**	**1982**	**1987**	**1992**	**1997**

FOOD SYSTEM WAGES AND EMPLOYMENT INDICATORS - STANISLAUS COUNTY

Year	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
Agricultural Production											
Employment as Farmers											
Number Full Owners of Farms in the State	100,834	89,725	68,463	53,218	53,727	47,339	51,729	60,556	60,639	56,559	53,878
Number Full Owners of Farms in the County	4,770	4,651	4,190	3,341	3,381	3,097	3,057	3,408	3,407	3,106	2,849
Percent of State Full Farm Owners from County	4.73%	5.18%	6.12%	6.28%	6.29%	6.54%	5.91%	5.63%	5.62%	5.49%	5.29%
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
Farm Labor Wages											
County Total Wages adj. for infl.					$2,186,349,345	$2,855,035,831	$3,407,480,296	$3,138,131,448	$4,271,949,153	$4,871,043,478	$5,090,785,000
Farm Labor Wages (fr spec farm exp) adj. for infl.	$74,962,280	$81,004,512	$95,790,895	$113,396,373	$140,245,275	$120,661,238	$112,859,606	$104,692,180	$130,645,480	$125,754,005	$137,374,000
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
Farm Labor Wages as % County Total Wages					6.41%	4.23%	3.31%	3.34%	3.06%	2.58%	2.70%
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
estimated average county farm worker wage	$17,934	$37,817	$39,372	$29,393	$30,674.82	$28,627	$22,897	$18,813	$21,048	$18,364	$19,104
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
Farm Labor Employment											
County Total Employment					82,119	98,371	116,110	124,890	147,937	174,665	192,362
State Farm Labor Employment (working 150 days/yr or more)	94,534	80,605	80,280	122,521	105,381	136,216	165,327	169,954	176,121	182,287	186,358
County Farm Labor Employment (working 150 days/yr or more)	4,180	2,142	2,433	3,858	4,572	4,215	4,929	5,565	6,207	6,848	7,191
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
County Farm Labor Employment as % State Total	4.42%	2.66%	3.03%	3.15%	4.34%	3.09%	2.98%	3.27%	3.52%	3.76%	3.86%
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
Farm Labor Employment as % County Total Employment					5.57%	4.28%	4.25%	4.46%	4.20%	3.92%	3.74%
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
Food Distribution System						**1972**	**1977**	**1982**	**1987**	**1992**	**1997**
Average annual earnings of a food distribution system worker for the county						$26,799	$26,963	$24,235	$23,505	$21,495	$20,949
Year						**1972**	**1977**	**1982**	**1987**	**1992**	**1997**
Food Distribution System Wages, adjusted for inflation											
Total Food Distribution System Wages for the County						$379,101,800	$512,427,850	$538,183,620	$585,140,130	$613,049,820	$527,209,000
Ave annual earnings of a food distribution system worker for the county						**1972**	**1977**	**1982**	**1987**	**1992**	**1997**
Food Distribution System Wages as % County Total Wages						19.51%	21.35%	21.78%	19.02%	17.50%	13.75%
						1972	**1977**	**1982**	**1987**	**1992**	**1997**
Farm Product Raw Material Wholesaler Wages Paid, County						$3,087,700	$2,763,950	$5,180,860	$3,870,450	$4,501,860	$3,657,000
Food Manufacturers Wages Paid, County						$282,975,000	$388,225,000	$414,834,000	$426,102,000	$434,454,000	$346,263,000
Food Wholesalers Wages Paid, County						$21,236,600	$32,942,150	$18,829,380	$31,954,830	$37,428,480	$42,196,000
Food Retailers Gross Wages Paid, County						$42,342,300	$47,331,650	$55,155,160	$61,903,230	$69,128,460	$62,392,000
Food Servers Gross Wages Paid, County						$29,460,200	$41,165,100	$44,184,220	$61,309,620	$67,537,020	$72,701,000
						1972	**1977**	**1982**	**1987**	**1992**	**1997**
Food Distribution System Employment											
Total Food Distribution System Employment for the State						691,801	870,166	1,061,295	1,309,238	1,356,521	1,407,936
Total Food Distribution System Employment for the County						14,146	19,005	22,207	24,894	28,521	25,166
						1972	**1977**	**1982**	**1987**	**1992**	**1997**
Total County Food Distribution System Employment as % State Total						2.04%	2.18%	2.09%	1.90%	2.10%	1.79%
						1972	**1977**	**1982**	**1987**	**1992**	**1997**
Food Distribution System Employment as % County Total Employment						15.63%	17.26%	17.78%	16.83%	16.33%	13.08%
						1972	**1977**	**1982**	**1987**	**1992**	**1997**
Farm Product Raw Material Wholesaler Employment, County						154	231	346	214	273	208
Food Manufacturers Employment, County						9,900	12,100	13,800	13,500	15,100	11,227
Food Wholesalers Employment, County						457	1,086	600	971	1,375	1,381
Food Retailers Employment, County						1,505	1,877	2,482	3,089	3,737	3,244
Food Servers Employment, County						2,130	3,711	4,979	7,120	8,036	9,106
						1972	**1977**	**1982**	**1987**	**1992**	**1997**

FOOD DISTRIBUTION NETWORK INDICATORS - STANISLAUS COUNTY

Year	1972	1977	1982	1987	1992	1997
Number of Farm Product Raw Material Wholesalers	11	12	11	16	20	17
Number of Food Manufacturers	77	76	79	68	68	74
Number of Food Wholesalers	47	40	51	57	64	61
Number of Food Retailers	241	262	236	244	253	208
Number of Food Servers	366	379	362	473	540	634
Number of Farmer's Markets						
Number of CSA's						
Number of Roadside Stands						

ECONOMIC PRODUCTIVITY INDICATORS - STANISLAUS COUNTY

Year/Measure	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
				1963	1967	1973	1977		1986		
Gross Agricultural Productivity											
State Gross Agricultural Production adj for infl.	$4,466,567,274	$2,778,444,294	$7,927,273,357	$10,143,139,455	$9,783,358,875	$10,786,622,449	$11,936,287,001	$14,098,693,002	$16,539,283,688	$18,575,067,538	$23,032,259,000
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
ss Agricultural Production, Stanislaus County adj. for infl.	$168,311,413	$234,336,144	$323,071,185	$433,446,281	$557,227,311	$465,991,254	$538,392,535	$626,881,490	$928,983,452	$977,187,364	$1,208,524,000
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
County Gross Production as Percent of State Total	3.77%	8.43%	4.08%	4.27%	5.70%	4.32%	4.51%	4.45%	5.62%	5.26%	5.25%
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
oss Agricultural Production per Acre of Agricultural Land	$199.62	$264.87	$381.25	$534.07	$733.65	$620.85	$662.11	$776.61	$1,290.53	$1,286.37	$1,649.33
	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997
Direct Marketing	843,174	884,726	847,395	811,591	759,532	750,565	813,145	807,199	719,845	759,649	732,736
Gross Receipts from Direct Marketing, all Types, all Farms adj for infl							$1,628,057	$1,525,959	$2,054,970	$2,321,351	$3,343,000
							1978	1982	1987	1992	1997
Number of Farms Engaged in Direct Marketing, all Types							271	350	278	205	228
							1978	1982	1987	1992	1997
Estimated Dollar Value, Farmers Market Sales											
Estimated Dollar Value, CSA Sales											
Estimated Dollar Value, Roadside Stand Sales											
Food Distribution System											
Year						**1972**	**1977**	**1982**	**1987**	**1992**	**1997**
Farm Product Wholesalers Gross Receipts adj inf						$79,069,717	$69,167,873	$121,044,893	$86,046,674	$111,716,115	$119,802,000
Food Manufacturers Net Value Added adj. for infl						$505,555,556	$685,405,405	$1,013,866,667	$1,988,009,889	$2,056,441,048	$1,661,747,000
Food Wholesalers Gross receipts adj. for infl						$317,103,152	$362,882,569	$421,767,473	$518,283,784	$661,117,775	$773,748,000
Food Retailers Gross Receipts adj for infl						$322,071,633	$348,194,495	$433,034,946	$540,802,211	$666,727,372	$633,557,000
Food Servers Gross Receipts adj for infl						$121,440,550	$169,395,950	$178,730,540	$247,328,100	$281,682,600	$280,224,000
						1972	1977	1982	1987	1992	1997
total ag acres	843,174	884,726	847,395	811,591	759,532	750,565	813,145	807,199	719,845	759,649	732,736
Gross Agricultural Production, Stan County adj. for infl.	$168,311,413	$234,336,144	$323,071,185	$433,446,281	$557,227,311	$465,991,254	$538,392,535	$626,881,490	$928,983,452	$977,187,364	$1,208,524,000
total specified farm exp adj for infl						$393,013,020	$313,059,780	$368,559,670	$730,554,520	$656,772,960	$756,280,000
estimated average net ag productivity per acre of ag land adj. for infl.						$97.23	$277.11	$320.02	$275.66	$421.79	$617.20
						1974	**1978**	**1982**	**1987**	**1992**	**1997**
total specified farm exp						269,187,000	242,682,000	326,159,000	619,114,000	602,544,000	756,280,000
						1.46	1.29	1.13	1.18	1.09	1

Top Ten Crops in Stanislaus County	**1961**	**1970**	**1979**	**1990**	**2000**
1	Field crops	Milk	Milk	Milk	Milk
2	Seed crops (1)	Cattle and calves	Almonds	Chickens	Almonds
3	Vegetable crops	Chicken eggs	Chickens	Almonds	Chickens
4	Fruit and nut	Chickens	Chicken eggs	Cattle and calves	Cattle and calves
5	Nursery products	Peaches	Cattle and calves	Chicken eggs	Fruit and nut nursery
6	Livestock and poultry	Tomatoes	Peaches	Tomatoes	Tomatoes
7	L.s./poultry prod. (eggs, milk)	Almonds	Walnuts	Turkeys	Walnuts
8	Apiary products (2)	Alfalfa hay	Grapes	Walnuts	Grapes
9		Grapes	Dry beans	Peaches	Peaches
10		Walnuts	Apricots	Grapes	Silage (cereal, corn)

(1) alfalfa, peas, red clover
(2) honey, beeswax, pollination

COMMUNITY FOOD SECURITY AND ACCESS INDICATORS - STANISLAUS COUNTY

Year	1970	1974	1978	1982	1988	1992	1997	2000
Government Food Program Participation								
County Population	*194,506*	*216,400*	*249,400*	*278,400*	*331,700*	*392,100*	*421,900*	*446,997*
State Population	*20,039,000*	*21,174,000*	*22,836,000*	*24,805,000*	*28,393,000*	*31,719,000*	*32,985,000*	*33,871,648*
FOOD STAMPS								
Number in ST Receiving Food Stamps	26,005	18,976	13,609	24,015	31,160	47,294	52,274	36,169
Percent ST Population Receiving Food Stamps	13.4%	8.8%	5.5%	8.6%	9.4%	12.1%	12.4%	8.1%
Number in CA Receiving Food Stamps	805,777	1,249,969	1,230,016	1,637,834	1,639,398	2,475,327	2,930,071	1,864,439
Percent CA Population Receiving Food Stamps	4.0%	5.9%	5.4%	6.6%	5.8%	7.8%	8.9%	5.5%
	1970	**1974**	**1978**	**1982**	**1988**	**1992**	**1997**	**2000**
WIC								
			1980	**1985**	**1990**	**1995**	**2000**	
County Population			*265,900*	*298,400*	*365,100*	*420,500*	*451,000*	
Ave Number WIC Participants per Month			2,500	4,200	6,700	13,750	14,600	
			1980	**1985**	**1990**	**1995**	**2000**	
Percent of County Population in WIC Programs			0.9%	1.4%	1.8%	3.3%	3.2%	
SCHOOL MEALS								
Number of Children Enrolled in Free Meal Programs		20,759	28,697	32,265	37,767	40,772	43,043	45,372
		1988	1990	1992	1994	1996	1998	2000
Year	**1969**	**1974**	**1977**	**1982**	**1987**	**1992**	**1997**	

ENVIRONMENTAL INDICATORS - STANISLAUS COUNTY

Year/Measure		1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997		AVG	
Pollution											Epanded Time Scale				
Well Water Pollution, Average Nitrate (NO3)	mg/L							20.5	21.9	18.2	17.6	19.4		19.52	
								1986	1990	1992	1995	1997			
Unhealthy Ozone Exposure Days, California	days					243	209	239	228	208	205	134		209.42857	
	year					1980	1983	1986	1989	1992	1995	1998			2001
Unhealthy Ozone Exposure Days, Stanislaus	days					22	12	39	20	10	19	24	7	20.857143	8
	year					1980	1983	1986	1989	1992	1995	1998	2000		2001
Total Supplemental Water Use In Agricultue															
Use of State and Federal Subsidised Water by Agriculture	acre feet/year						50,961	75,114	70,626	15,859	29,063	60,414		50,340	
							1982	1985	1988	1991	1994	1997			
Number of Farms Using Irrigation	number	6,100	6,021	5,589	4,605	3,726	3,447	3,945	3,992	3,890	3,761	3,523			3,760
		1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997			
Total Number of Irrigated Acres in the County	acres	317,054	336,755	355,423	349,694	306,866	310,164	340,750	343,628	312,192	333,744	359,427		333,245	
		1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997			
Synthetic Input Use and Dependence															
Pesticide Use, Total Pounds A.I. Applied*	lbs. active ingredient						2,915,352	1,789,434	2,136,271	4,378,762	4,485,843	4,012,747			
							1974	1978	1982	1987	1992	1997			
Expenditures on Fuel, Fertilizer, Pesticides	$US						24,288,000	36,601,000	59,766,000	54,405,000	85,292,000	83,436,000			
Total Specified Farm Expenditures	$US						269,187,000	242,682,000	326,159,000	619,114,000	602,544,000	756,280,000			
Cost of Inputs as Percent Total Farm Costs**	percent						9.02%	15.08%	18.32%	8.79%	14.16%	11.03%		12.73%	
							1974	1978	1982	1987	1992	1997			

Measure/Year	1950	1954	1959	1964	1969	1974	1978	1982	1987	1992	1997

* Excludes sulfur, inert ingredients, and organically acceptable materials.

** Calculated using total specified farm expenditures and reported expenditures on fertilizer, fuel, and pesticides, as reported in the Census of Agriculture.