VENTURA COUNTY'S

RESILIENT AGRICULTURAL LANDS INITIATIVE

APPENDICES

DRAFT 3: APRIL 03, 2023

A STRATEGIC PLAN TO BUILD COMMUNITY RESILIENCE

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APPENDIX A.

WORKING LANDS CONSERVATION INCENTIVES & TOOLS

AGRICULTURAL AND WORKING LANDS CONSERVATION INCENTIVES & TOOLS FOR THE VENTURA COUNTY AG STRATEGY

Incentives & Tools	Implements Strategies & Actions	Primary Purpose	Status	Type
Resiliency District	Lead Strategy 3	To carry out long-range conservation planning and purchase voluntary easements or land as an investment strategy in Ventura County agriculture and to support landowners and their business operations.	No current program - Assess for Ventura	Organizational and funding structure
CA Dept. Conservation Multibenefit Land Repurposing Program (MLRP)	Lead Strategy 1	Short-, mid-, or long-term incentive to repurpose irrigated lands to other non-irrigated uses. Incentives to keep certain lands in non-irrigated uses.	Applications for funding due in Spring 2023	Land Repurposing Voluntary Incentive
Williamson Act, Land Conservation Contract (LCA)	3C	Short-term avoidance/mitigation of incompatible development on farmland and incentivize commercial ag production	Active in Ventura County	Voluntary Incentive (temporary conservation)
Farmland Security Zone Area/LCA Contract (FSZA/ LCA)	3C	Mid-term avoidance/mitigation of incompatible development on farmland and incentivize commercial ag production	Active in Ventura County	Voluntary Incentive (temporary conservation)
Agricultural Conservation Easement (ACE) Program	3A	Permanent avoidance of incompatible development on farmland to support long-term viability of farming in agricultural areas.	No current program - Assess for Ventura	Voluntary Incentive (permanent conservation)
California Farmland Conservancy Program (CFCP)	Lead Strategy 3, 3A	Permanent avoidance of incompatible development on farmland to support long-term viability of farming in agricultural areas.	DoC program	Voluntary Incentive (permanent conservation)
Working Lands and Riparian Corridors Program	Lead Stratgey 1, 1E	To restore or enhance riparian corridors on agricultural lands. Funding and/or expertise to integrate ecosystem projects and protections in agricultural operations.	DoC Program	Project Grant
CDFA Healthy Soils Program	Lead Strategy 1, 1C, 1E, 3C	To promote the development of healthy soils on California's farmlands and ranchlands. Technical assistance is provided free of cost to the HSP incentives Program applicants and grant awardees	CDFA Program	Project Grant

Means	Valuation	Administering Agency(s)	Funding Source	Case Studies, Resources, and Notes
Sales tax measure and other funding as described below	n/a	Open Space District per California Public Resources Code 5500	Sales tax measure, property tax assessment, grants as listed in the tools and programs below.	Sonoma County Agricultural Preservation and Open Space District Santa Clara Valley Open Space Authority
Direct payment	Requires a financial analysis to establish the necessary payments to incentivize landowners and growers to repurpose.	County/GSAs/RCDs/ Land Trusts	CA Department of Conservation	2022 Guidelines and Award Summaries
Property tax reduction	Tax reduction on appraised ag value	County	County general fund	
Property tax reduction	Tax reduction on appraised ag value	County	County general fund	
Purchase of development rights	Appraised market value less development value	County/Land Trust/Open Space District	County general fund, CA Department of Conservation, USDA	San Diego PACE
Purchase of development rights	Appraised market value less development value	Land Trust	CA Department of Conservation	
Direct payment	n/a	CA Department of Conservation	CA Department of Conservation	
Direct payment	Based on cost of eligible practices	CDFA	CDFA	

Incentives & Tools	Implements Strategies & Actions	Primary Purpose	Status	Type
CDFA State Water Efficiency & Enhancement Program	Lead Stratgey 1, 1C, 1E, 3C	To provide financial assistance to implement irrigation systems that reduce greenhouse gases and save water on California agricultural operations.	CDFA Program	Project Grant
CDFA Conservation Agriculture Planning Grants Program	Lead Strategy 1, 1C, 1E	To fund the development of plans that will help farmers and ranchers identify actions for climate change mitigation and adaptation, further environmental stewardship on farms and ranches and ensure agricultural food security into the future.	CDFA Program	Program Grant
NRCS Agricultural Conservation Easement Program (ACEP)	Lead Strategy 3, 3A, 3C	To protect croplands and grasslands on working farms and ranches by limiting non-agricultural uses of the land through conservation easements.	NRCS program	Voluntary Incentive (permanent conservation)
NRCS Agricultural Lands Easements	Lead Strategy 3, 3A, 3C	To protects the long-term viability of the nation's food supply by preventing conversion of productive working lands to non-agricultural uses, a component of the ACEP. Land protected by agricultural land easements provides additional public benefits, including environmental quality, historic preservation, wildlife habitat and protection of open space.	NRCS program	Voluntary Incentive (permanent conservation)
NRCS Environmental Quality Incentives Program (EQIP)	Lead Strategy 1, 1C, 1E	To develop a conservation plan that outlines conservation practices and activities to help solve on-farm resource issues. Funding available every Farm Bill cycle.	NRCS program	Direct Payment (natural resource conservation)
NRCS Conservation Stewardship Program (CSP)	Lead Strategy 1, 1C, 1E	To build on existing conservation efforts or implement new practices and maintain and work toward meeting land management and stewardship goals. The farmer measures progress toward those goals and is provided a payment for meeting them. CSP contracts are for five years, with the opportunity to compete for a contract renewal if the farmer successfully fulfills the initial contract and agrees to achieve additional conservation objectives.	NRCS program	Direct Payment (natural resource conservation)
Option to Purchase at Agricultural Value (OPAV)	Lead Strategy 3, 2F	To increase access to land ownership by restricting the sale of land to only farmers, and restricts the sale price to agricultural value (versus the higher fair market value). OPAVs are used with or can even be part of a conservation easement.	No current program - Assess for Ventura	Voluntary Incentive

Means	Valuation	Administering Agency(s)	Funding Source	Case Studies, Resources, and Notes
Direct payment	Based on cost of eligible practices	CDFA	CDFA	
Grant	Program needs	Tribes, technical service providers registered NRCS, professional certified crop advisors, pest control advisors, rangeland managers, non-profit organizations, RCDs, CA Universities, agricultural cooperatives, GSAs, and farmers and ranchers in collaboration with a qualified planner	CDFA	Grants can be at the farm or ranch level or at the agency planning level.
Purchase of development rights	Appraised market value less development value	Land Trust	NRCS	Farmland Information Center ACEP-ALE Toolkit
Purchase of development rights	Up to 50 percent of the fair market value of the agricultural land easement	Land Trust	NRCS	
Direct payments	Based on implementation costs	Local NRCS office	NRCS Environmental Quality Incentives Program (EQIP)	
Direct payments	Based on implementation outcomes	Local NRCS office	NRCS Conservation Stewardship Program (CSP)	
Purchase of the right to sell at fair market value	Appraised market value less agricultural value	Land Trust/Government Entity	Grants	Vermont Option to Purchase at Agricultural Value (OPAV) Program Land for Good Center for Agriculture and Food System

Incentives & Tools	Implements Strategies & Actions	Primary Purpose	Status	Type
Buy-Protect-Sell	Lead Strategy 3, 2F	When a farm or ranch is likely to be sold for development, a land trust or public agency works with partners to place an easement on the property and then sells the protected property to a farmer or rancher at its agricultural value.	No current program - Assess for Ventura	Voluntary Incentive
Agriculture Resiliency Incentive	Lead Strategy 1, 1C, 1E, 3C	Funding to assist farmers and ranchers invest in practices for improving soil health and pulling carbon out of the atmosphere.	No current program - Assess for Ventura	Project Grant
TDR/"Credits" Program	3D	Incentivize avoidance of development allowed in rural areas and promote greater infill urban areas	No current program - Assess for Ventura	Voluntary Incentive
Mitigation	3A	Require mitigation for impacts to farmland and provide funding for farmland conservation. Require discretionary projects resulting in direct/indirect loss of important farmland to establish offsite ag conservation easements.	General Plan Implementation Measure AG-O	Mandatory Policy
Water Market	1A	To cap total pumping within one or more basins, allocating proportions of the total to individual users and allows users to buy and sell groundwater under the total cap.	Fox Canyon only	Cap and Trade Market for Water
Net Recharge Metering	1B	To to improve the quantity and quality of water resources, assist stakeholders in meeting demand, and to help maintain sustainable and secure water supplies. The program offsets some of the on-the-ground costs associated with operation and maintenance of "distributed stormwater collection - managed aquifer recharge" projects.	No current program - Assess for Ventura	Voluntary Incentive
Development Standards to Streamline Ag Supportive Uses	3G	To allow farmers to better utilize their land for agricultural operations	No current policy - Assess for Ventura	Mandatory Policy

Acronyms:

NRCS - Natural Resource Conservation Services, a program of the US Department of Agriculture. In Ventura, NRCS Oxnard Field Office.

CDFA - California Department of Food and Agriculture

RCD - Resource Conservation District

GSA - Groundwater Sustainability Agency

Means	Valuation	Administering Agency(s)	Funding Source	Case Studies, Resources, and Notes
Direct payment/ Purchase of Development Right	Market value-Conservation Easement Value-Market Value less CE Value	Land Trust	Sales tax measure; mitigation bank; general fund; SALC Easement Program and other grants (conservation easements acquired as part of a project mitigation measure are not eligible for SALC funding)	Farmland Information Center
Direct payment	Reverse auction based on cost to carbon ratio	County/Local Agency	County general fund; grants	Santa Clara County, Agricultural Resilience Incentive (ARI) Grant Program
Inter-jurisdiction program	1:1 (or higher) potential development rights	County/Cities/LAFCO	Developers	
Development applications	1:1 (or higher) potential development rights	County/Cities/LAFCO	Developers	
Voluntary trading	Blind matching algorithm to minimize strategic bidding	GSA	NRCS Conservation Innovation Grant	Fox Canyon Water Market
Rebates for projects	Based on annual performance of outcomes	GSA	Federal, state, and private funders	Pajaro Valley Recharge Net Metering Program
Zoning Ordinance	n/a	County	n/a	

APPENDIX B.

VENTURA COUNTY ECONOMIC IMPACT REPORT

bae urban economics

S·AG·E SUSTAINABLE AGRICULTURE EDUCATION

Economic Contributions of Ventura County Agriculture

Prepared for Ventura County Agricultural Commissioner's Office

August 12, 2022 (Final)

bae urban economics

August 12, 2022

Amie MacPhee
Cultivate

Via e-mail: amie@cultivate-ca.com

Dear Amie:

BAE Urban Economics (BAE) and Sustainable Agriculture Education (SAGE) are pleased to submit this revised Draft Study of the Economic Contributions of Ventura County Agriculture, as part of the Ventura County Sustainable Agricultural Conservation Planning Strategy. This draft incorporates revisions in response to comments on our preliminary draft received from John Krist and Matthew Fienup, as well as comments provided by County staff and other stakeholders who participated in the June 9, 2022 project partners meeting.

Sincerely,

Matt Kowta
Principal, BAE Urban Economics

Sibella Kraus
President & Program Director, SAGE

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EXECUTIVE SUMMARY

This report documents the contributions of agriculture to the economy to Ventura County, so that stakeholders have a clear understanding of the local economic activity dependent upon conservation of the County's agricultural lands. The analysis here provides support for the overall Ventura County Sustainable Agricultural Conservation Planning Strategy, in addition to serving as a stand-alone document to inform the public and policymakers about the industry's contributions to the local economy.

Agricultural Land in Ventura County

According to the California Department of Conservation, Ventura County contained slightly less than 316,000 acres of agricultural land in 2018, a decrease of approximately 29,000 acres, or eight percent, since 1984. This agricultural land makes up 27 percent of the total land area of the county, and 57 percent of county land not under control of federal agencies, control as the Forest Service or the Bureau of Land Management. Ventura County agricultural land values in Ventura County are among the highest in the state.

Agricultural Operations in Ventura County

The Economic Census reported 2,135 farm operations in Ventura County in 2017, nearly the same as the reported 2,150 in 2012. However, there was a modest shift toward smaller operations, with a decrease of 30 farms of 500 or more acres, an increase of 20 farm operations of less than ten acres, and a decrease in the average acres per operation from 131 to 122 acres. Over three-fourths of the farm operations in the county were 50 or fewer acres in size.

Agricultural Production in Ventura County

As of 2020, the top three crops by acreage, with over 10,000 acres harvested for each crop, were lemons, avocados, and celery. The largest shift from 2010 to 2020 in total acreage harvested was in strawberries, where the acreage harvested has trended downward for an overall decline of over one-fourth, to 8,801 acres.

According to the 2017 Census of Agriculture, three-quarters of the 2,135 farm operations in Ventura County are in fruit and tree nut farming. No other category accounts for even ten percent of the total farm operations.

Direct Economic Contributions of Agriculture

As of 2020, total wage and salary farm employment in Ventura County averaged 25,100 jobs over the year, eight percent of overall wage and salary employment in the county. Since 1990, farm employment has increased from 16,800 to 25,100, a nearly 50 percent increase, while overall county employment has only increased by 27 percent over the same period.

Annual average farm employment peaked.at 27,100 in 2013, slightly above more recent levels. Agricultural employment in Ventura County is highly seasonal. In recent years, farm employment has typically been lowest in January, at between 18,700 and 24,200 jobs, and highest in April or May, at around 30,000 jobs. Unlike other sectors of the economy which saw a decline in jobs due to the COVID pandemic, farm employment levels did not decrease beyond the usual seasonal pattern, reflecting the essential nature of agricultural activity regardless of lockdowns and other measures that adversely impacted much of the economy.

While overall employment in agriculture was about the same in 2020 as in 2010, there have been shifts in the employment by subsector over the 2010 to 2020 decade. Most notably, employment in strawberry farming declined by over 20 percent or 2,000 jobs, mirroring the decline in total acreage for strawberries in recent years. Employment in other types of berry farming increased by over 700 percent, from less than 700 to almost 5,600 jobs. Jobs in greenhouse and nursery production declined by over one-quarter to 2,180 total in 2020, and support activity jobs declined by approximately 1,200 jobs. The vast majority (97 percent) of agricultural workers employed in Ventura County live within the county.

As of 2020, the value of all agricultural production in Ventura is slightly below $2 billion annually, an increase from approximately $1 billion in 2000 (see Figure 8). On an inflation adjusted basis, the value peaked in 2015 and has been declining almost every year since then.

Fruit and nut crops dominate the agricultural economy in Ventura County, accounting for over 60 percent of total crop value in 2020 at $1.2 billion. Second and third in value by major category are vegetable crops at $0.5 billion and nursery stock at $0.2 billion. Combined, these three categories generate 97 percent of the agricultural value in Ventura County.

Strawberries are by far the most valuable crop in the county, at $575 million, or 29 percent of the county's total crop value in 2020. Nevertheless, the value of this crop has declined 17 percent over the last several years, from a peak of $691 million in 2012. By value, the second-ranked crop was lemons, at $216 million. The value of this crop has also declined, from a peak of $269 million in 2014. Nursery stock, which includes various plants grown for sale, was ranked third, with sales of $193 million in 2020, down over one-third from a high of $299 million in 2008. Most of the other top ten crops by value also show declines in 2020 from values in earlier years. Furthermore, these declines are in nominal values, with no adjustment for inflation.

Indirect and Induced Economic Contributions of Agriculture

In addition to the direct jobs and value added directly in the agricultural sector, additional jobs and businesses in other sectors are supported by the household expenditures of the agriculture workers and the expenditures of agriculture businesses in the county. This report uses the IMPLAN input-output model to estimate the indirect and induced economic impacts

(i.e., "multiplier effects") of Ventura County's agricultural production within other sectors of Ventura County's economy.

According to IMPLAN, in current-year (2022) dollars and on an annual basis, Ventura County's agricultural sector directly provides approximately $1.4 million in labor income, adds $1.4 billion in value, and generates $1.8 billion in output. In addition to these direct contributions, IMPLAN estimates that on an annual basis the sector supports an additional 5,760 indirect and induced jobs and is responsible for $610 million in indirect and induced value added and $1.0 billion in output.

As expected, the retail industry is one of the main beneficiaries of agriculture's spending within Ventura County; however, at 8.6 percent of the total annual indirect and induced impacts, it ranks below several other sectors, including the real estate/rental/leasing sector 25.7 percent), followed by Finance/Insurance (13.9 percent), Health Care/Social Assistance (11.3 percent) and Wholesale Trade (9.3 percent). These data demonstrate that the agricultural activities that occur in Ventura County's rural areas supports a diverse range of economic activity that is likely to be found mostly in Ventura County's cities.

Other Benefits of Agriculture in Ventura County

In addition to economic output and jobs quantified in other parts of this report, Ventura County agriculture provides a range of other benefits and contributions to the local community. These include:

Placemaking and Visitor Attraction

Not only is Ventura County's agricultural activity an integral part of the Ventura County landscape from a visual and aesthetic standpoint; it is also a visitor attraction. According to the 2017 Census of Agriculture, there were 58 Ventura County farm operations that reported income from "ag tourism and recreational services" for a total of $20.5 million in annual income. Visitor attractions associated with local farms include tours, farm stays, and venues for public and private events. Agriculture and related activities are components of agritourism more broadly, which helps to make Ventura County a visitor destination, bringing additional economic benefits in related sectors such as retail, hospitality, and recreation.

Ecosystem Services

Ecosystem services represent another real, but difficult to quantify economic contribution of agriculture. Through direct and indirect contributions, ecosystem services provide humans with the necessary provisions for life, a healthy environment, and emotional comfort. The ecosystem functions outside of the economy however, it provides natural benefits that allow the economy to function, such as crops and soil fertility. Agricultural lands are and can be managed to provide ecosystem services to the greater community by providing food, energy, climate stability, improving soil retention, contributing to natural beauty and much more. The

value of ecosystems services provided by Ventura County's farm and rangeland ranges between approximately $174 million and $491 million per year.

Food Processing and Other Value-Added Activities

The economic value of food processing and other activities that are related to marketing and selling finished products that are made from local produce are not fully captured in the direct, indirect, and induced economic impacts quantified in other sections of this report; however, a 2015 study of Ventura County food processing opportunities indicated that, as of 2014, food processing contributed $814 million of annual economic output to the county economy. Although it should be noted that not all food processing activity is directly linked to local agricultural production, convenient access to local produce would be a locational advantage for food processors that do utilize local produce in their food products. Benefits of food processing to Ventura County include long-term competitiveness for growers, new job opportunities for the region's labor, food security for the region, and regional quality of life. The 2015 study indicated that indirect and induced economic impacts from a food processing facility such as a fruit puree producer with 115 onsite jobs would create 200 additional jobs within the county. In addition, allowing farmers to capture economic benefits from food processing can be an important component of their long-term economic sustainability and preserving Ventura County's base agricultural production.

INTRODUCTION

This report documents the contributions of agriculture to the economy to Ventura County, so that stakeholders have a clear understanding of the local economic activity dependent upon conservation of the County's agricultural lands. The analysis here provides support for the overall Ventura County Sustainable Agricultural Conservation Planning Strategy, in addition to serving as a stand-alone document to inform the public and policymakers about the industry's contributions to the local economy.

This report contains two main sections: documentation of existing agricultural activity, and the calculation of the indirect and induced impacts of agriculture in Ventura County. The section on existing conditions compiles baseline economic data to document existing agricultural activity and trends in Ventura County. To provide context and understanding of the story behind the published data, BAE and SAGE conducted key informant interviews with local agricultural industry experts to obtain their perspectives on the state of the County's agricultural industry and the factors driving various trends seen in the data, to help refine this preliminary draft of this report.

Utilizing information regarding the direct economic activity of the County's agricultural industry and IMPLAN economic impact modeling software, the consultant team will prepare an industry contribution analysis for the agricultural sector in Ventura County, including indirect and induced economic impacts linked to the sector of agriculture within Ventura County. This quantifies the additional economic output, jobs, and labor income generated by the County's direct economic activity in other business sectors that support the agricultural industry such as utilities, suppliers, retailers, professional services and others, as well as the additional spending throughout the local economy that flows from the wages paid to workers in the agricultural sector.

EXISTING AGRICULTURAL ACTIVITY

This section of the report documents current and historic agricultural activity in Ventura County. Topics covered include the following:

- Acreage and Size of Operation
- Type of Operation
- Employment
- Value of Agricultural Production

Data sources consulted include:

- U.S. Census of Agriculture, conducted every five years - last conducted in 2017
- Ventura County Agricultural Commissioner's Office
- California Employment Development Department
- U.S. Department of Labor, Bureau of Labor Statistics
- U.S. Bureau of Economic Analysis
- U.S. Census Bureau Longitudinal Employer-Household Dynamics and American Community Survey
- California Department of Conservation

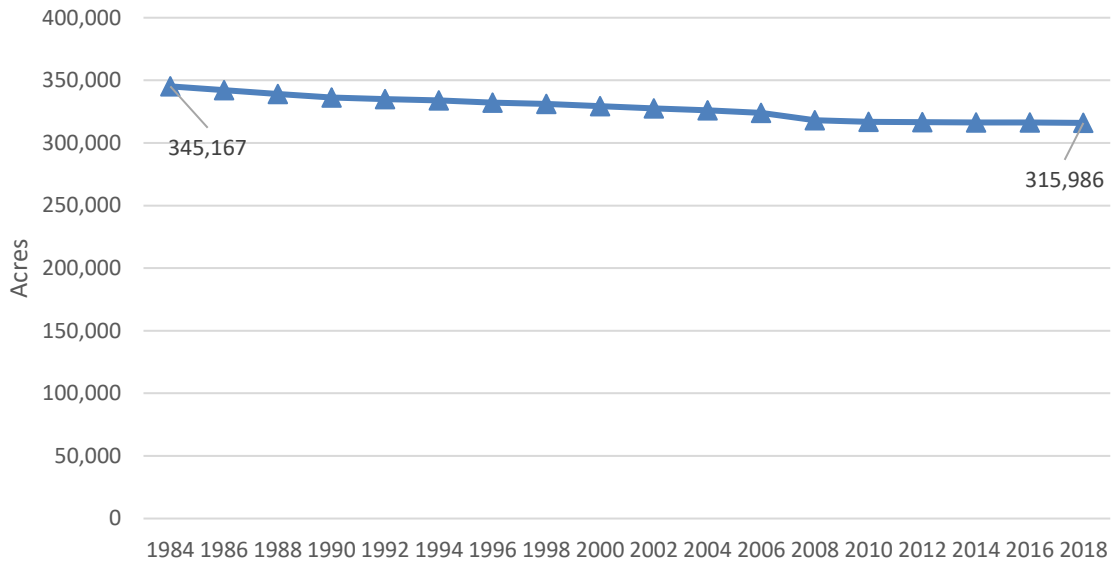
Acreage of Agricultural Land

According to the California Department of Conservation,[1] Ventura County contained slightly less than 316,000 acres of agricultural land in 2018 (see Table 2). This is a decrease of approximately 29,000 acres, or eight percent, since 1984. This agricultural land makes up 27 percent of the total land area of the county, and 57 percent of county land not under control of federal agencies, control as the Forest Service or the Bureau of Land Management.

Ventura County's agriculture acreage is divided between farmland (used for crops), and rangeland. Of the total 315,986 acres of agriculture acreage as of 2018, 118,272 acres, or 37 percent, were reported as farmland (see Figure 2). The acreage of farmland declined gradually between 1984 and 2018, by approximately 14,000 acres, or 11 percent, meaning that farmland for growing crops was decreasing at a lightly higher rate than land used for rangeland. Currently, farmland makes up about ten percent of the total county land area.

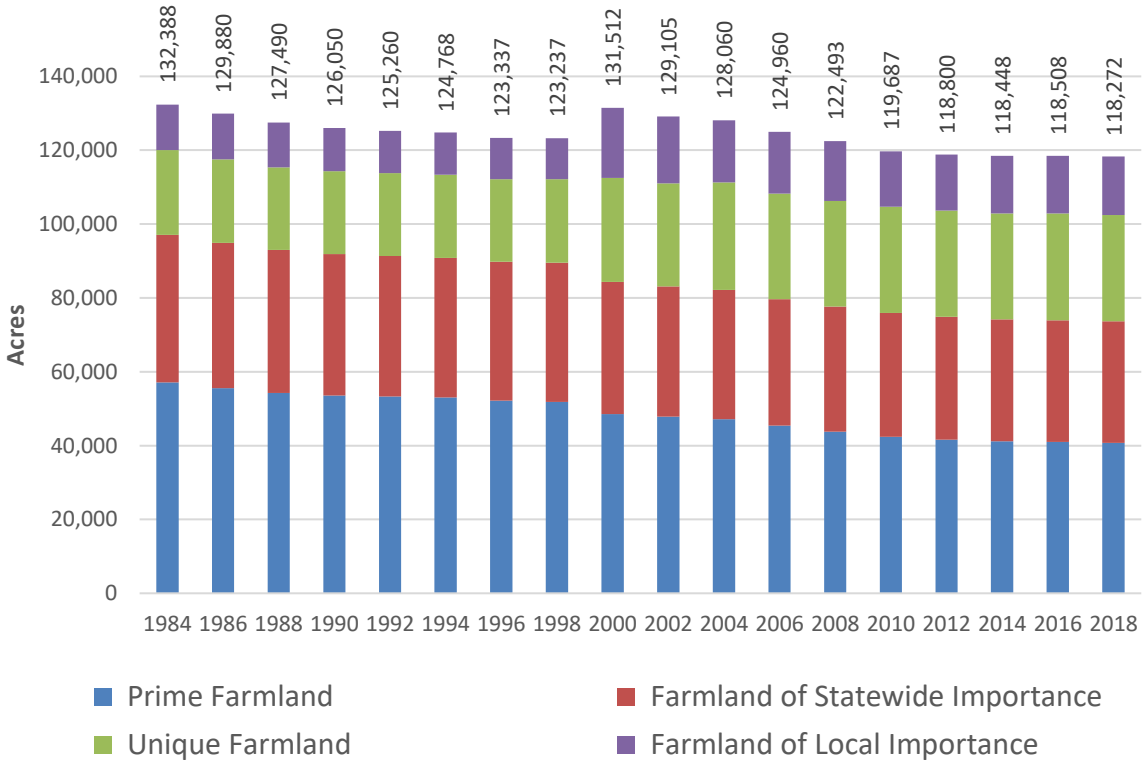
[1] For an explanation of the methodology used by the Department of Conservation for their estimates and land use nomenclature, see Appendix A. These estimates vary somewhat from estimates from the Census of Agriculture and the Ventura County Agricultural Commissioner.

Figure 1: Total Agricultural Acreage in Ventura County, 1984-2018



Source: California Department of Conservation, 2021.

Figure 2: Ventura County Farmland Inventory, 1984-2018

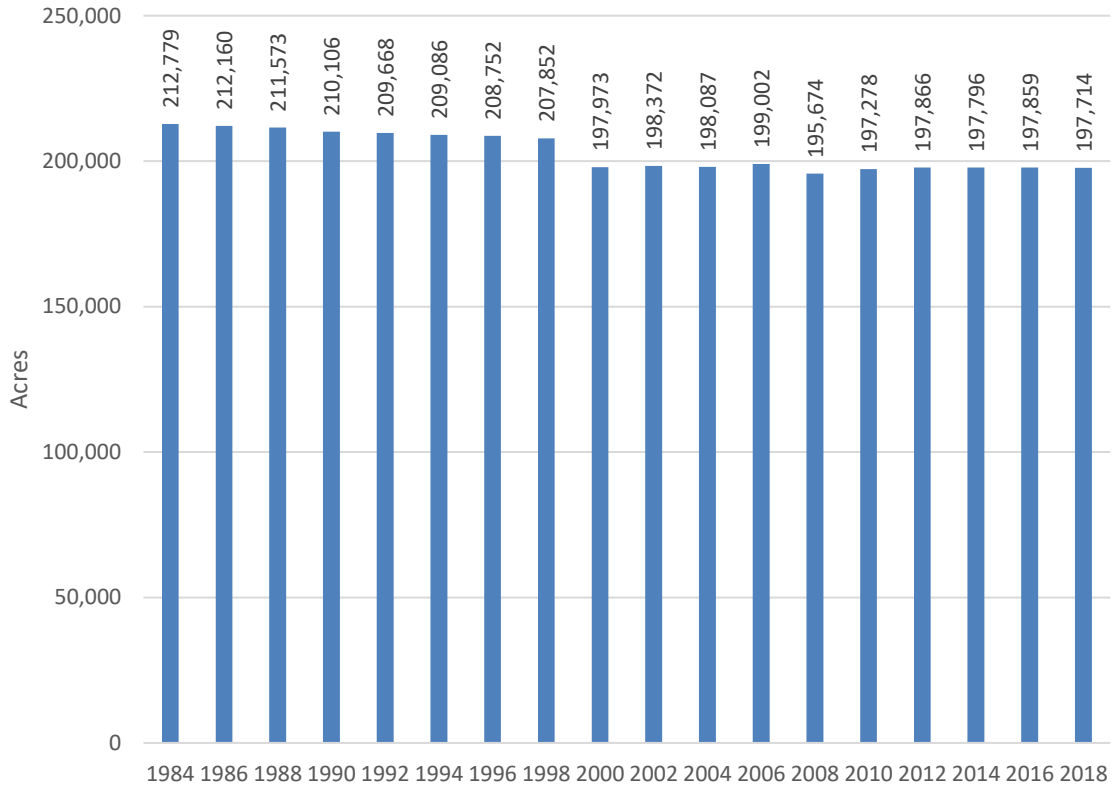


For definitions for the land use categories, see Appendix A.

Source: California Department of Conservation, 2021.

The remaining 63 percent of agricultural land in the county, 197,714 acres, is land used as rangeland for animals. Between 1984 and 2018, rangeland acreage declined by 15,065 acres, or seven percent. Overall, the county showed a loss of 29,181 acres of agricultural land over the same period.

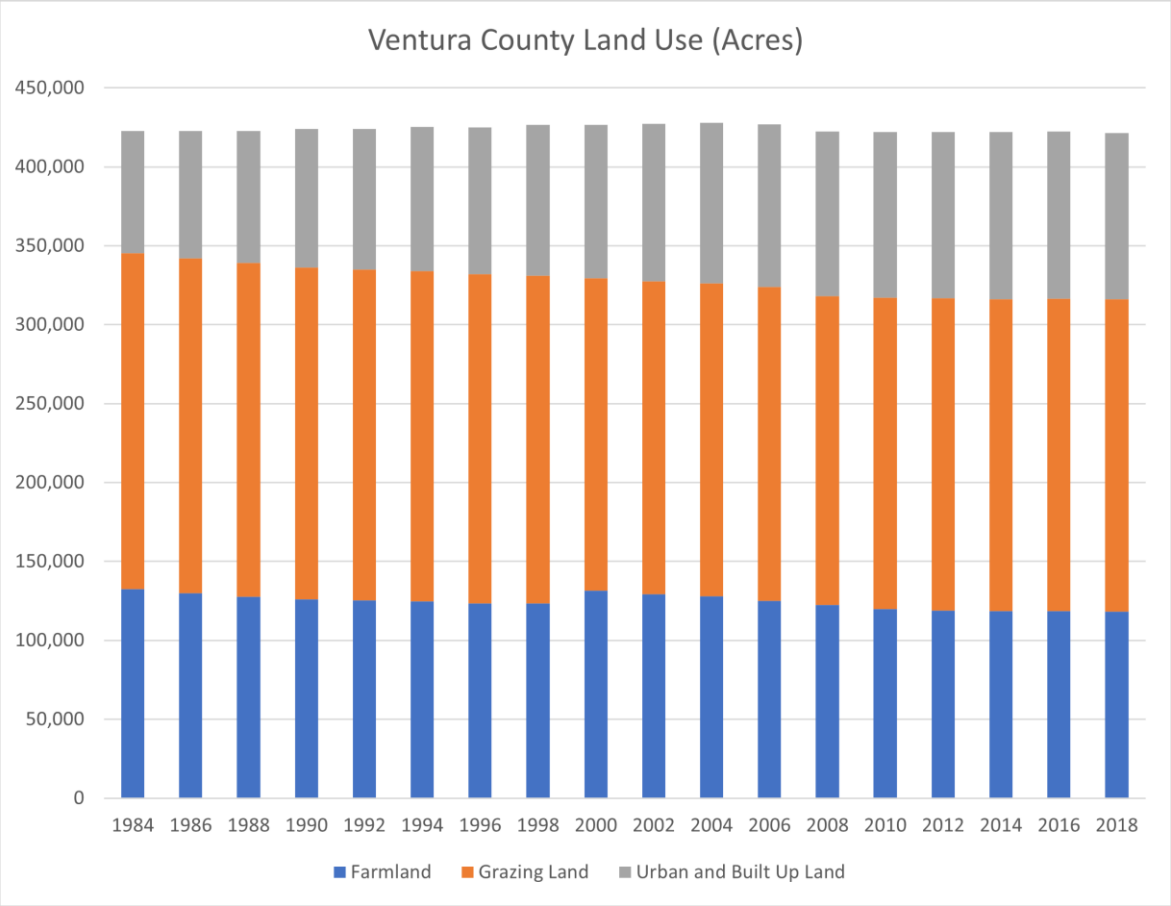
Figure 3: Grazing Land,1984-2018



Source: California Department of Conservation, 2021.

In addition to agricultural land, the Department of Conservation also estimates the amount of "urban and built-up land" in California counties. The gray shaded portions of the bars in Figure 4 show a total of approximately 105,000 acres of land in this category in 2018, an increase of 27,836 acres since 1984, nearly matching the combined loss of farmland and grazing land over the same period.

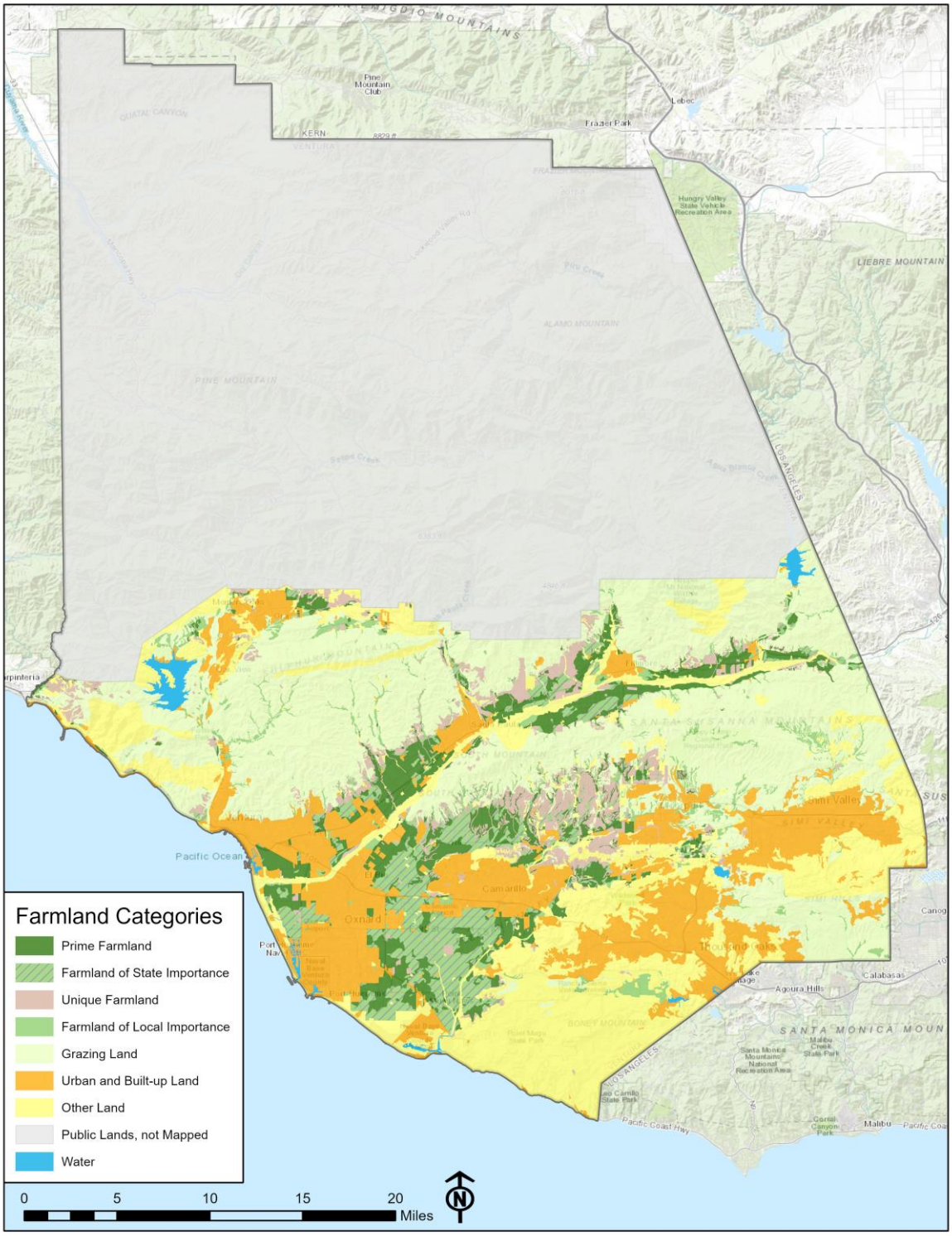
Figure 4: Land Utilization Trend,1984-2018



Source: California Department of Conservation, 2021.

Figure 5 shows the geographic distribution for these agricultural and other land uses in Ventura County as classified by the California Department of Conservation. Much of the farmland is concentrated along the Santa Clara River and to the east of Oxnard.

Figure 5: Land Use in Ventura County



For definitions for the farmland categories, see Appendix A.

Source: California Department of Conservation, 2021.

Farmland Values

It is beyond the scope of this study to determine the effect of the various SOAR (Save Open-space and Agricultural Resources) initiatives in Ventura County, which require a public vote before agricultural land or open space areas can be converted to other uses with some exceptions, on the rate of agricultural land conversion. A 2008 study titled, "Ventura County's Agricultural Future",[2] by Ken Kambara, Ph.D., et. al., examined the effects of SOAR, among other topics. The report concluded that SOAR initiatives had very little effect on the rate of decline of agricultural activity in the county, and that agricultural land values had continued to rise, even with SOAR initiatives in place. According to the report, the increasing land values were at odds with expectations that SOAR initiatives would help to limit increases in agricultural land values and help to protect the economic viability of farming. Data published by the American Society of Farm Managers & Rural Appraisers (ASFMRA) in their 2022 Trends publication[3] for California and Nevada is shown on Table 1, below. The data show that land values have been fairly stable at the low end of the ranges for land used for row crops, lemons, and avocados, declining slightly for land used for all three crop types; however, the high-end values for all these crop types increased, particularly for row crops, which rose from $81,000 per acre in 2017 to $91,000 per acre in 2021. The discussion of land values in the Trends report indicated that the variations in land values are primarily related to location, with the Oxnard Plain area generally commanding the highest values and the more inland areas where there are more extreme variations in temperatures. The report also indicated that for land used for lemons and avocados, upper end values associated with smaller orchard parcels are more influenced by underlying homesite values as compared to land values for commercial-sale orchards. Based on a review of the prevailing land values in other California agricultural regions covered in the ASFMRA report, Ventura count agricultural land values are among the highest in the state, typically exceeded only by land values in premier wine-growing areas, but also by dairy properties in Western Riverside and San Bernardino County.

Table 1: Ventura County Agricultural Land Values (Per Acre)

	Crop Type					
	Row Crops		Lemons		Avocados	
	Low	High	Low	High	Low	High
2021	$42,000	$91,000	$49,000	$90,000	$35,000	$65,000
2020	$42,000	$81,000	$49,000	$90,000	$35,000	$65,000
2019	$42,000	$81,000	$49,000	$90,000	$35,000	$65,000
2018	$45,000	$81,000	$50,000	$86,000	$37,000	$63,000
2017	$45,000	$81,000	$50,000	$86,000	$37,000	$63,000

Source: American Society of Farm Managers & Rural Appraisers, Trends, 2022.

[2] Kambara, Ken, et. al. Ventura County's Agricultural Future: Challenges and Opportunities. May, 2008.
[3] American Society of Farm Managers & Rural Appraisers. Trends, 2022 (California & Nevada). 2022.

Size of Operations

The Economic Census reports 2,135 farm operations in Ventura County in 2017, nearly the same as the reported 2,150 in 2012, as illustrated in Table 2. However, there was a modest shift toward smaller operations, with a decrease of 30 farms of 500 or more acres, an increase of 20 farm operations of less than ten acres, and a decrease in the average acres per operation from 131 to 122 acres. Over three-fourths of the farm operations in the county were 50 or fewer acres in size.

Stakeholder input on a preliminary draft of this report indicated that there is a perception that, contrary to the data, there has been a consolidation of farm ownership within the county, including ownership by corporations based outside of the area. Closer examination of the data in Table 2 indicates that in absolute numbers, the largest increase was in small operations between 1.0 and 9.9-acres in size while the largest decline in farm operations was in the next size category, from 10.0 to 49.9 acres. The next largest declines were in the largest size categories of 500 to 599 acres (-19 operations) and 1,000+ acres (-11 operations). These data show that the largest number of farm operations are still concentrated in the small to medium-size categories and that the number of operations in the largest size categories actually fell by significant percentages between 2012 and 2017.[4]

Table 2: Farm Operations by Acreage, Ventura County, 2012 and 2017

			Change, 2012-2017	
Area Operated (acres)	**2012**	**2017**	**Number**	**Percent**
1.0 - 9.9 acres	943	963	20	2.1%
10.0 - 49.9 acres	733	711	(22)	-3.0%
50 - 179 acres	246	260	14	5.7%
180 - 499 acres	116	119	3	2.6%
500 - 999 acres	54	35	(19)	-35.2%
1,000+ acres	58	47	(11)	-19.0%
Total Operations	**2,150**	**2,135**	**(15)**	**-0.7%**
Total Acres Operated	**281,046**	**260,102**	(20,944)	**-7.5%**
Average Acres per Operation	131	122		**-6.8%**

Sources: USDA National Agricultural Statistics Service, Census of Agriculture, Table 1; BAE, 2022.

Type of Operation

Table 3 shows land use trends for the ten highest-value crops in 2020. As of 2020, the top three crops by acreage, with over 10,000 acres harvested for each crop, were lemons, avocados, and celery. This table demonstrates that high value is not entirely linked to the

[4] Review of the Census of Agriculture form indicates that "farm operations" includes all land farmed by an operating entity, whether owned or leased.

amount of land required; for example, celery ranked third in acreage used, but only sixth in value. The largest shift over the decade in total acreage harvested was in strawberries, where the acreage harvested has trended downward over the decade, for an overall decline of over one-fourth, to 8,801 acres. Avocados and tomatoes also showed substantial declines in acreage harvested; tomatoes were never a large land user over the decade, but avocados, even after the decline in acres harvested, still had the second-highest acreage harvested in 2020. It should be noted that land may be used to grow more than one crop type in a given year, so the total acreage by crop could result in double-counting.

Table 3: Acreage Harvested, 2010-2020 of Top 10 Crops in 2020 by Value

	Acreage by Year						Change, 2010-2020	
Crop	2010	2012	2014	2016	2018	2020	Number	Percent
Strawberries	11,875	11,419	11,630	10,230	9,109	8,801	(3,074)	-26%
Lemons	16,856	19,284	14,926	14,801	14,201	17,015	159	1%
Nursery Stock	3,589	3,194	3,326	3,250	3,118	3,138	(451)	-13%
Avocados	18,916	19,284	19,709	18,486	17,116	16,435	(2,481)	-13%
Raspberries	2,630	3,076	4,629	4,350	4,008	2,856	226	9%
Celery	11,949	10,598	11,003	13,204	12,151	14,063	2,114	18%
Tomatoes	1,607	1,734	466	398	381	376	(1,231)	-77%
Peppers	2,690	3,146	4,352	3,471	3,065	1,850	(840)	-31%
Blueberries	na	526	528	486	620	636	na	na
Cabbage	4,046	3,111	3,922	3,284	3,795	3,194	(852)	-21%

Note: Crops shown are top ten by value, shown ranked in descending order of value.

Crop and Livestock Reports, 2010-2020, Ventura County Agricultural Commissioner's Office; BAE, 2022.

According the 2017 Census of Agriculture and as shown in Table 4, three-quarters of the 2,135 farm operations in Ventura County are in fruit and tree nut farming. No other category shown accounts for even ten percent of the total farm operations.

Table 4: Ventura County Farms by Type of Operation, 2017

NAICS	Type of Operation	Number	Percent
1112	Vegetable and melon farming	82	3.8%
1113	Fruit and tree nut farming	1,621	75.9%
1114	Greenhouse, nursery, and floriculture production	130	6.1%
1119	Other crop farming	54	2.5%
11193, 11194, & 11199	Sugarcane farming, hay farming, and all other crop farming	54	2.5%
112111	Beef cattle ranching and farming	64	3.0%
1122	Hog and pig farming	2	0.1%
1123	Poultry and egg production	21	1.0%
1124	Sheep and goat farming	29	1.4%
1125 & 1129	Aquaculture and other animal production	132	6.2%
	Total farms (a)	**2,135**	

Sources: USDA National Agricultural Statistics Service, 2017 Census of Agriculture, Table 44; BAE, 2022.

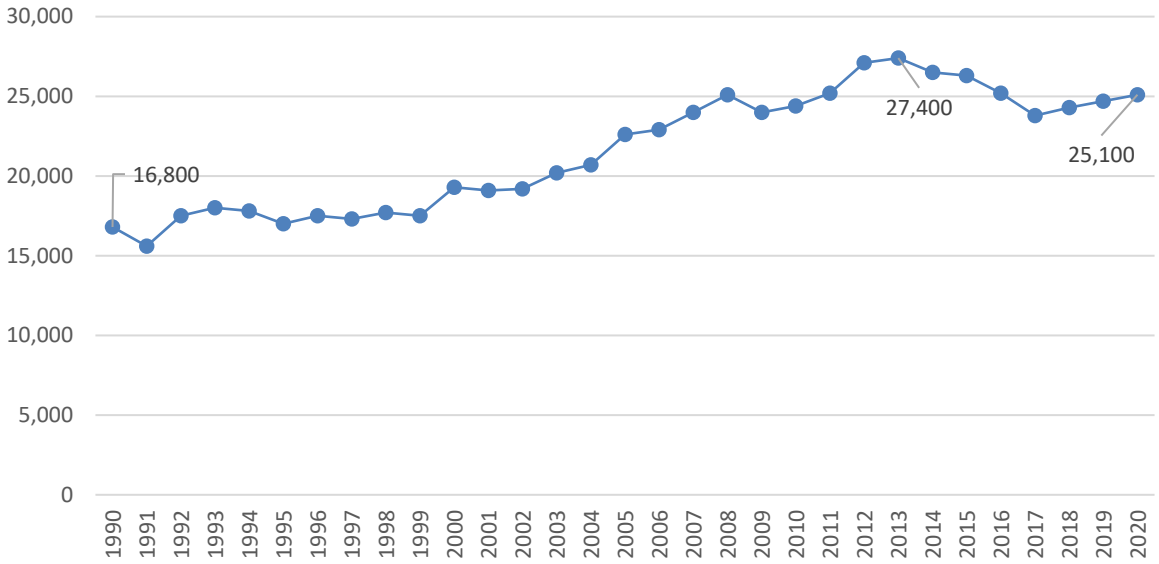
Employment

Total Agricultural Employment

As of 2020 (the most recent annualized data available), total wage and salary farm employment in Ventura County averaged 25,100 jobs over the year, eight percent of overall wage and salary employment in the county.[5] Since 1990, farm employment has increased from 16,800 to 25,100, a nearly 50 percent increase, while overall county employment has only increased by 27 percent over the same period (see Figure 6). Annual average farm employment peaked at 27,100 in 2013, slightly above more recent levels. It should be noted that these are counts of *jobs*, not of *workers*. (See *Place of Residence for Workers in Agriculture in Ventura County* section below for a discussion of the number of agricultural workers who live in Ventura County.) A worker may hold more than one job; however, over the course of a year, a what is counted as a single job may be held by more than one person. The U.S. Census Longitudinal Employer-Household Dynamics[6] reports that in 2019, Ventura County had 24,667 total jobs in the agriculture, forestry, fishing, and hunting sector but only 20,681 primary jobs in that sector (where a worker would only hold one primary job), indicating that many jobs in the sector are held by workers with multiple jobs. This may reflect in part the seasonal nature of many of the jobs, as discussed next.

[5] The total farm employment estimates here are from the Current Employment Statistics (CES) series from the California Employment Development Department, which are considered the official state employment estimates. Estimates from various other sources, such as the U.S. Bureau of Economic Analysis (BEA), the Quarterly Census of Employment and Wages (QCEW), IMPLAN, and the2017 Census of Agriculture are in the same general range.
[6] https://lehd.ces.census.gov/.

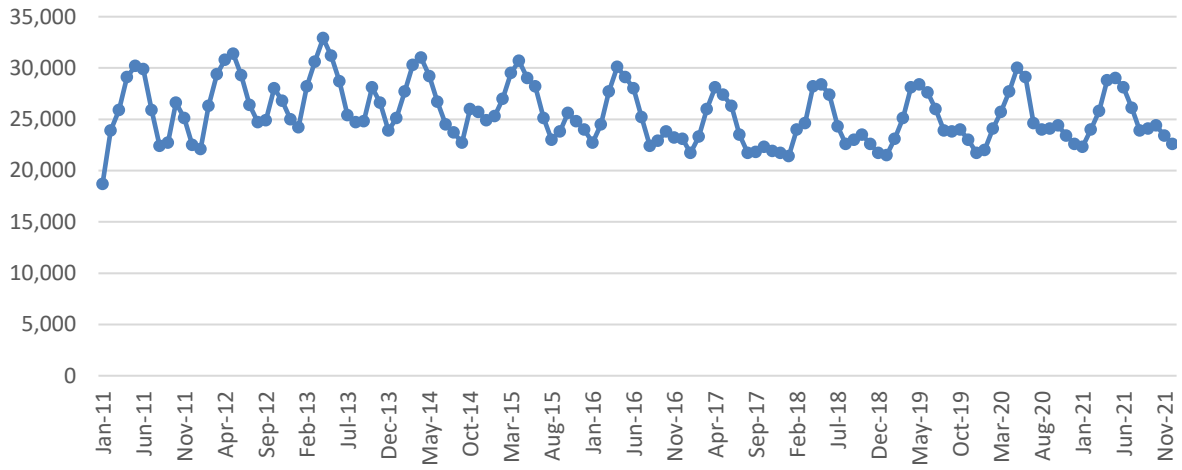
Figure 6: Total Farm Employment in Ventura County, 1990-2020



Source: Industry Employment – Official Estimates, California Employment Development Department Labor Market Information Division, 2021

Agricultural employment in Ventura County is highly seasonal, as shown in Figure 7. In recent years, farm employment has typically been lowest in January, at between 18,700 and 24,200 jobs, and highest in April or May, at around 30,000 jobs. August and September also tend to have low employment, and there is a secondary peak in October. Unlike other sectors of the economy which saw a decline in jobs due to the COVID pandemic, farm employment levels did not decrease beyond the usual seasonal pattern, reflecting the essential nature of agricultural activity regardless of lockdowns and other measures that adversely impacted much of the economy.

Figure 7: Total Monthly Farm Employment in Ventura County, 2011-2021



Source: Industry Employment – Official Estimates, California Employment Development Department Labor Market Information Division, 2021

Agricultural Employment by Subsector

The next table provides additional detail on the county's agricultural employment by subsector in 2010 and 2020. Fruit and nut tree farming, the sector reporting the majority of farms as shown above in Table 4, also generates the majority of farm employment. In 2020, the largest employment-generating subsectors at the detailed level are strawberry farming, farming of other types of berries, and support activities for crop production. The county's agricultural and related employment is heavily oriented toward crop production, with animal production and aquaculture, forestry and logging, and fishing, hunting, and trapping only responsible for approximately 100 jobs, along with very few related jobs in support activities.

While overall employment in agriculture was about the same in 2020 as in 2010, there have been shifts in the employment by subsector over the 2010 to 2020 decade. Most notably, employment in strawberry farming declined by over 20 percent or 2,000 jobs, mirroring the decline in total acreage for strawberries in recent years. Employment in other types of berry farming increased by over 700 percent, from less than 700 to almost 5,600 jobs. Jobs in greenhouse and nursery production declined by over one-quarter to 2,180 total in 2020, and support activity jobs declined by approximately 1,200 jobs.

Table 5: Agricultural Employment by Subsector in Ventura County, 2010 and 2020

Industry by NAICS	2010		2020		Change, 2010-2020	
	#	%	#	%	#	%
NAICS 111 Crop production	**16,571**	**67.9%**	**18,391**	**73.6%**	**1,820**	**11.0%**
NAICS 1112 Vegetable and melon farming	2,017	8.3%	1,662	6.7%	(355)	-17.6%
NAICS 1113 Fruit and tree nut farming	11,284	46.3%	14,115	56.5%	2,831	25.1%
NAICS 11131 Orange groves	305	1.3%	316	1.3%	11	3.6%
NAICS 11132 Citrus, except orange, groves	531	2.2%	446	1.8%	(85)	-16.0%
NAICS 11133 Noncitrus fruit and tree nut farming	10,447	42.8%	13,353	53.4%	2,906	27.8%
NAICS 111333 Strawberry farming	9,502	38.9%	7,454	29.8%	(2,048)	-21.6%
NAICS 111334 Berry, except strawberry, farming	686	2.8%	5,559	22.3%	4,873	710.3%
NAICS 111336 Fruit and tree nut combination farming	56	0.2%	27	0.1%	(29)	-51.8%
NAICS 111339 Other noncitrus fruit farming	188	0.8%	309	1.2%	121	64.4%
NAICS 1114 Greenhouse and nursery production	2,972	12.2%	2,180	8.7%	(792)	-26.6%
NAICS 1119 Other crop farming	299	1.2%	(a)	n.a.	n.a.	n.a.
NAICS 112 Animal production and aquaculture	**100**	**0.4%**	**100**	**0.4%**	**0**	**0.0%**
NAICS 113 Forestry and logging	**75**	**0.3%**	**(a)**	**n.a.**	**n.a.**	**n.a.**
NAICS 114 Fishing, hunting and trapping	**8**	**0.0%**	**(a)**	**n.a.**	**n.a.**	**n.a.**
NAICS 115 Agriculture and forestry support activities	**7,642**	**31.3%**	**6,480**	**25.9%**	**(1,162)**	**-15.2%**
NAICS 1151 Support activities for crop production	7,540	30.9%	6,306	25.2%	(1,234)	-16.4%
Total Agriculture, Forestry, and Fishing Employment (b)	**24,396**	**100.0%**	**24,983**	**100.0%**	**587**	**2.4%**

Note:
Establishment and employment counts are annual averages.
(a) Withheld to avoid disclosing data.
(b) Sectors shown may not sum to the total, which Includes subsectors not shown where employment is very limited and/or withheld.

Sources: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics, 2010-2020; BAE, 2022.

Place of Residence for Workers in Agriculture in Ventura County

The vast majority (97 percent) of agricultural workers employed in Ventura County live within the county, based on an analysis of 2015-2019 Public Use Microdata Sample (PUMS) data from the American Community Survey. In comparison, only 88 percent of all persons working in the county across all industry sectors also live in the county (see Table 6). It should be noted that the worker counts in this table consider only the primary occupation of the American Community Survey respondents, leading to a lower count of agriculture workers than the total jobs described by the other sources above.

Table 6: Ventura County Agriculture Workers Living in the County

	Agriculture	All Sectors
Total Persons Working in Ventura County	20,332	362,110
Persons Living and Working in Ventura County		
Number	19,638	319,594
Percent	97%	88%

Note: Excludes a very limited number of persons living outside California.

Sources: U.S. Census, 2015-2019 American Community Survey, Public Use Microdata Sample (PUMS); BAE.

Value of Agricultural Production

Based on the Agricultural Commissioner's annual reports, as of 2020 the value of all agricultural production in Ventura County was approximately $2 billion annually, an increase from approximately $1 billion in 2000. Adjusting for inflation[7], the 2000 value would be approximately $1.6 billion in 2020 dollars, indicating an inflation-adjusted increase of slightly more than 25 percent over the two decades (see Figure 8). However, on a nominal and inflation adjusted basis, the value peaked in 2015 and has been declining almost every year since then.[8]

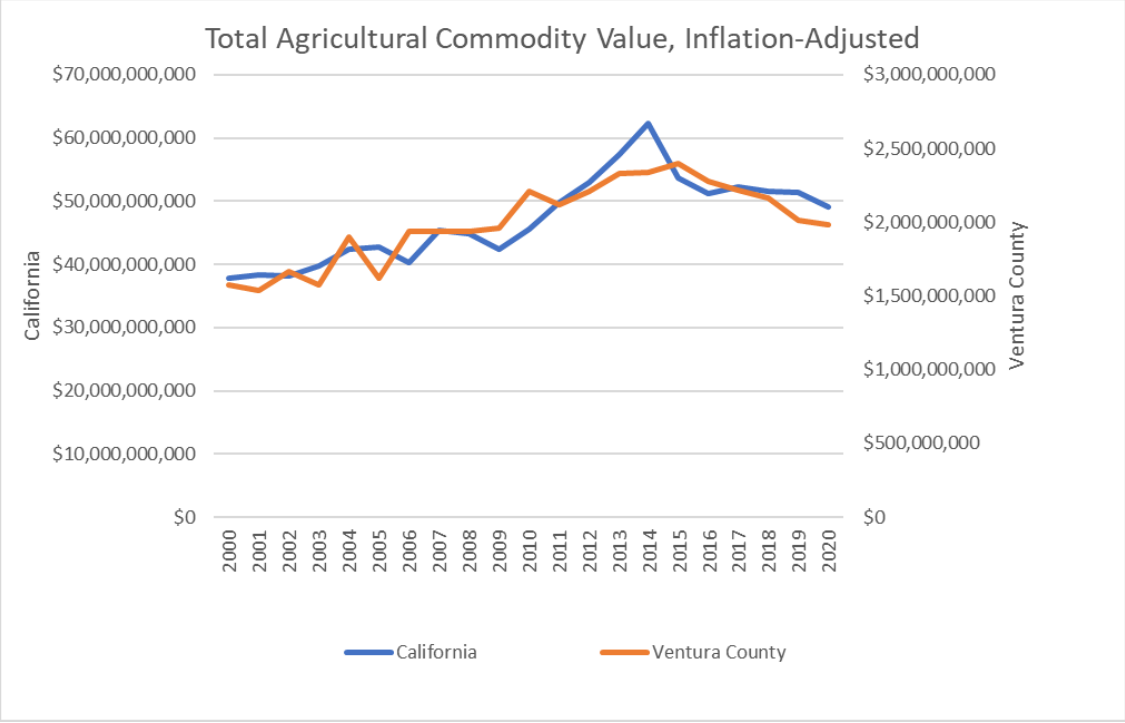
In comparison to countywide economic output in all sectors, agriculture performed slightly better than the overall economy over the last two decades. Between 2001 and 2020, Ventura County's gross domestic product increased by 85 percent, according to the U.S. Bureau of Economic Analysis. Over the same time period, the County's crop reports indicate that the total value of agricultural production increased by 88.4 percent. However, in more recent years, agriculture has not performed as well. Agricultural production value declined by 9.7 percent, while countywide GDP increased by 8.9 percent in the 2015 to 2020 time period.

To put longer -term trends in perspective, Figure 8 plots the crop values from the Ventura County Agricultural Commissioner's reports with statewide agricultural commodity values compiled by the U.S. Department of Agriculture. The crop values plotted in Figure 8 are inflation-adjusted using the Consumer Price Index (CPI) figures published by the U.S. Bureau of Labor Statistics. The chart shows that Ventura County's total commodity value trend has generally followed the statewide trend, although statewide crop values showed a distinctly higher peak in 2014. Over time, for the state as a whole as well as for Ventura County, the inflation-adjusted crop values have declined since peaking in the middle part the 2010 to 2020 decade.

[7] Using the All Urban Consumers inflation index for the U.S., from the U.S. Bureau of Labor Statistics.
[8] Note that these numbers state the total value of the crops, not the net revenues or profitability of farm operations.

While the trend in the value of agricultural output is an indicator of the overall economic activity in the sector, stakeholders who provided input on this report felt that it was important that this report acknowledge that gross output values do not reflect profitability of agricultural operations, which is a key component of the long-term viability of the agricultural sector. On a national level, the USDA Economic Research Service indicated in a February, 2022 bulletin that net cash farm income for farms specialized in specialty crops (fruits, tree nuts, vegetables, and nursery/greenhouse) were projected to decrease by 21 percent between 2022 and 2021. Data on net income for Ventura County agricultural producers are not publicly available; however, local stakeholders cited factors such as rising costs of inputs for agricultural production, combined with competition with producers in other regions and countries that limits the prices paid for Ventura County agricultural commodities as creating increasing pressure on the profitability of local operations. As mentioned previously, Ventura County's agricultural land values are very high in comparison to other regions of the state. This creates limitations on the types of crops that can be grown at a profit in the county (e.g., high value specialty crops as opposed to commodity crops). The ASFMRA report cited previously (*Trends, 2022: California & Nevada*) mentioned institutional buyers as a factor the high sales prices for agricultural land in the state's coastal regions and noted that there has been a compression in capitalization rates paid for land. This suggests that that the profitability of agricultural production relative to land costs is declining.

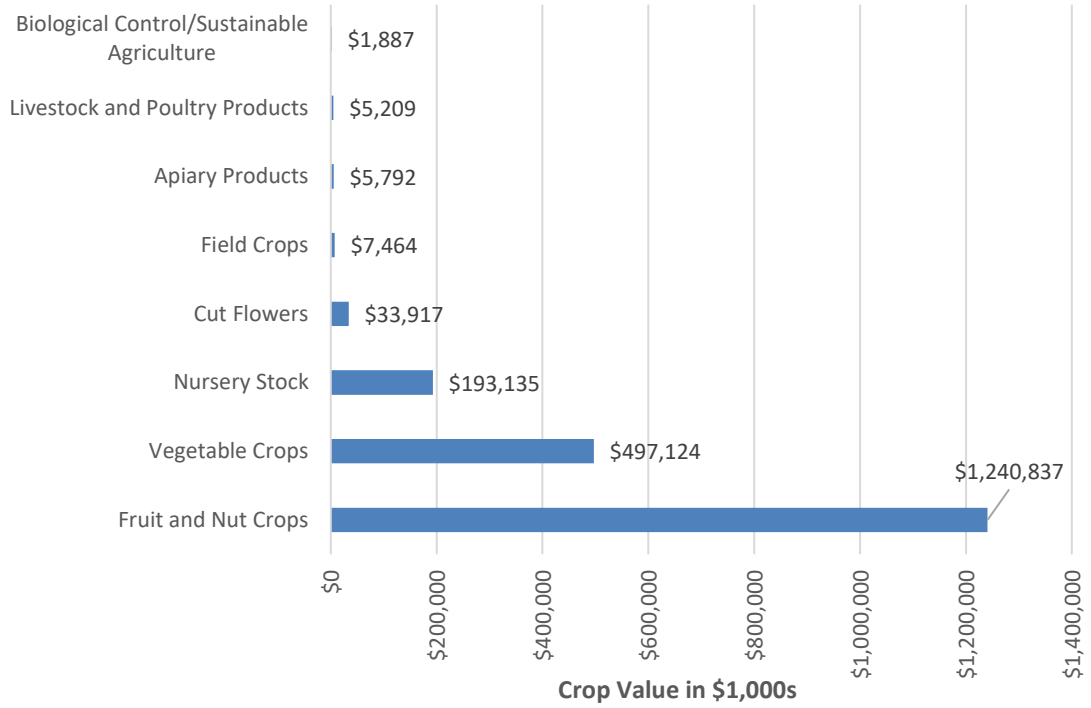
Figure 8: Total Value of Agricultural Products, 2000-2020



Sources: Crop and Livestock Reports, 2000-2020, Ventura County Agricultural Commissioner's Office; USDA/ERS Farm Income and Wealth Statistics, 2022; BAE, 2022.

Fruit and nut crops dominate the agricultural economy in Ventura County, accounting for over 60 percent of total crop value in 2020 at $1.2 billion, as shown in Figure 9. Second and third in value by major category are vegetable crops at $0.5 billion and nursery stock at $0.2 billion. Combined, these three categories generate 97 percent of the agricultural value in Ventura County.

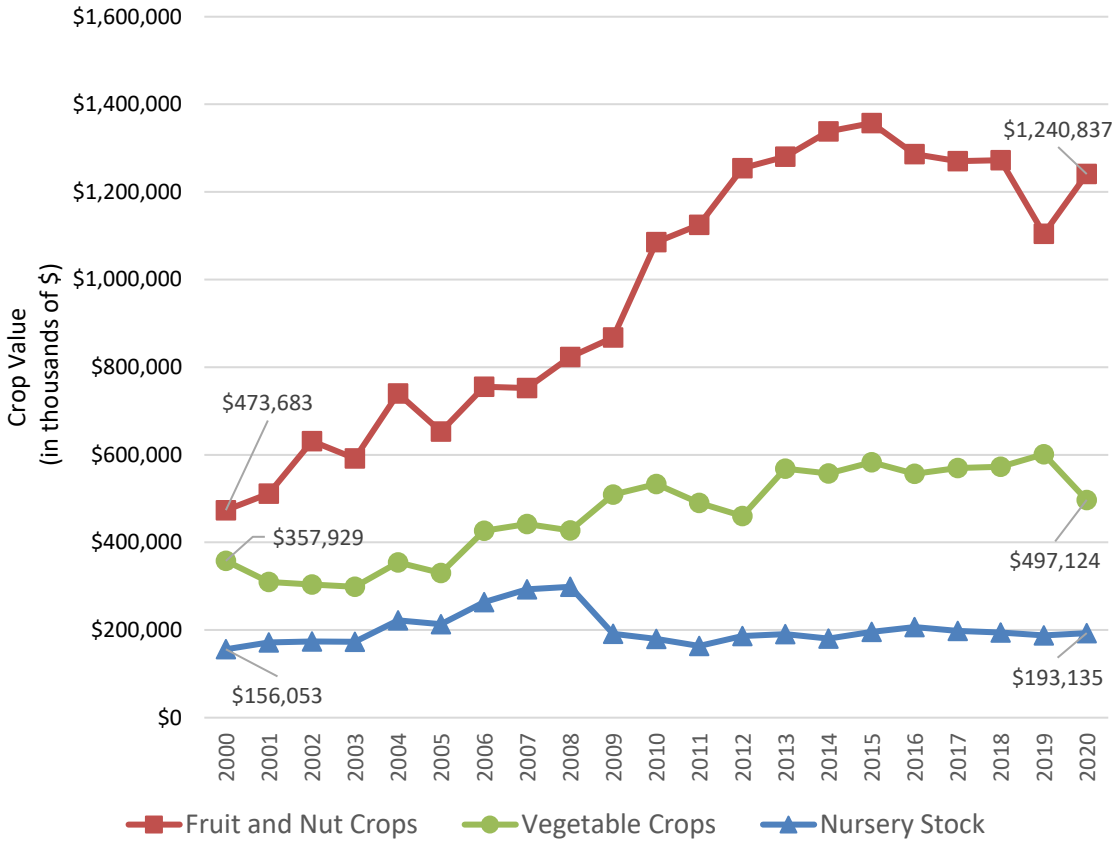
Figure 9: Crop Value by Major Category in Ventura County, 2020



Sources: 2020 Crop and Livestock Report, Ventura County Agricultural Commissioner's Office; BAE, 2022.

Figure 10 shows that fruit and nut crops drove the growth in value for Ventura County agricultural products between 2000 and 2020, showing growth of 162 percent over the period (nominal dollars). For the other two large value-generating crop categories, vegetable crops showed a growth of 39 percent in value, and nursery stock grew by 24 percent.

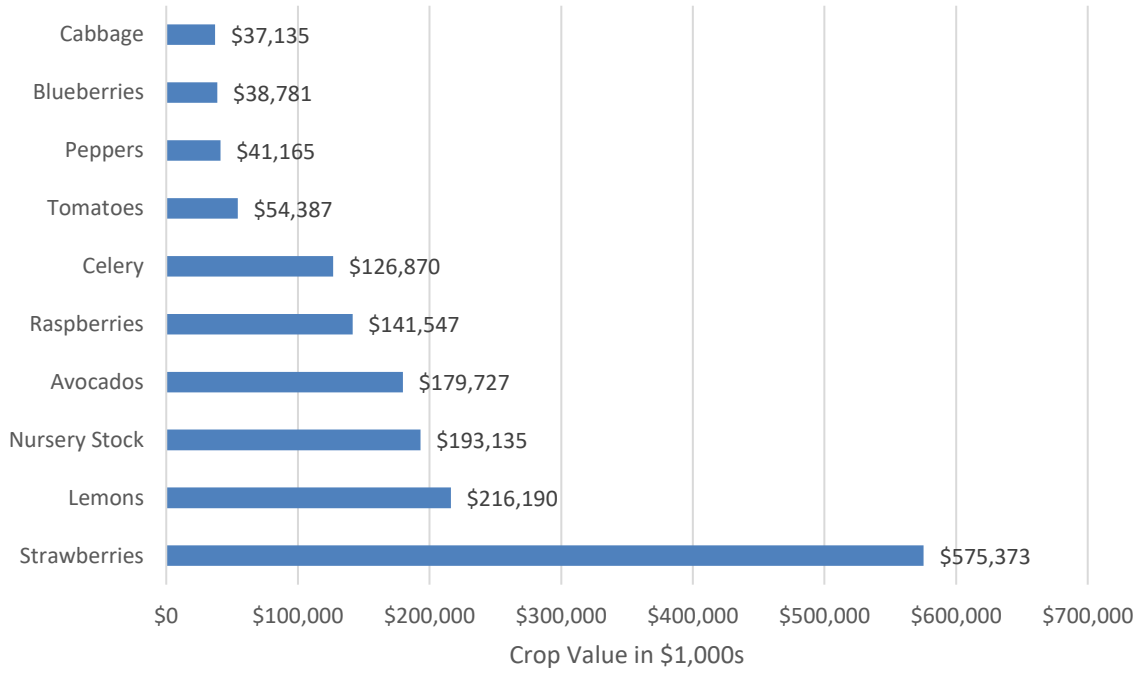
Figure 10: Crop Value Trends for Top Three Major Categories, 2000-2020



Crop and Livestock Reports, 2000-2020, Ventura County Agricultural Commissioner's Office; BAE, 2022.

More detail is provided in Figure 11 regarding the top ten specific crops by value. Strawberries are by far the most valuable crop in the county, at $575 million, or 29 percent of the county's total crop value in 2020. Nevertheless, the value of this crop has declined 17 percent over the last several years, from a peak of $691 million in 2012. By value, the second-ranked crop was lemons, at $216 million. The value of this crop has also declined, from a peak of $269 million in 2014. Nursery stock, which includes various plants grown for sale, was ranked third, with sales of $193 million in 2020, down over one-third from a high of $299 million in 2008. Most of the other top ten crops by value also show declines in 2020 from values in earlier years. Furthermore, these declines are in nominal values, with no adjustment for inflation.

Figure 11: Top Ten Crops by Value in 2020



INDIRECT AND INDUCED ECONOMIC CONTRIBUTIONS IN VENTURA COUNTY

This section of the report provides a measure of the agriculture sector's contributions to the overall economy of Ventura County. In addition to the direct jobs and value added directly in that sector, additional jobs and businesses in other sectors are supported by the household expenditures of the agriculture workers and the expenditures of agriculture businesses in the county.

To estimate these contributions, the analysis here uses the IMPLAN input-output model to develop an industry contribution analysis. As stated by IMPLAN:

> *Industry Contribution Analysis (ICA) is a method used to estimate the value of an Industry or group of Industries in a region, at their current levels of production. …Contribution is a term that is used to denote that the study is looking at how the current state of industry supports other businesses in the local economy. Industry Contribution Analysis is a unique method which affects a constraint upon the Model by "removing" feedback linkages or buy backs to the Industry being analyzed. Typically, this method is used in conjunction with the IMPLAN Study Area Data because you are no longer looking at an individual firm, or a group of firms, but rather an entire Industry. This method can also be used with single firms, but when it is, the results of this method should be considered conservative.*[9]

IMPLAN is a widely recognized model used to assess local and regional economic impacts and is described in detail in Appendix B, including definition of key terms used herein, such as "indirect" and "induced" impacts.

Baseline Data

This analysis uses IMPLAN's own estimates of employment and output/value for agricultural sectors. The detail in these estimates varies somewhat from those discussed above, but overall employment and output/value are of the same order of magnitude for the different sources. Appendix C provides additional discussion on this topic. Mirroring the other sources discussed previously, IMPLAN estimates indicate fruit farming, vegetable and melon farming, and support activities are the dominant sectors for employment and output.

Industry Contribution Analysis

The results of the industry contribution analysis are presented below in Table 7. While the baseline IMPLAN data regarding direct agricultural activity do very somewhat from indicators of the County's agricultural activity from other sources, such as the Agricultural Commissioner's

[9] https://support.implan.com/hc/en-us/articles/360025854654-ICA-Introduction-to-Industry-Contribution-Analysis, accessed March 9, 2022.

crop reports and the Bureau of Economic Analysis, the IMPLAN estimates discussed below provide a good indicator of the relationship between direct economic activity in the local agricultural sector and other indirect and induced (i.e., "multiplier effects") within the County that are attributable to agricultural production.

In current-year (2022) dollars, and on an annual basis, Ventura County's agricultural sector directly provides approximately $1.4 million in labor income, adds $1.4 billion in value, and generates $1.8 billion in output. In addition to these direct contributions, IMPLAN estimates that based on IMPLAN's own estimates regarding the nature of the county's agricultural sector, on an annual basis the sector supports an additional 5,760 indirect and induced jobs and is responsible for $610 million in indirect and induced value added and $1.0 billion in output.

Table 7: Summary of Agricultural Industry Contributions to County Economy, 2022

Impact Type	Employment	Labor Income	Value Added	Output
Direct	24,636	$1,431,203,000	$1,383,981,000	$1,845,221,000
Indirect	954	$61,250,000	$107,385,000	$211,099,000
Induced	4,806	$272,106,000	$502,358,000	$813,816,000
Total	**30,396**	**$1,764,559,000**	**$1,993,724,000**	**$2,870,136,000**

Notes:
Employment rounded to nearest whole number. Dollar amounts are in 2022 dollars and are rounded to nearest thousand.

Sources: IMPLAN, 2022; BAE, 2022.

Table 8 shows a breakdown of the distribution of the annual indirect and induced economic impacts from Ventura County's agricultural production within other sectors of the County's economy. As expected, the retail industry is one of the main beneficiaries of agriculture's spending within Ventura County; however, at 8.6 percent of the total annual indirect and induced impacts, it ranks below several other sectors, including the real estate/rental/leasing sector 25.7 percent), followed by Finance/Insurance (13.9 percent), Health Care/Social Assistance (11.3 percent) and Wholesale Trade (9.3 percent). These data demonstrate that the agricultural activities that occur in Ventura County's rural areas support a diverse range of economic activity that is likely to be found mostly in Ventura County's cities.

The indirect and induced economic impacts all flow from the expenditures made by local farming operations, via their purchases of services and supplies or their payroll. In addition, the presence of the agricultural sector in Ventura County stimulates other economic activity within the County that is not reflected in the impacts shown in Table 8. As discussed in the next section of this report there are additional aspects of agriculture that create value for the Ventura County community in areas such as ecosystem services, placemaking and aesthetics, and agritourism.

INDIRECT ECONOMIC IMPACTS: FRUIT GROWERS SUPPLY COMPANY

Fruit Growers Supply Company is an example of the type of local indirect economic impact that agricultural production supports within Ventura County. It was established in 1907 by Sunkist Growers and is the oldest non-profit supply cooperative in the country. The Santa Paula Supply Center is one of the company's five retail outlets in southern California. Originally founded for citrus growers, the company now supports regional growers who produce a range of other crops such as stone fruit, avocados, nuts, grapes, and row crops. The Company is committed to "Sustainable Forestry Initiative (SFI) 2015-2019 Standard" and contributes to sustainable forestry practices in their timberlands. Fruit Growers Supply Company helps growers be more sustainable through the adoption of solar-powered drip irrigation systems, bee-friendly approaches to pest management, organic-approved products, custom-designed corrugated produce boxes, food-grade postharvest fruit wax, and sustainable pallets.

Table 8: Annual Indirect and Induced Impacts by Industry

Major Industry Group	Total Indirect and Induced Output per Year	% of Total
Agriculture/Forestry/Fishing/Hunting	$426	0.0%
Mining/Quarrying/Oil & Gas Extraction	$1,175,723	0.1%
Utilities	$15,211,049	1.5%
Construction	$17,073,662	1.7%
Manufacturing	$3,872,118	0.4%
Wholesale Trade	$94,883,719	9.3%
Retail Trade	$87,712,019	8.6%
Transportation/Warehousing	$18,259,271	1.8%
Information	$38,682,680	3.8%
Finance/Insurance	$142,095,969	13.9%
Real Estate/Rental/Leasing	$262,968,064	25.7%
Professional/Scientific/Tech Services	$41,596,390	4.1%
Management of Companies/Enterprises	$17,285,383	1.7%
Admin/Support/Waste Management Svcs	$36,942,113	3.6%
Educational Services	$11,181,247	1.1%
Health Care/Social Assistance	$115,600,700	11.3%
Arts/Entertainment/Recreation	$6,363,058	0.6%
Accommodation/Food Services	$51,728,826	5.0%
Other Services (excl Public Administration)	$45,342,547	4.4%
Other Government Enterprises	$16,940,112	1.7%
Total	$1,024,915,077	100.0%

Sources: IMPLAN, 2022; BAE, 2022.

OTHER BENEFITS OF AGRICULTURE IN VENTURA COUNTY

The preceding chapter examined the economic contributions of agriculture to Ventura County's economy in quantifiable terms using readily available data on business activity. In addition to those quantitative impacts, agriculture has other less identifiable yet still valuable impacts within the local economy.

Placemaking and Visitor Attraction

The data presented in this report do not fully quantify the impacts of agriculture on local place-making and visitor attraction. Not only is Ventura County's agricultural activity an integral part of the Ventura County landscape from a visual and aesthetic standpoint; it is also a visitor attraction. Following are several examples of how local agricultural activity brings visitors (and spending) to the Ventura County economy that is not fully accounted for in the direct, indirect, and induced economic impacts presented in the preceding chapter.

Farmers Markets

Farmers markets are organized by farmer's associations such as the Ventura County Certified Farmers' Market Association, nonprofits such as the Oxnard Downtown Management District, governments like the Camarillo City Council, individuals, or the county. Farmer's markets provide the opportunity for farmers to sell directly to consumers, which allows them to capture profit that normally would go to distributors, wholesalers, and retailers. Consumers benefit from produce that is at its freshest and from the ability to interact with the people who produce the food.

Farmers markets make considerable direct and indirect economic contributions to Ventura County. There are eight farmers markets in Ventura County. The four farmers markets in Midtown Ventura, Thousand Oaks, Downtown Ventura, and Santa Clarita are part of the Ventura County Certified Farmers Markets. There are two farmers markets in Oxnard, one in Downtown Oxnard and one in Channel Islands Harbor. There are two markets in Ventura, one in Midtown Ventura and one in Downtown Ventura. There is one market each in Camarillo, Ojai, Santa Paula, and Thousand Oaks.

The farmers markets have between 21 and 69 vendors, with an average of about 38 vendors per market. Most vendors are farmers selling produce. While Ventura County farmers are well represented, based on analysis of online vendor lists per market, on the average, around 50 percent of farmers come from outside of the County. Such a multi-county supply area for farmers' markets is typical for California and contributes to the overall market vitality for both farmers and customers.

Products at markets include locally grown fresh produce such as citrus, tomatoes, avocados, pomegranates, grapes, berries, leafy greens, cucumbers, apples, squash, eggplant, cruciferous vegetables, root vegetables, microgreens, nuts and also cut flowers and nursery products as well as products such as stone fruit and corn, from other warmer growing areas. Other food goods sold include cheese, honey, jams and jellies, olive oil, candy, kettle corn, tamales, sausages, baked goods, and walnut oil. Non-food goods include soaps, art, clothing, bags, pet supplies, candles, and jewelry. Examples of agricultural vendors include Adaboy Acres, Maggie's Farm, and Rose's Garden. Examples of pre-packaged food vendors are Ojai Olive Oil, Wagon Wheel Bakery, and Garlic Gold Garlic Products. Examples of artisan vendors include Aprons & Things, Country Bird Houses and Feeders, and Gourmet Potter. Examples of prepared food vendors include Mr. Corn Tamales and YOUBITE Sausages.

DIRECT TO CONSUMER: ANCILLARY ECONOMIC DATA

Farmers markets are an example of direct-to-consumer sales. A UC Davis study shows that for every dollar of sales bought directly from farmers, twice as much economic activity is generated within the region. A paper by the USDA states that direct sales between consumers and farmers increase the retention of profits for farmers and can be a strategy for development in rural communities as more money is returned locally. Healthy food incentive programs, which include farmers markets that accept SNAP or EBT can generate economic benefits. One study shows that for every $1 invested into a healthy food incentive program, up to $3 in economic activity is generated in turn.

Growers that sell locally create 13 full time jobs per $1 million in sales in comparison to three jobs that are made from not selling locally. Farms selling local food through direct-to-consumer marketing channels were more likely to remain in business over 2007-12 than all farms not using direct-to-consumer marketing channels, according to US Census of Agriculture data.

As an example of economic activity associated with farmers markets, data available for the Downtown Oxnard Farmers Market show that there is an average of 400 customers per week with peak attendance at 700 customers per week during summer. Cumulative annual sales are over $350,000. Weekly sales are about $7,000 and individual vendor sales range from $80 to $1,200 depending on the product and time of year.

Agritourism

Agritourism also makes considerable direct and indirect economic contributions to Ventura County. According to the 2017 Census of Agriculture, there were 58 Ventura County farm operations that reported income from "ag tourism and recreational services" for a total of $20.5 million in annual income. Many Ventura County farms offer farm visits and farm stays. Farm visits include tours, educational experiences for children, and pick-your-own days. Farm

stays offer a relaxing getaway and an opportunity to experience life on a working farm.[10] While these on-farm activities help farmers to diversify and expand their income streams, the attraction of visitors via agritourism activities supports additional spending in the larger tourism economy, including visitor spending for lodging, restaurants, retail and services, and other entertainment and recreational activities in which visitors may partake in conjunction with their local agritourism activities.

A prominent example of agritourism in Ventura County is the Ventura County Farm Day presented by the agricultural nonprofit, SEEAG[11]. It is a free event where more than 30 participating locations open their doors to the public. Over 20 of these locations are farms, ranches, and agricultural organizations. More than 6,000 visitors attend farm day each year. In 2017, Whole Foods hosted a light breakfast before visitors went on farm tours.[12]

One of the most popular destinations for agritourism is Underwood Family Farms. The farm boasts two locations which host popular pick-your-own days throughout the week and are home to animal centers and farm markets.[13] Seasonal events include Tomatomania, Fall Harvest, and Christmas Trees on the farm. Underwood family farms also hosts a kids farm camp and educational farm tours. A season pass for a family of 5 is offered at $275. Oats and Ivy Farm is a location that offers a farm stay. The farm features goat products and experiences such as goat milk soap, goat yoga, and cheesemaking classes.[14]

Other farms in Ventura County offer agritourism opportunities as well as rural settings for events such as weddings and housing, as illustrated by a few examples. McGrath Family Farms offers tours including the Regenerative Farm Experience Program, Farm Manager Tour, Farm Owner Tour, and school tours. Limoneira has created housing on some of their farmlands and also provides community gardens, a farmhouse for communal cooking, and green spaces as community amenities. Maravilla Gardens began as a farm and has transformed into a wedding venue offering a scenic rural location.

Events

Agriculture-related events also make considerable direct and indirect economic contributions to Ventura County. Agritourism events fall into categories of farm visits, street fairs, fundraiser meals, and festivals/fairs. They are hosted by the county, nonprofits, and individual companies.

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[10] It is important to note that farm stays may be subject to County land use and environmental health regulations, including those related to commercial kitchens, temporary rental units, and bed and breakfast inns.

[11] https://venturacountyfarmday.com/

[12] https://www.morningagclips.com/ventura-county-farm-day/

[13] https://www.underwoodfamilyfarms.com/

[14] https://oatsandivyfarm.com/

REGULATING SERVICES: FLOOD MITIGATION

Maintaining agricultural uses in the Santa Clara River Floodplain via the Santa Clara River Floodplain Protection Program (FPP) is estimated to limit the inundation of land and buildings that otherwise would be at risk of flooding. A 2011 study by the Ventura County Watershed Protection District found that the FPP can provide significant economic benefits from a flood reduction perspective, including reduction in flood damages of about $21 million during a 50-year event, $204 million during a 100-year event, and $1,048 million during a 500-year flood event.

The largest event is the annual Ventura County fair held in August (in 2022, on August 3-14). The fair is held at the 63-acre Ventura Fairgrounds and features rides, games, food, an agricultural show, animals, and concerts. In 2019, the last year that the fair was held due to COVID-19, there were 300,000 visitors[15] throughout the 12-day long event. In 2019, nearly 16,000 county residents entered art projects for competitive exhibits[16]. $1.6 million was raised for youth at the 2019 Junior Livestock Auction. $15.7 million was raised from the auction over the past 10 years. There were 14,664 entries in Fair department competitions. The fair had 35 corporate sponsors and 14 media sponsors [17]. In 2018, 67.7 percent of attendees were from Ventura County, with the majority of visitors coming from Los Angeles (14.1 percent) and Santa Barbara (7.1 percent) counties. Of those that visited from outside of the area, 28.9 percent reported staying at a hotel.

Ventura also hosts a winter and spring Wine Walk and a County Ag Week. Both the winter and spring wine walks have free admission to a street fair. The spring Wine Walk has over 40 tasting locations and the winter wine walk has over 80 tasting locations[18][19]. In 2021, 585 people attended the Winter Wine walk, according to Facebook[20], and people from around California come for the event. Hosted by the local organization, Totally Local VC, the Ventura County Ag Week provides an array of events including a luncheon, tasing events, a Meet-The-Farmer mixer, and educational events.[21]

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[15] https://10times.com/ventura-countyfair
[16] https://www.vcstar.com/story/news/local/2019/08/13/ventura-county-fair-attendance-2019-official-numbers/1994360001/
[17] https://www.venturacountyfair.org/wp-content/uploads/2019/12/202020Ventura20County20Fair20Sponsorship20Kit.pdf
[18] https://www.springwinewalk.com/
[19] https://www.venturawinterwinewalk.com/
[20] https://www.facebook.com/events/4677642742264476/
[21] https://totallylocalvc.com/ventura-county-ag-week-2020/

Ecosystem Services and Environmental Amenities

Ecosystem Services

Ecosystem services represent another real, but difficult to quantify economic contribution of agriculture. As described below, ecosystem services include many of the "co-benefits" of agricultural activity. The emerging field of ecosystem services and the assessment of their value is fundamentally about connecting people to natural and working lands. Traditional conservation schemes tend to focus on local factors such as clean air, clean water, and specific habitat or species protection; their focus is usually on a non-human element. The theory behind conservation of ecosystem services and their related natural capital incorporates anthropogenic values and relationships for and toward nature, and particularly those elements of nature that benefit human sustenance and quality of life. Ecosystem services are relevant at the global, regional, and local levels.

Ecosystem services are defined as "conditions and processes through which natural ecosystems, and species making them up, sustain and fulfill human life."[22] Natural capital is essentially the product of ecosystem services that are valuable to humans, economically, culturally, and intrinsically.

Ecosystem services are categorized as provisioning services, regulating services, supporting services and cultural services[23]. Provisioning services provide goods and materials for human consumption and use. Regulating services are ecosystem processes that regulate the environment and, in turn, benefit humans. Supporting services are those that support other processes and functions of the ecosystem. Cultural services are aspects of nature that hold beneficial value for people through meaningful interactions.

Through direct and indirect contributions, ecosystem services provide humans with the necessary provisions for life, a healthy environment, and emotional comfort. The ecosystem functions outside of the economy however, it provides natural benefits that allow the economy to function, such as crops and soil fertility. Agricultural lands are and can be managed to provide ecosystem services to the greater community by providing food, energy, climate stability, improving soil retention, contributing to natural beauty and much more.

The table below, excerpted from the Nature's Value report, produced by Santa Clara Valley Open Space Authority and Earth Economics, gives examples of ecosystem services, categorized into provisioning services, regulating services, supporting services and cultural services.

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[22] Daily. *Nature's Services*

[23] https://www.openspaceauthority.org/system/documents/NaturesValue_SCC_int.pdf

Table 9: Examples of Ecosystem Services

TABLE 1: Ecosystem Goods and Services	
GOOD/SERVICE	Economic Benefit to People
PROVISIONING SERVICES	
Food	Producing crops, fish, game, and fruits
Medicinal Resources	Providing traditional medicines, pharmaceuticals, and assay organisms
Ornamental Resources	Providing resources for clothing, jewelry, handicraft, worship, and decoration
Energy and Raw Materials	Providing fuel, fiber, fertilizer, minerals, and energy
Water Supply	Provisioning of surface and groundwater for drinking water, irrigation, and industrial use
REGULATING SERVICES	
Biological Control	Providing pest and disease control
Climate Stability	Supporting a stable climate at global and local levels through carbon sequestration and other processes
Air Quality	Providing clean, breathable air
Moderation of Extreme Events	Preventing and mitigating natural hazards such as floods, hurricanes, fires, and droughts
Pollination	Pollination of wild and domestic plant species
Soil Formation	Creating soils for agricultural and ecosystems integrity; maintenance of soil fertility
Soil Retention	Retaining arable land, slope stability, and coastal integrity
Waste Treatment	Improving soil, water, and air quality by decomposing human and animal waste and removing pollutants
Water Regulation	Providing natural irrigation, drainage, groundwater recharge, river flows, and navigation
SUPPORTING SERVICES	
Habitat and Nursery	Maintaining genetic and biological diversity, the basis for most other ecosystem functions; promoting growth of commercially harvested species
Genetic Resources	Improving crop and livestock resistance to pathogens and pests
CULTURAL SERVICES	
Natural Beauty	Enjoying and appreciating the presence, scenery, sounds, and smells of nature
Cultural and Artistic Inspiration	Using nature as motifs in art, film, folklore, books, cultural symbols, architecture, and media
Recreation and Tourism	Experiencing the natural world and enjoying outdoor activities
Science and Education	Using natural systems for education and scientific research
Spiritual and Historical	Using nature for religious and spiritual purposes

Source: Adapted from de Groot et al., 2002 and Sukhdev et al., 2010

Source: Santa Clara Valley Open Space Authority, Earth Economics, 20xx.

Quantification of Ecosystems Services

Ecosystem services can be quantified to determine their volume and impact. Many tools to quantify ecosystem services have been developed. These include several developed by the USDA and partners to quantify the environmental benefits of conservation practices, and in

some cases to estimate the number of credits a landowner can sell through environmental markets. [24]:

- COMET-Farm is a whole farm and ranch carbon and greenhouse gas accounting system
- COMET-Planner provides generalized estimates of the greenhouse gas impacts of conservation practices for planning purposes.
- Water Quality: The Nutrient Tracking Tool (NTT) estimates nutrient and sediment losses from crop and pastures and NTT is being used in several water quality trading programs to estimate water quality benefits.
- Ecosystem Services: EnviroAtlas provides geospatial data, easy-to-use tools, and other resources related to ecosystem services, their stressors, and human health.

Valuation, Monetization and Payment for Ecosystem Services

Through the use of a variety of tools, including those mentioned above, quantification of ecosystem services is possible, albeit complex with multiple factors involved. Valuation of ecosystem services is more nuanced. One approach for translating ecosystem services generated from agricultural lands into monetary values to assess the cost of providing these services in the absence of natural processes that automatically perform them. Earth Economics created the Ecosystem Valuation Toolkit and have used it to calculate estimated monetary values of ecosystem services on project sites.[25] The tool was created using values derived from peer reviewed articles and journals. The tool was used to calculate the monetary values of farmed and non-farmed areas as well as their benefits and damages.

The table below shows the estimated value of Ventura County crop and rangeland annually and per acre with values derived from the Nature's Value report, produced by Santa Clara Valley Open Space Authority and Earth Economics in 2014.[26] As summarized in Table 10, the value of ecosystems services provided by Ventura County's farm and rangeland can be estimated at between approximately $174 million and $491 million per year, based on the per-acre value factors identified in the Nature's Value report. Ecosystem services that could be provided by the Ventura County croplands and rangelands shown in Table 10 include food and fuel, seed dispersal, the mitigation of drought and floods, nutrient cycling, waste purification and decomposition, agricultural pest control, biodiversity maintenance, soil renewal, maintenance of soil fertility, climate stability, regulation of disease carrying organisms, protection from soil erosion, watershed protection, pollination, aesthetic beauty, wildlife habitat, recreational opportunities, and research opportunities. These ecosystem

[24] https://www.usda.gov/oce/energy-and-environment/markets/quantifying

[25] https://delta-institute.org/wp-content/uploads/2018/09/Valuing-the-Ecosystem-Service-Benefits-from-Regenerative-Agriculture-Practices-_-Farmland-LP-Impact-Report.pdf

[26] Batker, D., et. al. "*Nature's Value in Santa Clara County*" Earth Economics, Tacoma, WA & the Santa Clara Valley Open Space Authority, San Jose, CA. 2014.

services fall into provisioning, regulating, cultural, and supporting categories; all of which are beneficial to surrounding communities and their economies.

Table 10: Estimated Ecosystems Services Value of Ventura County Cropland and Rangeland

Landcover	Landcover Type	Acres	Percentage of Total	Annual Per-Acre Value		Total Annual Value	
				Low ($/acre/year)	High ($/acre/year)	Low ($/year)	High ($/year)
Cropland	Hay/Pasture	6845	6%	$769	$10,190	$739,491	$7,287,845
	Cultivated	111427	94%	$121	$2,517	$2,889,347	$59,941,616
	Total	**118,272**		**$890**	**$12,707**	**$3,628,838**	**$67,229,461**
Rangeland	Mixed Forest	19,771	10%	$1,249	$1,423	$62,996,888	$71,775,904
	Shrub/Scrub	59,314	30%	$453	$756	$14,363,817	$23,955,775
	Grassland	118,628	60%	$2,125	$7,502	$92,977,453	$328,172,821
	Total	**197,714**		**$3,827**	**$9,681**	**$170,338,158**	**$423,904,500**

Sources: Earth Economics and Santa Clara Valley Open Space Authority, 2014; SAGE, 2022.

There are various evolving mechanisms for facilitating payments for ecosystem services (PES). Some are incentive or market-based such as: tradable permits, (e.g., markets for pollution reduction or carbon sequestration); and certification schemes (e.g., organic, bio-dynamic. Others are government based such as tax benefits, and yet others are voluntary efforts by businesses or communities. PES is a dynamic arena that will quite possibly offer benefits to Ventura County agricultural land stewards in the future.

Environmental Amenities

Because farmland is a form of open space, the presence of farmland is often considered a desirable environmental amenity for nearby residential areas. To the extent that residents value proximity to this type of open space amenity, farmland may create additional value for nearby residential properties. Although BAE was not able to identify any studies that evaluate this link, the fact that residents have provided strong voting support for the various SOAR initiatives within the Ventura County suggests that residents do value Ventura County's working landscape.

Food Processing and Other Value-Added Activities

The economic value of food processing and other activities that are related to marketing and selling finished products that are made from local produce is not be captured in the direct, indirect, and induced economic impacts quantified in preceding sections of this report. An example of the type of impact that would not be captured in this report is a food processing company that is located in Ventura County specifically to have ready access to locally grown produce that it purchases from others and uses in its products. Such a company would be classified in the manufacturing sector (as opposed to agriculture) and would in turn spawn its own distinct set of indirect and induced impacts within the local economy.

A 2015 report prepared by Applied Development Economics and The Hatamiya Group for the Economic Development Collaborative of Ventura County (EDC-VC) titled "Food Processing in Ventura County",[27] stated that local food processing creates a number of benefits, including: "long-term competitiveness for growers", "new job opportunities for the region's labor", "food security for the region", and "regional quality of life". Importantly, the study reported that, "Farmers' ability to capture the added economic benefit from value added food processing is critical to their long-term economic sustainability" and suggested that utilizing some agricultural land for food processing activities would result in net gains for the farm economy. Further, the report indicated that food processing in Ventura County generated $814 million in annual economic output as of 2014. The report indicated that indirect and induced economic impacts from a food processing facility such as a fruit puree producer with 115 onsite jobs would create 200 additional jobs within the county.

VALUE-ADDED PROCESSING: OJAI OLIVE OIL COMPANY

When agricultural producers conduct some or all of the processing, distribution, and marketing of their products, they capture more of the value chain from the products that are ultimately sold to the end user within the local economy, creating additional jobs and income within the local economy. The Ojai Olive Oil Company, a third generation owned and operated farm based in Ojai, grows olives and mills them into oil. All of the olives are picked by hand which allows the picking and processing rates to align and minimizes the time the fruit spends between the tree and the mill. Compost is created out of the byproducts from the milling process. Ojai Olive Oil company follows organic, sustainable, and permaculture farming practices including synergistic crops, animals for fertilizing, locally produced composts, and beneficial insects. The Ojai Olive Oil Company sells its products directly on their farm, through their website at local farmers' markets and wholesale.

At least some of the economic impacts of the Ojai Olive Oil Company are captured in this report, because it is a local grower whose production figures should be captured in the direct economic impacts of countywide agricultural production and in the indirect and induced economic impacts of agricultural production; however, the side-bar profiles the company and provides an example of how other local agricultural producers may be able to capture more of the value-chain that is created with the processing and marketing of finished products to consumers. This creates more income for the agricultural producer and captures more of the resulting economic activity within the local economy as opposed to having that value creation and economic activity occur elsewhere, where it will not benefit the local economy.

[27] Applied Development Economics and The Hatamiya Group, "*Food Processing in Ventura County*". December, 2015.

APPENDIX A: IMPORTANT FARMLAND CATEGORIES

The following is from the California Department of Conservation' Farmland Mapping and Monitoring Program (FMMP) and describes the farmland categories used by the program to track changes in farmland over time. This information is directly excerpted from https://www.conservation.ca.gov/dlrp/fmmp/Pages/Important-Farmland-Categories.aspx, as accessed on March 21, 2022.

Important Farmland Categories

FMMP's study area is contiguous with modern soil surveys developed by the US Department of Agriculture (USDA). A classification system that combines technical soil ratings and current land use is the basis for the Important Farmland Maps of these lands. Most public land areas, such as National Forests and Bureau of Land Management holdings, are not mapped.

The minimum land use mapping unit is 10 acres unless specified. Smaller units of land are incorporated into the surrounding map classifications. In order to most accurately represent the NRCS digital soil survey, soil units of one acre or larger are depicted in Important Farmland Maps.

For environmental review purposes under CEQA, the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land constitute 'agricultural land' (Public Resources Code Section 21060.1). The remaining categories are used for reporting changes in land use as required for FMMP's biennial farmland conversion report.

Prime Farmland (P)

Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance (S)

Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland (U)

Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as

found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance (L)
Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing Land (G)
Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

Urban and Built-up Land (D)
Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land (X)
Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

APPENDIX B: OVERVIEW OF IMPLAN

This appendix provides additional clarification of the workings of the IMPLAN input-output model, beginning with an overview of the data that IMPLAN uses internally and moving forward through the process of how the model estimates the impacts of new economic activity or the contributions of existing industries.

What is IMPLAN?

IMPLAN is an input-output model that estimates the total economic implications of new economic activity or the economic contributions of current activity within a specified geography. The model uses national industry data and county-level economic data to generate a series of multipliers, which in turn estimate the total economic implications of economic activity.

At the heart of the model is a national input-output dollar flow table called the Social Accounting Matrix (SAM). Unlike other static input-output models, which just measure the purchasing relationships between industry and household sectors, SAM also measures the economic relationships between government, industry, and household sectors, allowing IMPLAN to model transfer payments such as unemployment insurance. Thus, for the specified region, the input-output table accounts for all the dollar flows between the different sectors within the economy.

National Industry Data. The model uses national production functions for 546 sectors to determine how an industry spends its operating receipts to produce its commodities. The model also uses a national matrix to determine the *byproducts*[28] that each industry generates. To analyze the impacts of household spending, the model treats households as an "industry" to determining their expenditure patterns. IMPLAN couples the national production functions with a variety of county-level economic data to estimate the impacts on a local level.

County-Level Economic Data. In order to estimate the county-level impacts, IMPLAN combines national industry production functions with county-level economic data. IMPLAN collects data from a variety of economic data sources to generate average output, employment, and productivity for each of the industries in a given county. It also collects data on average prices for all of the goods sold in the local economy. In this analysis, IMPLAN uses economic data for Ventura County. IMPLAN gathers data on the types and amount of output that each industry generates within the region. In addition, the IMPLAN model uses county-level data on the prices of goods and household expenditures to determine the consumption functions of regional households and local government, taking into account the availability of each commodity within the specified geography.

[28] The byproducts refer to any secondary commodities that the industry creates.

Multipliers. IMPLAN combines these data to generate a series of SAM-type multipliers for the local economy. The multiplier measures the amount of total economic activity that results from an industry (or household) spending an additional dollar in the local economy. Based on these multipliers, IMPLAN generates a series of tables to show the economic event's *direct*, *indirect*, and *induced* impacts to gross receipts, or output, within each of the model's 546 sectors. These outputs are as follows:

- Direct Impacts. Direct impacts refer to the dollar value of economic activity available to circulate through the economy and the jobs associated with that economic activity. The direct impacts do not include household savings and payments to federal, state, and local taxes, as these payments do not circulate through the economy.

  It should be noted that impacts from retail expenditures differ significantly between the total economic value of retail and the amount available to circulate through the local economy. The nature of retail expenditures accounts for this difference. The model assumes that only the retail markup impacts the local economy, particularly for industries heavily populated with national firms such as gas stations and grocery stores. Since local stores buy goods from wholesalers and manufacturers outside of the area, and corporate profits also leave the local economy, only the retail markup will be available for distribution within the local economy. To the extent that retailers' headquarters are located within the county or region, the model allocates their portions of the impacts to the local economy.

- Indirect Impacts. The indirect impacts refer to the impact of local industries buying goods and services from other local industries, and to the jobs supported by those purchases. The cycle of spending works its way backward through the supply chain until all money leaks from the local economy, either through imports or by payments to income and taxes. For capital projects this would include payments for construction inputs such as wood, steel, office supplies, and any other non-labor payments that a construction firm would purchase in the building process.

- Induced Impacts. The induced impacts refer to the dollar and employment impacts of household spending by the employees generated by the direct and indirect impacts. In other words, induced impacts result from the household spending of employees of business establishments that the new households patronize (direct) and their suppliers (indirect). The model accounts for local commute patterns in the geography. For example, if 20 percent of construction workers who work in the region live outside of the region, the model will allocate 80 percent of labor's disposable income into the model to generate induced impacts. The model excludes payments to federal and state taxes and savings based on the geography's average local tax and savings rates. Thus, only the disposable incomes from local workers are included in the model.

Specifying the "Event" and Running the Model

Once the model is built for the specified geographies, it is time to specify the "event" that the model will analyze and run the model.

Specifying the "Event." The "event" refers to the total economic value of industry output that the analyst is considering. In the case of the ongoing economic impacts of a new institutional development such as a school, the "event" would be the operations of a school, including the resulting new jobs and the worker compensation. In the case of an industry contribution analysis the "event" would be the current operations of an industry sector, including the existing jobs, worker compensation, and the output in that sector

Running the Model. Once the event is specified, IMPLAN runs the event through the model to generate the results. By default, IMPLAN applies the local data on average output per worker and compensation per worker to determine the direct impacts. The model then applies the value of the event to the national production functions and runs a number of iterations of this value through the production functions for the local economy to determine the indirect and induced impacts. For each iteration, the model removes expenditures to government, savings, and for goods bought outside of the local economy so that the results only include those dollars that impact the local economy.

Summarizing the Impacts

Once the model is run, IMPLAN generates a series of output tables to show the direct, indirect, and induced impacts within each of the model's 546 sectors. IMPLAN generates these tables for three types of impacts: employment, output, and value added.

- *Employment* shows the number of employees needed to support the economic activity in the local economy. It should be noted that for annual impacts of ongoing operations, the employment figure shown represents the amount of employment needed to support that activity for a year. Furthermore, IMPLAN reports the number of jobs based on average output per employee for a given industry within the geography. This is not necessarily the same as the number of full-time positions.
- *Output* refers to the total economic value of the event in the local economy.
- *Value Added* shows the total income that the event generates in the local economy. This income includes:
    - *Employee Compensation* – total payroll costs, including benefits
    - *Proprietary Income* – payments received by self-employed individuals as income
    - *Other Property Type Income* – payments for rents, royalties, and dividends
    - *Indirect Business Taxes* – excise taxes, property taxes, fees, and sales taxes paid by businesses. These taxes occur during the normal operation of businesses, but do not include taxes on profits or income.

APPENDIX C: ECONOMIC DATA SOURCES

Differences Between IMPLAN GDP and Other Data Sources for Ventura County Agricultural Economic Activity

The Civic Alliance State of the Region Report cites two sources for its data on crop value and GDP: the Agriculture Commission's Crop Report and a report from the California Lutheran University Center for Economic Research. BAE has been unable to obtain a copy of the California Lutheran report, which is cited as a data source in the State of the Region report. Based on our review of the State of the Region Report, BAE believes that the numbers that are not from the Crop Report originate from the Bureau of Economic Analysis, and perhaps were cited in the California Lutheran study.

First, it should be noted that like the IMPLAN data, the data from the Crop Report and from the BEA itself are also estimates. As stated in the Commissioner's introductory letter in the 2020 report: "The *estimated* gross value of Ventura County's agriculture for calendar year 2020 is $1,985,365,000." {Emphasis added}. The IMPLAN number of approximately $1.73 billion corresponds very closely to the U.S. Bureau of Economic Analysis' estimated agriculture GDP for the County, also approximately $1.73 billion.

Furthermore, the Crop Report estimates also vary from the Census of Agriculture, which reports that in 2017, total commodity sales for agriculture in Ventura County were approximately $1.63 billion, compared to $2.10 billion reported in the 2017 Crop Report. More recent data are not available from the Census of Agriculture.

While it may appear that there is a significant variance between the IMPLAN figures and figures from other sources, the figures are not directly comparable.

For employment, the Civic Alliance report appears to rely on the Quarterly Census of Employment and Wages (QCEW). The numbers are based on most wage and salary employment, excluding certain public sector employment. These numbers are in fact "real" numbers rather than estimates; however, they do not include all jobs. Based on QCEW data, the ratio of agriculture jobs to total jobs is approximately 8.1 percent, higher than the IMPLAN estimate of 5.4 percent. This difference is due in large part to IMPLAN's inclusion of proprietors (i.e., non-wage and salary workers) in their count of total jobs, thus making the comparison of the QCEW and IMPLAN-derived employment ratios an apples-to-oranges exercise.

The IMPLAN-based measure of agricultural economic activity as a percentage of overall activity does vary from the percentage provided on page 12 of the State of the Region report. As stated herein, IMPLAN estimates that the output of the agriculture sector is approximately 2.1

percent of total county output, while the State of the Region report provides an estimate of 3.8 percent.

The IMPLAN estimate relies strictly on IMPLAN's internal model's estimates of output for the agricultural sector and for overall output for the county. The State of the Region estimate, however, relies on mixed sources. In that report, agricultural value is from the Agriculture Commissioner's annual crop report, but the gross county product estimate comes from the U.S. Bureau of Economic Analysis. The BEA estimate of agriculture's percentage contribution to gross county product is lower than the Agriculture Commissioner's value estimate. In fact, it appears that the Agriculture Commissioner's value estimate is a total value estimate, equivalent to total output as defined by IMPLAN and BEA; the BEA county number is a value-added estimate, which subtracts the value of intermediate inputs used in growing crops or raising animals (e.g., fuel purchases for farm equipment). As a result, the IMPLAN ratio and the State of the Region percentage estimates are not directly comparable; the State of the Region estimate compares total output in one industry with value-added output; the IMPLAN ratio compares output in one industry with total output countywide.

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APPENDIX C.

MAP-BASED AGRICULTURAL RISK ASSESMENT

Map-based Agricultural Risk Assessment

for

Ventura County, California

Produced by

Conservation Biology Institute

October, 2022

TABLE OF CONTENTS

EXECUTIVE SUMMARY

To inform the on-going development of an ***Agriculture Conservation Planning Strategy for Ventura County (the Strategy)***, Conservation Biology Institute (CBI), as a part of the Cultivate Team, conducted a map-based agricultural risk assessment focusing on two primary tasks:

(1) Conduct a risk assessment based on the identified current and future stressors in the region, and
(2) Develop criteria to help prioritize the existing agricultural lands based on the combination of these stressors.

There are numerous stresses on agriculture in the County with water availability and projected climate change instrumental in driving many of the other factors such as sea-level rise, saltwater intrusion into groundwater, exotic species infestation, crop diseases, and increased wildfire frequency and severity.

An important deliverable for the Strategy is the development of an online mapping resource (Ventura County Sustainable Agriculture Conservation Project Gateway) based on Data Basin technology so users can easily access the numerous relevant map layers (~200), including the model results from the analysis, and take full advantage of the many easy-to-use technical and collaboration features provided by the system well-beyond the completion of the project final report. The Project Gateway provides a tool for the community to continue to use, now and in the future, to implement agreed upon strategies to secure the County's agricultural future.

All of the modeling was conducted using software called *Environmental Evaluation Modeling System* (EEMS), which consists of a highly transparent fuzzy logic framework that supports the close involvement by outside participants. Numerous webinars were held over the course of the modeling exercise to obtain insight from the local community. A model was created to map the relative importance of agricultural land in the County followed by a series of primary stress models differing by the different climate future projections. Three climate general circulation models (CNRM-CM5, MIROC5, and GFDL-CM3) were evaluated for the 2010 – 2039 time period. All models used a 90-meter spatial resolution and can be accessed in the gateway. Since groundwater is so vital to agriculture in the County, our project stakeholder subgroup agreed that summarizing many of the findings using sub-basins was beneficial.

Results from the Agricultural Value model showed ***Oxnard, Las Posas Valley, Filmore, Santa Paula***, and ***Pleasant Valley*** sub-basins containing the highest total acres of agriculture classified as "Very High" to "Moderately High."

Although EMMS logic models reflect results in terms of relative rather than absolute values, **the three stress models show the County under considerable stress even under the mildest future** (warm, wet future |CNRM-CM5); however, the level and types of stress were not distributed uniformly across the County – some sub-basins showed more stress than others. **We also found the modeled sub-basin stress pattern remained the same regardless of the climate future evaluated**. The difference between the three stress models was essentially one of degree.

From a purely climate perspective, the sub-basins that are projected to experience a muted response in terms of changes in temperature and precipitation are those influenced by the proximity to marine environments (*Oxnard, Mound*, and *Lower Ventura River Valley*). Unfortunately, these are the same locations projected to be **impacted by rising sea-levels**. Sub-basins located further inland showed the most significant temperature and precipitation impacts over the next two decades. The most notable negatively impacted sub-basins are ***Piru, Filmore, Tierra Rejada***, and ***Arroyo Santa Rosa Valley***.

The prioritization analysis aimed to provide practical insights into which agricultural lands **were more likely to remain resilient and productive given future conditions (based on climate projection impacts, water stresses, and other factors) compared to the higher stressed agricultural lands**. The Cultivate Team worked with the project stakeholder subgroup to select 13 criteria, many chosen from the models, to inform sub-basin condition. Summarizing criteria included:

- *Groundwater resource stress*
- *Impaired soil chemistry*
- *Number of extreme heat days*
- *Maximum annual temperature*
- *Annual precipitation stress*
- *Water recharge deficiency*
- *Climatic moisture stress*
- *Climatic water deficit*
- *Potential flooding risk*
- *Invasive plants*
- *Wildfire risk*
- *Housing burden*
- *Poverty level*

Summaries of current crop types (aggregated into six categories using the latest Cropsnow dataset) were also included in the sub-basin profiles, which help inform levels of agriculture sensitivity. Text summaries and potential response strategies specific to each sub-basin are provided in the 'Results and Discussion" section of this report.

INTRODUCTION

Agriculture is a critical economic and cultural component of life in Ventura County, California. Ventura County is a leader in the commercial production of strawberries, lemons, avocados, and a variety of other crops. At the same time, there are numerous and growing threats to farmers in the region from water shortages, crop diseases, labor issues, global competition, and wildfire (Ventura CCA 2019). To inform the development of an ***Agriculture Conservation Planning Strategy for Ventura County***, Conservation Biology Institute (CBI), as a part of the Cultivate Team, conducted a map-based assessment focused almost exclusively on the non-socioeconomic threats affecting agriculture viability in the County.

The map-based assessment pertaining to agriculture viability is based on two primary tasks: (1) conduct a risk assessment based on the identified current and future stressors in the region for which reliable spatial data exists and (2) develop criteria to help prioritize the existing agricultural lands based on the combination of these stressors. The goal of the analysis was not to develop a plan. Rather, the goal was to aggregate the relevant spatial datasets, generate useful agriculture value and stress models that would inform the ***Agriculture Conservation Planning Strategy for Ventura County*** and other planning going forward. To this end, all of the datasets and model results are provided using a dedicated online Data Basin platform (Ventura County Sustainable Agriculture Conservation Project Gateway) so users can continue to use the map products independently and beyond the scope of this project.

There are numerous stresses on agriculture in the County with water availability and projected climate change instrumental in driving many of the other factors such as sea-level rise, saltwater intrusion into groundwater, exotic species infestation, crop diseases, and increased wildfire frequency and severity. This conclusion was reinforced by the project participants and the analyses that CBI carried out, which focused most heavily on these two critical components: climate and water availability. A previous study on climate change clearly demonstrated the potential impact a changing climate is having and will continue to have on Ventura County agriculture (Oakley et al. 2019). This report highlights numerous recommendations for future work. The mapping assessment addressed two of these recommendations, including:

- Precipitation, temperature, or evapotranspiration could be overlain on maps of a specific crop, vegetation, or habitat type. This could aid in determining the spatial extent to which the particular topic of interest is impacted by climate change.

- Education on climate change and its potential impacts to the community and resources can empower people to be informed voters and to participate in the decision-making process.

DATA AND METHODS

Data Basin Gateway

The analyses carried out for the project relied heavily on synthesizing available, spatially explicit datasets. Rather than limiting these datasets for internal use only, we chose to provide them as an important resource that would be provided for independent use beyond the final report. To do this, we designed and constructed a Data Basin Gateway (https://vcsalc.databasin.org/) specifically dedicated to this project (**Figure 1**).

Data Basin is a web-based mapping platform, which was first publicly launched in 2010. Data Basin is a highly sophisticated platform that meets many science and technical demands, but was developed to greatly expand usability; you do not need to be a GIS professional to effectively use Data Basin, which makes it ideal to help a wide range of users for multiple purposes. Data Basin is global in scope, but it also supports customized, branded copies of the technology (called gateways) that focuses on a particular region and/or topic.

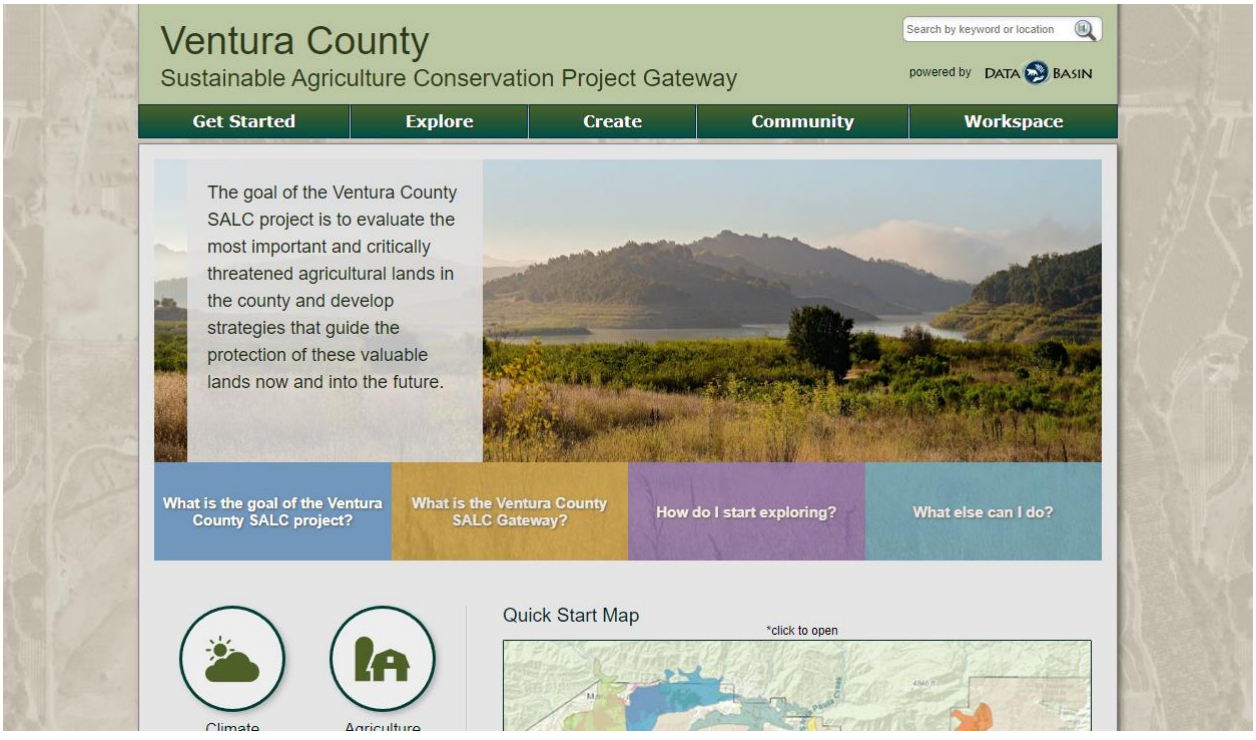


Figure 1. Screen capture of the Ventura County Sustainable Agriculture Conservation Project Gateway.

The Project Gateway has nearly 200 individual datasets, most of which are curated into one of six folders (or galleries): Agriculture, Climate, Water, Natural Lands, Fire, and General. Each dataset, regardless of its origin, includes standardized metadata so all users have adequate detail for effective use (see **Appendix**

A). Some datasets can best be described as raw data while other datasets are results from different assessments, including the models from this project.

Fuzzy Logic Modeling

Environmental Evaluation Modeling System (EEMS) is a fuzzy logic modeling system developed by the Conservation Biology Institute (Sheehan and Gough 2016) and was used to produce a series of agricultural value and risk models for the project assessment area, which focused on the agricultural region of Ventura County as defined by the state Farmland Monitoring and Mapping Program (**Figure 2**). Fuzzy logic is a powerful modeling approach that is well-suited for addressing complex, spatially explicit questions (Zadeh, 1973) and has been successfully applied in a variety of environmental and natural resource contexts (Bojorquez-Tapia, et al. 2002; Boclin and de Mello 2006). EEMS relies on a logic modeling framework that combines any number of spatial datasets into a logical arrangement to answer specific questions. An important feature of EEMS modeling is that all map components (or nodes), regardless of where they occur in the designed tree diagram, can be viewed and explored. Another advantage of this approach is that updates to specific datasets can be included in a previously constructed model with minimal effort. This open source software is highly transparent, easy to update, and readily accessible to non-technical users (Click for more information).

As part of the EEMS modeling exercise, participants were invited to review and comment on various aspects of the models, including input data, model design, and model logic controls. The review process was assisted by providing participants direct access to the draft models in an online application called EEMS Online (https://eemsonline.org/) where participants could explore all aspects of the models and alter logic operators, input thresholds, and weighting to test various assumptions. Draft models were also reviewed using a series of webinars and one-on-one reviews to obtain feedback. Numerous revisions were made based on participant comments to create the final models, which were uploaded into the Ventura County Sustainable Agriculture Conservation Project Gateway so the model results can be integrated with other datasets in the platform.

Important Agricultural Lands Model

The first, relatively simple EEMS logic model was to define the **relative agricultural value lands** in the County. The extent of the model concentrated on the non-federal lands, which included the agricultural and urbanized portion of the landscape. Resolution of the model was 90 meters. Model diagram included nine datasets arranged hierarchically (**Figure 3**). **High Agricultural Value** was defined by combing Favorable Farmland Status based on County level Farmland Mapping and Monitoring Program (FMMP) data and Good Soil Capacity based on Impaired Soil Chemistry (Salinity and Sodicity), Soil pH, and Soil Capacity based on Irrigated Capability Class and Storie Index. Results were then masked by an Exclusion component derived by combining Urban Areas, Protected Lands, and Rivers and Streams. Datasets used in the model are listed in **Appendix B**.

Agriculture Stress Models

There are numerous current stressors on agriculture in Ventura County; some can be attributed to socioeconomic factors, others on physical limitations of the land, and still others on previous and current management practices, especially as they pertain to water use. Mapping future conditions based on changing socioeconomic conditions and management decisions is extremely difficult – there is inadequate spatially explicit data from which to build a model. **Therefore, our agricultural stress modeling focused exclusively on physical threats to agriculture in the County**. Some included stress factors that are somewhat fixed (e.g., soil characteristics) while others are very much impacted by a changing climate.

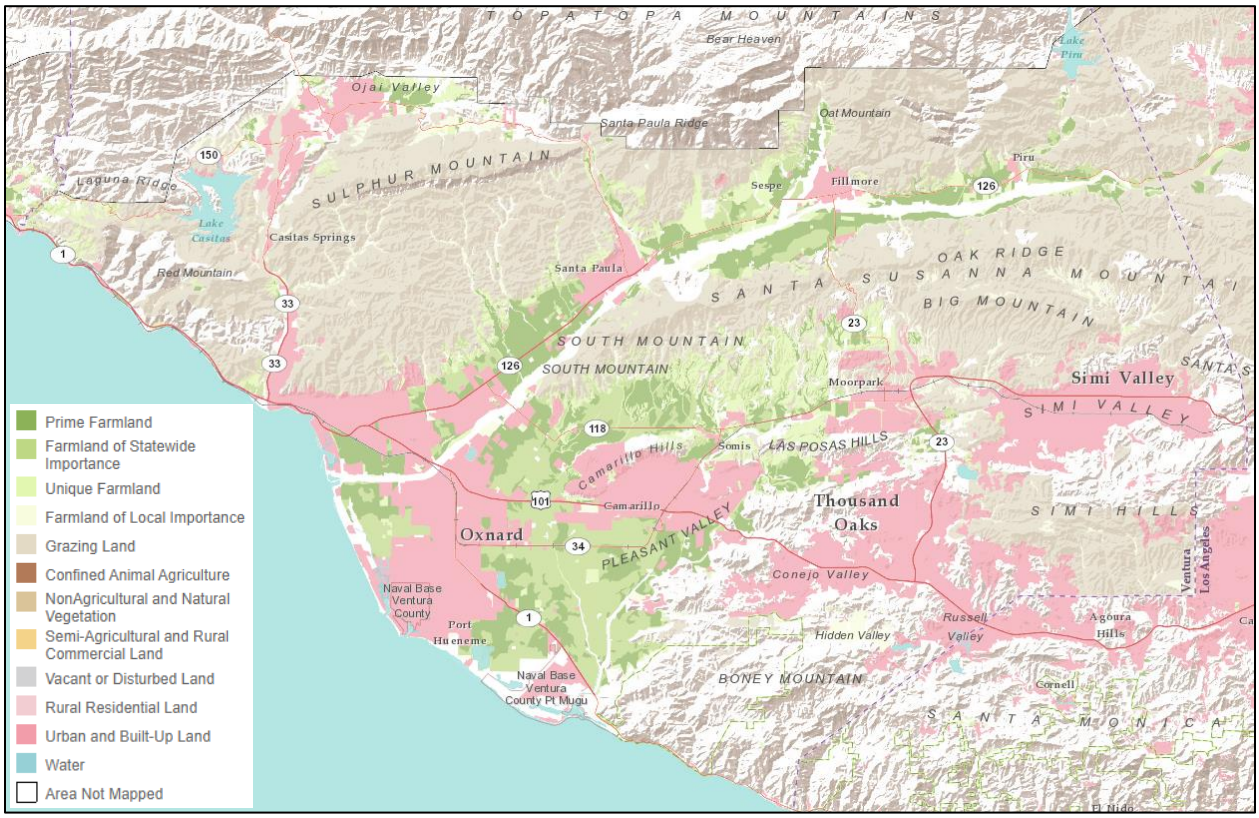


Figure 2. Map showing the project assessment area defined by the most recent (2016-2018) state Farmland Monitoring and Mapping Program dataset.

Climate Change EEMS Model Inputs

Modeling climate change impacts is complex. Thankfully, California has been a leader in examining climate change research as it relates to the state having completed four climate assessments since 2006 with a fifth assessment underway (Bedsworth et al. 2018). With every update, more refined data are made available and our understanding of current and projected impacts greatly improves. Climate and climate impact data are routinely published via a collection of online tools maintained by Cal-Adapt (https://cal-adapt.org/tools), and these data were the source for our analysis.

There are over 35 General Circulation Models (GCMs) developed by different global research labs to consider. For California, ten of these models have been tracked over time with updated results published on Cal-Adapt. Our study chose three of these climate models to evaluate – CNRM-CM5, MIROC5, and GFDL-CM3 – over three time steps (2010-2039, 2040-2069, and 2070-2099) under the high emission scenario (representative concentration pathway or RCP 8.5)[1] . Only the first step is included in this report.

[1] RCP 8.5 is a no-mitigation scenario where global GHG emissions continue to rise throughout the 21st century. In California, annual average temperatures are projected to increase 4-7 degrees Celsius by the end of the century.

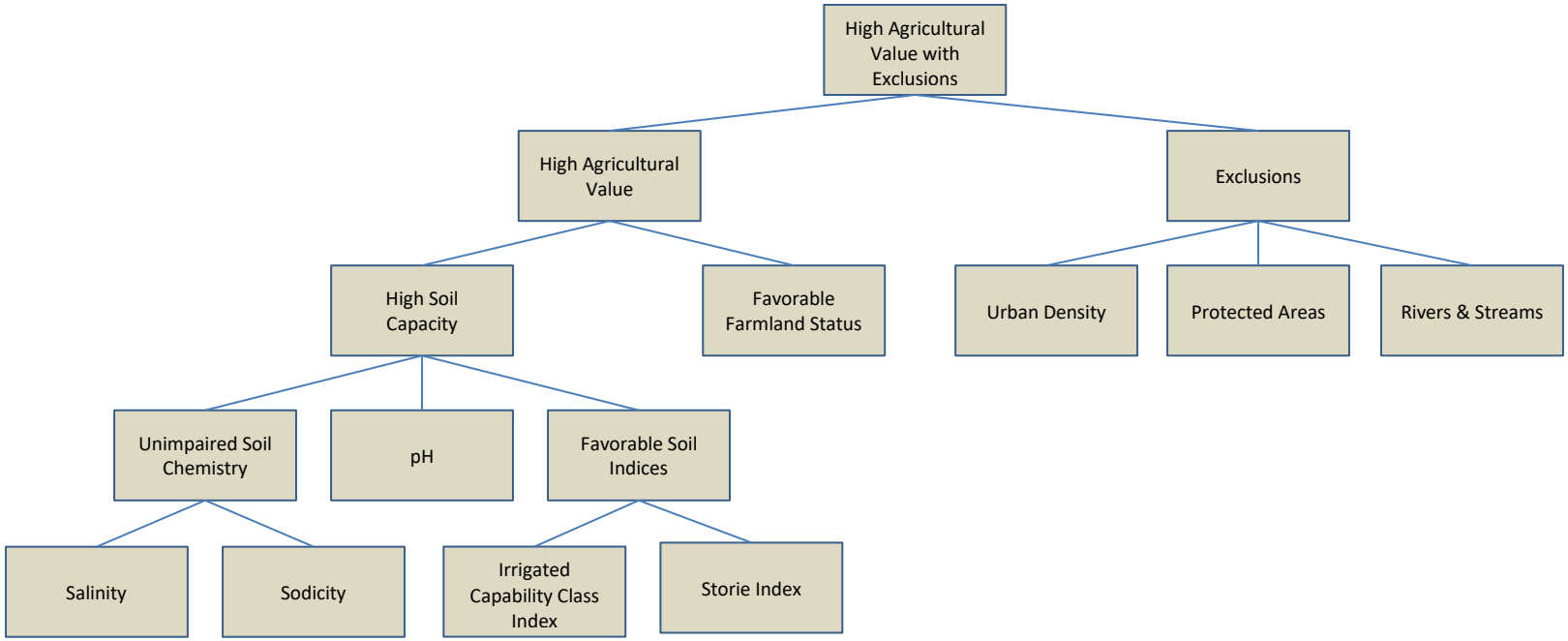


Figure 3. General EEMS model diagram for mapping Agricultural Value for Ventura County, California.

CBI generated EEMS logic models for the near-term and mid-term time steps; again at 90-meter resolution. CBI used annual and seasonal datasets from the three GCMs for maximum temperature, precipitation, and number of extreme heat days. These data were provided by three sources: (1) downscaled climate data (Pierce et al. 2018), (2) observed meteorological data (Livneh et al. 2015), and (3) derived products such as number of extreme heat days (Thomas et al. 2018).

For all GCMs, there is agreement that maximum temperature is increasing into the future; the difference between them is one of trajectory and magnitude. For example, the three models we selected for our assessment, when graphed annually, show GFDL-CM3 to be the warmest model; CNRM-CM5 is the coolest; and MIROC5 lies generally in-between but closer to CNRM-CM5 (**Figure 4**).

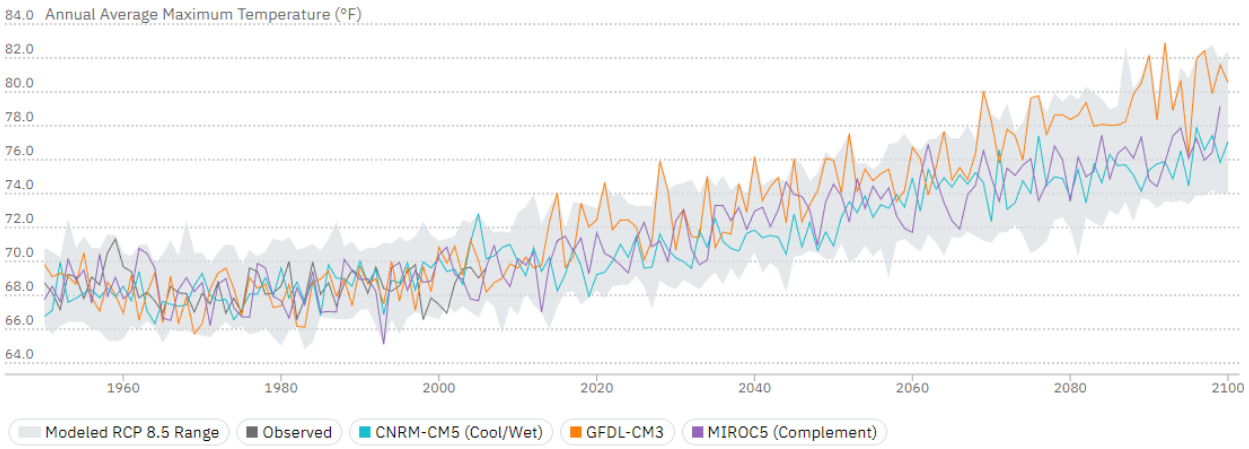


Figure 4. Screen capture from Cal-Adapt showing annual average maximum temperature for observed historic values and projections for CNRM-CM5, MIROC5, and GFDL-CM3 for Ventura County, CA under the RCP 8.5 scenario (https://cal-adapt.org/tools/annual-averages).

GCMs show much greater variability in projecting future precipitation both in terms of moisture volume totals and delivery patterns. CNRM-CM5 portrays a wetter future for Ventura County over the next century although mid-century is a dry period for all three models we chose to include in our assessment. MIROC5 projects a slightly wetter near-term period, a very dry mid-term period, and somewhat wetter long-term period. GFDL-CM3 is drier for all three time periods.

Data on the number of extreme heat days were downloaded from the Cal-Adapt online tool for Ventura County watersheds or census tracts for each of the three models for the three time steps. A total of 23 different regions were assigned extreme heat day data for each of the GCMs (**Figure 5**). In every case, the number of extreme heat days (defined as days that exceed 90 degrees) increased with some regions in the County showing much greater increases than others (**Table 1**).

Another important source of climate-driven input data for our stress EEMS models came from Basin Characterization Modeling (Flint and Flint 2014). The Basin Characterization Model (BCM) is a grid-based model (270m resolution) that calculates the water balance for any given time step using GCM inputs, including precipitation, minimum and maximum temperature. We obtained BSM data for our assessment

area for the three chosen GCMs via the California Climate Commons (http://climate.calcommons.org/bcm). BCM outputs used in our EEMS models included Climatic Water Deficit, which is defined as the annual evaporative demand that exceeds available water, annual water recharge, and annual water runoff.

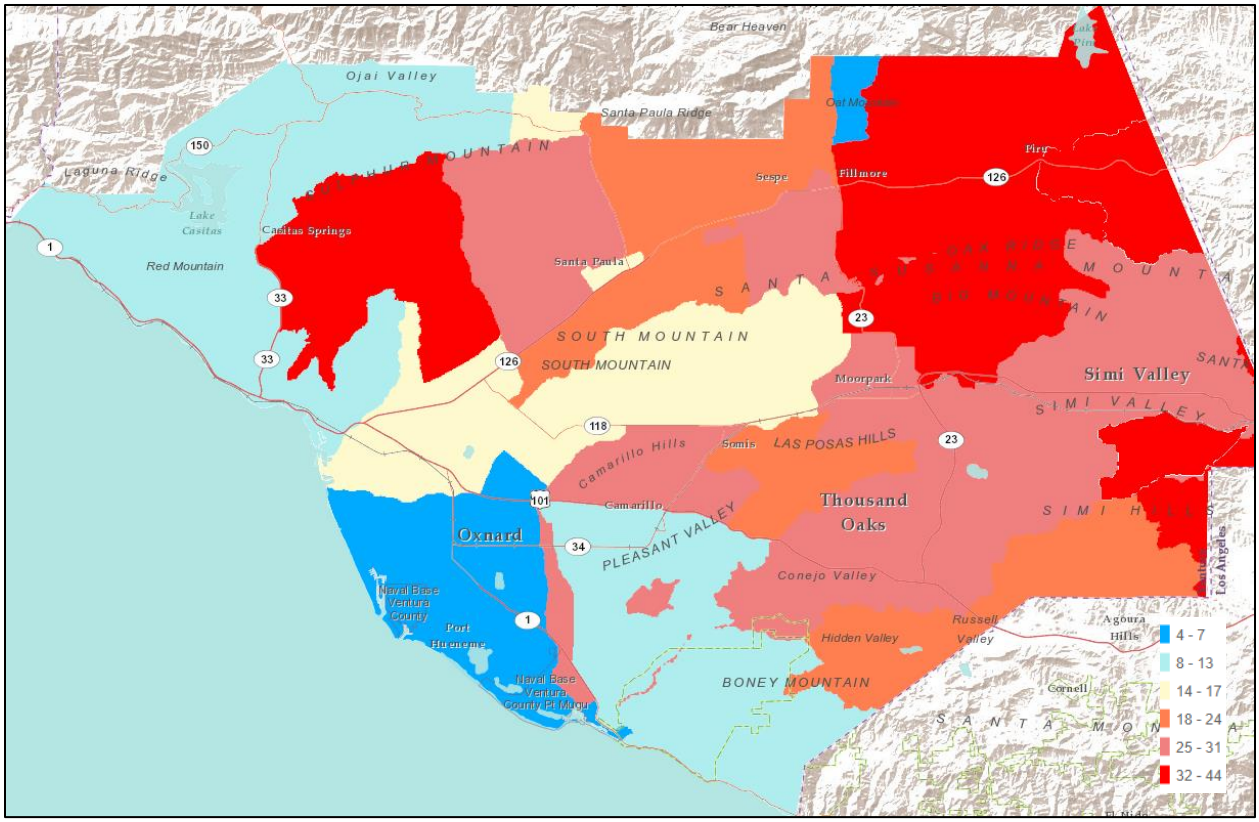


Figure 5. Relative number of extreme heat days from the EEMS model for the early time step of the GFDL-CM3 GCM (RCP 8.5).

Table 1. Summary of the number of extreme heat days (>90 degrees F) for each GCM for the four time periods. Min and max values correspond to values assigned to the 23 individual subareas.

	Historic			2010-2039			2040-2069			2070-2099		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
GFDL-CM3	1	53	13	4	90	37	20	121	60	54	168	110
MIROC5	1	53	13	3	82	28	7	103	41	22	129	60
CNRM-CM5	1	53	13	2	63	22	4	103	36	20	120	55

Agriculture Stress Model Details

Agriculture Stress was defined by three high-level components: High Climate Stress, Low Soil Resilience, and High Water Stress. The Low Soil Resilience component did not change between the different models as the inputs under this heading were based on factors unaffected by projected climate futures (**Figure 6**). Components of this node include: Soil Erodibility based on High Water Runoff and Wind Erodibility; Impaired Soil Chemistry based on Sodicity and Salinity; and Poor Available Water Storage. The remaining two high-level components are impacted by the data from the examined GCMs (CNRM-CM5, MIROC5, and GFDL-CM3). Downscaled resolution of the climate data was 270 meters.

The High Climate Stress node is composed of Extreme Heat Days, Annual Climate inputs and Seasonal Climate inputs. Annual Climate inputs tracked in the model include Maximum Temperature and Low Precipitation. Projected changes in Annual Minimum Temperature were not included as the majority of the agricultural lands in the County are not impacted by freezing temperatures and all climate models project minimum temperatures increasing over time. Seasonal Maximum Temperature and Seasonal Low Precipitation were evaluated using four three-month intervals used by hydrologic modelers rather than basing the divisions off the annual calendar. Seasonal inputs were: Dec-Jan-Feb, Mar-Apr-May, Jun-Jul-Aug, and Sep-Oct-Nov. The EEMS logic model was constructed so the model could easily be edited to weight specific seasons to address specific crop sensitivity questions.

High Water Stress was modeled using three high-level inputs: Surface Water Stress, Groundwater Stress, and Climatic Moisture Stress. The Surface Water Stress node was based on surface water contamination and, given its minimal importance to supplying water for agriculture, it was not weighted heavily. The High Climatic Moisture Stress node was based on results from the Basin Characterization Model and included projections of Climatic Water Deficit, Annual Runoff, and Annual Recharge based on the three examined GCMs (Flint and Flint 2014). High Groundwater Stress was comprised of two factors: Groundwater Pollution and the amount of Groundwater Resource available.

Based on the available groundwater monitoring data, groundwater quality is somewhat mixed (Burton et al. 2011). Trace inorganics (i.e., arsenic, boron, and vanadium) occurred at high concentrations in only around 3% of the primary aquifer system. Naturally occurring radioisotopes from uranium and thorium were present at high concentrations in 14% of the samples and at moderate concentrations in 11% of the samples. Perchlorate, which is an ingredient in rocket fuel, fireworks and even some fertilizers, was present at moderate concentrations in 12% of the samples. Organic compounds were found at low concentrations throughout the study area. Volatile organics were found at moderate levels in 2% of the samples and the pesticides atrazine and simazine at low concentrations in 17 and 26% of the aquifer system, respectively.

The Groundwater Resource node was informed by the inherent groundwater banking index as well as the current groundwater status according to the California Department of Water Resources monitoring of the main aquifers in the region. The current status of groundwater was heavily weighted in the EEMS model. All datasets used in the Agriculture Stress Models are listed in **Appendix C**.

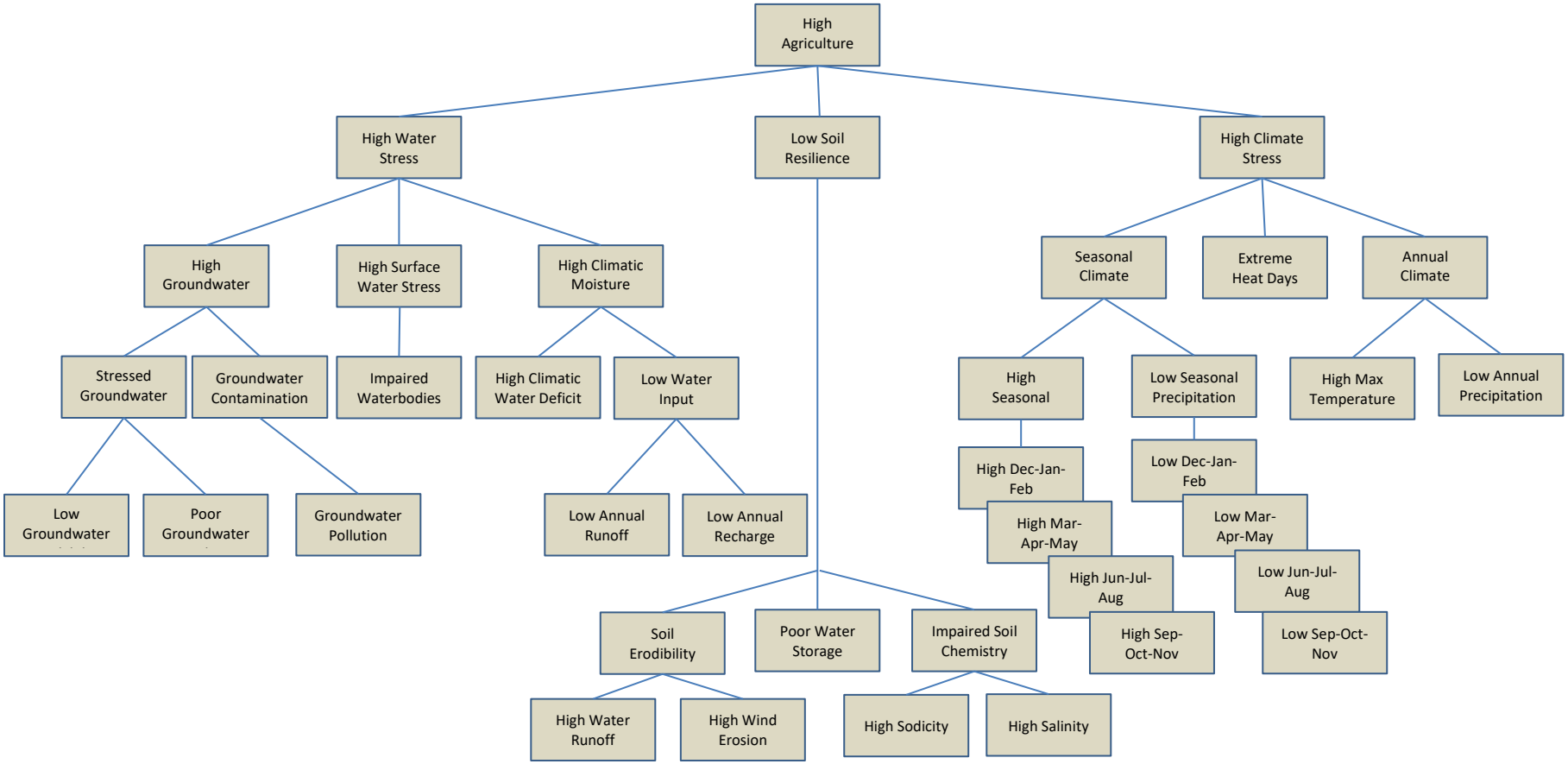


Figure 6. General EEMS model diagram for mapping agriculture stress for Ventura County. Different versions of the model were run using specific climate change and Basin Characterization Model data for each of the three GCMs (CNRM-CM5, MIROC5, and GFDL-CM3) for the different time periods.

Prioritization Analysis

The purpose of the prioritization analysis is to inform development of the **Agricultural Conservation Planning Strategy for Ventura County**. Results from these analyses allows the community to identify the agricultural lands in the County that are likely to remain resilient and productive given future conditions and the higher stressed agricultural lands that will be most impacted by climate, water stresses, and other factors. The goal of this work is to ultimately identify strategies and actions that can be taken to strategically protect the lands that have local and even global significance to food production. For the marginal lands that are at high risk, the goal is to seek opportunities to incentivize gradual shifts from crops that may no longer thrive, to practices that avoid or lower water use, recharge ground water supply, restore habitat, or other "natural capital" benefits that enhance the resiliency of Ventura County. The prioritization analysis is provided as one step in the process to develop Strategies and follow on actions as a pathway for the County's agricultural lands and economy to serve and sustain the County's growth and further climate adaptation and GHG emission reduction goals – with strategic actions through integrated policies, programs, innovative incentives and investments, and collaborative partnerships.

Using EEMS logic models, the Cultivate Team worked with a project stakeholder subgroup to develop criteria for identifying and prioritizing agricultural land for its best use given current conditions and future projections. To summarize the findings for the development of a Ventura County agricultural conservation strategy in a way that best informs subregional priorities, the Cultivate Team elected to use the major sub-basins as the reporting unit since so much of agriculture viability in the County is tied to the groundwater basins (**Figure 7**). The Cultivate Team identified a total of 13 sub-basins to report the findings; five sub-basins were omitted since they contained very little agriculture (Conejo, Simi, Hidden Valley, Russel Valley, and Thousand Oaks).

From the EEMs models and other relevant datasets assembled for this study, the Cultivate Team worked with the project stakeholder subgroup and selected 13 criteria to create individual sub-basin profiles that represented important yet different potential stressors (**Table 2**). Each criterion was evaluated and classified into one of seven classes (Very Low, Low, Medium Low, Medium, Medium High, High, and Very High) to simplify the profile presentation. In addition, CBI generated crop statistics for each sub-basin based on the 2022 Cropsnow dataset from Ventura County. Crop types were aggregated into six categories: berries, citrus, avocados, rotation crops, rangeland, and other. Landscaped areas such as golf courses and planted roadsides were omitted. Two socioeconomic criteria – Housing Burden and Poverty – were included from CalEnviroScreen version 4.0. Scoring was based on the area-weighted mean values for the 13 sub-basins and categories assigned using standard deviations around the mean, which received a score of "Medium".

Table 2. Criteria for Identifying and Prioritizing Agricultural Land

Criterion	Characterization
Groundwater Resource Stress	Combination of relative degree of groundwater banking index & groundwater availability
Impaired Soil Chemistry	Combination of relative concentration of salinity & sodicity in soil

Number of Extreme Heat Days	Combination of current number of extreme heat days & change in number of extreme heat days
Max Annual Temperature	Relative mean value of future projected max annual temperature
Annual Precipitation Stress	Combination of historic mean annual precipitation & projected future precipitation
Water Recharge Deficiency	Relative groundwater banking index
Climatic Moisture Stress	Combination of projected future water input from precipitation & projected future climatic water deficit
Climatic Water Deficit	Combination of historic & projected future climatic water deficit, which is potential minus actual evapotranspiration
Housing Burden	Summarized from CalEnviroScreen
Poverty Level	Summarized from CalEnviroScreen
Potential Flooding Risk	Relative percent area within FEMA flood hazard zones
Invasive Plants	Mean number of 10 invasive plant species evaluated
Wildfire Risk	Relative percent area within wildland-urban interface and intermix

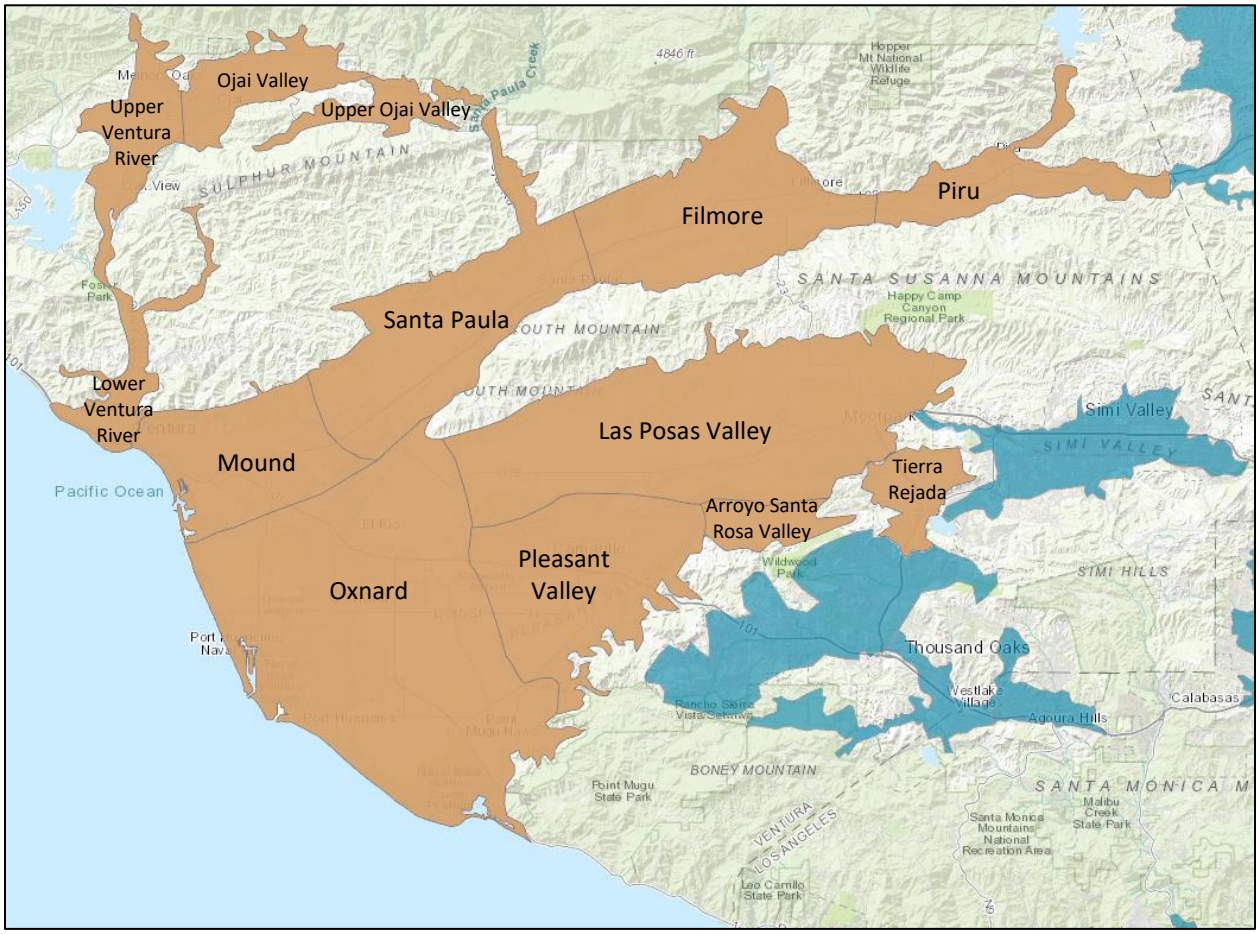


Figure 7. Map depicting the 13 sub-basins evaluated in the prioritization analysis (labeled and in brown).

Three other criteria not included in the EEMS models were Potential Flooding Risk, Wildfire Risk, and Invasive Plants. Potential Flooding Risk was derived by calculating the percent of flood risk area (based on the most recent National Flood Hazard data from the Federal Emergency Management Agency) compared to total area of each sub-basin. Wildfire Risk was based on percent area of each sub-basin that fell within the combined area of Wildland-Urban Interface and Wildland-Urban Intermix (Li et al. 2022). CalWeedMapper, which is an online application organized by 1:24,000 quads and managed by the California Invasive Plant Council, was accessed and data downloaded and aggregated for 10 invasive plant species (**Table 3**). For all three of these criteria, scoring was based on the area-weighted mean values for the 13 sub-basins and categories assigned using standard deviations around the mean, which received a score of "Medium".

Table 3. List of invasive plant species aggregated from CalWeedMapper.

Scientific Name	Common Name
Arundo donax	Giant Reed
Centaurea solstitialis	Yellow Star-thistle
Centaurea stoebe	Spotted Knapweed
Dittrichea gravelons	Stinkwort
Eucalyptus globulus	Tasmanian Blue Gum
Linaria dalmatica	Dalmatian Toadflax
Onopordum acanthium	Scotch Thistle
Rhaponticum repens	Russian Knapweed
Spartium junceum	Spanish Broom
Tamarix ssp.	Saltcedar

Eight criteria were selected from the Agriculture Stress EEMS model. Two criteria are not influenced by the climate General Circulation Models (GCMs): Groundwater Resource Stress and Impaired Soil Chemistry. The remaining six criteria were dependent upon the climate projections: Extreme Heat Days, Maximum Annual Temperature, Annual Precipitation Stress, Low Annual Recharge, Climatic Moisture Stress, and Climatic Water Deficit. Four climate driven criteria were intermediate nodes in the EEMS model; the other two were direct outputs from the source data. Mean values for each criterion were calculated for each sub-basin and assigned to one of the seven categories according to the EEMS value ranges (**Table 4**).

To compare overall scores of the sub-basins, CBI assigned numeric values for each criterion based on category (Very High=7 to Very Low=1) with climate change criteria doubled. CBI created two composite scores: one with all criteria and one without the two socioeconomic criteria.

Table 4. EEMS value ranges and category assignment.

EEMS Range	Scoring Category
-1.0 to -0.75	Very Low
-0.75 to -0.50	Low
-0.50 to -0.25	Medium Low
-0.25 to 0.25	Medium

0.25 to 0.50	Medium High
0.50 to 0.75	High
0.75 to 1.0	Very High

RESULTS AND DISCUSSION

EEMS Model Findings

High Agricultural Value

Map results for the EEMS High Agricultural Model show the concentration of the highest quality agricultural land in seven of the 13 sub-basins summarized, including Oxnard, Las Posas, Santa Paula, Pleasant Valley, Fillmore, Mound, and Piru (**Figure 8**). The model includes Favorable Farmland Status based on County level Farmland Mapping and Monitoring Program (FMMP) data as well as Good Soil Capacity based on Impaired Soil Chemistry (Salinity and Sodicity), Soil pH, and Soil Capacity based on Irrigated Capability Class and Storie Index. The dark blue areas (very low value) are the result of the excluded areas (Urban Areas, Protected Lands, and Rivers and Streams) masking the other results.

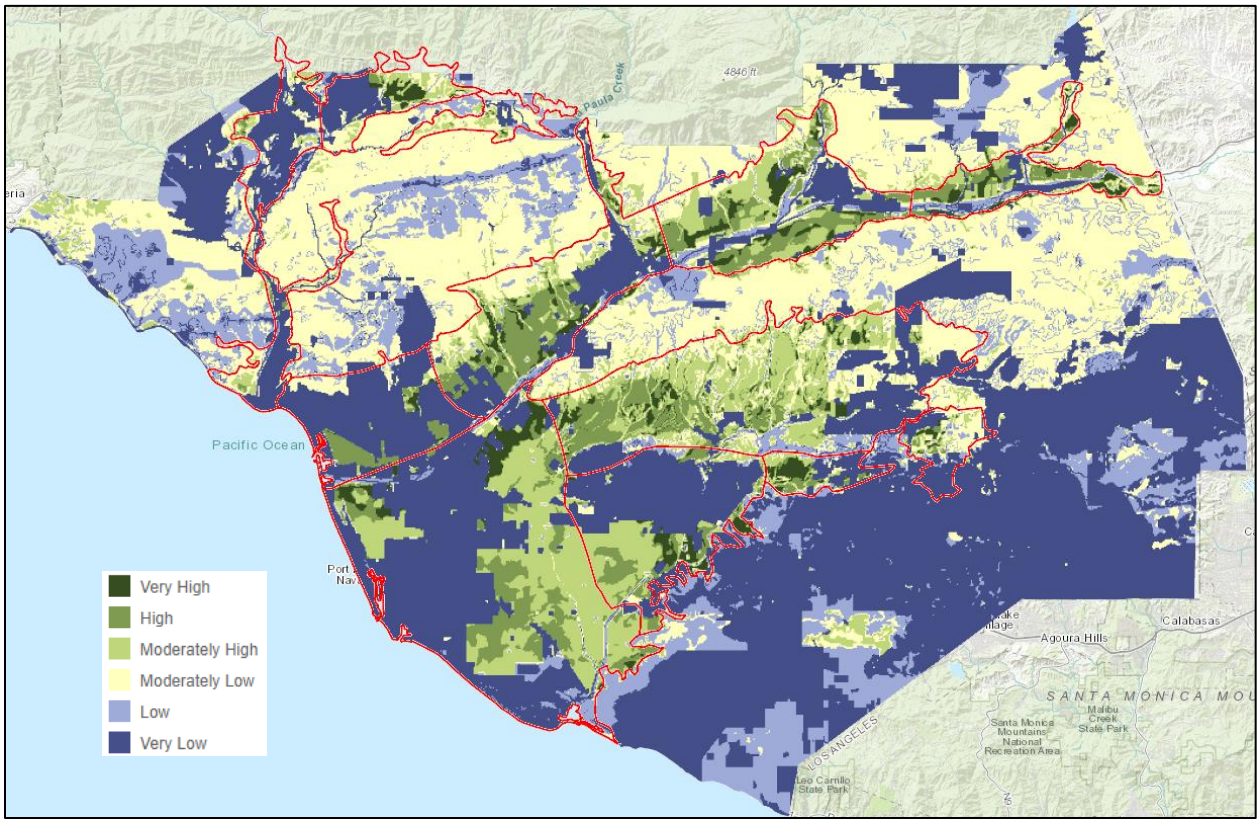


Figure 8. Map showing results from the EEMS High Agricultural Model and the 13 summarized sub-basins.

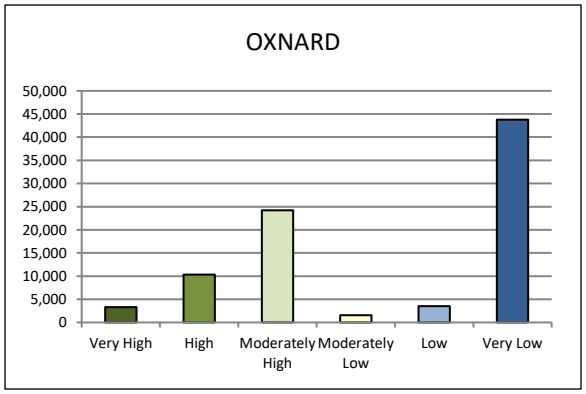
The overall distribution of agricultural value classes for the 13 sub-basins (~332,500 acres) showed that 5% was classified as Very High with Oxnard, Las Posas Valley, Santa Paula, and Filmore leading all other sub-basins. Approximately 14% of the total sub-basin area was classified as High value with both Oxnard and Las Posas Valley having more than 10,000 acres mapped. A total of 22% of the area was classified as Moderately High with Oxnard and Las Posas Valley possessing nearly 60% of this total – 24,214 acres and 18,774 acres, respectively. The Moderately Low class was 14% of the total sub-basin area with Las Posas and Santa Paula accounting for nearly half of this area. Low value covered 5% of the total area and was largely lands in close proximity to developed areas. The remaining 40% (nearly 133,000 acres) was mapped as Very Low. These were the developed portions of the sub-basins. Adding up the acres classified as Very High through Moderately High, Oxnard, Las Posas, and Filmore contain the most acres of high value agriculture lands (**Table 5**). Moderately Low classified lands are best suited for ranching and perhaps some tree crops.

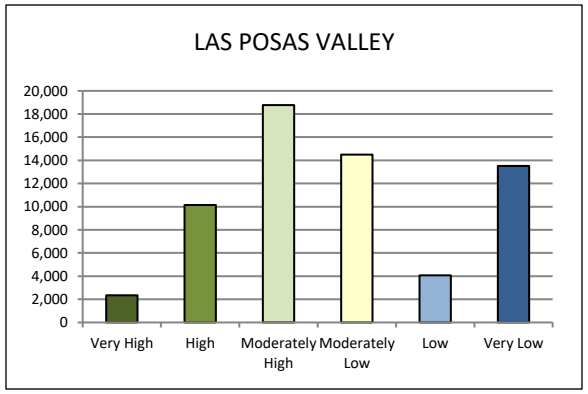
Table 5. Number of acres classified as Very High, High, and Moderately High for the 13 sub-basins evaluated.

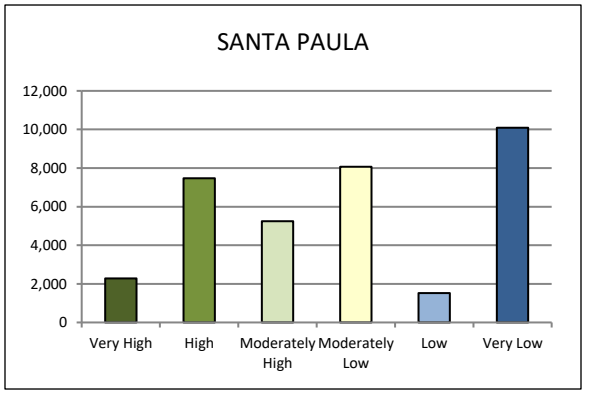
	Very High	High	Moderately High	Total
OXNARD	3,308	10,334	24,214	37,856
LAS POSAS VALLEY	2,346	10,144	18,774	31,264
SANTA PAULA	2,282	7,472	5,246	15,000
PLEASANT VALLEY	1,430	3,684	6,672	11,786
FILLMORE	2,406	7,002	8,644	18,052
MOUND	302	2,396	400	3,098
PIRU	1,824	3,316	2,610	7,750
UPPER VENTURA RIVER VALLEY	68	248	698	1,014
OJAI VALLEY	994	332	1,676	3,002
LOWER VENTURA RIVER VALLEY	0	158	872	1,030
TIERRA REJADA	254	342	620	1,216
UPPER OJAI VALLEY	34	106	756	896
ARROYO SANTA ROSA VALLEY	986	764	946	2,696
Totals	**16,234**	**46,298**	**72,128**	**134,660**

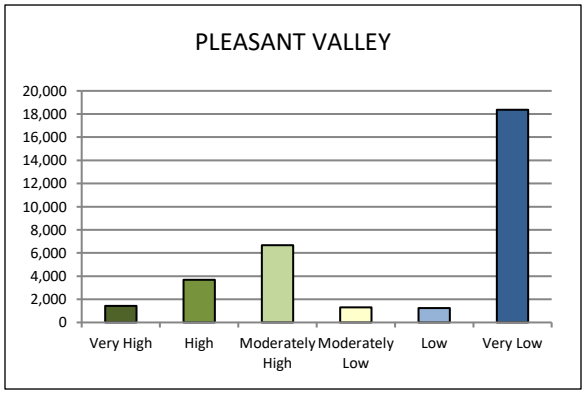
Individual profiles for agricultural value based on the EEMS model are provided for the seven largest sub-basins (**Figure 9**). Oxnard (50%), Pleasant Valley (56%), and Mound (77%) contain the largest proportion of the Very Low class out of this subgroup, which includes both developed and protected lands. The remaining sub-basins in this group showed much lower proportions of the Very Low category.

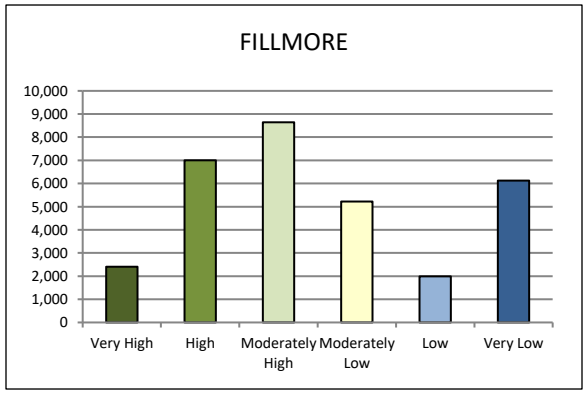
Individual profiles for agricultural value for the remaining smaller sub-basins had similar proportions of the Very Low category (37-65%) except for the Upper Ojai Valley (13%) (**Figure 10**). Also, the Moderately Low category was more dominant among these sub-basins except for Arroyo Santa Rosa Valley compared to the larger sub-basins.

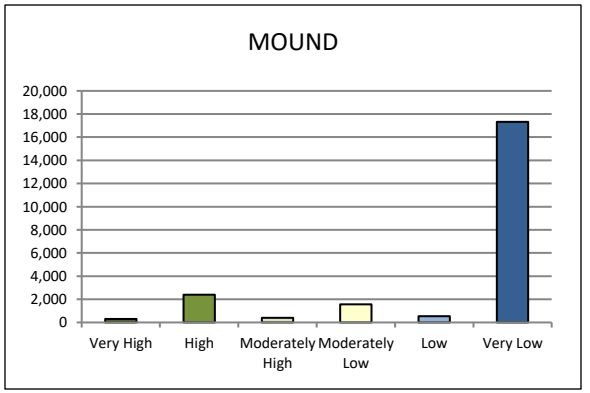












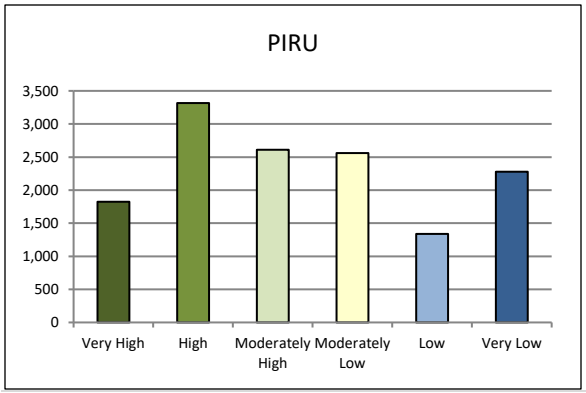


Figure 9. Individual histogram profiles (acres) for the seven larger sub-basins showing agricultural value results from the EEMS logic model. Note: Y-axes are in acres and are not identical.

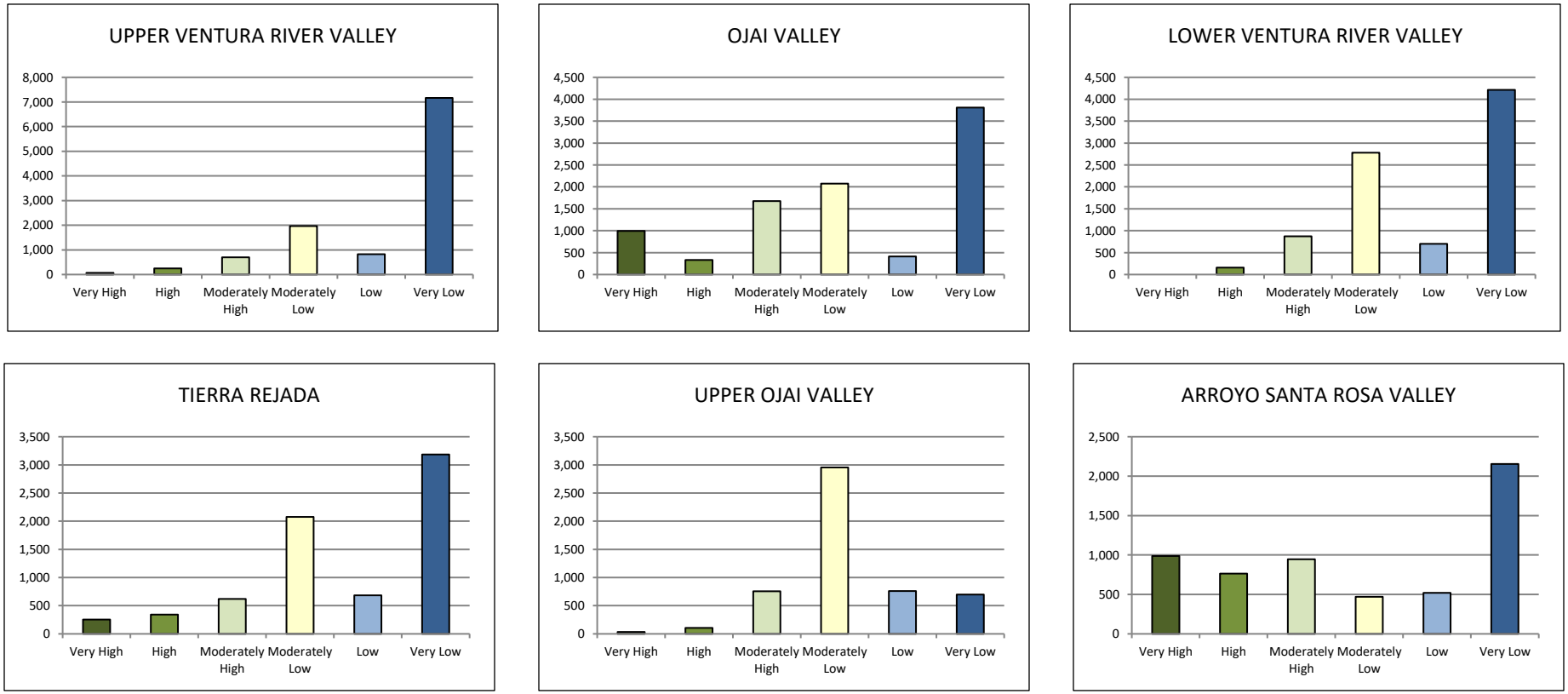


Figure 10. Individual histogram profiles (acres) for the six smaller sub-basins showing agricultural value results from the EEMS logic model. Note: Y-axes are in acres and are not identical.

High Agriculture Stress

Results for the three GCMs analyzed (CNRM-CM5, MIROC5, and GFDL-CM3) for the early time step (2010 to 2039) show a progression of increased climate change stress on the region (**Figure 11**). Although EMMS logic models reflect results as relative rather than absolute values, the three models do show the region is projected to be under considerable stress even under the mildest potential future (warm, wet future |CNRM-CM5). One important observation is that the spatial pattern of relative stress on the 13 sub-basins remains consistent across the models; the observed difference is in the degree of stress overall. For the profile summaries, we chose the EEMS values for the MIROC5 model with the exception of the Extreme Heat Days node where we used the GFDL-CM3 model results. Dynamic versions of the EEMS models that can be altered with regard to input thresholds, node weighting, and logic operators can be accessed using the links in **Table 6**.

Table 6. EEMS Online links to the three High Agriculture Stress logic models for the early time step (2010 to 2039) for the three GCMs.

EEMS Model version	URL
CNRM-CM5	http://eemsonline.org?model=KpO9cGlrYRq2UymflfEpppuYDjbnbvY0
MIROC5	http://eemsonline.org?model=PgOuXeHYC05EqN7FV6sK6jIZqaifhpNF
GFDL-CM3	http://eemsonline.org?model=8z39B5B0rtE7txKIlAX5Hdu1LTfXFjiw

As described in the Methods, most of the criteria used in the sub-basin profile summaries relied on area-weighted means calculations of model results with a spatial resolution of 90 meters. This seems adequate for basin-level reporting purposes and for evaluating comparative levels and types of stress for each subregion. Results for some sub-basins are fairly uniform in values for a particular criterion; others should a fairly wide range. For more detailed examination within each sub-basin, we recommend using the more spatially detailed EEMS models and ancillary datasets in the Gateway. To illustrate this point, consider the Las Posas Sub-basin in the maps shown in **Figure 11**. Regardless of the model, stress results show a progression from better to worse moving from west to east. Similar results can be observed in other sub-basins as well.

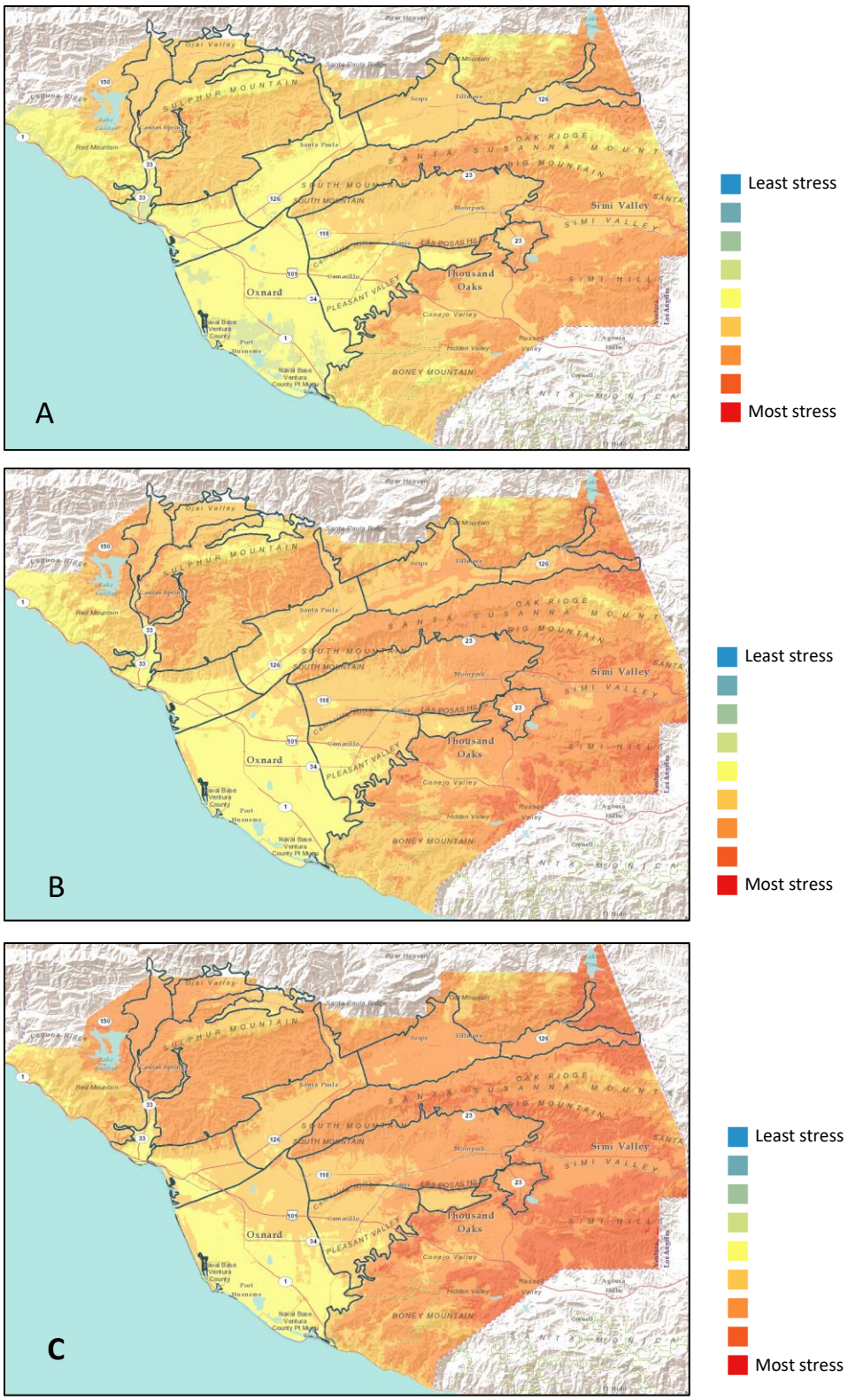


Figure 11. High Agriculture Stress model results showing the influence of climate change (A-CNRM-CM5, B-MIROC5, and C – GFDL-CM3). Outlines of the 13 sub-basins are also shown.

Regional Contextual Findings

From a climate change perspective, sub-basins that are impacted by marine influences, especially Oxnard, Mound, and Lower Ventura River Valley, are somewhat buffered against the most dramatic climate changes projected to occur in the County as can be visualized in the series of model results in **Figure 11** (areas in light green and yellow). These are potentially important refugia areas for agriculture in Ventura County. However, these are also locations that have other current and projected stresses that need to be addressed if long-term viability can be achieved. Most notable is the state of the groundwater aquifers in this sub-basin, which are classified as being critically over drafted according to the California Depart of Water Resources (2020). Another potential serious viability issue unique to coastal areas is the projections of sea-level rise. In Ventura County, the Oxnard sub-basin has the most to lose without intervention to protect both the built environment and well as valuable agricultural lands where as much as 20% of the existing agriculture lands in the sub-basin could be routinely flooded (**Figure 12**).

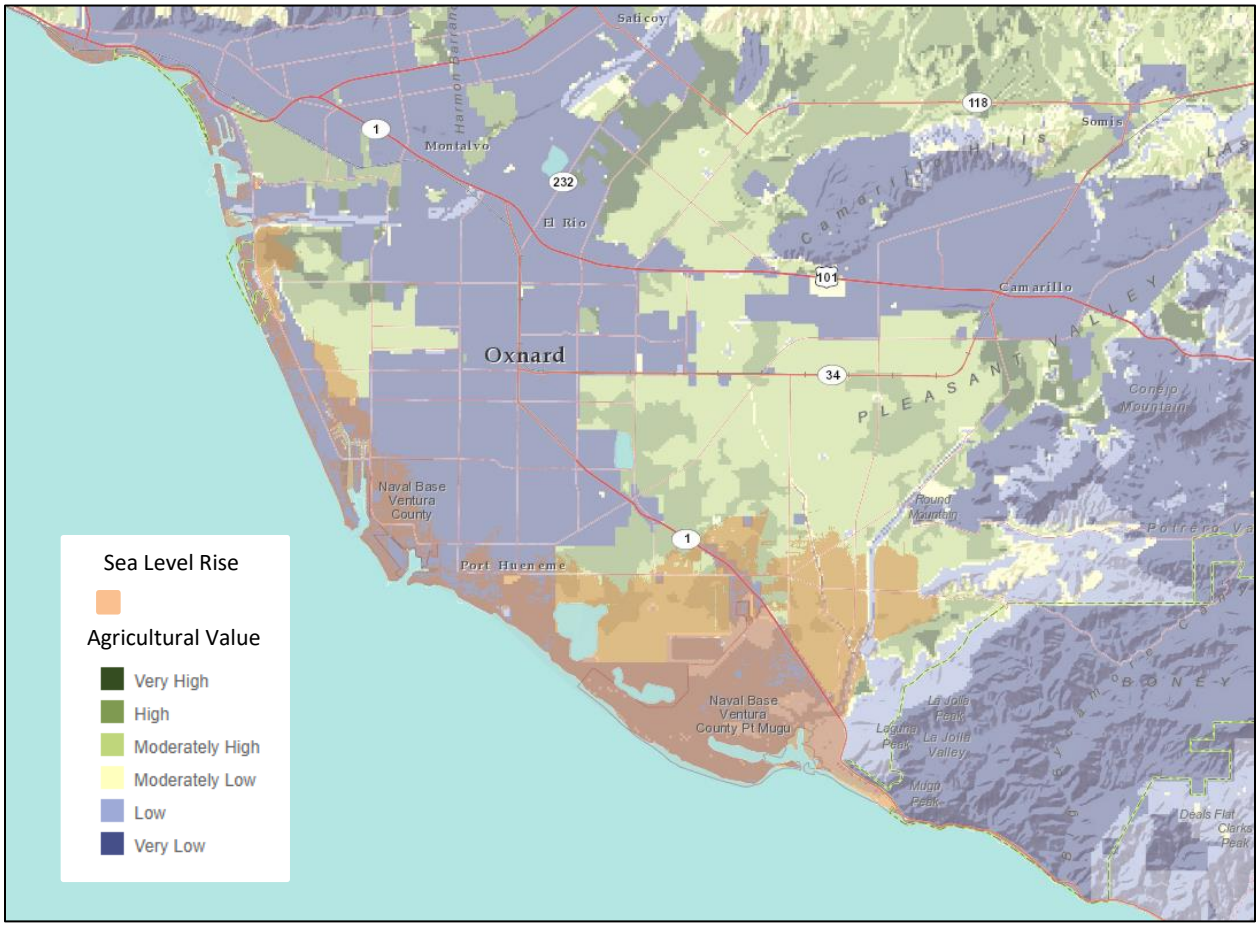


Figure 12. Map of agricultural value based on the project EEMS model and sea level rise 100 flood projection in 2100 based on a 1.4-meter sea-level rise (Philip Williams & Associates 2008).

The Oxnard sub-basin is already impacted by the ongoing saltwater intrusion into the underlying aquifers, but projected sea-level rise will significantly exacerbate this problem.

Public policy exists that prioritizes coastal agriculture in California. The Coastal Act (particularly Sections 30241 and 30242) aims to protect the productivity of agricultural lands while also protecting and promoting other coastal resources and land uses in the coastal regions of the state. The Coastal Act identifies coastal agriculture as one of several priority land uses; other priorities include public access and recreational facilities, visitor-serving facilities, and commercial fishing (California Coastal Commission 2017). To achieve the most positive outcome this policy promotes, addressing the ongoing threats to groundwater is the most important issue.

In other portions of the study area, sub-basins are projected to experience significantly harsher conditions the further you move away from coastal influences and up the Santa Clara River Valley and in and around the small interior valleys such as Simi, Thousand Oaks, Hidden Valley, and Conejo where current agriculture is minimal.

Sub-Basin Profiles

Based on the 2022 Cropsnow dataset (minus the non-commercial entries such as landscaped parks and fallowed lands), the total agricultural area in the County was over 107,000 acres. Approximately 87% of this area (104,755 ac) occurs in only five sub-basins (Oxnard, Las Posas, Santa Paula, Pleasant Valley, and Filmore). Eight percent of the agricultural lands (8,673 ac) occur in two sub-basins (Mound and Piru) and the remaining 5% in the remaining six sub-basins (Arroyo Santa Rosa Valley, Ojai Valley, Upper Ojai Valley, Upper Ventura River Valley, and Lower Ventura River Valley).

Results for the composite scores minus the two socioeconomic criteria showed Arroyo Santa Rosa Valley as having the greatest overall threat to the current agriculture present; however, it only impacts less than 2% of the total croplands based on the 2022 Cropsnow dataset (**Figure 13**). Of the larger agricultural sub-basins, Piru and Fillmore showed the highest level of overall stress; Pleasant Valley showed moderately high stress levels; Las Posas and Santa Paula showed moderate stress levels; and Oxnard and Mound showed moderately low stress levels. The least stressed sub-basins regardless of size were the two Ojai sub-basins.

To help define more targeted strategies informed by the Agriculture Stress modeling, individual sub-basin profiles rather than a composite overview provide a convenient means to easily review the findings. **Figures 14 thru 26** present the individual sub-basin profiles in descending order based on total sub-basin area. Each profile provides a thumbnail map of the sub-basin, summary area total for the sub-basin and proportion that is currently in agriculture, crop type percentages, and categorical scoring for each of the 13 criteria selected from the models and other ancillary data.

From these profiles, we provide textual highlights and offer potential planning and implementation strategies to address specific concerns relevant to each sub-basin (**Table 7**).

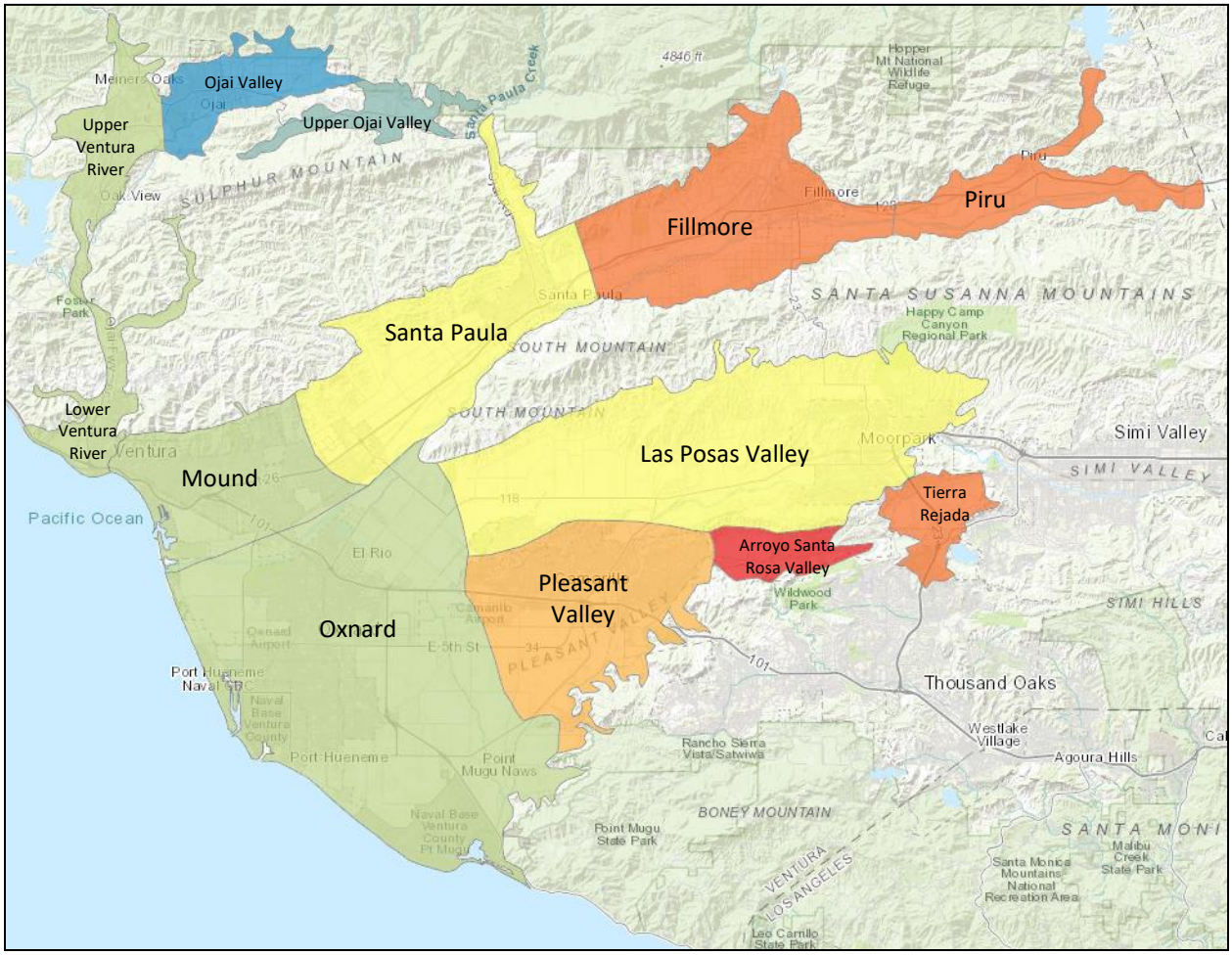
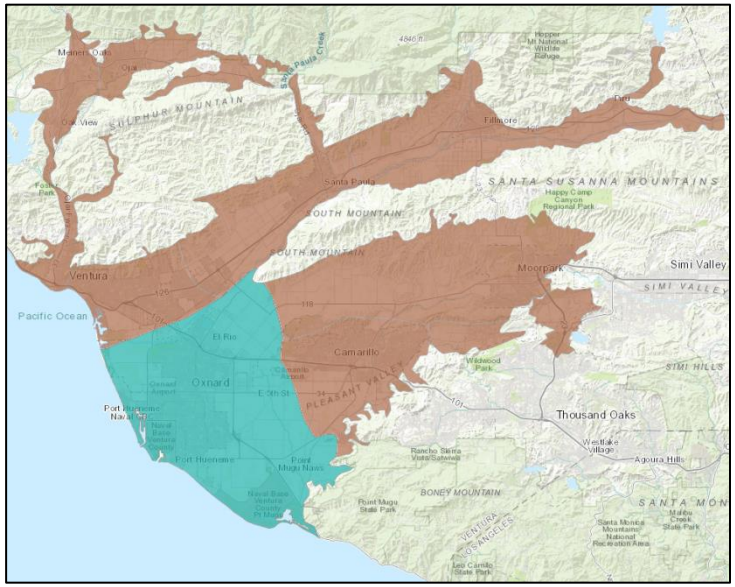
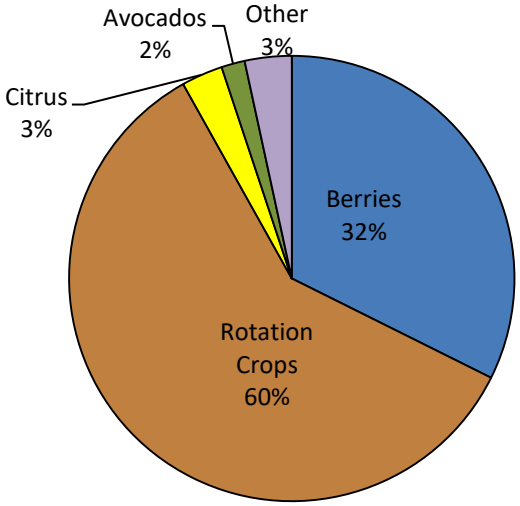


Figure 13. Composite Agriculture Stress scores based on the summary criteria minus the two socioeconomic inputs.

OXNARD



Total Sub-basin Area = 85,071 ac
Total Agriculture Area (2022) = 42,011 ac (49.5%)

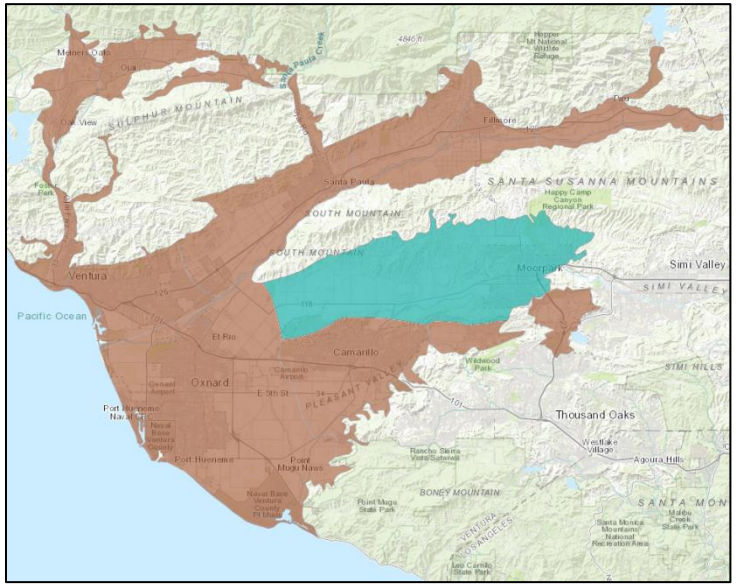


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
H	VH	M	H	VL	VH	H

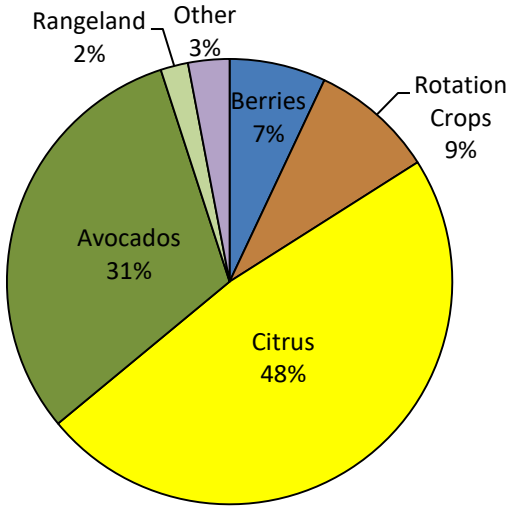
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
L	VL	VH	VH	M	L

Figure 14. Profile risk summary for the Oxnard Sub-basin.

LAS POSAS VALLEY



Total Sub-basin Area = 62,030 ac
Total Agriculture Area (2022) = 18,363 ac (26.6%)

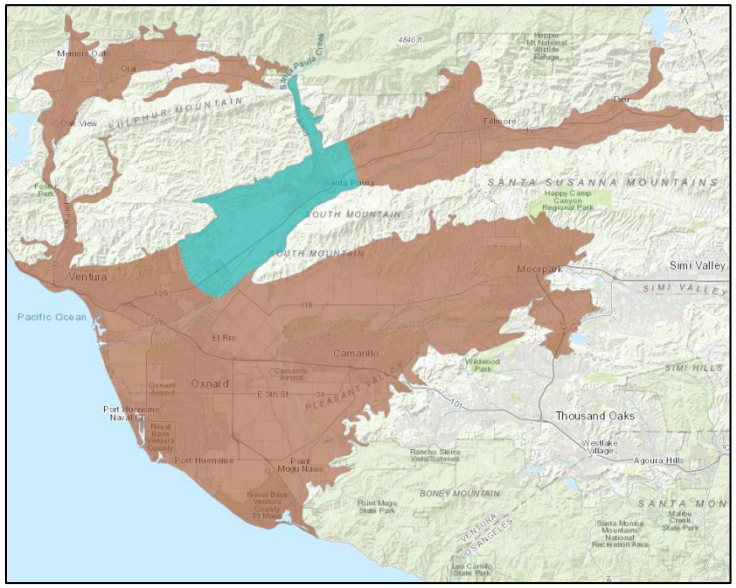


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
ML	L	VL	M	M	H	L

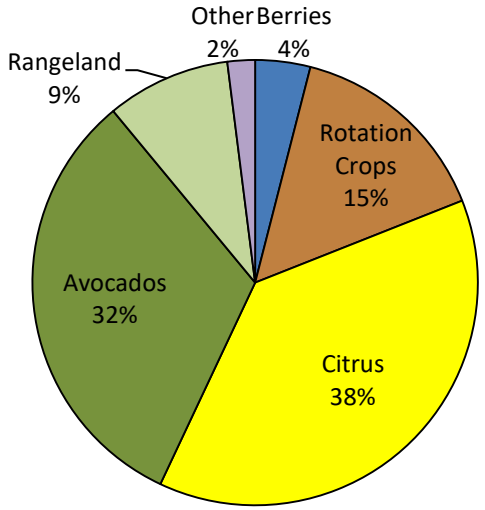
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
M	MH	H	MH	M	M

Figure 15. Profile risk summary for the Las Posas Valley Sub-basin.

SANTA PAULA



Total Sub-basin Area = 33,586 ac
Total Agriculture Area (2022) = 11,497 ac (34.2%)

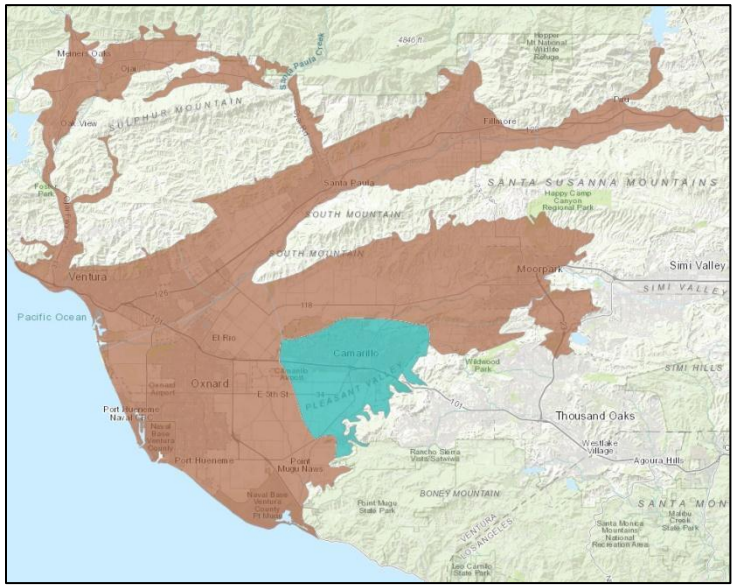


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
MH	MH	L	M	MH	ML	ML

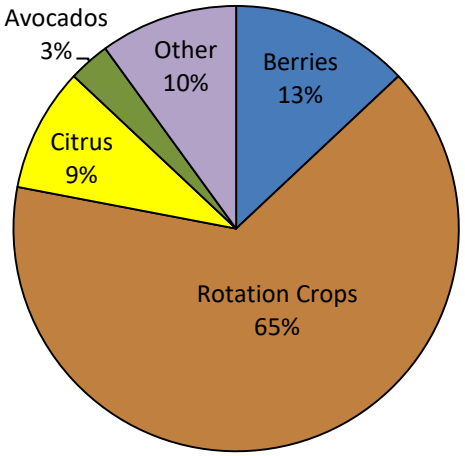
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
H	M	MH	MH	M	M

Figure 16. Profile risk summary for the Santa Paula Sub-basin.

PLEASANT VALLEY



Total Sub-basin Area = 31,665 ac
Total Agriculture Area (2022) = 10,921 ac (34.5%)

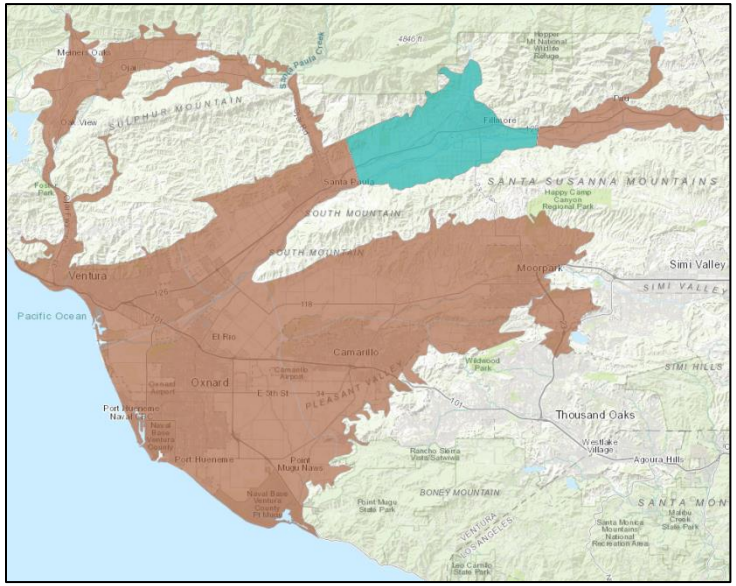


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
M	ML	M	M	M	VH	M

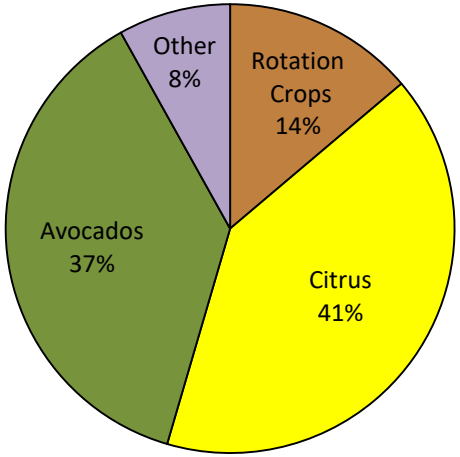
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
L	ML	VH	H	MH	M

Figure 17. Profile risk summary for the Pleasant Valley Sub-basin.

FILMORE



Total Sub-basin Area = 30,600 ac
Total Agriculture Area (2022) = 10,363 ac (33.8%)

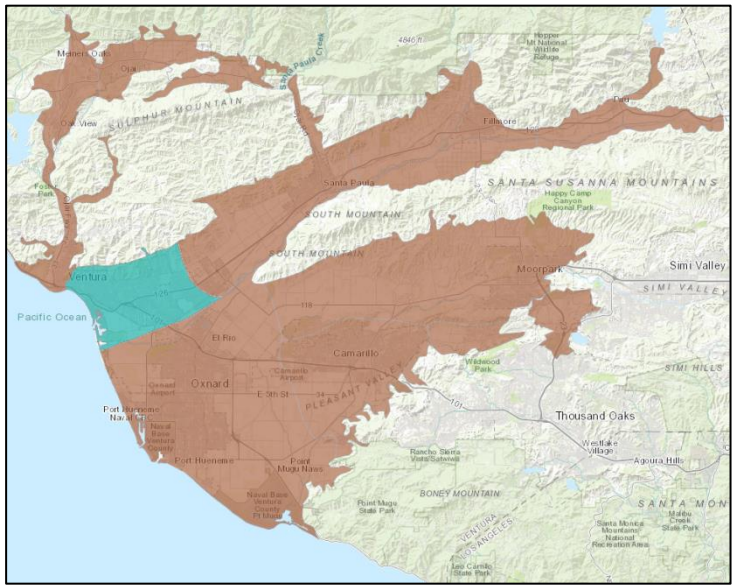


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
MH	MH	VH	M	M	MH	L

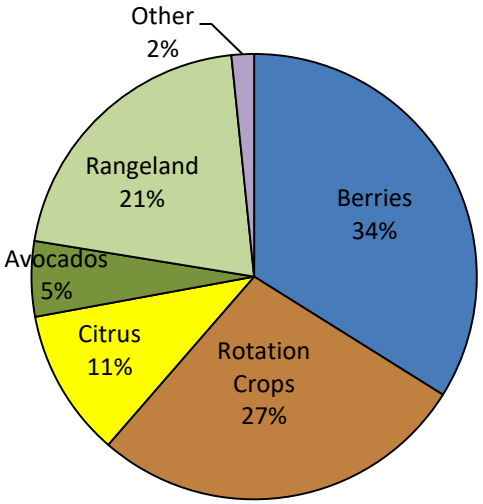
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
VH	H	ML	MH	MH	M

Figure 18. Profile risk summary for the Filmore Sub-basin.

MOUND



Total Sub-basin Area = 21,746 ac
Total Agriculture Area (2022) = 4,513 ac (20.7%)

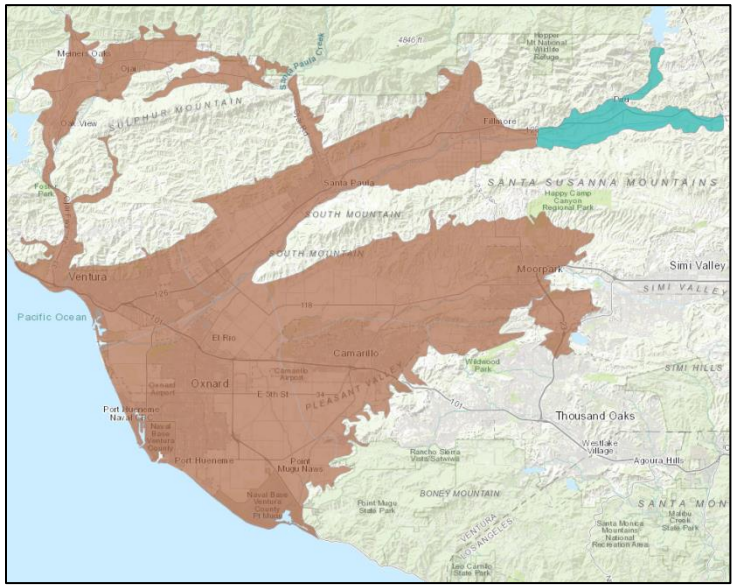


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
M	M	L	H	MH	H	ML

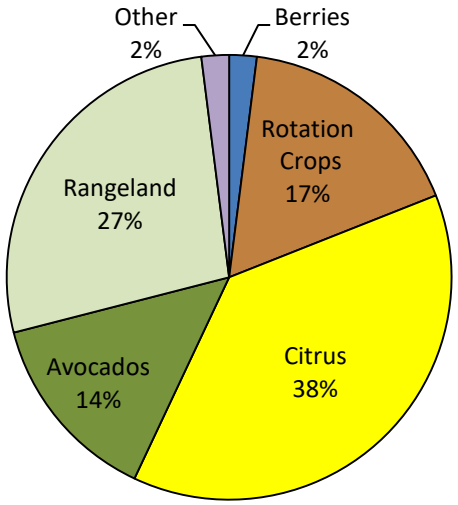
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Potential	Climatic Moisture Stress	Climatic Water Deficit
M	ML	H	MH	M	ML

Figure 19. Profile risk summary for the Mound Sub-basin.

PIRU



Total Sub-basin Area = 13,091 ac
Total Agriculture Area (2022) = 4,160 ac (31.8%)

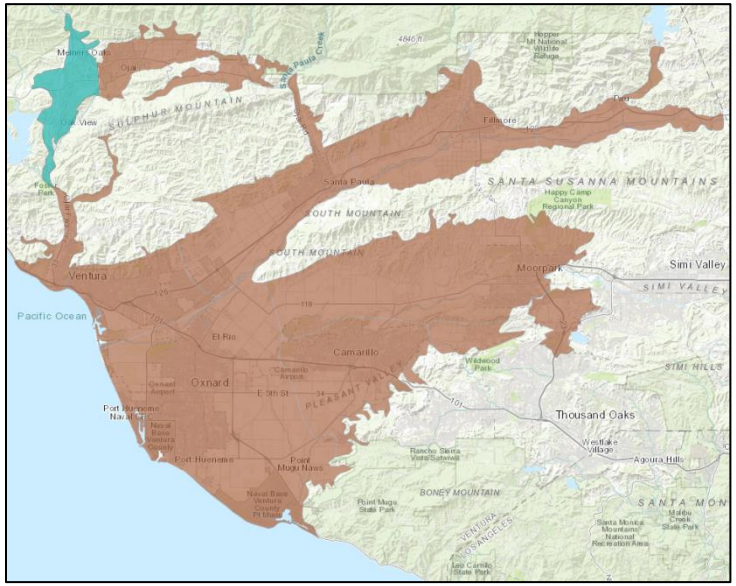


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
H	H	H	M	ML	MH	ML

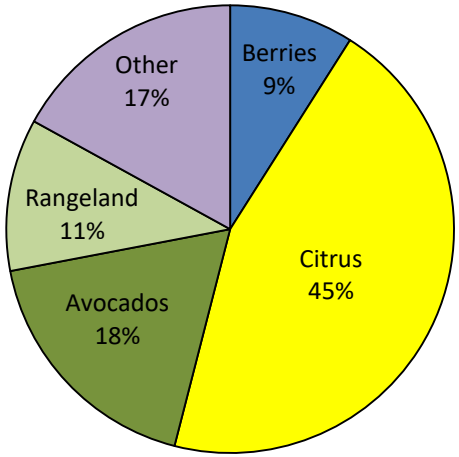
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
VH	H	MH	MH	M	M

Figure 20. Profile risk summary for the Piru Sub-basin.

UPPER VENTURA RIVER VALLEY



Total Sub-basin Area = 10,924 ac
Total Agriculture Area (2022) = 689 ac (6.3%)

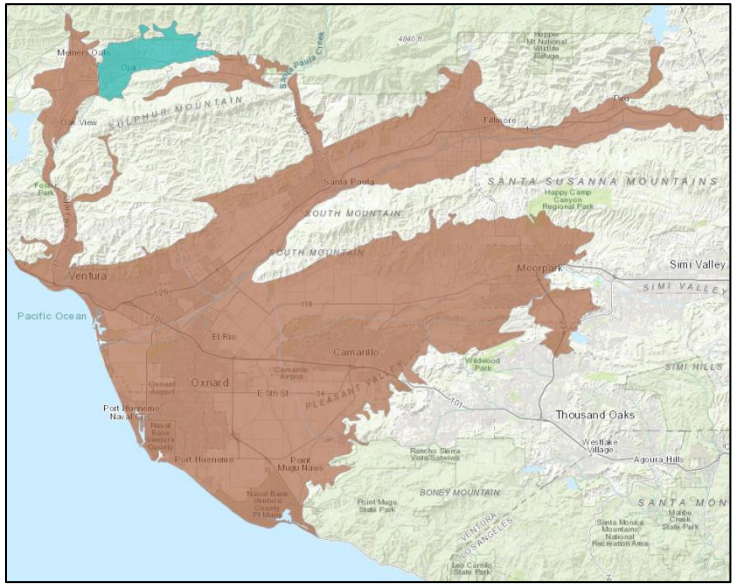


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
MH	M	MH	MH	VH	H	VL

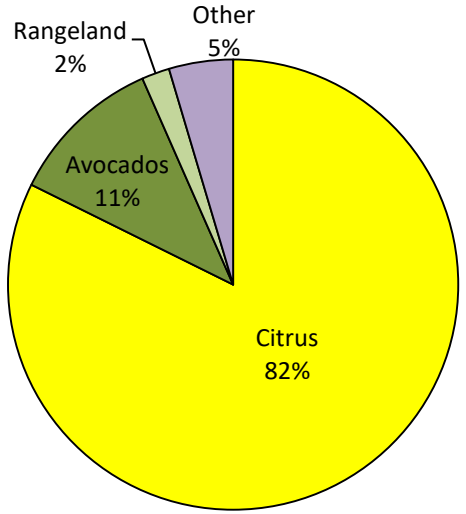
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
M	H	M	ML	ML	M

Figure 21. Profile risk summary for the Upper Ventura River Valley Sub-basin.

OJAI VALLEY



Total Sub-basin Area = 10,077 ac
Total Agriculture Area (2022) = 1,133 ac (11.2%)

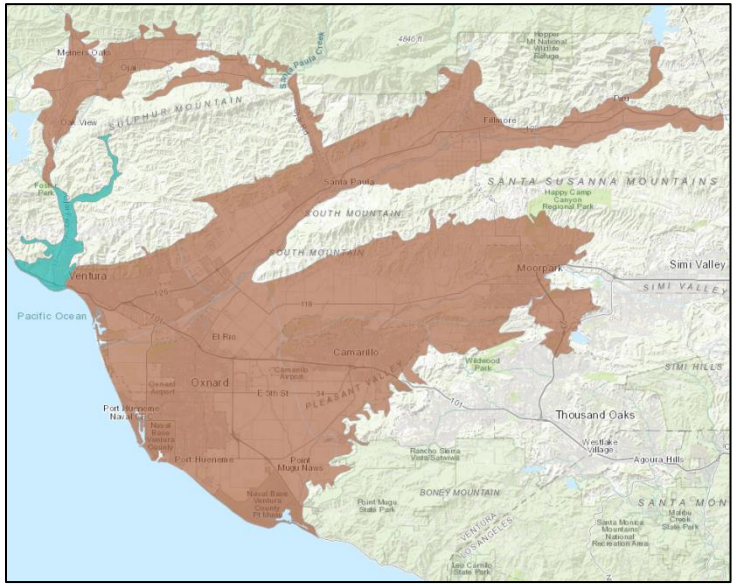


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
H	M	M	ML	VH	M	VL

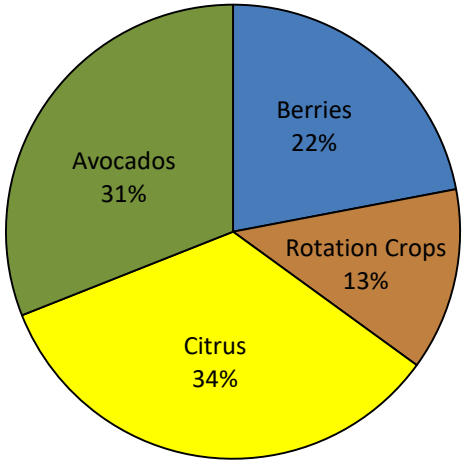
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
M	VH	ML	VL	L	ML

Figure 22. Profile risk summary for the Ojai Valley Sub-basin.

LOWER VENTURA RIVER VALLEY



Total Sub-basin Area = 7,789 ac
Total Agriculture Area (2022) = 518 ac (6.6%)

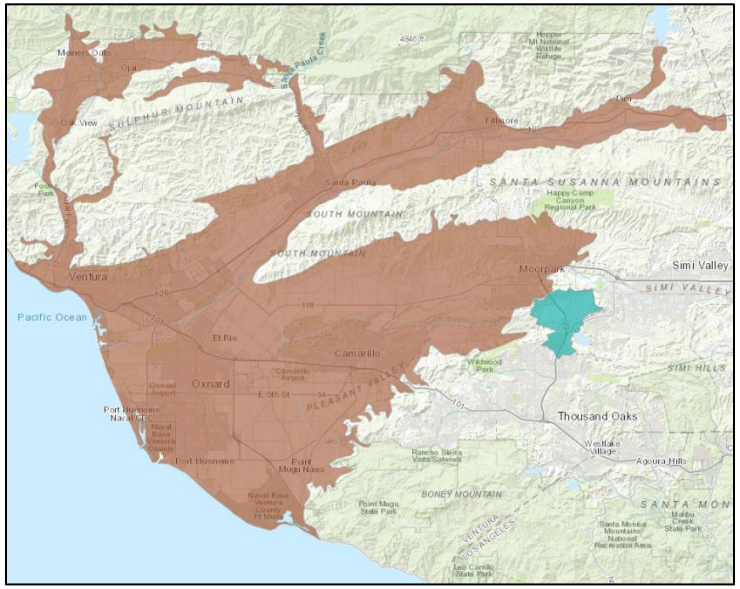


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
VH	VH	M	MH	MH	ML	L

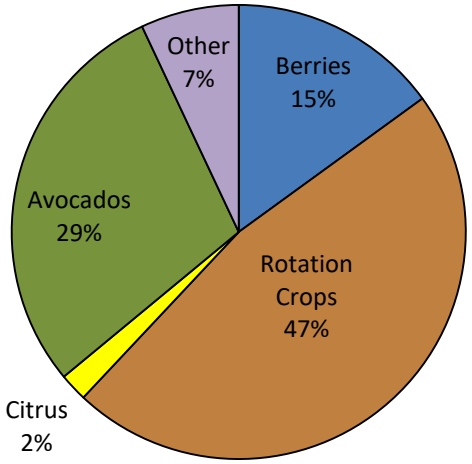
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
M	ML	MH	MH	M	ML

Figure 23. Profile risk summary for the Lower Ventura River Valley Sub-basin.

TIERRA REJADA



Total Sub-basin Area = 6,747 ac
Total Agriculture Area (2022) = 489 ac (7.2%)

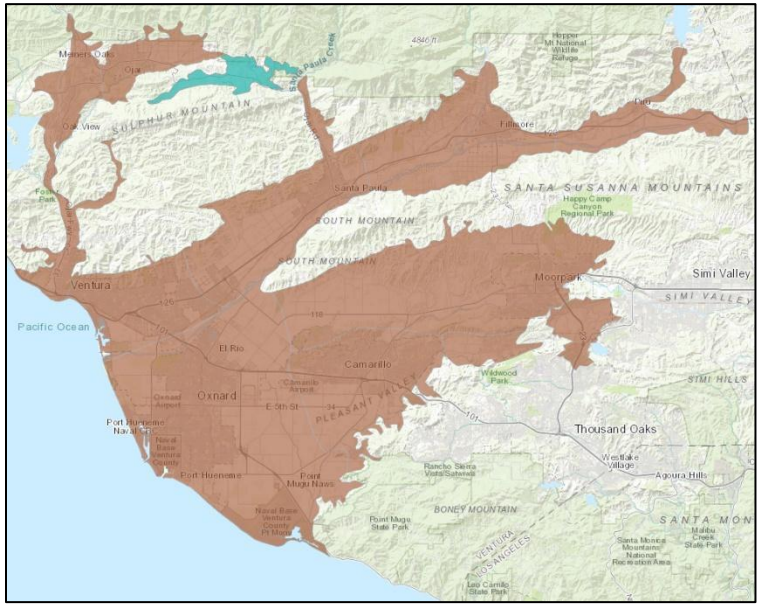


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
VL	VL	VL	L	L	M	L

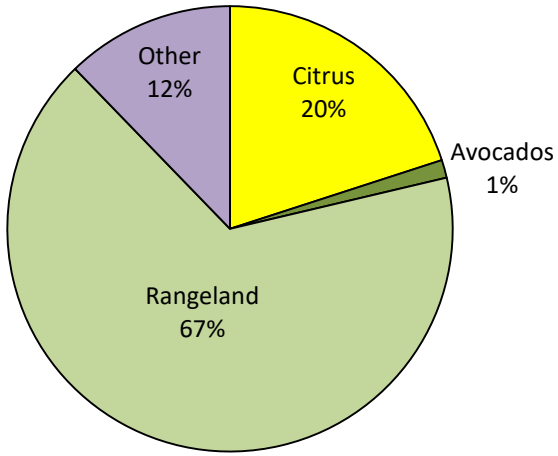
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
H	H	H	H	H	MH

Figure 24. Profile risk summary for the Tierra Rejada Sub-basin.

UPPER OJAI VALLEY



Total Sub-basin Area = 5,609 ac
Total Agriculture Area (2022) = 703 ac (12.5%)

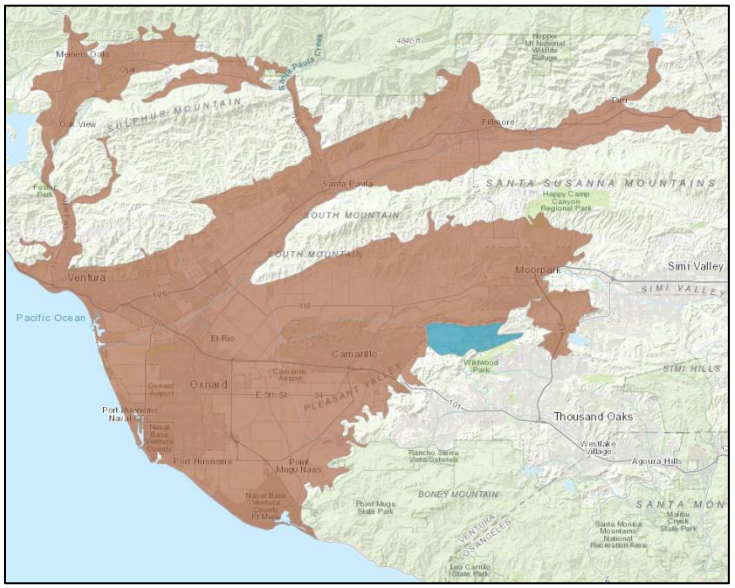


Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
MH	M	M	VL	MH	M	L

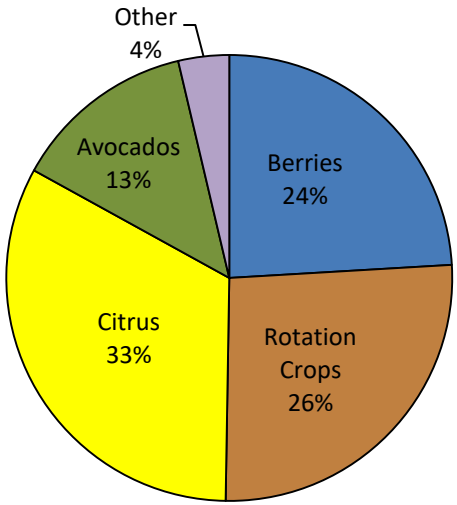
Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
MH	H	VL	VH	L	ML

Figure 25. Profile risk summary for the Upper Ojai Valley Sub-basin.

ARROYO SANTA ROSA VALLEY



Total Sub-basin Area = 5,482 ac
Total Agriculture Area (2022) = 1,782 ac (32.5%)



Housing Burden	Poverty	Potential Flooding Risk	Invasive Plants	Wildfire Risk	Groundwater Resource Stress	Impaired Soil Chemistry
VL	VL	ML	M	H	M	L

Extreme Heat Days	Max Annual Temperature	Annual Precipitation Stress	Water Recharge Deficiency	Climatic Moisture Stress	Climatic Water Deficit
H	M	VH	H	MH	M

Figure 26. Profile risk summary for the Arroyo Santa Rosa Valley Sub-basin.

Table 7. Text summaries and potential response strategies specific to each sub-basin analyzed in Ventura County, California.

Major Agriculture Sub-basins (>10,000 of agriculture acres)	
OXNARD	● The most important sub-basin in terms of crop area and overall resilience to projected climate change ● Dominated by rotation crops and berries allowing for quicker responses to changing conditions ● Precipitation has always been low leading to reliance on groundwater - that will be more challenging in the future ● The current situation of overdraft of the aquifers and the continuing threat from saltwater intrusion will be made worse by rising sea levels *Consideration:* Continue to explore opportunities to increase groundwater recharge in the sub-basin with water from other areas and make improvements on water conservation measures
LAS POSAS VALLEY	● Dominated by tree crops - avocado more vulnerable than citrus ● Western portion of the sub-basin shows higher resilience than the eastern section ● Number of extreme heat days in the moderate range compared to some other sub-basins - tree crops can likely be maintained into the short-term future ● If extreme heat events continue, consider converting some tree crops growing on marginal soils to less sensitive species or convert to natural plant cover, especially in the eastern portion of the basin ● Address groundwater overdraft issues ● Invasive species impacts and wildfire risk at moderate levels - control measures may be more effective than in some other sub-basins *Consideration:* Redirect water conserved from other sub-basins to this area
SANTA PAULA	● Dominated by tree crops - avocado more vulnerable than citrus ● Similar to Las Posas in terms of crop profile and climate change sensitivity - marine influence helps moderate projected climate change ● Potential for increase in extreme heat days will place high stress on tree crops ● Groundwater Resource in very good shape even while supporting a large agricultural footprint *Consideration:* Convert sensitive tree groves to other crop types or to natural cover *Consideration:* Moderate invasive plant pressures and moderately high wildfire risk, especially on the northwest edge of the sub-basin - exploring strategies to mitigate extreme fire events is encouraged
PLEASANT VALLEY	● Dominated by rotation crops and berries

	● Other than low precipitation, this sub-basin benefits from its proximity to marine influences and shows relatively high climate change resilience ● Groundwater Resource stress is very high and the main stressor to agriculture in the sub-basin ● Expanding greenhouse farming will allow for more predictability in crop harvests under extreme conditions *Consideration:* Consider improving water holding capacity of crop soils to combat high moisture stress
FILMORE	● Dominated by tree crops - avocado highly vulnerable from high annual maximum temperatures and large increases in number of extreme heat days ● Consider transitioning to more heat tolerant crops ● Annual precipitation increases as maritime influences give way to higher precipitation events ● Potential for flooding is extremely high - development in low lying areas will be put under greater risk in the future ● Opportunities to recharge groundwater supplies on site or for use downstream may be increasing over time *Consider*ation: Reduction in the area committed to avocado groves may be warranted, starting with most vulnerable soils first
Agriculture Sub-basins (2,000-5,000 of agriculture acres)	
MOUND	● Dominated by berries and rotation crops but a relatively small acreage footprint ● Projected climate change impacts comparatively low due to marine influences ● Precipitation totals have always been low compared to other portions of the County leading to vulnerability of local groundwater withdrawals ● Expanding greenhouse farming would allow for more predictability in crop harvests under extreme events and would help curb invasive species *Consideration:* Consider additional management measures to conserve groundwater resources
PIRU	● Highly mixed crop profile with tree crops making up over 50% ● Tree crops (especially avocado) will be under extreme stress ● The most climate stressed sub-basin of those with considerable area of sensitive croplands ● Potential for flooding is extremely high – any development in the floodplain will be put under great risk in the future *Consideration*: Assess opportunities to recharge groundwater supplies on-site or for use downstream, which may be increasing over time

Minor Agriculture Sub-basins (<2,000 of agriculture acres)	
UPPER VENTURA RIVER VALLEY	● Nearly two-thirds in tree crops (~400 ac) will be more viable than in many other sub-basins ● Precipitation levels in the future are projected to be higher than in most other portions of the region, but groundwater stress is currently still high ● Surface water capture strategies may be adequate to support existing agriculture in this sub-basin *Consideration*: Wildfire risk is very high – exploring practical strategies to mitigate extreme fire events may prove to be extremely effective
OJAI VALLEY	● Heavily dominated by tree crops (93%) mostly citrus ● With the exception of projected very high exposure to annual maximum temperatures, the sub-basin is less impacted by climate change than most other sub-basins due to increased moisture ● Groundwater resource stress is moderate and opportunities for surface water capture strategies may be adequate to support the highest quality crop operations ● Avocado groves (~125ac in 2022) are the most vulnerable crop due to periods of high temperatures *Consideration*: Wildfire risk is very high – exploring practical strategies to mitigate extreme fire events may prove to be extremely effective
LOWER VENTURA RIVER VALLEY	● A small agriculture footprint (~7%) of a small sub-basin ● Heavy marine influence on projected climate change – mild temperatures but continuing low precipitation ● Groundwater resource stress is also low *Consideration*: Wildfire risk is moderately high due to the proximity of urbanized lands to local rangelands – exploring practical strategies to mitigate extreme fire events may prove to be extremely effective
TIERRA REJADA	● A small agriculture footprint (~7%) of a small sub-basin ● The most heavily impacted sub-basin based on climate change projections ● Tree crops under extreme stress at least over the short-term *Consideration*: Majority of crops rotation crops and berries - expanding greenhouse farming will allow for greater reliability
UPPER OJAI VALLEY	● Small agriculture footprint - mostly rangeland ● Very limited extent of tree crops (mostly citrus) will be subjected to higher temperatures *Consideration*: Wildfire risk is moderately high due to the proximity of urbanized lands to local rangelands– exploring practical strategies to mitigate extreme fire events may prove to be extremely effective
ARROYO SANTA ROSA VALLEY	● Smallest sub-basin being summarized with 1/3 in agriculture ● Good mix of crop types (including 46% in tree crops) which will be heavily impacted by future climate, especially avocado groves

	Consideration: Expanding greenhouse farming may be necessary to maintain consistent yields of most non-tree commercial crops *Consideration*: Wildfire risk is high due to the proximity of urbanized lands to local rangelands – exploring practical strategies to mitigate extreme fire events may prove to be extremely effective

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APPENDIX A – LIST OF SPATIAL DATASETS IN THE VENTURA COUNTY GATEWAY

Gateway Dataset Title	Gateway URL Link
Agricultural Land Conversion 2001-2016 - American Farmland Trust	https://vcsalc.databasin.org/datasets/27e6791c57234f6499ca8ce04ae4fad6/
Biological Integrity of Constrained Streams by Stream (linear feature)	https://vcsalc.databasin.org/datasets/ea5b880de45d4d7bbb7c9d03bfbf5f94/
Biological Integrity of Constrained Streams by Watershed	https://vcsalc.databasin.org/datasets/8b687b1fd9ad4eefa1603957a037dc81/
Block Level Housing Density Raster 1990 (HUDEN90)	https://vcsalc.databasin.org/datasets/623f20b12f954dec9369163a0bb64327/
Block Level Housing Density Raster 2000 (HUDEN00)	https://vcsalc.databasin.org/datasets/798313a947864b7499fc70df236d54bd/
Block Level Housing Density Raster 2010 (HUDEN10)	https://vcsalc.databasin.org/datasets/db6bfef0d5454f3fbb9c68af7fd68aaf/
CAL FIRE FRAP Reducing Wildfire Threats to Communities, California	https://vcsalc.databasin.org/datasets/02b725e6cdb047f7ab9a295cfc511d5a/
CalEnviroScreen 4.0	https://vcsalc.databasin.org/datasets/9755da0fd48d4e86af0ab79331b64561/
California - Farmland Mapping and Monitoring Program (FMMP),2016	https://vcsalc.databasin.org/datasets/6b4568bf2a8f40e3990fd1d621e4c350/
California Agricultural Value (2018)	https://vcsalc.databasin.org/datasets/f55ea5085c024a96b5f17c7ddddd1147/
California Building Footprints, Santa Barbara & Ventura Counties	https://vcsalc.databasin.org/datasets/8df40d7976924c0d902302da48261f51/
California Canals and Ditches - NHD Flowline	https://vcsalc.databasin.org/datasets/1e583fd4a1474442a101c8781555100d/
California City and County Boundaries (BOE, 20210414)	https://vcsalc.databasin.org/datasets/f7031feee93e401a850e1446eb3723fb/
California Cropland 2019 (USDA Cropscape)	https://vcsalc.databasin.org/datasets/bb45f39fa5334b27b9c4aaa45e6a3dc8/

California Fire Perimeters (CALFIRE; 1878 - 2020)	https://databasin.org/datasets/fbbc0115307748bab3887dcfc81e1aa5/
California Freshwater Conservation Blueprint - prioritization results, version 1.0 June 2018	https://databasin.org/datasets/b03819ca45bc46aa912966bb062763ee/
California Freshwater Species Database, v2.0.7 - Richness Summary	https://vcsalc.databasin.org/datasets/0137173fd63045c1886150d102e36bae/
California Lands Enrolled in Williamson Act, 2019	https://vcsalc.databasin.org/datasets/7aec69e6295b450388b17b8cfb92f9ea/
California Protected Areas Database (CPAD), 2021b - December 2021	https://databasin.org/datasets/0da515cfc4ba45d3bf28cbb719579b73/
California Rare, Threatened, or Endangered Species (CNDDB & USFWS, Non-Impervious)	https://vcsalc.databasin.org/datasets/0bbdb9cbe4124f44b3ef0a40350acdb9/
Change in Future Climatic Water Deficit, California (CNRM RCP 8.5), Ventura County	https://vcsalc.databasin.org/datasets/8736bc06a3494ec2930ea0f2cf9e4b6d/
Change in Future Climatic Water Deficit, California (GFDL-A2 RCP 8.5), Ventura County	https://vcsalc.databasin.org/datasets/e0c74a7b2d354ae9961c5a688e2f258f/
Change in Future Climatic Water Deficit, California (MIROC-ESM RCP 8.5), Ventura County	https://vcsalc.databasin.org/datasets/d9a3708a37d745f29fef8cef4163f2d8/
Change in Groundwater Well Levels, North Central California	https://vcsalc.databasin.org/datasets/33ee5d261f0b4239a738f627751cb3b8/
Change of Mean Projected Annual Aridity for 2016-2075, California	https://vcsalc.databasin.org/datasets/53225e9eb19d4a688061fcd046e28cb0/
Change of Mean Projected Annual Maximum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/dc22e1cba1b2471fb225bc9afa77430f/
Change of Mean Projected Annual Minimum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/04cbd27113e5494ab74efb251930e9b8/
Change of Mean Projected Annual Total Precipitation for 2016-2075, California	https://vcsalc.databasin.org/datasets/42cc090543af4fe1839fedf0699ab223/
Change of Mean Projected April, May, June Aridity for 2016-2075, California	https://vcsalc.databasin.org/datasets/3dc0206969b646808768ba46470654fe/
Change of Mean Projected January, February, March Aridity for 2016-2075, California	https://vcsalc.databasin.org/datasets/6d6e1aa9026946b2888cfdeb1227ff91/
Change of Mean Projected July, August, September Aridity for 2016-2075, California	https://vcsalc.databasin.org/datasets/a4fcc76cfe95416d93a45e9dcbeba693/

Change of Mean Projected October, November, December Aridity for 2016-2075, California	https://vcsalc.databasin.org/datasets/afbe1e7a257e434eb6ceb86953ffd6eb/
Common Weed Species Presence - Ventura County, California	https://vcsalc.databasin.org/datasets/7db92bbce5e4404b84d642e3953d9f93/
Community Fire Planning Zone (CFPZ) California	https://vcsalc.databasin.org/datasets/3a85fd0bdcf84922b0edde625709511f/
County Boundaries, California	https://vcsalc.databasin.org/datasets/43c435df8ed2403cbe003927ba169407/
Critical Habitat for Braunton's Milk-Vetch (Astragalus Brauntonii) within Jurisdiction of the Ventura Fish and Wildlife Office (VFWO)	https://vcsalc.databasin.org/datasets/99463b3daa3a4f47aac7c16773634203/
Critically Overdrafted Groundwater Basins in California	https://vcsalc.databasin.org/datasets/68c79a05a4bf4f2790392a18307ab1c3/
Cropsnow 2018 - Ventura County, California	https://vcsalc.databasin.org/datasets/f4a91ddeb0e1460a823191cf76f19cca/
Cropsnow 2019 - Ventura County, California	https://vcsalc.databasin.org/datasets/2ea433a237aa4d1183c674b5e1535330/
Cropsnow 2020 - Ventura County, California	https://vcsalc.databasin.org/datasets/6f113c8b48e44eedb7a178ef7177590a/
Cropsnow 2021 - Ventura County, California	https://vcsalc.databasin.org/datasets/dbaf86e923e645298ed838731e3dd405/
Cropsnow 2022 - Ventura County, California	https://vcsalc.databasin.org/datasets/750f1be6df71478eb7c9d9bf9aeb96a9/
Density of groundwater dependent wetlands and vegetation alliances in California	https://vcsalc.databasin.org/datasets/979c1af07a494246b1b517d36b5e7755/
Density of springs in California	https://vcsalc.databasin.org/datasets/10512b92aefa48d6a4b9400a08fd358f/
Developed, High intensity land use	https://vcsalc.databasin.org/datasets/7c5f987bda034ab09308664bfbd5b4a3/
Drinking Water Contamination Levels	https://vcsalc.databasin.org/datasets/41f860c0a66f406895aa7d05d9532653/
Ember Load Index, California	https://vcsalc.databasin.org/datasets/53da679f24c74ebda2a7da9a0523649d/
Fire Hazard Severity Zones in State Responsibility Areas	https://vcsalc.databasin.org/datasets/e8cdfbb7dff34b4a88ee957e9f2d93ac/

Fire Perimeters, 2020	https://vcsalc.databasin.org/datasets/701fd628ee22446ab97e11dffd147dce/
FRAP Vegetation, California	https://vcsalc.databasin.org/datasets/66c423fdbda24bf69d69de5f71206ad6/
Fuel Hazard Ranking	https://vcsalc.databasin.org/datasets/e78399212a504fd68cd97a4db5ae2b87/
General Land Use Plans for California, USA	https://vcsalc.databasin.org/datasets/1cda3056a4ad4ece86eb5eda4ef17e82/
gNATSGO Irrigated Capability Class, Soils, California	https://vcsalc.databasin.org/datasets/d56f4af887b247db933ce85349b736c5/
gNATSGO Non Irrigated Capability Class, Soils, California	https://vcsalc.databasin.org/datasets/77657504ded64efcbc4d6037f72c0b4f/
Groundwater Basin Boundaries 2016, California	https://vcsalc.databasin.org/datasets/b25167d2a88e463ebed2dd73768cae28/
Groundwater Basins Subject to Critical Conditions of Overdraft	https://vcsalc.databasin.org/datasets/8cf9f129dfef497bb2acecc888169d8c/
Groundwater Contamination Levels	https://vcsalc.databasin.org/datasets/3cb9500acf614839acf820288fce2f08/
Groundwater Level Percentile Class Points	https://vcsalc.databasin.org/datasets/1eac4a040e09463299af6857c2c46ef8/
gSSURGO Available Water Storage (0-150cm) - Ventura County, California	https://vcsalc.databasin.org/datasets/543892510d8142d296f4a35deeffeffb/
gSSURGO Cation Exchange Activity Classes - Ventura County, California	https://vcsalc.databasin.org/datasets/1017cb42525c4357aa8e82ce9fb78a06/
gSSURGO Drainage Class - Ventura County, California	https://vcsalc.databasin.org/datasets/bf9d6de87f39468a8801fcfbd677e79d/
gSSURGO Soil Textures - Ventura County, California	https://vcsalc.databasin.org/datasets/1958d0ec8c1845029be46afa8c567901/
Historical Climatic Water Deficit (CWD), Ventura County	https://vcsalc.databasin.org/datasets/b5da3bd8ebc340ef9ff9b06a182ca51d/
Housing Density Class from 2000 Census Tiger Files	https://vcsalc.databasin.org/datasets/6ac2e44a0772474d85ac7f358c4d0e34/
Housing density classes for California in 2010	https://vcsalc.databasin.org/datasets/192d7d85c2c9479fb38e2ef7f9b8de48/

Housing density classes for California in 2020	https://vcsalc.databasin.org/datasets/f8afd8e8ca504633a388af7f2f75dbae/
Housing density classes for California in 2030	https://vcsalc.databasin.org/datasets/9d38519a94e3410cb55fce85148279ff/
Housing density classes for California in 2040	https://vcsalc.databasin.org/datasets/866f2861632244f1a2e63d154c546172/
housing density classes for California in 2050	https://vcsalc.databasin.org/datasets/5b7e3cb4d27045e9afe5560ad66047c5/
housing density classes for California in 2100	https://vcsalc.databasin.org/datasets/f450686b838441fb9048a4b1dc5cefed/
Housing Vacancy Rate, California Census Tracts, American Community Survey (2015-2019)	https://vcsalc.databasin.org/datasets/282b3d235811420f82f75f7512799246/
Hydrogeologically Vulnerable Area	https://vcsalc.databasin.org/datasets/df62cbd64d15490ab6ee2239335b6aa7/
Incorporated Cities (CENSUS 2019) with ACS 2017 population (Shapefile)	https://vcsalc.databasin.org/datasets/2e85241791144ded9bba064b7d196f7b/
Land Use Designations - General Plan 2040 Ventura County, CA	https://vcsalc.databasin.org/datasets/b10d3ec7e72142edac12f619a700a496/
Landscape Evaporative Response Index (LERI), 2021, California	https://vcsalc.databasin.org/datasets/b2a580a0fba747f6bbd7477d45e465b2/
Landscape Evaporative Response Index (LERI), April - October 2021, California	https://vcsalc.databasin.org/datasets/db7b6de1eb3649aebcddaa643526dd56/
Landscape Intactness (1 km), California	https://vcsalc.databasin.org/datasets/e3ee00e8d94a4de58082fdbc91248a65/
Livestock grazing allotments and resource use areas managed by the U.S. Forest Service in California, USA.	https://vcsalc.databasin.org/datasets/df266d465b734d6a8b8d0d6b7c6c7b1e/
Mean Annual and Seasonal Maximum Temperature from PRISM for 1971-2000, California	https://vcsalc.databasin.org/datasets/99027758b33b47649306e15e81e089dd/
Mean Annual and Seasonal Minimum Temperature from PRISM for 1971-2000, California	https://vcsalc.databasin.org/datasets/a49e5756a12b439c98833a743287b3f4/
Mean Annual and Seasonal Total Precipitation from PRISM for 1971-2000, California	https://vcsalc.databasin.org/datasets/9013047234800477baf71cc669bf0714f/
Mean Projected Annual Maximum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/7cfeb9c9c64d41c5a65ba320220f7aaa/

Mean Projected Annual Potential Evapotranspiration for 2016-2075, California	https://vcsalc.databasin.org/datasets/c9fbbf0c359443efb91a105e4421c200/
Mean Projected Annual Total Precipitation for 2016-2075, California	https://vcsalc.databasin.org/datasets/5a524af535f548b79f9be8e6fab0af4f/
Mean Projected April, May, June Maximum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/296b44d2f6ec4db087f116f1384dcdd9/
Mean Projected April, May, June Minimum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/fbc4abe2b0f0401ca7c23272ef872de8/
Mean Projected April, May, June Potential Evapotranspiration for 2016-2075, California	https://vcsalc.databasin.org/datasets/b45e1dd7ba0c4f71a4e4277e13be87d6/
Mean Projected April, May, June Total Precipitation for 2016-2075, California	https://vcsalc.databasin.org/datasets/0ddea4e8812d4351bf1ef1abdfea3d7b/
Mean Projected January, February, March Maximum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/c0854a3bf7c24807b2f5685c55cc3268/
Mean Projected January, February, March Minimum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/6795aea6105348f3b81075cad5af66bf/
Mean Projected January, February, March Potential Evapotranspiration for 2016-2075, California	https://vcsalc.databasin.org/datasets/a5ef38a379934c029ffcd1ebab58d491/
Mean Projected January, February, March Total Precipitation for 2016-2075, California	https://vcsalc.databasin.org/datasets/082ad3c37cc04a4f8a45c6adf7e7c60f/
Mean Projected July, August, September Maximum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/57d93b4a48a54a69a1a86272728555a0/
Mean Projected July, August, September Minimum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/7e83bce796d54f7295c6a500463985b1/
Mean Projected July, August, September Potential Evapotranspiration for 2016-2075, California	https://vcsalc.databasin.org/datasets/55fc8ad812d846a58dfb42312992f4b4/
Mean Projected July, August, September Total Precipitation for 2016-2075, California	https://vcsalc.databasin.org/datasets/188775f8d7e740e19ec1db549a0a1c11/
Mean Projected October, November, December Maximum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/41c9aee8d79d40338ef0d608ed9ae09e/
Mean Projected October, November, December Minimum Temperature for 2016-2075, California	https://vcsalc.databasin.org/datasets/ec043325888340f782b50a870b8c23a6/
Mean Projected October, November, December Potential Evapotranspiration for 2016-2075, California	https://vcsalc.databasin.org/datasets/45d65e743e2948899474ac3c4fb56185/

Mean Projected October, November, December Total Precipitation for 2016-2075, California	https://vcsalc.databasin.org/datasets/d1e949f07c6f4288839ab31deb3ee10d/
Median Year Housing Units Built, California Census Tracts, American Community Survey (2015-2019)	https://vcsalc.databasin.org/datasets/a81620970edc48e4b26837c5b9be6fd4/
National Conservation Easement Database (NCED) - August 28, 2020	https://databasin.org/datasets/366fb887144645a7afbf78b3b5d23b43/
National Flood Hazard Layer (NFHL), California (Shapefile)	https://vcsalc.databasin.org/datasets/845bd265f7604fd499da8620b5d6009f/
Nationally Significant Ag Land, 2016 - American Farmland Trust	https://vcsalc.databasin.org/datasets/105ed96a79dd4e2ab73a320f2953fb67/
Native Freshwater Species, Analysis Units for the California Freshwater Species Database, v2.0.7	https://vcsalc.databasin.org/datasets/00e19615c0774e22a83aca7b7502353f/
NHD Flowlines for California, USA	https://vcsalc.databasin.org/datasets/54c065848eea4234a9baa4e062e3420f/
NorWeST Predicted Stream Temps	https://vcsalc.databasin.org/datasets/f71e99fb5e624d43ad25fcd919383420/
NPScape housing density data sets for the conterminous U.S. (1970, 2010, 2050, and 2100)	https://vcsalc.databasin.org/datasets/0523341d31b144ee8ceb81c99afa9be1/
Pattern of Birds Species Richness - Analysis Units for the California Freshwater Species Database, v2.0.7	https://vcsalc.databasin.org/datasets/82a053d82b994627b3f64342005e7ad4/
Pattern of Fish Species Richness - Analysis Units for the California Freshwater Species Database, v2.0.7	https://vcsalc.databasin.org/datasets/e30f4ddd3b504b449f8d7b5efe68e7e9/
Pattern of Herpetofauna Species Richness - Analysis Units for the California Freshwater Species Database, v2.0.7	https://vcsalc.databasin.org/datasets/b4812b476e47420dbeb1a4c0ba463211/
Pattern of Mollusks/Crustaceans Species Richness - Analysis Units for the California Freshwater Species Database, v2.0.7	https://vcsalc.databasin.org/datasets/dd0aa116ec894be2a9a3be5af0916f4a/
Pattern of Plant Species Richness - Analysis Units for the California Freshwater Species Database, v2.0.7	https://vcsalc.databasin.org/datasets/c88d91ab77de4aff999a631f3355b703/
Pollution Burden - CalEnviroScreen 4.0	https://vcsalc.databasin.org/datasets/34abce97636a4340a0cfc53e5e1afb8e/
Populated Places, California	https://vcsalc.databasin.org/datasets/caf36f97ba4142b6a3a5096c63a284d0/
Population Characteristics - CalEnviroScreen 4.0	https://vcsalc.databasin.org/datasets/7053ff1f2f304e33b05e6f08648ce395/

Probability of Extreme Fire Behavior, California	https://vcsalc.databasin.org/datasets/6d6d9455c67e45ac8ad0cf0908d2dfa5/
Projected housing density (2020)	https://vcsalc.databasin.org/datasets/c02e018639474be8b77b4a9c90f6eeba/
Projected housing density (2050)	https://vcsalc.databasin.org/datasets/c83d5734afb94387a2802038074dd74c/
Projected housing density (2100)	https://vcsalc.databasin.org/datasets/f2f629402b0b441ab8d6a8d328dc57e4/
Reducing Wildfire Threats to Communities, California	https://vcsalc.databasin.org/datasets/02b725e6cdb047f7ab9a295cfc511d5a/
Renter Occupied Households, California Census Tracts, American Community Survey (2015-2019)	https://vcsalc.databasin.org/datasets/73a5d7e4701e4cc9831658519543b78a/
Risk to Potential Structures, California	https://vcsalc.databasin.org/datasets/983b21eedc6345aca3c1390eff3c225b/
Save Open Space and Agricultural Lands - Ventura County SOAR	https://vcsalc.databasin.org/datasets/4779759de5f14258877fdf9d84c963dd/
SGMA 2019 Basin Prioritization	https://vcsalc.databasin.org/datasets/c79c4e7054454d22a3a4ef37d50e2c97/
Simplified HUC5 Watershed Boundaries, California	https://vcsalc.databasin.org/datasets/a06f72a59e094231a2a20e6648d3d903/
Site Sensitivity in the Western US	https://vcsalc.databasin.org/datasets/459319b477ea40568ae08663f54f643b/
Soil Agricultural Groundwater Banking Index (SAGBI) - 2015, UC Davis	https://vcsalc.databasin.org/datasets/f92b336471dd43d6bdf3343c7721a94f/
SSURGO CA Storie Index, Ventura County, California	https://vcsalc.databasin.org/datasets/98c85098e9044b9baecfb47e70fe188d/
SSURGO CA Storie Index, Ventura County, California	https://vcsalc.databasin.org/datasets/98c85098e9044b9baecfb47e70fe188d/
SSURGO Chemical and Physical Properties, Soils, Ventura County California	https://vcsalc.databasin.org/datasets/7f2062e260934826aa6b184d0c1a8e65/
SSURGO Soil Orders, Ventura County, California	https://vcsalc.databasin.org/datasets/65f03d12673744e8aaa9e3e224e03d05/
SSURGO Soil Orders, Ventura County, California	https://vcsalc.databasin.org/datasets/65f03d12673744e8aaa9e3e224e03d05/

State and Local Facilities for Wildland Fire Protection, California	https://vcsalc.databasin.org/datasets/847661dcd5c847e59fc7f24316d35121/
State's Best Agricultural Land in 2016 - American Farmland Trust	https://vcsalc.databasin.org/datasets/d5ff519139f747c58dc58c5afc4e9550/
Streams, Canals, Dams - California NHD Area	https://vcsalc.databasin.org/datasets/5e8350b5acd5458281239067852a0d0b/
Suppression Difficulty Index, California	https://vcsalc.databasin.org/datasets/845fd4647aac445c932fd6fd68b52706/
United States Important Bird Areas - National Audubon Society Authoritative Data Updated General Plan	https://vcsalc.databasin.org/datasets/fdb91971a11d46d39661f0a56c3585ca/
USDA Cropscape 2020 - California	https://vcsalc.databasin.org/datasets/51ad32430d5a493295b98c3d96859407/
USFWS Critical Habitat (Line)	https://vcsalc.databasin.org/datasets/97752bf57d844572b57071f98965c00e/
USFWS Critical Habitat (Polygon)	https://vcsalc.databasin.org/datasets/d71f67e654c641a6be3ac8860f881ab0/
Vegetation Burn Severity, California (1984 to 2017)	https://vcsalc.databasin.org/datasets/2002ca2d12ea4bd4a7ced2e4578645b6/
Ventura Historical Ecology Study, California	https://vcsalc.databasin.org/datasets/604af46b11d44943b6e2e4ea3971fe1d/
Water Quality Monitoring Stations in California	https://vcsalc.databasin.org/datasets/695561a68a9a45eebeab6f10a07b425d/
Watershed Boundary Dataset (WBD) (12-digit HUC, level 6, California, USA)	https://vcsalc.databasin.org/datasets/42bc6342ed794f5b90d91494b508462f/
Watersheds with dams, California	https://vcsalc.databasin.org/datasets/9958acb41e404e2d84f1e859c1feba8c/
West-Wide Economic Atlas, Headwaters Economics - 3 Classes	https://vcsalc.databasin.org/datasets/b44aaa70af564e31824f97f298f8d92e/
WFIGS - Current Wildland Fire Perimeters (NIFC)	https://vcsalc.databasin.org/datasets/24eda9b68d534806a2ac104d9b6354c8/
Wildfire Hazard Potential, California	https://vcsalc.databasin.org/datasets/122f9ea555e844fc9e2621e7db743275/

Wildland Fire Threat (fthrt14_2), California	https://databasin.org/datasets/3e212f5ef628492bb6d3b75b86c8a72c/
Wildland-Urban Interface (2010), Southern California - Interface Class	https://vcsalc.databasin.org/datasets/1192840cde924382bc5c3767eea2883d/
Wildland-Urban Interface (2010), Southern California - Intermix Class	https://vcsalc.databasin.org/datasets/05e3fc06574c434aa76faf6ec17604f1/
Wildland-Urban Interface (2010), Southern California (reclassified)	https://vcsalc.databasin.org/datasets/9d5d873f28284df9bb1db1f2afd21a99/

APPENDIX B – LIST OF SPATIAL DATASETS USED IN THE AGRICULTURAL VALUE EEMS LOGIC MODEL

Gateway Dataset Title	Gateway URL Link
California - Farmland Mapping and Monitoring Program (FMMP), 2018/2016	https://vcsalc.databasin.org/datasets/d863409b007d4f6589975103da32df3e/
SSURGO CA Storie Index, Ventura County, California	https://vcsalc.databasin.org/datasets/98c85098e9044b9baecfb47e70fe188d/
SSURGO Chemical and Physical Properties, Soils, Ventura County California Soil pH Sodicity (Sodium Absorption Ratio) Salinity (Electrical Conductivity)	https://vcsalc.databasin.org/datasets/7f2062e260934826aa6b184d0c1a8e65/
gNATSGO Irrigated Capability Class, Soils, California	https://vcsalc.databasin.org/datasets/d56f4af887b247db933ce85349b736c5/
NHD Flowlines for California, USA	https://vcsalc.databasin.org/datasets/54c065848eea4234a9baa4e062e3420f/
CPAD_2021b_Holdings, GreenInfo Network	https://vcsalc.databasin.org/datasets/f158d3770f004959a6ce4b415b71dda9/
Populated Places, California	https://vcsalc.databasin.org/datasets/caf36f97ba4142b6a3a5096c63a284d0/

APPENDIX C – LIST OF SPATIAL DATASETS USED IN THE AGRICULTURE STRESS EEMS LOGIC MODELS

Gateway Dataset Title	Gateway URL Link
SSURGO Chemical and Physical Properties, Soils, Ventura County California	https://vcsalc.databasin.org/datasets/7f2062e260934826aa6b184d0c1a8e65/
Soil pH	
Sodicity	
Salinity	
gSSURGO Available Water Storage (0-150cm) - Ventura County, California	https://vcsalc.databasin.org/datasets/543892510d8142d296f4a35deeffeffb/
SSURGO Soil Runoff	https://vcsalc.databasin.org/datasets/2a11d8cc62da475e81a14b6a0ff2c590/
SSURGO Wind Erodibility Index	https://vcsalc.databasin.org/datasets/f272f4cc398d4d5b8f31730836cae44e/
Annual Maximum Temperature – Ventura County, CA	https://vcsalc.databasin.org/datasets/a8236b3779ca47c894d007f56fbc1960/
Historical Average	
CNRM-CM5 Average	
MIROC5 Average	
GFDL-CM3 Average	
Annual Precipitation – Ventura County, CA	https://vcsalc.databasin.org/datasets/e0c322a8b656460ebef181927ceb1bca/
Historical Average	
CNRM-CM5 Average	
MIROC5 Average	
GFDL-CM3 Average	
CNRM-CM5 Seasonal Climate Models (2010-2039) – Ventura County, CA	https://vcsalc.databasin.org/datasets/0eaade36e2264c0980c5609e95a8b594/
Average Max Temperature Dec Jan Feb	

Average Max Temperature Mar Apr May	
Average Max Temperature Jun Jul Aug	
Average Max Temperature Sep Oct Nov	
Average Precipitation Dec Jan Feb	
Average Precipitation Mar Apr May	
Average Precipitation Jun Jul Aug	
Average Precipitation Sep Oct Nov	
MIROC5 Seasonal Climate Models (2010-2039) – Ventura County, CA	https://vcsalc.databasin.org/datasets/1f2656ae0e244a45bf445eae65a8f403/
Average Max Temperature Dec Jan Feb	
Average Max Temperature Mar Apr May	
Average Max Temperature Jun Jul Aug	
Average Max Temperature Sep Oct Nov	
Average Precipitation Dec Jan Feb	
Average Precipitation Mar Apr May	
Average Precipitation Jun Jul Aug	
Average Precipitation Sep Oct Nov	
GFDL-CM3 Seasonal Climate Models (2010-2039) – Ventura County, CA	https://vcsalc.databasin.org/datasets/93e3be09867d4ce6a7829065ee8154b9/
Average Max Temperature Dec Jan Feb	
Average Max Temperature Mar Apr May	
Average Max Temperature Jun Jul Aug	
Average Max Temperature Sep Oct Nov	
Average Precipitation Dec Jan Feb	

Average Precipitation Mar Apr May	
Average Precipitation Jun Jul Aug	
Average Precipitation Sep Oct Nov	
Number of Extreme Heat Days – Ventura County, CA	https://vcsalc.databasin.org/datasets/d090d65bbf634779b2e8ed2d8345b645/
Historical Average	
CNRM-CM5 Average	
MIROC5 Average	
GFDL-CM3 Average	
CalEnviroScreen 4.0	https://vcsalc.databasin.org/datasets/9755da0fd48d4e86af0ab79331b64561/
Impaired Waterbodies	
Impaired Waterbodies Percent	
Groundwater Pollution	
Groundwater Pollution Percent	
Soil Agricultural Groundwater Banking Index (SAGBI) - 2015, UC Davis	https://vcsalc.databasin.org/datasets/f92b336471dd43d6bdf3343c7721a94f/
Historical Climatic Water Deficit (CWD), Ventura County	https://vcsalc.databasin.org/datasets/b5da3bd8ebc340ef9ff9b06a182ca51d/
Change in Future Climatic Water Deficit, California (CNRM RCP 8.5), Ventura County	https://vcsalc.databasin.org/datasets/8736bc06a3494ec2930ea0f2cf9e4b6d/
Change in Future Climatic Water Deficit, California (MIROC-ESM RCP 8.5), Ventura County	https://vcsalc.databasin.org/datasets/d9a3708a37d745f29fef8cef4163f2d8/
Change in Future Climatic Water Deficit, California (GFDL-A2 RCP 8.5), Ventura County	https://vcsalc.databasin.org/datasets/e0c74a7b2d354ae9961c5a688e2f258f/
Annual Recharge – Ventura County, CA	https://vcsalc.databasin.org/datasets/55dd6fe18717453ba5c1526993eea544/
CNRM-CM5 Average	
MIROC5 Average	
GFDL-CM3 Average	

Annual Runoff – Ventura County, CA	https://vcsalc.databasin.org/datasets/437626399eb147c5816aef77438550f9/
CNRM-CM5 Average	
MIROC5 Average	
GFDL-CM3 Average	

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APPENDIX D.

AGRICULTURAL EDUCATION & AWARENESS STRATEGY REPORT

Agricultural Education and Awareness Strategy Report

for the

Ventura County Sustainable Agriculture Conservation Strategy Plan

November 14, 2022

Agricultural Education and Awareness Strategy Report

Contents

Introduction

The conservation of farmland and economic viability of agriculture goes well beyond the purview of direct stakeholders, including farmers, ranchers, farm workers, landowners, processors, distributors, direct-market outlets, agricultural support businesses, funders, lenders, and community organizations focused on agricultural issues. A robust agricultural economy and permanent protection of agricultural resources require public awareness, sense of connection and commitment to action.

As an element in the ***Securing Ventura County's Agricultural Future: A Strategic Plan for Community Resilience***, this report documents existing agricultural education and awareness efforts in Ventura County, analyzes relevant best practices and models and outlines an Implementation Plan for a *Multifaceted and Agricultural Education and Awareness Strategy*. The report is intended to inform practitioners and stakeholders about the critical role of education and awareness in sustaining the County's agricultural resources, and to be a roadmap for action.

Existing Agricultural Education and Awareness Efforts

Introduction

This section of the report describes existing agricultural education and awareness efforts – including organizations, initiatives, and programs - in terms of their types, extent, and impact. It is organized in seven main sections:

1. K-12 Food & Agriculture Education
2. Agriculture & Food Education in Community Colleges & Universities
3. Agricultural Research
4. Community Events, Education & Awareness
5. On-farm Education & Events
6. Food Security & Local Agriculture Awareness
7. Farmers' Markets & Local Agriculture Awareness

Each section highlights some of the leading organizations and initiatives. A more comprehensive listing of agricultural education and awareness organizations and initiatives is in Appendix B. The information in this section and in the full listing comes from secondary research, primarily websites, of the organizations and initiatives mentioned.

In 2012, Ventura County and the University of California Cooperative Extension conducted a survey of 40 programs and organizations that provide education to youth, adults, and community in the areas of agricultural literacy, nutrition, environmental, natural resources, and gardening in the County (Appendix A is a summary of the survey findings). While they found "evidence of agriculture education in the region", they concluded that many efforts operated in isolation and recommended a network of educators or subcommittee to focus on communication, connecting stakeholders with available resources, and engaging underserved groups.

The UC Cooperative Extension and the Ventura County Office of Education are in the process of organizing a follow up survey for fall 2022. Once results are available, this analysis of existing agricultural education programs can be updated.

1. K-12 Food & Agriculture Education

Numerous organizations in Ventura County focus on educating K-12 students about agriculture and food systems. Some of the largest efforts are projects of Students for Eco-Education and Agriculture (SEEAG), Ventura County Farm to School, and the Oxnard Union High School District's Farm to School Program. All offer a variety of programs connecting youth to local food production, while indirectly also educating the community at large.

SEEAG is a nonprofit organization working to educate students and the greater community about the connection between farms, food, and nutrition. The organization takes K-12 students on farm visits to Petty Ranch where they participate in hands-on agriculture education activities. SEEAG also hosts events for the public, as described in Section 4 below.

Ventura County Farm to School (VCF2S) has a similar mission of connecting students, farmers, and food. The nonprofit helps to procure local and nutritious food for school meals. The farm to school program focuses specifically on healthy food procurement and agricultural education across Ventura County School districts. Examples of activities include cooking classes, nutrition education, and local food sourcing. Harvest of the month is VCF2S's primary nutrition education program in which a different locally grown piece of product is distributed to students across participating schools. Community events are also held to engage a broader audience.

Oxnard Union High School District Farm to School Program was founded by the Edible Schoolyard Project. The student-created programs include garden classrooms, kitchen classrooms, school cafeterias, and academic classroom initiatives for high school students. The goal of the program is to provide fresh, healthy, and local produce to high schoolers. Other K-12 educational programs include Food for Thought Ojai and Ag in the Classroom.

The impact of these K-12 programs for students, includes increased understanding about agriculture and food systems, basic knowledge about growing and cooking food, connections with local farms, and access to nutritious, locally grown produce in school cafeterias. SEEAG has impacted over 80,000 students since 2008, which is an average of over 1,000 students a month. VCF2S reaches over 50% of children in Ventura County throughout seven school districts using produce from ten local growers. Their Harvest of the Month program serves 10,000 students monthly. Oxnard Union High School District Farm to School Program serves 17,000 students in Oxnard and Camarillo within eight schools. The program has established eight school gardens, which have produced thousands of pounds of food annually for school cafeterias, and, before COVID, organized local farm fields trips for 200-500 students each year.

2. Agriculture & Food Education in Community Colleges & Universities

There are many opportunities - from Associate Degrees and transfer programs at the community college level to bachelor's degrees from 4-year universities and training programs at extension offices - for students to start a career path in agriculture or natural resources without having to leave Ventura County.

Of the five colleges and universities in the County, Ventura College has the most programs focused specifically on agriculture and food systems. It offers AA degrees in seven subject areas: Agriculture, Agriculture Business, Agriculture Field Supervisor, Agriculture Plant Science, Environmental Science, Food Safety, and Water Science. Each of these associate degrees can be used to transfer to a four-year college to attain a BA or BS in an agricultural field.

Oxnard College and Moorpark College are two other community colleges offering Environmental Science associate degrees. Cal State Channel Islands and California Lutheran University are four-year institutions offering environmental science degrees.

In addition to academic programs, training programs provide additional opportunities for adults to learn about science-based gardening and horticulture. For example, Ventura County UC Cooperative Extension offers a master gardener program.

3. Agricultural Research

In Ventura County, multiple organizations conduct applied and community agricultural research to provide knowledge to growers and support their sustainable and regenerative agriculture practices.

The Ventura County Resource Conservation District (VC RCD) is one of around 100 RCDs in California and is part of the California RCD Association. RCDs assist landowners in managing their natural resources sustainably and also support local conservation efforts more broadly. The VC RCD provides farmers and ranchers technical and financial assistance around healthy soils, fire prevention, pollinator habitats, irrigation efficiency and stormwater management. VCRCD also conducts research to improve sustainability in agriculture and resource management.

The Center for Regenerative Agriculture (CRA) promotes organic agriculture that increases carbon content and soil health. The CRA aims to limit synthetic pesticide release and pollution as well as the degradation of arable lands. Projects provide education about sustainable growing strategies, permaculture design, native habitat creation and regeneration, tree planting and maintenance, community and urban forestry and organic certification. The CRA serves students, homeowners, ranchers, and farmers through outreach, community educational programs, farm tours, and K-12 school programs. CRA also offers an internship, composting programs, and workshops on the Soil Food Web.

The Rodale Institute California Organic Center located on McGrath Family Farm in Camarillo was created to serve farmers in Ventura County by addressing challenges, conducting regionally significant research, and serving as a hub for education and extension. The Rodale Institute aims to reject the monoculture, low biodiversity model that is currently prominent in the region. Goals of the center include conducting regionally focused research trials regarding climate, soil, crops, pest, and weed management, to increase the number of organic farms and acreage in the region, to support farmers with training that improve yields, profitability, and soil health without synthetic chemicals, and to provide an educational and research hub for local agricultural stakeholders interested in organic methods.

Other organizations that support applied and community agricultural research in Ventura County include the Natural Resource Conservation Service and the University of California Cooperative Extension (UCCE).

4. Community Events, Education & Awareness

From the County Fair to wine tastings and locally driven farm tours, many initiatives invite both locals and visitors to connect with and learn about agriculture in Ventura County.

The Ventura County Fair is the largest agriculture-related event in the County. The 12-day long fair is held in the 63-acre Ventura Fairgrounds and features rides, games, food, an agricultural show, animals, and concerts. In 2019, there were 302,783 fair attendees, just a little below the 5-year average attendance of 311,583 people. In 2019, nearly 16,000 county residents entered Fair competitions and $1.6 million were raised for youth at the Junior Livestock Auction. In the past ten years, over $15.7 million has been raised from this Auction. The fair had 35 corporate sponsors and 14 media sponsors. In 2018, 67.7% of attendees were from Ventura County, with the majority of visitors coming from Los Angeles (14.1%) and Santa Barbara (7.1%) counties. Of those that visited from outside of the area, 28.9% reported staying at a hotel.

Ventura County Farm Day is another agriculture-focused community event with over 6,000 visitors annually. The free event is hosted by SEEAG and educates people about the connection between their food, local farms, and agriculture through farm and local food business tours. Typically, over 20 farms open their doors to the public for a self-guided tour and over 30 locations are featured.

Another community event focused on agriculture is the Ventura County Ag Week. This week-long celebration of local agriculture is produced by Totally Local VC, an organization dedicated to supporting local agriculture and businesses. The goal of Ag Week is to help educate and connect local students to agriculture and to honor local farmers and ranchers. The event showcases the economic importance that agriculture plays in the community, the diverse agricultural jobs available, and the steps involved from field to fork. The celebration consists of numerous events involving a diverse group of food and agriculture organizations and businesses. In 2020, events included the Excellence in Agriculture Awards Luncheon, Ventura Chef Association Tasting Event, Meet-the-Farmer-and-Rancher Mixer Night, Student Tours and Classroom Talks, Career Exploration Day, and History of Oxnard Farming: BBQ & Music. Proceeds from this event are directed towards the Totally Local VC Agricultural Education Foundation that funds culinary arts programs in local high schools and colleges.

Other community agricultural events include the Oxnard Insect Festival, California Strawberry Festival, Oxnard Salsa Festival, Taste of Local, Field to Fork, Ojai Wine Festival, Casa Pacifica Angels Wine, Food & Brew Festival, Farm to Fork Dinner Series, Ventura County Spring Wine Walk and Street Fair, Ventura County Winter Wine Walk, and House Farm Workers.

5. On-Farm Education & Events

Many farms in Ventura County host on-site events, contributing to the agritourism appeal of the county and offering a diversity of opportunities including on-farm training programs, farmstays, event space, volunteer positions, and specialized tours. This section describes a few of the many farms listed in Appendix B that host on-farm education programs and events.

McGrath Family Farms is a collaborative of small certified organic farms and farmers that grow healthy produce for surrounding communities. Participating farms include: Carranza Family Farm, a 10-acre operation growing organic seasonal fruits, salad greens, and flowers; Exit Central Farm, a four-acre operation managed by trained young farmers; and Baby Root Farm, a 20-acre farm and network of two dozen farmers. The McGrath collaborative offers a Regenerative Farm Experience Program on mission-based production agriculture, a Farm Manager Tour, Farm Owner Tour, and school tours on the farm.

Underwood Family Farms has two locations, Somis and Moorpark, which host popular pick-your-own days in season throughout the week and are home to animal centers and farm markets. Underwood Family Farms also host seasonal events such as Tomatomania, Fall Harvest, Springtime on the Farm, and Christmas Trees on the Farm in addition to a kids farm camp as well as educational farm tours. Additional offerings include a fresh produce pick-up and delivery service though produce from the farms is also available at local farmers markets. Events at Underwood Family Farms engage participating families in local agriculture through immersing them in life on the farm.

Oats and Ivy Farm is a small farm focusing mainly on goats and natural and organic farming practices. The farm is home to over 70 animals including Nigerian Dwarf dairy goats, chickens, ducks, turkeys, dogs, and cats. Oats and Ivy aims to be self-sufficient while benefiting the community. The farm plants rotational crops year-round to provide for farm residents, both animals and people. Permanent plants include guavas, passionfruit vines, and olives. The farm offers workshops and a farm stay that includes a tour and a full farm educational experience. Workshops are held on topics such as goat care, covering milking, kid rearing, bottle feeding, health and nutrition, and general maintenance.

6. Food Security & Local Agriculture Awareness

Multiple organizations promote food security in Ventura County by distributing food and fresh produce to people in need across various levels from nonprofits to community colleges to partnerships with local government

Food Forward is a nonprofit organization that brings fresh surplus food to those experiencing food insecurity across eight counties in Southern California and tribal lands in Arizona and New Mexico. Food forward impacts communities by creating a healthier environment, greater

economic resilience, and more equitable communities. Since 2009, Food Forward has redistributed over 228 million pounds of food.

Food Share Ventura County is another organization addressing food insecurity in the region and is part of the Feeding America Network. Food Share has three warehouses in Oxnard with a combined size of 46,000 square feet receiving about 36,000 pounds of food daily. Every year, nearly 19 million pounds of food are distributed providing 16 million meals to people in Ventura County through hunger programs and 190 pantry and agency partners. Food Share serves as Ventura County's regional food bank and provides for 140,000 food insecure people every month with the help of hundreds of volunteers. With every $10 donation, the organization is able to provide 30 meals.

Ventura Community College also provides a food pantry for students to access food for free. The mission of the Food Pantry is to minimize students' stress from food insecurity in order to help them pursue their education as well as build awareness about food insecurity and reduce the negative stigma of visiting a food pantry. During the COVID-19 pandemic, the Ventura College Food Pantry has provided a drive thru food pantry and food bags for pick up in the basic needs office.

7. Farmers' Markets & Local Agriculture Awareness

Farmers' markets in Ventura County provide a venue for direct farmer-to-consumer sales, while also facilitating direct connections between community members and local farmers, which in turn increase public awareness about local producers, their products and agriculture issues more broadly. Nine Certified Farmers Markets (CFMs) operate across the County with many hosting events featuring music and beverage tastings. In accordance with state law for CFMs, all participating agricultural vendors raise, gather, grow, catch, or otherwise produce the products they sell and are certified by their county Agricultural Commissioner.

The Ventura County Certified Farmers Markets Association (VCCFMA) hosts four farmers' markets across the County: Downtown Ventura, Thousand Oaks, Midtown Ventura, and Santa Clarita. These markets offer produce, eggs, honey, meat, flowers, plants, and baked goods directly from local farmers, and also welcome prepared food vendors who bake, cook, or produce their items for sale. The Midtown Market on Wednesday's hosts 21 vendors, the Thousand Oaks Market on Thursday's hosts 31 vendors, the Downtown Ventura Market on Saturday hosts 35 vendors, and the Santa Clarita Market hosts 32 vendors. These markets welcomes SNAP and EBT customers, making locally produced goods accessible to a wider audience.

The Camarillo Certified Farmers Market is operated by volunteers and raises funding for the grief & bereavement programs at Livingston's Grief & Bereavement Center. Annually, about 400 family members are provided individual and family grief and bereavement counseling to

help them heal from losing a loved one. In 2018, over $1 million was raised, equivalent to 7% of gross sales donated by farmers and 10% of gross sales by non-farmers, to support funding for the bereavement counseling programs. The Market hosts 24 agricultural vendors, 18 food vendors, 27 artisan vendors, and six musical groups.

The Downtown Oxnard Farmers Market is held every Thursday. A new program called Sweets this Week was established to engage and promote licensed home-based/Cottage Food Operators at the market. The Market is year-round and receives an average of 400 customers per week with peak attendance during the summer months at 700 customers per week. Annual sales are over $350,000 and weekly sales are about $7,000. Individual vendor sales range from $80 -$1,200 per market, depending on the product type and time of year. Current objectives of the market are to grow the customer base in Oxnard and Port Hueneme and increase baked goods offerings.

Other farmers markets in Ventura County include the Channel Islands Harbor Farmers Market, the Ojai Certified Farmers Market, and the Santa Paula Certified Farmers Market.

Precedents, Best Practices, Models

Overview

The Precedents, Best Practices and Models section builds on the previous Existing Agricultural Education and Awareness Efforts section, by providing examples about how such efforts can be coordinated to be greater than the sum of their parts. It also serves to inform the following section which outlines goals, objectives, strategies, and actions for developing a *Multifaceted Education and Awareness Strategy*.

The section first describes the important precedent of the Ventura County Ag Futures Alliance and then describes the collective impact model as an approach to coordinate and enhance agricultural education and awareness efforts. The concluding part of this section describes examples of regional-scale models that include a focus on agricultural education and awareness in the context of advancing sustainable agriculture and food systems more broadly.

Precedent of the Ventura County Ag Futures Alliance

In 2005, the Ventura County Ag Futures Alliance — a coalition established by growers and other community members in 1999 to address some of the critical challenges facing farming in Ventura County — published a white paper calling for a new approach to bridging the rural-urban divide. Titled "A Community of Good Stewards: Building Sustainable Agriculture in Ventura County," it proposed a new ethic of shared stewardship to ensure a future for local agriculture.

"Members of the Ag Futures Alliance believe the long-term sustainability of Ventura County agriculture depends on the willingness of all sectors of the community to behave in ways that reinforce the industry's viability and to avoid behaving in ways that will harm it," the paper states. "For farming to remain a healthy component of the local economy, culture and society, the industry is obliged to respect the ecological integrity of its resource base and to operate in harmony with the broader community. And just as farmers must act as good stewards of the land to remain viable, so are members of the community obliged to act as good stewards of the agricultural industry if they wish to enjoy the benefits it provides. These include local economic stability, the aesthetic values of a rich and diverse landscape, and a healthy and affordable food supply."

In the 17 years since that paper was published, only halting progress has been made toward realizing its vision. One of the objectives of the Ventura County SALC Education and Awareness Strategy will be to propose mechanisms and programs to revitalize dialogue between urban and agricultural stakeholders, with the goal of developing a shared sense of community responsibility for ensuring the long-term viability of farming and ranching.

Collective Impact Model as a Best Practice

The concept of 'shared stewardship' discussed above, is aligned with the concept and model of collective impact, in that both highlight the importance of collaborative action around a common purpose. The collective impact model has been used - both in full and in part - to organize multi-partner county- and state-level efforts around strengthening agriculture sustainability.

Collective Impact (CI) is a theory of change developed on the concept of coordinating efforts across organizations around a clearly defined goal to create lasting solutions to social problems on a large scale. When multiple strategies and initiatives are operating, the work is centered on ensuring the initiatives are mutually reinforcing. Though individual organizations may work together with staff, boards, and volunteers to further a goal, collective impact begins when a region or community agrees to a set of shared goals and evaluates how each organization can shift and align their priorities to meet the shared goal.

The Collective Impact Model (known also as CIM) is also used as a tool to explicitly help frame and operationalize the coordination of efforts across organizations. The CIM has five pillars (or elements):

1. *Common agenda*. Partners coming together to collectively define a problem and create a shared vision to solve it.
2. *Shared measurement.* Tracking progress in the same way, allowing for continuous learning and accountability.
3. *Mutually reinforcing activities.* Integrating the participants' many different activities to maximize the end result.
4. *Continuous communications.* Building trust and strengthening relationships.
5. *Strong backbone entity*. Responsible for convening, organizing, and helping resource the collective.

The models below are described in terms of the Collective Impact Model elements as well as other factors. Some of the models (e.g., Vermont Farm to Plate) were developed explicitly using the CIM. Others use elements of the approach. Following the models descriptions section, there is a brief section describing other projects that also offer some lessons learned and or examples of best practices around one of the five CIM pillars.

Given the multiplicity and diversity of Ventura County's existing agricultural education and awareness efforts discussed in the previous section, the collective impact model could help inform the development of a coherent and multi-faceted strategy that coordinates and enhances many of the separate efforts.

Models of Regional-scale Agricultural Sustainability and/or Food Systems Initiatives

The following three models describe county and regional-scale comprehensive agricultural sustainability and/or food systems planning and implementation initiatives that include a focus on agricultural education and awareness.

Vermont Farm to Plate

Mission and Description. The Farm to Plate Network is responsible for collectively implementing the 15 Strategic Goals of Vermont's 2021-2030 food system plan, as well as advancing organizational goals of members. The Network is made up of farms, food production businesses, specialty food producers, educational institutions, nonprofit organizations, funders, capital providers, and government personnel.

Function/structure as a coalition/backbone institution. Vermont Farm to Plate is a project of the Vermont Sustainable Jobs Fund (VSJF)*, funded by the* Vermont State Legislature and its Farm-to-Plate Investment Program, with additional project-based funding. Priority Strategy Teams (PSTs), Topic Exchanges, and Communities of Practice convene to work on high impact projects to relocalize the food system that no one organization can do alone, as well as assess gaps, opportunities, and trends and monitor progress towards reaching Vermont's Strategic Goals.

Common agenda. Strategic plan. The 2021-2030 Agriculture and Food System Strategic Plan contains a vision for Vermont's food system in 2030 with 15 strategic goals across four categories: Sustainable Economic Development, Environmental Sustainability, Healthy Local Food for all Vermonters, and Racial Equity. The contents of the Plan were shaped by farmers, food entrepreneurs and workers, government personnel and elected officials, nonprofit organizations, technical and business assistance providers, educators, researchers, capital providers, and Vermont food consumers.

Shared measurement. Data outcomes. Each of the 15 statewide food system strategic goals contains a set of objectives, the measurable improvements that represent progress and can be tracked over time.

Mutually reinforcing activities. 2022 Vermont Community Leadership Summit

Continuous communications. Primary calendar of events for all network members

Colorado Food Systems Coalition

Description and Mission. The Colorado Food Systems Coalition is a group of several organizations that work to strengthen healthy food access for all Coloradans while supporting Colorado agriculture, communities, and economies.

Function/structure as coalition/backbone institutions.

- Colorado Food Systems Advisory Council (COFSAC). A Governor-appointed Council that works to advance recommendations in support of the overall mission.
- Colorado Food Policy Network. Composed of many local food coalitions that collectively work to promote healthy, community-based economically viable food systems in Colorado that ensure all residents have access to affordable, nutritious food.
- Mapping and Reporting Tool. Administered by Colorado State University.

Common agenda. Colorado Blueprint of Food and Agriculture key assets, emerging issues, and shared priorities for future investments in food and agriculture around the state.

Shared measurement. Colorado Food Systems Mapping & Reporting. Food systems data made available to all Coloradans to aid in new initiative development and planning. Public attitude survey tracks public understanding and perceptions around agriculture in the state.

Mutually reinforcing activities. CO Food Summit is a major annual convening

Continuous communications. The Coalition website.

Rural-Urban Connections Strategy (RUCS)

Mission and Description. Launched in 2007, RUCS is a project of the Sacramento Council of Governments (SACOG). RUCS acts as the region's economic and sustainability strategy focused on rural areas, complementary to the Blueprint, the region's overall growth strategy. The program works to enhance the viability of the rural economy and resilience of the vital natural resources that drive it through the application of cutting-edge analytical tools.

Function/structure as a coalition/backbone institution. SACOG is where local government leaders in the six county Sacramento region come together to advance the goals of economic prosperity, connected communities, and vibrant places. SACOG works with its 28 member cities and counties to solve challenges that are too big for any one jurisdiction to solve on its own. Funded through SACOG, RUCS looks at the region's growth and sustainability objectives from a rural perspective, recognizing the value of rural communities, forests, and agricultural lands as critical to the economy, environmental health, quality of life, and the region's future.

Common agenda. Coordinated Rural Opportunities Plan, *RUCS Overview.*

Shared measurement. RUCS offers a platform for proactive rural planning, enabling stakeholders to forecast and prepare for possible futures, and incorporate that work with similar planning conducted for urban areas. RUCS tools allow policymakers to strategically plan for the future and ensure compliance with regulatory targets. Examples: Farmland Analysis, Local Food System Assessment for Yolo and Sacramento County Delta Communities, Food System Multipliers; Food and Agriculture Cluster and Workforce Needs Assessment.

Mutually reinforcing activities. Coordinated Rural Opportunities Plan

Continuous communications. A series of initiatives and studies (e.g. Agriculture & Habitat Working Landscapes Pilot Study).

Other Best Practices and Models of Note

In addition to the models outlined above, there are many others which could also help inform the emerging Ventura County agricultural and awareness strategy. These include regional efforts such as Food Solutions New England and Farm to Institution, New England (FINE) and robust metro-region food policy councils, such as the Toronto Food Policy Council.

Finally, below are some examples of a few other projects that also offer some lessons learned and/ or examples of best practices around one of the five CIM pillars.

Shared measurement. The Bay Area Food Futures Roadmap includes a 'scorecard' system to describe multiple parameters and establish baseline metrics across the sectors of the food supply chain.

Mutually reinforcing activities. The Sonoma County Farm Trails is an interactive map and resource guide that connects the public to Sonoma County farmers, ranchers, producers, and purveyors to ensure the economic viability of local agriculture and instill an appreciation of ag as a vital part of the Sonoma community. The website and resource, 100plusjobs, invites students and jobs seekers to explore jobs that feed people and sustain the planet and provides links to training programs.

Function/structure as coalition/backbone institutions. Santa Clara Valley Agricultural Plan. This highly acclaimed plan set the standard for subsequent SALC planning grants, in terms of organization, process, presentation and follow up implementation. However, the one set of strategies that have lagged behind other Plan strategies in terms of implementation is the *Branding, Education and Awareness Strategy*. This focus area identified two key objectives for ensuring that the regions' working lands are not only preserved but understood, identifiable, and valued: (1) Develop and launch a Santa Clara Valley agriculture campaign with regional brand identity and (2) Build a local constituency that is informed about and supportive of

regional agriculture through public outreach, engagement, and education. The lesson learned is that regardless of how timely and interconnected agriculture education strategies are, without a champion or responsible agency in charge of implementation, it can be a challenge to get such strategies off the ground.

Implementation Plan for a Multifaceted Education and Awareness Strategy

The high level implementation plan outlined below reflects input from stakeholders directly involved in agricultural education and awareness efforts in Ventura County. Many of these stakeholders are also partners or community workshops participants supporting the development of the broader Ventura County Sustainable Agriculture Conservation Strategy of which this work is a part.

EDUCATION AND AWARENESS STRATEGY - *Crafting an Implementation Plan for a Multifaceted Education and Awareness Strategy that fosters co-stewardship of a* vibrant agriculture sector as a foundation for community health, well-being, and identity, as well as essential for climate change resilience and a diverse, equitable economy.

OBJECTIVES

1. Promote activities that help the local community feel benefited by, connected with, invested in and proud of the conservation, resilience, and prosperity of Ventura County's working lands.
2. Through coordinated, formal, and informal agricultural literacy and agricultural education programs at K-12 educational institutions and on farms, develop school children's' foundational knowledge about agriculture in general and a deep understanding about Ventura County agriculture in particular.
3. Facilitate young people's exploration and pursuit of diverse careers related to a dynamic, vital, sustainable agriculture with an emphasis on career opportunities within Ventura County.
4. Create the operational structures and secure the resources necessary to provide a framework for coordinating, supporting, and enhancing existing public education and awareness efforts.
5. Establish a stakeholder roundtable, similar in structure and purpose to the Ag Futures Alliance (which became inactive a decade ago), to help the community bridge the rural-urban divide by conducting periodic facilitated workshops to surface, discuss and address issues and/or conflicts.

STRATEGIES AND ACTIONS

The primary strategy for fulfilling the objectives above will be to create a new program, preliminarily called the **Rural-Urban Connections (RUCs) Program.** The concept is for the program to be located within the UCCE Ventura County Office but co-developed with other

leading Ventura County agricultural education organizations for common benefit. The program is also intended to be a pilot for UCCE offices in other counties that have similar goals for coordinating, supporting, and enhancing their public education and awareness efforts. Below is a high-level outline for this proposed program: structure, goals, activities, metrics of success and implementation plan.

Rural-Urban Connections Program - Purpose/ Need Statement

The purpose of this program is to catalyze co-stewardship of agriculture by fostering coordination of existing entities and their activities, strengthening their collective impact and helping to increase needed financial resources for current and new initiatives. The hoped-for outcome is a political and cultural environment that supports co-stewardship of a vibrant and resilient agriculture in the County. The risks of continuing business as usual include public apathy, misinformation or lack of information, and existing organizations competing for resources.

Rural-Urban Connections Program - Structure

The general purpose of UCCE is to develop with UCANR: Science-based information about agriculture, youth development, family and consumer sciences, and natural resources, and deliver that information to local audiences. UCCE operates at the intersection of and in partnership with farm and non-farm communities. It strives to create healthy communities, healthy food systems, a healthy environment, and healthy Californians.

The dynamic Ventura County UCCE Office is an ideal location to pilot the RUCS program. It currently has a staff of over 20 people and is growing. It will soon be hiring an Academic Coordinator in Science Communication as well as educators in areas such as food preservation and food waste reduction, workforce development, and climate resilience. It already also plays a connecting, convening, and coordinating role and can be a liaison between UCCE programs and programs of other partners.

The RUCs program will be incorporated into the current UCCE structure and envisions the following:

- Program lead will report to the County Director
- Program lead will work closely with existing and emerging UCCE staff, who will also engage with the RUCs program as part of their work plans.
- Program will be supported by the existing UCCE Advisory Board of leading agricultural education organizations
- Program will be guided by an Executive Committee of UCCE staff and a subcommittee of the Advisory Board

The RUCs program will also be innovative within the current UCCE structure.

- Activities that are beyond the capacity of RUCs program and UCCE staff, will be supported by contractors and project funding (e.g., development of grant proposals on behalf of multiple partners; development of wayside signage; conference organization consultant)

Rural-Urban Connections Program Strategy Goals

Goal 1. Create the operational structures and secure the resources necessary to provide a collaborative framework for coordinating, supporting and enhancing existing public education and awareness efforts

Goal 2. Promote activities that help the general public feel benefited by, connected with, invested in and proud of the conservation, resilience and prosperity of Ventura County agriculture.

Goal 3. Support development of school children's' foundational knowledge about agriculture in general and a deep understanding about Ventura County agriculture in particular

Goal 4. Facilitate young people's exploration and pursuit of diverse careers related to a dynamic, vital, sustainable agriculture with an emphasis on career opportunities within Ventura County

Rural-Urban Connections Program Strategy Goals with Objectives and Activities

Goal 1. Create the operational structures and secure the resources necessary to provide a collaborative framework for coordinating, supporting, and enhancing existing public education and awareness efforts

Objective 1.1. UCCE staff and the UCCE Advisory Board, with input from additional stakeholders, will develop a three-year plan for the RUCs program collaborative framework, including identification of activities, a budget, funding sources, and any additional needed operational structures (such as subcommittees)

Activities:

- With UCCE as the backbone organization, the RUCs program manager will identify partner organizations and engage with this network to establish the key elements of a collective impact model for: with a common agenda, shared measurement systems, mutually reinforcing activities and continuous communication
- In collaboration with the partner network, develop and promote a portal with a searchable database of organizations and events, job board, resources, etc.
- Establish metrics of for all objectives below

Goal 2. Promote activities that help the general public feel benefited by, connected with, invested in and proud of the conservation, resilience and prosperity of Ventura County agriculture.

Objective 2.1. UCCE staff and the UCCE Advisory Board will establish a Stakeholder Roundtable, similar in structure and purpose to the Ag Futures Alliance to help the community bridge the rural-urban divide by conducting periodic facilitated workshops to surface, discuss and address issues and/or conflicts

Activities:

- RUCs program manager will organize this Roundtable and facilitate regular meetings

Objective 2.1. UCCE and stakeholders will identify a process for developing and disseminating collective messaging

Activities:

- Could potentially be supported by dedicated project funding and contractors
- Could include ag awareness campaigns with messaging around specific timely issues, such as the feasibility of developing Resiliency District
- Could include creation of wayside signage program (including digital)
- Co-stewardship could be key theme
- Agricultural branding

Goal 3. Support development of school children's' foundational knowledge about agriculture in general and a deep understanding about Ventura County agriculture in particular

Objective 3.1. Help coordinate and enhance formal and informal agricultural literacy and agricultural education programs at K-12 educational institutions and on farms

Activities:

- Conduct a bi-annual survey of formal and informal programs, including tracking perceived program gaps
- Develop a plan for addressing programs gaps
- Disseminate the survey results and a plan for addressing programs gaps
- Develop, facilitate, and help fund a network of ag educators, including identifying a key point of contact, especially in the high schools
- Organize an annual ag education conference
- Track and enhance connections between K-12 and colleges
- Organize training sessions for teachers and counselors

- Facilitate coordination with non-profit organizations, such as SEEAG, and collaboration with formal education programs
- Track and help support school garden demonstration sites
- Develop and foster arts programs and activities that are related to agriculture activities, landscapes, and traditions

Goal 4. Facilitate young people's exploration and pursuit of diverse careers related to a dynamic, vital, sustainable agriculture with an emphasis on career opportunities within Ventura County

Objective 4.1 Develop more high school classes offered by Community Colleges in coordination with new Internships and practical job training opportunities

Objective 4.2 Develop new work-based learning programs in partnership with employers

Objective 4.3 Provide engaging information that prompts students to become informed about and explore these careers (could be modeled on the www.100plusjobs.org

Objective 4.4 Provide career training for ag workforce (at all levels) in the County

Rural-Urban Connections Program - Metrics of Success

High level/initial

- Buy-in from, and ongoing engagement of, all existing ag education and awareness programs in the County
- Championed/supported by UCANR and other UCCE County Offices, as a pilot
- Development of a detailed strategic action plan
- Program funding to get started, including funds for some orgs participating in the Advisory Council

Ongoing

- More funding (and less competition for funding) for existing ag education and awareness programs
- School kids' ag literacy levels, including knowledge of VC agriculture
- More students feeling positive about ag and ag careers
- Buy in from the school district administrators and from the Ventura County Office of Education around farm-to-school programs
- Levels of public engagement and public knowledge, including expansion of audiences
- Ag education students remaining in the County for their education and returning for careers

- Enrollment numbers in programs and courses; number of students moving from HS to a CC to a 4-year ag program; matriculation data
- Ag-related jobs/careers: types, numbers, and salaries
- Numbers of people pursuing ag-related careers
- Career ladder pathways both from field level jobs and from school education programs: types and numbers
- Labor data (e.g., over and under employment in various ag sector jobs; wage data, etc.)

Rural-Urban Connections Program – Needed first steps towards an Implementation Plan

- High-level, 3-year strategic action plan outline
- High-level 3-year budget including potential revenue sources.

Appendix A - Summary of Results of 2012 Agriculture Education Survey

Summary of Results

2012 Ventura County Agriculture Education Survey conducted by Ventura County and UCCE

Ventura County is a top agricultural producer in the United States and plays an important role in national and global food security. Yet, agriculture on the ag-urban interface faces many challenges, including a largely urbanized population that needs to be invested in the continuation of agriculture, if it is to remain viable—Rose Hayden-Smith

Purpose:

- To document agriculture and agriculture related education programs currently offered in the County of Ventura that target youth and adult audiences and summarize data for the purpose of assessing impacts and identifying gaps.
- To provide a guide for future requests of Hansen funding in the area of Agriculture Education.
- To create a network for stakeholders providing education for exchange of ideas and collaboration.

Procedure:

The project was started in May 2012 by identifying and researching 40 programs and organizations throughout Ventura County that seek to educate youth, adults, and community in the areas of agricultural literacy, nutrition, environmental, natural resources, and gardening. The ANR Portal System was used to develop an online, email, and record survey responses. For the purpose of the survey, programs were asked to identify their target group based on the following eight age categories: Pre-K, K-3rd grade, 4th-5th grade, Middle School (6-8th grade), High School, College, Adults, and Families. To increase response rate, surveys were conducted by phone or personal interview, as needed. A Google Map of Ventura County was created to chart program throughout the county. Survey was concluded September 2012.

The occurrence of agricultural literacy, nutrition, environmental, natural resources, and gardening education is evident in Ventura County.

- 40 programs/organizations were researched
- 32 programs/organizations were surveyed and information included in survey
    - 78% responded to survey
    - 22% did not respond but included in survey. These programs/organizations are viable. Information obtained from their websites.

Summary of Results

Program/Organization distribution:

- City—3
- County—2
- School Districts—7
- Community College/University—5
- Non-Profit Organizations—10
- Agribusiness/tourism—4
- Other—1

Age Group Served:

75% report serving more than one age category.

Ranked highest to lowest

1. K-3rd grade
2. 4th-5th grade
3. Adult
4. High School
5. Middle School and Families
6. Pre-K
7. After School
8. College/University

Education Focus:

- 65.6% report offering education in more than one topic area (Ag literacy, Nutrition, Environmental, Gardening)
- 31.2% concentrate on one specific area
- 3.13% are not offering any education at the moment but the potential is so great that they were included in the survey (Ventura County Farmers Markets)

Science based curriculum—59% of the programs/organizations report using science-based curriculum.

Conclusion:

There is evidence of agriculture education throughout Ventura County. While many of these programs/organizations partner or support each other, many work in isolation. Creating a network of educators could enhance the good work that is already in place. Currently, AFA is in the process of creating an education subcommittee focused on improving communication and connecting stakeholders to resources available in the county and expanding education to age groups that are underserved.

Appendix B - Existing Agriculture and Education Awareness Efforts

Ventura County, Existing Agricultural Education and Awareness Efforts			
Name	**Description**	**Key Activities**	**Impact**
K-12 Food & Agriculture Education			
SEEAG	SEEAG educates students and the greater community about the farm origins of local food as well as the contribution of agriculture to nutritional well-being.	Farm Lab Academy, Ventura County Child Wellness Initiative, Santa Barbara County Child Wellness Initiative, STEAM Career Pathways in Agriculture, Farm Day	- 80,000 students and community members engaged since 2008 - Goal of reaching 2,500 students/year
Food for Thought (FFT)	FFT leads five inter-related programs: 1) nutrition education, 2) garden-based learning, 3) agricultural literacy through farm field trips, and 4) advocating for fresh, local, seasonal produce in all school meals. The fifth and newest component, the "5Rs" (reduce, reuse, recycle, rot and rethink!) focuses on minimizing the ecological footprint of the OUSD by minimizing landfill waste, reducing use of toxic chemicals, efforts to conserve energy and water and paper and other resources.	School Food, Nutrition Education, Garden-Based Learning, Green and Healthy Schools, Agricultural Literacy	- 10 farms contributing produce - 10,000 students engaged monthly across participating school districts
Ventura County Farm to School	Ventura County Farm to School supports schools in developing healthy, local food procurement practices, and implement agricultural, nutrition, whole food cooking, and garden and farm-based education. The organization creates a connection between students, the farmers who grow their food, and the food that they eat.	Program Development and Implementation, Training of Farm to School Champions, School Farms & Gardens, Farm to School Institutionalization, Local Food Hub	- 50% of schoolchildren in Ventura County reached - 7 school districts participating
Agriculture & Food Education in Community Colleges & Universities			
Cal State Channel Islands	In California State University Channel Islands' (CSUCI) Environmental Science & Resource Management (ESRM) Program, students gain a solid understanding of the environment from both scientific and human perspectives, learn from talented, dedicated faculty, and start making a difference through intensive academic, field-based research and volunteer opportunities.	AA, AS-T, or Certificate in Environmental Science	- 52 Enviro. Science B.S degrees, FY 20-21 - 136 Enviro. Science majors, Fall 2022
California Lutheran University	The California Lutheran University's degree in environmental science is designed to provide students with the tools to critically examine environmental issues from a variety of perspectives. Beyond the required foundational science courses, the program provides a broad range of science and humanities courses to select from, allowing students to tailor the program to their interests. The curriculum emphasizes experiential learning, which provides them with opportunities to actively engage in research.	BS in Environmental Science	- 8 Undergrad Enviro. Sci majors - 7 Enviro. Science B.S. degree awarded, FY 20-21
Moorpark College	The Environmental Science Program at Moorpark College is dedicated to the success of all its students. They offer the opportunity to excel in Environmental Science by providing the latest information in both the lecture and laboratory settings in conjunction with emerging green technology. A comprehensive set of undergraduate courses fulfill the general education and transfer requirements of students through day, evening, and late-start offerings. Students may obtain an AA in Environmental Studies, an AS in Environmental Science, and a Certificate of Technology.	AA or AS in Environmental Science	- 4 AA/AS Enviromental Studies/Science desgrees, FY 20-21 - 28 Animal/Livestock Husbandry and Production degrees, FY20-21 - 41 Animal/Livestock Husbandry and Production certificates, FY 20-21
Oxnard College	Oxnard College now offers the Associate of Science for Transfer (AS-T) in Environmental Science. Environmental Science and Resource Management (ESRM) courses offer students the opportunity to learn how to protect their community from hazards, monitor and restore the natural environment, and educate others.	AS-T Program in Environmental Science	

Agriculture & Food Education in Community Colleges & Universities (cont'd)			
Name	**Description**	**Key Activities**	**Impact**
UCANR	Master Gardeners receive up to 80 hours of horticultural instruction from the University of California Cooperative Extension (UCCE) in Ventura County, landscape and nursery professionals, and experienced Master Gardeners. They are trained in gardening topics ranging from basic botany and plant pathology, to integrated pest management and irrigation techniques. In exchange for this training, Master Gardeners agree to complete 50 hours of apprenticeship and volunteer work to become certified.	Master Gardener Program	- 9 demonstration gardens in Ventura County - 35 students in each incoming class
Ventura College	The Ventura College Agriculture program seeks to prepare students for future careers within the agriculture industry through hands-on experiential learning and curriculum designed to engage students in all aspects of agriculture, from the field to the fork. The program allows students to earn an Associates degree (AS) or Certificates of Achievement (COA) in 7 topic areas: Agriculture, Agriculture Business, Agriculture Field Supervisor, Agriculture Plant Science, Environmental Science, Food Safety, and Water Science	Agriculture Program B.A., B.S., or Certificate	- 3 specialized agriculture degrees, FY 20-21
Agricultural Research			
Center for Regenerative Agriculture	The Center for Regenerative Agriculture promotes all aspects of organic farming which build soils, limit synthetic pesticide release and curtail pollution and degradation of arable lands. Model projects educate students, homeowners, ranchers and farmers about sustainable food growing strategies, permaculture design, native habitat creation and regeneration, tree planting and maintenance, community and urban forestry and organic certification.	Community composting, Tree planting, Seed saving, Thomas Fire Regeneration, Worm bins, Volunteering, Internships, Master classes	
Rodale Institute California Organic Center	The Rodale Institute California Organic Center is located on McGrath Farm in Ventura, California and serves farmers by solving challenges, conducting regional research, and serving as a hub for education & educational extension.	Farmer training, Veteran farmer training, Farming Systems Trial, Vegetable Systems Trial, Watershed Impact Trial, Industrial Hemp Trial, Crop livestock integration, Pastured pork	- 266 farmers supported in transitioning 11,963 acres to organic - 9 beginning farmers trained in organic farming, 3 immediately starting farming careers - 10 military vets in Farmer Training Program - 4,500 participants in hybrid events - 500 students in virtual learning
UCANR	UCCE operates under the division of Agriculture and Natural Resources (UC ANR) to support local agriculture and food systems.	Cooperative Extension Farm, 4-H, Nutrion, Consumer Sciences Advisors	
Community Events, Education & Awareness			
The Abundant Table	The Abundant Table is a non-profit, organic certified farm and Black, Indigenous, People of Color (BIPOC) and women-led worker collective in Ventura County California that seeks to transform the food system towards justice, liberation, and increased health for all people, while caring for the land and all who tend the land. The organization incorporates sustainable growing practices and creates greater access to sustainably grown foods for all Ventura County residents. Immersive and educational experiences are offered on and off the field.	Solidarity Shares Farm tours, Farm to School, Farm to Faith	- $30,000 in donations for Solidarity Shares for Farmworkers program - 40 farmworker families supported with bi-weekly CSA boxes
Casa Pacifica Angels Wine, Food & Brew Festival	The Casa Pacifica Angels Wine, Food & Brew Festival features food and wine samples to raise money for the Casa Pacifica nonprofit.	The Yummie Dinner, Yummie Culinary Competition, Online Silent Auction, Brew Fest	- Voted Best Charity Event and Best Food & Drink Festival by VC Reporter since 2012
Edible Ojai and Ventura County	Edible Ojai & Ventura County is a magazine and website that encourages people to eat and purchase more locally grown and produced foods.		- 90 communities publishing magazine - Winner of James Beard Award for Publication of the Year

Community Events, Education & Awareness (cont'd)			
Name	**Description**	**Key Activities**	**Impact**
Totally Local VC	Totally Local VC is a collaborative initiative that promotes the importance and success of local agriculture and business. The organization also educates youth and general community members on the role business and agriculture plays in the success of communities and how they connect to their daily lives.	Farm to Fork Dinner Series, Local Love Project, High school farm talks, College culinary program talk series, Radio show, Ventura County Ag Week, Totally Local VC Agricultural Education Foundation	- 60 local producers and vendors hired for Dinner Series - $88,600 generated by Ag Education Workshop annually
Ventura County Ag Week	Ag Week is a week full of ag related events featuring ag organizations. The week highlights the economic importance of agriculture and the diversity of careers within agriculture.	Excellence in Ag Awards Luncheon, Ventura chef tasting event, Meet-the-Farmer-and-Rancher Mixer, Student tours, Classroom talks, Career Exploration Day, History of Oxnard Farming	- 14 Chef and Purveyor participants in 2020
Ventura County Fair	The Ventura County Fair is the largest agricultural-related event in the County. The 12 day long fair is held in the 63 acre Ventura Fairgrounds and features rides, games, food, an agricultural show, animals, and concerts.	Agricultural Show, Rides, Games, Food, Animals, Concerts, Fundraisers	- $1.6 million raised for youth at 2019 Junior Livestock Auction - 15.7 million raised by auction over the last 10 years - 14,664 entries in 2019 fair competitions - 35 corporate sponsors - 14 media sponsors - 5-year average fair attendance: 311,583
Ventura County Farm Day	The Ventura County Farm Day provides free agricultural tours and activities hosted at over 20 different local farms, ranches, and agricultural organizations. Visitors guide themselves by car to the sites that they choose to visit.	Farm visits, Food establishment visits	- 20 farms and 30+ locations participating - 6,000+ visitors each year
Ventura Spring Wine Walk and Street fair	The Ventura County Spring Wine Walk and Street Fair features tastings of local wine and a free to enter street fair.	Street fair, Beverage sampling	- 40+ tasting locations with free admission
Ventura Winter Wine Walk	The Ventura County Winter Wine Walk features tastings of local wine and a free to enter holiday street fair.	Holiday street fair, Wine tasting	- 80+ tasting locations
On-farm Education & Events			
Apricot Lane Farms	Apricot Lane Farms focuses on seeing and utilizing the interconnectedness of nature to help build soil health, maximize biodiversity, and regeneratively grow the most nutrient-dense food possible. They offer farm tours and an appranticeship program.	Farm tours, Apprentice program, Farm school, Farm afterschool program	- 4 candidates in 6-momth apprenticeship program - 4 farmers markets attended
Farmivore	Farmivore is based at McGrath Family Farm in Camarillo and offers organic produce online, along with produce from other local farms.		- 15 farmers partnered
Farmer and the Cook	Farmer and the Cook is a farm to table restuarant, market, and farm that offers volunteer opportunities.	Volunteer opportunities	- 4 new organic farmers in the area formerly worked for this farm
Gerry Ranch	Gerry Ranch is a working farm growing lemons, avocados and blueberries that also offers itself as an event space.		
McGrath Family Farm	McGrath Family Farmers is a collaborative of small certified organic farms and farmers that grow healthy produce for surrounding communities as well as training and supporting the next generation of regenerative farmers. They strive to always further their education as growers and share their knowledge of regenerative farming with others.	Regenerative Farm Experience Program, Farm Manager Tour, Farm Owner Tour, School Tour	- 5,000 acres of regenerative farming
Oats & Ivy Farm	Oats & Ivy Farm works towards natural and organic farming practices. The farm is home to Nigerian Dwarf dairy goats, chickens, ducks, turkeys, dogs, and cats. The farm also does farmstay experiences.	Goat Workshop, Milk Maids, Farm tours, Baby Goat Yoga	

On-farm Education & Events (cont'd)			
Name	**Description**	**Key Activities**	**Impact**
Ojai Olive Oil Company	Ojai Olive Oil Company is a farm that offers olive oil tastings and teaches visitors about olive oil in the tasting rooms. Staff answer questions about the history of olive oil, growing olives, and olive oil production.	Tree sales, Consulting	- 40+ awards and mentions by many including CA Olive Oil Council, Ventura County Fair, CA State Fair
Old Creek Ranch & Winery	Old Creek Ranch & Winery features a wide selection of wines, wine tastings, a wine club, picnic grounds, live music and event venue. It is a vineyard and ranch.	Wine donations	
One Acre Farm	One Acre Farm grows organic blueberries and hosts pick-your-own days.		
Plan B Wine Cellars	Plan B Wine Cellars is a working winery and tasting room. The venue features Second Sunday Suppers and monthly events with live music, local food trucks and ocean breezes.		
Poco Farm	Poco Farm hosts visitors that explore the impact of food and fiber systems through hands-on experiences and collaborative learning using animals, plants, insects, soil, air, and water. Teachers encourage students to think critically and feel deeply about food, culture and the true cost of different agricultural systems.	Exploratory Farm Tour, Deep-Diving Tour & Chore, Curricula, Homesteading skills classes, Animal husbandry workshops, Afterschool program	- 1 high school farmers market - 21 elementary school community gardens
Rio Gozo Farm	Rio Gozo Farm provides high quality organic produce to local restaurants. They grow herbs, flowers, and vegetables and offer volunteer opportunities	Volunteer opportunities	
Sow A Heart Farm	Sow a Heart Farm grows sustainable food for restaurants and extended southern California friends, family, and food lovers. The farm promotes regenerative agriculture and cultivate new ways of thinking of food. The farm also hosts events and celebrations.	Farm Tours, School tours, Volunteer opportunities	- 30 volunteer capacity - 1-10 volunteers 2x per month
Underwood Family Farms	A sustainable farm and farm standwhere families come to pick their own fruits and vegetables	Educational farm tours, Virtual tours, Farmers market stands, Animal Center, Fall Festival	- 25 year running - 21 local ag attractions - 14 markets attended in Ventura and Los Angeles Counties
Food Security & Local Agriculture Awareness			
Healthy Ventura County	The Partnership for a Healthy Ventura County is a network that includes representatives from Ventura County Public Health, community organizations, direct health service providers, food security organizations, schools, local area businesses, and government agencies. The networks shares resources and promotes policies and services to further the health of Ventura County.	Healthy at School, Healthy at Home and in Your Neighborhood, Health Champion Awards, West Ventura HEAL Zone, A Partnership for Health	- 80 regional partnerships
Food Forward	Food Forward is a nonprofit organization bringing surplus fruits and vegetables to people experiencing food insecurity in Southern California and tribal lands in Arizona and New Mexico.	Backyard Harvest, Farmers market recovery, Wholesale produce recovery	- 49,157 metric tons of CO_2 equivalent prevented since 2009 - $271 million in recovered produce - 62.5 million lbs produce redistributed in 2020 - 200 varieties of produce to millions of people every year
Food Share Ventura County	As a member of Feeding America and the California Association of Food Banks, Food Share staff and volunteers distribute food through pantry and program partners. As Ventura County's regional food bank, Food Share provides food for over 75,000 hungry friends and neighbors monthly.	Senior programs, Community Market, Kids' Farmers' Market, Food Waste Prevention and Rescue Grant Program	- 26 million pounds of food redistributed - 140,000 food insecure served monthly - 190 agency partners and pantries - 30 meals provided with $10
Slow Foods Ventura County	Slow Food Ventura County supports and promotes local, sustainable food and food traditions and advocates for equitable food access across the county.	School gardens, Slow Meat, Chefs Alliance, Ark of Taste, Presidia, Slow Food Youth Network	

Farmers' Markets & Local Agriculture Awareness			
Name	**Description**	**Key Activities**	**Impact**
Camarillo Certified Farmers Market	The Camarillo Certified Farmers Market provides an opportunity for farmers and food vendors to sell their products directly to the public.		- 24 farm vendors - 45 food and other vendors - $1 million rasied for grief counseling
Channel Islands Harbor Farmers Market	The Channel Islands Harbor Farmer's Market is a waterfront market held every Sunday. Farmers and vendors sell goods directly too the public and live entertainment is featured.		- 30+ farm vendors
Downtown Oxnard Farmer's Market	Downtown Oxnard Farmer's Market is a venue to buy locally grown farm products such as fruits, flowers, veggies, eggs, nuts, and honey as well as artisanal crafts and prepared foods.	Sweets this Week, Weekly Giveaways, Bands	- 19 farm vendors - 15 food and other vendors - 400 customers/week off-season and 700 customers/week summer - >$350,000 annual sales
Ojai Certified farmers market	The Ojai Certified Farmers Market provides a platform for farmers and local food vendors to sell produce, prepared foods, meat, seafood, dairy products, oils, and artisan crafts directly to the public.		- 27 produce vendors - 29 food and other vendors
Santa Paula Certified Farmers Market	The Santa Paula Certified Farmers market is a venue to buy healthy local produce and products, including organics, while supporting local merchants and farmers. It also offers an opportunity to gather with family, neighbors and friends in an outdoor venue with food vendors, beer and wine tasting, and music.		- 5 produce vendors - 17 food and other vendors
Ventura County Certified Farmers Markets	Ventura County Certified Farmers Markets feature farmers that raise, gather, grow, catch or otherwise produce the products they sell which are certified by their county Agricultural Commissioner. All products at the market are original goods created, grown, or raised by the vendors.	Downtown Ventura, Midtown Ventura, Thousand Oaks, Santa Clarita	- 21 vendors at Midtown Ventura - 31 vendors at Thousand Oaks - 35 vendors at Downtown Ventura - 32 vendors at Santa Clarita

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APPENDIX E.

STAKEHOLDER INPUT REPORT

Securing Ventura County's Agricultural Future:
A Strategic Plan for Community Resilience
December 2, 2022

Stakeholder Input Report

This report briefly summarizes the outreach and engagement process that was conducted as an important component of developing a multi-pronged agricultural strategy for the Ventura County Ag Plan. This process included identifying a diverse set of stakeholders, collaborating with local organizations, conducting several stakeholder meetings and one-on-one interviews as well as working with local and regional experts to map the important data for the "Ventura County Gateway". Please see also Appendix A for the ***Ventura County Ag Strategy - Outreach and Engagement Plan.***

I. Identify and Convene Project Partners and Local and Regional Experts, and Craft Community Engagement Plan

Project Partners, Local Engagement Lead, and Local Conveners

Shortly after kicking off the ***Ventura County Agricultural Strategy*** (VC Ag Strategy) project with County staff, on December 9, 2021, the Cultivate Team, with assistance from local leaders and advisors, selected a diverse set of leaders in the community to make up the "Project Partners" group which included selecting a "Local Engagement Lead" and "Local Conveners" to help with community outreach and hosting of stakeholder meetings. The team identified **John Krist (who was on the original SALC application working group)** as the Local Engagement Lead, and the ***Ventura County Farm Bureau*** and two influential community groups, **the *Ventura County Community Foundation (VCCC) and the Ventura County Civic Alliance (VCCA)*** were selected as the Local Conveners.

The Project Partners group included representatives from the County, community organizations, food and farming advocacy groups and local land trusts, as well as the stakeholders that had already been involved in the SALC application process. A kick off meeting with Project Partners in January of 2023 was completed in collaboration with the Local Conveners to accomplish the following goals:

1) *Introduce the Consultant team, the timeline, and the process of the VC Ag Strategy to the Project Partners.*
2) *Familiarize the Cultivate Team with the Project Partners and their activities.*

3) *Begin to identify local and regional experts and resources to further assist in identifying additional relevant stakeholders, synthesize data, help to create prioritization criteria, and evaluate models and policies.*
4) *Introduce the Local Engagement Lead, John Krist.*

The Project Partners agreed to schedule monthly meetings in which the Cultivate Team would solicit feedback on various tasks and update on the progress of the project. For some of these meetings, the Project Partners attended broader stakeholder meetings in lieu of the monthly meeting. The following meetings took place in 2022:

- *January 13*
- *February 10*
- *March 9 & 10 (Ag and Community Stakeholder meetings)*
- *April 6 & 2 (Ag and Community Stakeholder meetings)*
- *May 12*
- *June 9*
- *July 14*
- *August 18*
- *September 15*
- *October 20 (presentation of Draft Strategies and feedback)*
- *November 16 & 17 (Ag and Community Stakeholder meetings)*
- *December 15*

For each of these meetings, County staff (as part of the Project Partners group) joined the meetings allowing for a collaborative engagement process among the Cultivate Team and the community. This multi-stakeholder dialogue effectively informed this VC Ag Strategy at key milestones in its development process and activated conversations between government agencies and key stakeholders in the region.

For the October 20 Project partners meeting, the Cultivate Team distributed and presented an initial set of draft strategies for input. The Project Partners reviewed and provided feedback both in the meeting and via emails, resulting in a better understanding of the many tools and structures available and necessary for implementing a successful ag strategy in Ventura County. At the conclusion of the broader Stakeholder meetings in November (see below), the Cultivate Team worked with Project Partners and County staff to refine the set of draft strategies, get feedback on the Draft Strategic Plan, and outline a process for organizing around the adoption of the Strategic Plan and its implementation.

Due to the Covid pandemic, the Project Partners and County staff collaboration process was conducted remotely utilizing Zoom.

Local and Regional Experts
The Cultivate Team designed the project to allow the team to gather learning and insights from one-one or small group conversation that would inform the Strategy's development throughout the process. The Cultivate Team identified these experts from the Project Partners recommendations or by seeking them out as needed to inform specialized research such as the Risk Assessment. The Local and Regional Experts are a diverse group of leaders in the agricultural, equity, water, climate, planning and policy and conservation fields. The Team relied used on these experts' local and subject area knowledge as well to inform the development of the Ventura County Sustainable Agriculture Gateway and Risk Assessment, the Economic Analysis, the draft Strategies and Incentives Structure, and Education and Awareness Strategy.

Support Materials
Appendix A: Community Engagement Plan and Timeline
Appendix B: Project Partners Kick-off Meeting Presentation Deck
Appendix C: Project Partners Meeting, Oct 20 - Draft Strategies Presentation Deck
Appendix D: Project Partners Contact List

II. Identify, Convene, and Engage Community and Agricultural Stakeholders

Co-Conveners
Early in the project, the Cultivate Team worked closely with the Project Partners and the Local Engagement Lead, John Krist, to identify key constituent groups to serve as a portal to community stakeholders. As noted above, The ***Ventura County Farm Bureau, The Ventura County Civic Alliance (VCCA) and Ventura County Community Foundation (VCCF***) executive directors offered their organizations to serve as "Co-Conveners" for stakeholder workshops and communications.

Stakeholder Workshops
The Cultivate Team, with the assistance of the Farm Bureau, VCCA, and VCCF, the Project Partners, and John Krist, developed community stakeholder and agricultural community stakeholder lists of individuals thought to be leaders in their community around agriculture and broader community issues related to agriculture. For these stakeholders, the Cultivate Team conducted three sets of workshops: 1) a kick-off; 2) initial input, and 3) input on findings and draft strategies.

For each of the three workshops, the Cultivate Team conducted two sets of workshops, one for agricultural stakeholders and one for other community stakeholders (for a total of six workshops).

Stakeholder Workshop #1 - March 9 & 10, 2022. The first set of workshops on March 9 and 10, served as a community kick-off event. The objectives of this set of workshops were to introduce the project objectives and timelines, invite engagement in both discovery and refinement phases, and answer community questions about the SALC planning grant process.

Stakeholder Workshop #2 - April 6 & 7, 2022. The second set of workshops on April 6 and 7 served to inform participants of the status of the project, develop an understanding among participants on what the mapping risk assessment is, and introduce the initial findings of the work products. The objectives of this set of workshops was to gather input from the community stakeholders on the following questions:

- *What are the local issues of greatest concern that agriculture faces in the county?*
- *What are the market and price forces that are shaping agriculture in Ventura County?*
- *How is the community interacting with agricultural production, land use, and broader food system issues and what education and awareness is needed?*

The Cultivate Team analyzed the input gathered from Workshop #2 and organized it into themes and issue areas. This data was analyzed, along with the stakeholder input from the Risk and Opportunity assessment, and one-on-one interviews, and served to inform the set of draft strategies going forward.

Stakeholder Workshop #3 - November 16 & 17, 2022. For the third set of workshops on November 16 and 17, the Cultivate Team revised the first draft of strategies based on Project Partners' review and comments and shared and presented a second draft of strategies to stakeholders. Based on the input from this meeting, as well as ongoing input from Project Partners, one-on-one interviews, and County staff, the Cultivate Team revised the set of draft strategies and worked with Project Partners and County staff to integrate them into a Draft Strategic Plan.

Support Materials:
Appendix E: Community Stakeholder and Agricultural Community Stakeholder Contact Lists
Appendix F: Stakeholder meeting, Nov 16/17 - revised Draft Strategies Presentation Deck

Appendix G: Stakeholder Input Findings April 6/7 Data Table
Appendix H: Stakeholder Input Notes November 16/17

III. Local and Regional Expert Convenings and Interviews

The Cultivate Team carried out approximately 20 one-on-one phone or Zoom meetings to glean from local and regional experts' local and subject area knowledge to inform the development of the *Ventura County Sustainable Agriculture Gateway and Risk Assessment*, the *Economic Analysis,* the *draft Strategies and Incentives Structure, and Education and Awareness Strategy*. This collaboration process and these connections proved invaluable to the development of various work products, both adding a local lens and allowing for various stakeholders in the community to take part in shaping the project.

IV. Creation of the Ventura County SALC Project Gateway/Prioritization and Risk Assessment

The Cultivate Team utilized Project Partners meetings to solicit suggestions for raw inputs and other complementary data sets for development of the *Ventura County Sustainable Agriculture Conservation Project Gateway*, an online map-based database to support stakeholders in evaluating and protecting agricultural values in the county. In addition, the Team conducted a webinar both as a tutorial and to solicit data as the Gateway was developed. A subset of the Project Partners as well as additional local subject matter experts convened over the course of four meetings to help develop criteria for identifying and prioritizing agricultural land for its best use given current conditions and future projections. This prioritization analysis aimed to provide practical insights into which agricultural lands were more likely to remain resilient and productive given future conditions (based on climate projection impacts, water stresses, and other factors) compared to the higher stressed agricultural lands. The Cultivate Team worked with the Project Partners subgroup to select 13 criteria to inform sub-basin conditions which can inform future investment priorities and other prioritization of agricultural lands, as articulated in the final *Map-based Agricultural Risk Assessment for Ventura County.*

V. Creation of the Education and Awareness Strategy

Early in the project, the Cultivate Team formed an Education and Awareness Advisory Group, which met five times throughout the project and helped to identify existing agricultural education and awareness efforts in Ventura County and assess the needs and priorities of the community in promoting agriculture and building organization

structures to support those priorities. In addition, the Cultivate Team conducted numerous one-on-one meetings with local subject-matter experts to refine the initial assessment and develop a final *Implementation Plan for a Multifaceted and Agricultural Education and Awareness Strategy.*

Support Materials:
Appendix I: Education and Awareness Advisory Group Contact List
Appendix J: Education and Awareness Meeting Notes

APPENDICES

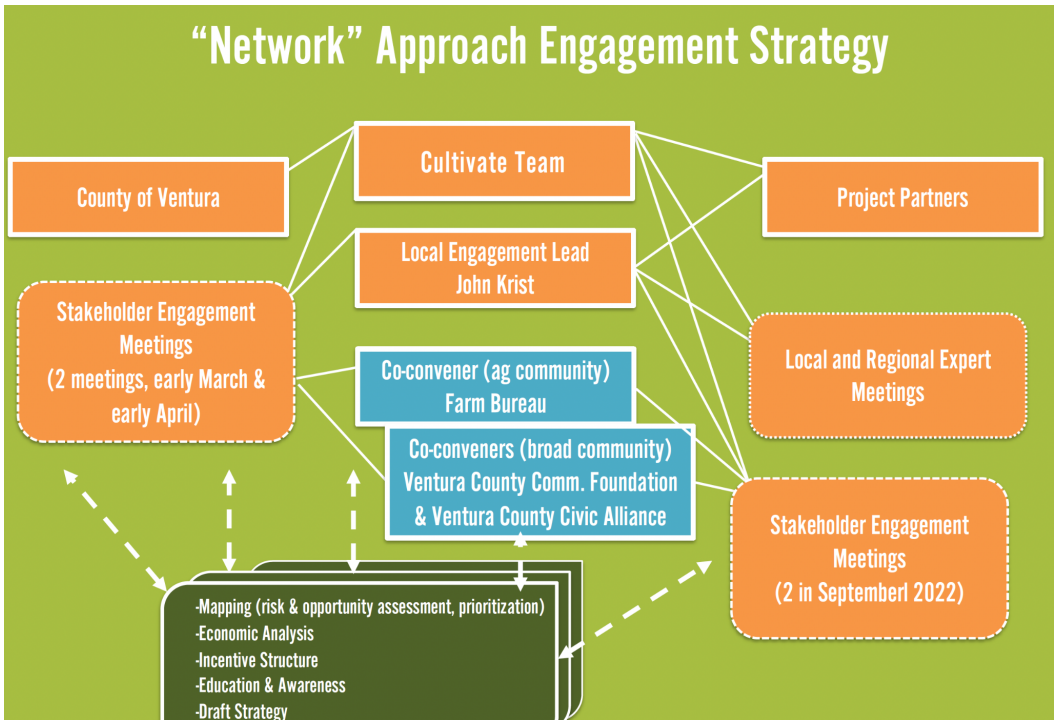
Appendix A. Community Engagement Plan and Timeline

Ventura County Sustainable Ag Conservation Strategy
OUTREACH & ENGAGEMENT PLAN - Draft
Winter-Fall 2022

1.0 Outreach Overview

The Cultivate Team has designed a "network" approach to **obtain focused and meaningful community feedback** as well as to encourage community dialogue and **"ownership" of the Plan**. The outreach approach is based on three core principles:

- *Inclusion*: We work with Project Partners and community resources to ensure the Plan has broad, timely, and effective inclusion of community needs and perspectives both from individuals and organizations who regularly contribute to these kinds of planning processes as well as those who historically have not been engaged.
- *Focus*: We take an objectives-based approach to engagement, with each engagement opportunity designed to achieve a specific and achievable outcome in service to the creation of a plan that has broad support and community buy-in.
- *Creativity*: Community engagement is more than a series of meetings, it is an invitation to step into the complexity and nuance of problem solving in Ventura County today. The engagement strategy includes a broad range of input methods from individual interviews, to small group working sessions, to community workshops.



Below is a summary of the main outreach tasks:

1a. Convene Partners, ID Local & Regional Experts, Craft Community Engagement Plan

For this step, the Cultivate Team works with Project Partners to identify a group of Local and Regional Experts/Resources that will assist in identifying relevant stakeholders, synthesize data, help to create prioritization criteria, and evaluate models and policies. These Local and Regional Experts will be a diverse group of leaders in the agricultural, equity, climate, planning and policy and conservation/ ecosystem services fields. The Local and RegionalExperts will inform the Strategy's development throughout the process.

1b. Identify, Convene & Engage Stakeholders

The Cultivate Team, with assistance from the Project Partners will identify key constituent groups that can serve as a portal to community stakeholders. The Cultivate Team will engage with up to three key Co-Conveners(formerly "Constituent Groups") to identify a Local Engagement Lead and community stakeholders to co-host workshops/listening sessions. The Co-convenerswill include farming, and also represent a wide variety of community interests including farmworkers of underserved communities, environmental groups, equity and environmental justice, agricultural support businesses, funders, lenders, and other community-based organizations.

The Cultivate Team will hold two community stakeholder workshops/listening sessions with the broader community stakeholders to:

1. ***Solicit input on Strategy goals and objectives***, gauge community concerns, and inventory key questions to consider in the risk and opportunities assessment, and
2. ***Review mapping*** and risk and opportunity assessment findings

1c. Identify, Convene, & Engage Ag Community

In addition to engagement with the broader set of community stakeholders in Task 1b, the Cultivate Team, with assistance from the Project Partners, community organizations, and Local and Regional Experts, will identify a diverse set of agricultural stakeholders to provide input specific to agricultural concerns that should be considered in the risk and opportunity assessment and the drafting of the Strategy. The Cultivate Team will facilitate two meetings with these stakeholders as well to complement the input in 1b.

1d. Hold Local/Regional Expert Convenings/Interviews

The Cultivate Team will coordinate and conduct conference calls, one-on-one interviews and/or small virtual meetings with Local and Regional Experts to solicit input, knowledge, and insights and technical knowledge on the variables that should be considered in the risk and opportunity assessment, economic analysis, education and awareness strategy, prioritization process and the drafting of the Strategy. The information gained from these convenings and interviews will ultimately inform the development and completion of the risk and opportunity assessment, the Economic Impact Study, Education and Awareness Strategy, mappin and ultimate preparation of the Strategy.

1e. Creation of Ventura Cty SALC Project Gateway

To support all outreach and engagement activities, the Cultivate Team will create a ***Ventura County SALC Project Gateway*** using Data Basin technology. This will allow for the efficient collection, organization, andreview of all data and information relevant to the project deliverables. This proven web-based approach is particularly valuable with the need to either severely limit or completely avoid face-to-face meetings throughout the course of the project due to anticipated ongoing covid-19 restrictions. The proposed gateway improves project transparency and provides the means for participants to become meaningfully involved and informed on the project. Data Basin is highly intuitive and easy-to-use, and the Cultivate Team will provide introductory webinars for using this technology. Providing these webinars early in the process helps to establish a tone of inclusiveness and empowerment for participants while providing high scientific and technical quality.

1f. Prepare a Stakeholder Input Report

The Cultivate Team will document input from the above Tasks and synthesize findings into a Stakeholder Input Report that will inform the ultimate preparation of the Strategy.

2.0 Outreach Summary Plan

I. Project Partner Monthly Meetings

Outreach Objectives:

- Identify issues and interests
- Identify local and regional experts to inform the work
-
- Identify Co-Conveners and Local Engagement Lead
- Provide on-going input and feedback on Strategy, mapping, and data collection.

When: Monthly
Who: Project Partners and Local engagement lead

II. Identification of Local Engagement Lead

Outreach Objectives:

- To utilize community resources in informing the Strategy so that the Strategy comes from the community.
- To make sure the right people are in the conversation and that we are as inclusive as possible
- To help us ask the right questions
- To help Identify Co-Conveners
- To act as a liaison to the community.

When: January 2022
Who: **John Krist** was recommended by the Partners Group, and he has accepted the role and is already active in working with the Cultivate Team and the community to identify co-conveners, local and regional experts as well as inputs to outreach efforts.

III. Identification of Co-Conveners

Objectives:

- To utilize trusted community resources in informing and helping to lead outreach efforts, mapping and data collection and stakeholder inputs.
- To help us ask the right questions and make sure we are reaching constituent groups that have been historically underrepresented.
- To act as a liaison to the larger community, and help to raise awareness about the Project's goals.
- To host two convenings for the Ag Community, and Broader Community Groups.

When: January 2022
Who: **The Farm Bureau** has been selected as the ***Ag Specific Community Convener***, and the **Ventura County Community Foundation** (VCCF) and the **Ventura County Civic Alliance** (VCCA) have been selected as the ***Broader Community Conveners.***

IV. Winter/Spring Convenings 2022 - Introductory and Workshop #1 Meetings

Outreach Objectives:

- Introduce the project to the community and get people excited and engaged in discussing the future of Ventura ag.
- Inform the community about the opportunities of the SALC program and the overall goals of the program.
- Solicit input on Strategy goals and objectives, gauge community concerns, and frame up the conversation regarding the key questions the community wants answered.
- Get them familiar with the Gateway Mapping tool and how that will inform the process going forward.

Meetings:

- Introductory Meetings (2) for Ag Specific Community and Broader Community, Mid- March 2022. This meeting is to introduce the process, schedule, SALC and their role and responsibilities through the process.
- Workshop Meeting #1 *(2)* for Ag Specific Community and Broader Community, early April 2022. This meeting is to solicit input on Strategy goals and objectives, and early feedback on the Gateway mapping tool, as well as community concerns and the questions that need to be answered.

Attendees:

- Co-conveners (Hosts)
- John Krist (local engagement lead), County Planning, Ag Commissioner, Partners Group, selected Consultants (as needed).
- Community members identified by co-conveners, Partners and Consultant team.

Design:

- Introductory Meetings - Virtual Meetings on Zoom (60 minutes), presentation on the Ventura SALC project, interactive "warm up"
- Workshop Meeting #1 - Virtual Meetings on Zoom (90 minutes) with breakout rooms to solicit feedback and conversations around ag, threats, opportunities.

V. Fall Convenings 2022 - Workshop #2

Outreach Objectives:

- Solicit input on:
  - Preliminary mapping and risk and opportunity assessment findings
  - Economic analysis
  - Education and awareness findings
  - Preliminary prioritization criteria
  - Preliminary strategies for inclusion in Ag Framework Plan.
  - Consensus on preliminary model(s) that the two Community Groups agree on

Meetings:

- Workshop #2 (2) for Ag Specific Community and Broader Community Groups, Fall 2022. This meeting is to solicit input on the draft findings of the risk and opportunity assessment, economic analyses and preliminary prioritization criteria.

Attendees:

- Co-conveners (Hosts)
- John Krist (local engagement lead), County Planning, Ag Commissioner, Partners Group, selected Consultants (as needed).
- Community members identified by co-conveners, Partners and Consultant team.

Design:

- 2 hours with 10 minute break
- Depending on Covid protocols, these meetings could be in person or virtual.

VI. Ventura County SALC Project Gateway

Outreach Objectives:

- Provide an easy to use tool for the community to interact with and engage in inputs and feedback so that they "build" their own mapping tool and datasets.
- Provide a tool for the community to work together on building the needed mapping, leading to greater understanding between community groups.
- Inform the community about the risks and opportunities facing Ventura County.
- Solicit input on datasets and prioritization criteria.
- Finding consensus on preliminary risk and opportunity assessments.

Meetings/Interviews:

- Gateway Webinar to get stakeholders comfortable with the tool and to identify subgroups for the EEMS models
- Informal meetings and/or subsets of the two Community Groups (agriculture and non-ag community) to develop models that use available spatial data and information to generate agricultural risk and opportunity mapping for the County.

When:

- Webinar - Spring
- During the Spring and Summer 2022, the modeling team (CBI) will work with both Community Groups on gathering mapping data, assessing modeling criteria, and modeling outcomes.

VII. One-on-one Outreach

Outreach Objectives:

- Gather information and data from identified local and regional experts on the various efforts informing the Strategy, including:
    - Education and awareness strategy
    - SALC Project Gateway
    - Economic Analysis
    - Incentive Structure
    - Draft Strategy

Interviews:

- Informal interviews will be conducted by the Consultant team to gather mapping, economic and community data relevant to informing the drafting of the final strategy

When:

- During the Spring and Summer 2022, the Consultant team will work with the Local Engagement Lead, Project Partners and County to identify resources in the community to provide inputs to the Strategy.

See separate attachments : Appendix B: Project Partners Kick-off Meeting Presentation Deck

Appendix C: Project Partners meeting, Oct 20 - Draft Strategies Presentation Deck

Appendix D. Project Partners List

Project Partners		
Name	**Last Name**	**Affiliation**
Rich	Atmore	RA Atmore and Sons/Rancho Ventura Conservation Trust
Melissa	Baffa	Ventura Land Trust
Melinda	Beardsley	Beardsley and Son
Korinne	Bell	VC Agricultural Commissioner's Office
Ellen	Brokaw	Brokaw Ranch Co.
Luis	Calderon	Reiter Affiliated Companies
Susan	Curtis	VC Resource Management Agency
Melinda	Kelley	CA Department of Conservation
Shawn	Kelly	Santa Clara Riverlands Conservancy
John	Krist	Farm Bureau of Ventura County
Jeffery	Lambert	Ventura County Community Foundation
Louise	Lampara	Ventura County Coalition of Labor Agriculture and Business (COLAB)
Leslie	Leavens	Leavens Ranches LLC
Barbara	Maci-Ortiz	Labor attorney
Tom	Maloney	Ojai Valley Land Conservancy
David	Maron	Ventura County Civic Alliance
Helen	McGrath	Flying M Ranch
Phil	McGrath	McGrath Family Farms
Maureen	McGuire	Farm Bureau of Ventura County
Maricela	Morales	Central Coast Alliance United for a Sustainable Economy (CAUSE)
Calleen	O'Neall	Ventura County Community Foundation
Calleen	Pardinas	Ventura County Community Foundation
Tracy	Perez	Ventura County market manager, Manpower staffing
Alex	Size	Trust for Public Land
Kim	Prillhart	VC Resource Management Agency
E.J.	Remson	The Nature Conservancy
Annemiek	Schilder	University of California
Shelley	Susman	VC Resource Management Agency
Alejandra	Tellez	County of Ventura Sustainability Office
Edgar	Terry	Terry Farms
William	Terry	Terry Farms
Alec	Thille	VC Agricultural Commissioner's Office
Rigoberto	Vargas	Ventura County Public Health
Monica	White	FOOD Share
Ed	Williams	Agricultural Commissioner
Nancy	Vaniotis	Santa Clara Riverlands Conservancy, Board Member
Lucas	Zucker	CAUSE

Appendix E. Community and Agricultural Stakeholders Contact Lists

Community Stakeholders (non agriculture)			
Name	**Last Name**	**Affiliation**	
Dr. Gabino	Aguirre	(Various roles including consultant to VCCF)	
Letitia	Austin	Port of Hueneme Public and Government Relations Manager	
Talia	Barerra	Ventura County Farmworker Resource Program	
Marni	Brook	Women's Economic Ventures	
Hugh	Coxe	Trust for Public Land	
Jim	Danza	Friends of the Santa Clara River	
Kristin	Decas	Port of Hueneme	
Nick	Deitch	Mainstreet Architects	
Amanda	Fagan	Ventura County Transportation Commission	
Matthew	Fienup	director of Center for Economic Research and Forecasting at Cal Lutheran University	
Genevieve	Flores-Haro	MICOP	
Tim	Gallagher	former VC Star publisher	
Greg	Gillespie	Chair of the United Way board, Chancellor of the VC Community College District,	
Yvonne	Guttierez	Executive Director El Concilio	
Andrea	Howry	Ventura County Branch Coordinator - Food Forward	
Kathleen	Mallory	City of Oxnard, Planning Manager, Chair of the Ventura City/County Planning Directors Association	
Tom	Maloney	Ojai Valley Land Conservancy	
Andrew	Palomares	Port of Hueneme	
Bernardo	Perez	Moorpark, east county rep	
Stacy	Roscoe	Ventura County Civic Alliance	
Karen	Schmidt	formerly SOAR	
Mike	Sedell	Retired Simi Valley city manager, current member of Museum of Ventura County board	
Alex	Size	Trust for Public Land	

Sandy	Smith	Sespe Consulting, former Ventura City Council member
Bruce	Stenslie	Economic Development Collaborative
Chris	Stephens	Ventura County Resource Management Agency director (retired)
Rigoberto	Vargas	County Public Health
Karen	Wetzel Schott	Ventura's Certified Farmers' Markets
Monica	White	FOOD Share
Larry	Yee	UC Cooperative Extension county director (retired)
Lucas	Zucker	Central Coast Alliance for a Sustainable Economy (CAUSE)

Agricultural Stakeholders		
Name	**Last Name**	**Affiliation**
Melinda	Beardsley Meyring	Beardsley and Son, supplier of fertilizers and other ag inputs
Jan	Berk	San Miguel Produce, vegetable grower/packer/shipper
Bev	Bigger	VC Cattlemen's Association
Desirae	Braga	Ventura County Resource Conservation District
Bill	Camarillo	Agromin
Russell	Chamberlin	Ted Chamberlin Ranch
Brett	Chandler	Associates Insectary, integrated pest management co-op
Jim	Churchill	organic citrus grower, Ojai
Les	Clark	Local Wholesale produce distributor
Maureen	Cottingham	CamLam Farms, Inc
Scott	Deardorff	Deardorff Family Farms, multi-crop grower/packer/shipper
Jan	Dietrick	Rincon Vitova Insectaries
Sal	Dominguez	farm labor contractor
James	Dubois	Driscoll's berries
Scott	Dunbar	Ag real estate broker
Jurgen	Gramckow	Southland Sod Farms
Scott	Klittich	Otto and Sons Nursery

John	Lamb	conventional citrus and avocado grower
Hank	Laubacher Jr.	vegetable grower
David	Martinez	Marz Farms, berries
Ryan	Morgan	Ryan Morgan Livestock
Tony	Ortiz	Joseph and Sons, flowers
Danny	Pereira	Rio Farms, vegetable grower
Eric	Reiter	Reiter Affiliated Companies, berries
Mark	Satterberg	Farm Credit West, ag finance
Will	Terry	Terry Farms, vegetable and hemp grower
Craig	Underwood	Underwood Family Farms, multi-crop grower
Fred	Van Wingerden	Pyramid Flowers
Jamie	Whiteford	Ventura County Resource Conservation District
Ron	Whitehurst	Rincon Vitova Insectaries

See separate attachment: Appendix F: Stakeholder meeting, Nov 16/17 - Revised Draft Strategies Presentation Deck

Appendix G. Stakeholder Input Findings Data Table

Ventura County Ag Strategy
Stakeholder Outreach Workshop #2 - April 6 & 7, 2022

DRAFT Key takeaways:

- Water demands are growing from climate change impacts and population growth, but water availability is becoming more restricted. There is a need to manage expectations since what's been done in the past might not be possible in the future in terms of cost and availability.
- Climate change increases the complexity of farming. More knowledge is needed.
- The economics of farming has to be at the forefront of solutions.
- Generational business succession is a major challenge.
- Workforce quality of life (health, wages, housing, transportation) are key to the agricultural economy because agricultural operations depend on people. Workforce housing needs to be in proximity to urban services. There is a need to stabilize the workforce locally. Investing in the workforce, creating training and upward mobility is key.
- SOAR is inhibiting local investment in agriculture.
- There is a need to balance public perception and the needs of intensive farming operations, and develop solutions for the public and the farming community.
- There is a need for real local partnering - with farmers, agencies, nonprofits, city planning, etc.to identify mutual benefit opportunities.

Community Stakeholder Input - April 6, 2022

1. **What are the local issues of greatest concern that agriculture faces in the county?**
2. **What are the market and price forces that are shaping agriculture in Ventura County?**
3. **How is the community interacting with agricultural production, land use, and broader food system issues and what education and awareness is needed?**

Issue Area	*Themes*	*Issue Overlap*
Market Pressures & Costs	• Incentive ag operators to adopt new emerging practices while competing on global scale • Economic pressures of farming is on forefront for every farmer everywhere. Not as appealing to talk about but farmers need to be able to make a living. Increase in food prices isn't going to trickle down to farm. Farmer hyper consolidation needs focus or other goals will not be met.	Cost of Living Labor

	● Entrepreneurship in ag is impossible these days. If farming was less risk, I would be farming, however the current climate makes it impossible to jump in, even if you have the know-how. ● Cost of all materials is going up so line items in budgets are increasing. Min wage increasing. Hourly wage for row crops and orchards up. Direct marketing and wholesale there's volatility of price. Increases not trickling back down to farmer. Need to figure this out before we can invest in labor and practices. Need to look at so-called sustainability practices that may not be. Need to compensate for practices that are beneficial. Farmers getting squeezed out by absentee owners (CA issue). ● Energy costs consume a much larger share. ● Not necessarily supply chain driven cost increases. It's driven by demand and monetary and fiscal interventions. ● Constraints around labor and water - what are the econ factors that are driving more labor and water intensive crops. ● A lot of money leaving the county. How to keep more money locally? Tax structures, incentives ● From public outreach and education - farmers don't get to set price to cover cost - if they don't cover costs, they go out of business.	
International (& Domestic) Trade	● Would love to see the day ag could afford to pay a living wage to its labor force, but competition internationally and cheap food in general makes it very hard to compete. ● Ag exports - producing enormous amounts of food for the globe. Integration of the global economy provides opportunity and risk. ● The Port specializes in the niche markets of fresh fruits and other cargo. ● Role of imports in driving prices. E.g. Argentine lemons ● Imports from lower cost regions	Labor Market Pressures & Costs
Water	● Groundwater is what we've relied on over the past century ● Greenhouses on the plain - impacts infiltration ● Where can there be state assistance for water infrastructure opportunities, e.g. desalinization not popular? Alternative financing for infrastructure and housing. Mandated but no funding. Federal bills might have good opportunities. ● Water identified multiple times - to focus: regulatory drought AND natural drought via climate change. Increase in water needs due to evapotranspiration.	Infrastructure

Land Use	• Land use compatibility with cities • Urban development within ag areas, consideration of how those ag issues impact land uses. How we plan for growth, intensify internally. How does this impact ag uses while providing for residents? • Assembly Bill 1773, Assembly Member Jim Patterson's measure that would appropriate $40 million from the state General Fund for allocation to counties for purposes of backfilling lost property taxes due to Williamson Act, or Land Conservation Act, contracts. Ventura County has a long history of strongly supporting the Williamson Act as a means of protecting and maintaining our precious agricultural resources. • Pressures of urban growth and interface. SOAR in Ventura city is different than other areas. Importance of understanding that ag is a business and manage the urban interface accordingly. Lack of ability to do infill. • SOAR as LU regulation limits tools like conservation easements, esp for farmers looking ahead. SOAR needs work to ensure perpetual solution.	Right to Farm
Climate	• Bad air quality days from fires • Wind, drought, and extreme heat days becoming more frequent and consistent • Row cropping more vulnerable to drought, practices that rely on labor more vulnerable • The limits of mapping tools-- Thomas Fire hit the tree crop areas hardest and that's what you'd see in a fire risk map, but more labor-intensive row crops in the Oxnard Plain get hit on the worker side with smoke • Need to look at chemical treatments, single crop economies, need to diversify so we can fit in with scarce water resources, climate change, diminishing biodiversity • Climate change related to water supply and managing expectations. What we've done in the past might not be possible - cost and availability. Urban runoff capture - join effort with county to capture.	Water Infrastructure Labor Economic Pressures
Infrastructure	• Disruptions that were every few years (e.g. excessive flooding) that stop ag from doing what it needs to do • Intensive rainfall - need to rethink stormwater infrastructure	Water
Workforce	• Stabilizing farm labor workforce locally, competition from within and outside of CA. Need to provide for their sustainability or they'll go elsewhere. They are just trying to survive. • Investing in workforce, creating training, upward mobility, including political investment with access to services farmworkers need. • Labor and labor safety - increasing heat affect workers. Need more shade and cooling places.	Climate Cost of Living

	● More hoop houses also create hotter conditions for workers ● Health issues for farm workers - water quality. Need a common voice for farmworkers. ● Robotics - where are we headed with that? ● Labor shortage; working conditions; how to make it more appealing to work in ag. ● Immigration reform ● How to make jobs better, better compensated	
Next Generation	● Harder to get young people to get into ag, technology is more seductive but long term when value of home prices is so high farmers are ready to sell and not worry about next generation ● Generational business succession is a major challenge. ● FarmLink work - keeping ag land ag land and viable. Programs like that provide funding, facilitation, succession planning, resources for families and land owners, and upward mobility. Diversify ownership of ag land that we have.	Cost of Living
Cost of Living	● Housing - lack of workforce housing going back of decades. Home prices went up 30% in last ---. Compare incomes and housing prices, affordability is significant issue for decade to come. ● The market isn't building housing even close to affordable for farmworkers, publicly-subsidized housing mostly excludes farmworkers due to immigration status, and inclusionary housing units rarely hit the extremely and very low income levels farmworkers are at, so what we're left with is mostly overcrowding multiple families in substandard older apartments ● Need better quality of life for farmworkers. Housing affordability if key, and financial assistance.	Workforce
Housing	● Farmworker housing - ensuring it's allowed in most appropriate places, not too far from city services. ● Farmworker Housing is critical! ● Cities need to take more leadership on farmworker housing, shouldn't be falling on the county to build housing out in the fields	Workforce Cost of Living
Right to Farm	● Balancing public perspective and farmers' ability to farm. Have to grow high value crops that are labor and pesticide intensive. Very difficult to balance what helps the farmers and makes people happy. ● Underscores the importance of the public outreach component of the SALC project.	Community

Community & Education	● Need for real local partnering - with farmers, agencies, nonprofits, city planning, etc. Where are there mutual benefit opportunities? ● How can Port be a partner and service? ● Work together to create solutions that are possible. Needs to be taught and demonstrated. Creating community that learns and adapts. ● We can't forget the role VC plays in providing food for the entire continent. We provide healthy fruits and vegetables. We need more fruit and vegetables nationally to address food access issues, VC is a major part of the solution as producer of these products. VC has an important role to play in food security. ● Education about ag and its importance and value, that kids carry for life. ● Mid and high school - how many enter into ag as career ● Public side - ongoing conversation around pesticide usage. opportunity now to connect with the regulatory framework. Conversations happening now. ● How do you define and measure agricultural literacy among members of the general public, which seems to be an important objective of ag education and outreach programs. ● Information that's accurate, public facing, scientific. Public to understand ag, more than just beautiful but what the ag community does to address issues. ● Regional grown products program - consumer education. What makes it matter to people whether they're buying local. What's the decision point? Education or marketing campaign. How to make it meaningful to people to trust and buy from local ag. ● Oxnard College - education and food and service programs to help families. How do we make jobs attractive that the college could emphasize more within career center? Pres. Sanchez is reaching out on this regularly. ● Economic mobility within the ag industry. For families, kids becoming farmers would be a metric of failure to some families. How to change the opportunities? How to get women and indigenous farmworkers represented in upper levels of operations? ● Important to characterize how ag has changed by the decade. Data may show less change than is actually happening on the ground that have real impact on how ag operates.	Right to Farm Trade Workforce
Mapping	● Planning for safe routes for imported ag from the ports to coolers/ripening rooms and to highways might be a good point in terms of SALC mapping.	
Other	● Need good metrics for measuring success so we're accomplishing things that we hope they will.	

Agricultural Community Stakeholder Input - April 7, 2022

1. **What are the local issues of greatest concern that agriculture faces in the county?**
2. **What are the market and price forces that are shaping agriculture in Ventura County?**
3. **How is the community interacting with agricultural production, land use, and broader food system issues and what education and awareness is needed?**

Issue Area	*Themes*	*Issue Overlap*
Market Pressures & Costs	• Cost keep going up and prices go down. Cost increases include pest management. Huge concern is pest disease for lemon growers. • Water costs going up. 200-300 per acre foot replenishment fee will come • Economics have to be at forefront of solutions. • Land rents - how high can they go and allow ag to be economically viable. • Grower-shipper relationship - VC is small client to them. Need right crops from VC or they might leave. • What market forces should we be thinking about as we design incentives and programs through SALC? • Cost of compliances. More regulation is higher cost for legal and HR. Lack of empathy from regulators for the farmers. • Farming doesn't pencil out - land, infrastructure, land prep, inputs. Understanding the big levers that allow farmers to put more time into innovation and adapt is the long term solution. Esp for medium size farms, risk tolerance and time is limited. • Ag operators are business operators and are incentivized to do things in their economic interests. Remove obstacles to successful economic decisions and provide tools to farmers find those obstacles.	Water Pests
International (& Domestic) Trade	• Argentine lemons - revenues have some down. Avocado from Mexico can burry VC's smaller market. • Global competition - have to learn to operate. And SJV is no longer to cold so lemon acreage increasing and encroaching on VC lemon market.	Market pressures
Water	• Surface, ground, competition for water - ag, environmental resources, etc...a lot of needs and not a lot to go around. Related to land use. • Oxnard Plain, salt water intrusion. • Cost of desalinization. City of Ventura, focus on potable resuse. Not sure of status regionally on desal.	Land use Climate Infrastructure
Land Use	• Development pressure and housing. Lack of affordable housing and preserving open space and ag. How does ag community feel	

	about SOAR. Land trust side, gives seat at the table to slow down development pressure. ● Have to have infill if we don't want to develop on ag and open space. ● SOAR context: land uses are very limited given the realities of SOAR ● SOAR - whether land itself stays in farming when landowners sell, don't know. ● SOAR: At what point can we not do it? For marginal growers that inherited land and not serious about farming, those will get picked off over time. ● Land use policies like SOAR that may have achieved preservation but shifting economics from local to not local owners. Need to invest in issues with skin in the game, including pests and workers wages. ● Zoning minimums. 10 acres is farmable. ● If ag becomes economically unsustainable SOAR would go away. Please need to understand this.	
Climate	● What's driving the avoidance of addressing global warming? What a SALC project might need to do to address challenges? We need more education. ● Find the right crops to sequester carbon ● Global warming - fear for the future. Can't keep ignoring water, housing, … We need to look at the 30k foot level with any solutions we need to address. ● Climate change also affects pest and disease. Need predictability. Increasing complexity - more knowledge is needed.	Community Pests
Infrastructure		
Workforce	● Farm labor community got us through the pandemic without a blip ● H2A workers wages, housing and transportation cost are big ● Labor piece: need to advocate for them b/c completely dependent on them.	
Next Generation	● Next generation planning. What happens when families are talking about their next generation taking over? ● Easiest thing to do is sometimes to just sel ● For some, difficult to imagine future in farming. Number of actual farms in the county will decrease. ● Multi generation farms selling to investment company. Not a family farm anymore.	
Cost of Living		
Housing		
Right to Farm	● Balancing public perception between intensive growing needs and solutions for the public. What's the next crop that can solve problems? Farmers in VC are progressive and resilient.	

	● General disconnect between loving the look of ag and dealing with the realities of ag. e.g. orange trees years ago had smell of chicken manure...would not happen today. Hemp example that would not happen today b/c of general intolerance of farming from public. ● Intolerance of pesticides. Want to save citrus and mandatory spraying. This is a daily education at ag commissioners office. VC doesn't see gross negligence from pesticide use from ag.	
Community & Education	● Disentangle but also reframe - opportunities for public to empathize and support ● Education on how we operate (e.g. land fill, waste water treatment plant, etc.) with the right kind of communication. ● Unified vision for the regulators allows them to be hands out - have community oriented solution. Give BoS information to give to staff to support farmers without barriers. ● Education and awareness - what is needed here? ● As land trust - people are disconnected from the way the world works. Striving to improve that land trust properties are city or county and people feel entitled even though it's private property. Struggle with education around proper use of social space. [non ag perspective] ● Farmer as antagonist, that they don't care, the corporate farm... It's a business, way of life, legacy, and trying to grow food. ● Pride in healthy fruits and vegetables that VC provides to the continent/nation. Tie to food security - don't make it harder to grow healthy produce. ● Role that supermarkets can play to find local produced food	
Mapping	● Mapping tool helped industrial hemp production with a political problem, risk mitigation, buffers, overlay with suitable ground, proximity to schools and urban areas.	
Other/Farming as a business	● Everything we do should first and foremost have an environmental lens. ● Giving farmers information that can help them build business strategically (water, regs, climate, etc) ● What would give farmers greater ability to adapt? ● Diversity in revenue streams is really important. Direct marketing should be a strong component.	

Appendix H: Stakeholder Input Notes November 16/17

VC Ag Strategy - Draft Strategies Presentation and Discussion November 16 and 17 Notes

November 16 - Community Stakeholder Meeting

00:50:15 Serena Unger: Everyone- I will be taking notes here in the chat as we discuss. Please feel free to add to or correct my notes.
00:51:48 Serena Unger: How will databasin get integrated into the report?
00:52:48 Serena Unger: A Risk Assessment Report will inform the work going forward to understand the unique stresses of each sub basin. It's a live resource for the community as the work moves forward.
00:53:47 Serena Unger: It will also provide the data for any future funding around the work. Community will be able to access it and be able to generate new information as priorities shift or change.
00:57:01 Serena Unger: Excited about establishing urban rural connection. A lot of programs and everyone's working on their own so helpful to have that coordinated. Land acquisition and making farm economics at the front. Will help CSU on new academic programming and address issues in their education.
00:59:29 Serena Unger: In terms of future viability of ag need land, water and sun and also people - workers and owners. Have an aging problem and a succession problem which isn't mentioned. Also needs more on farmworker housing, health, and education.
01:00:09 Serena Unger: Should we call out the human element more explicitly?
01:00:48 Serena Unger: People fits into resilient future, ag economy.
01:00:58 Serena Unger: Labor and management are economic
01:05:46 Serena Unger: How far down do you expect to run potential incentives around repurposing? Williamson Act, … How can we create a series of incentives to see the appeal.
01:05:48 Serena Unger: https://www.conservation.ca.gov/dlrp/grant-programs/Documents/grant/2022%20MLRP%20Project%20Summaries.pdf
01:08:00 Serena Unger: Economic tipping point... One goal is to return to ag use in the future if needed. Could thinking be low water crop, go back into other more intensive water use - structured
01:10:02 Serena Unger: Dept of Conservation repurposing grant. GSPs are looking for funding for incentivized fallowing.
01:10:57 Serena Unger: Cornerstone 1 and 2 resonate. 4 is a given. 1 and 2 speak to on the ground needs. Need to incorporate farm workers into them.
01:11:27 Serena Unger: Succession plans that involve employees, foremen. Intriguing.
01:12:36 Serena Unger: Importance of research at UCCE, esp with repurposing. What do we need to do research on for new crops and soil health?
01:13:35 Serena Unger: How difficult it is for growers to navigate all incentive programs. Would they need an educator? Or an economics educator to hammer out different options and

economic ramifications.
01:15:29 Serena Unger: GSA, Fox Canyon, include land fallowing at least in near term to reduce water alliance while additional projects are developed. Budget is $5 million a year to pay people not to farm.
01:17:32 Serena Unger: A lot of politicians asking about land repurposing from Sac. Need to come up with local plan based on science not politics.
01:19:30 Serena Unger: What's needed from Farm to School? Would love to see the program grow. Grant writing help is needed for farmers.
01:20:59 Serena Unger: Grant writing. Have talked about farm bureau providing that service and navigate. Could funds help the farm bureau take this role?
01:22:48 Serena Unger: Lideres Campesinas: Transition from farmworker to farmer, esp those living in shadows and poverty. Women and men.
01:24:49 Serena Unger: Sustainable ag education degree. Work in supporting farmers. The importance of farmworkers. Small farmers looking for available land. Connecting farmers to school and healthy food retail, esp in rural communities where there is poverty.
01:28:31 Serena Unger: Farm Bureau as role in ombudsman - conversations with UCCE and Ag Comm. missed $500k for farmworkers upscaling. Lack infrastructure to go after the funds. There's opportunity there. Could be FB but process for expanding process. Cal Luth provides infrastructure for non profits . Need in VC to build capacity to help farmers access grants, to admin grants and program oversight. Where does this fit in the strategies?
01:37:01 Serena Unger: District idea: in SLO coalition, 24 months
01:43:06 Irene, Lideres Campesinas: I also forgot to mention we are recipients of a new grant via Robertwood Johnson and our work plan in collaboration with CAUSE includes surveys with farmworkers and experts in Ag .
01:43:27 Anna Jackson, VC Farm to School: thank you!
01:43:28 Serena Unger: That's great, Irene!

November 17 - Agricultural Community Stakeholder Meeting

00:33:44 Serena Unger: Hi everyone - I'm going to take notes here in the chat to capture everyone's comments. Feel free to add to or correct my notes.
00:34:21 Serena Unger: Land repurposing would be wise to lead by local farmers and not Sac politicians.
00:35:51 Serena Unger: Comments from yesterday. Timeline for MBLR program soon. Have flexibility of being able to go in and out of production. Concerned about funds available.
00:36:18 Serena Unger: $40 million available in 2023 for 4 $10 m block grants.
00:39:56 Serena Unger: Question: Who comes up with criteria for who's eligible for direct payments?
00:40:57 Amie MacPhee: https://www.conservation.ca.gov/dlrp/grant-programs/Documents/grant/2022%20MLRP%20Project%20Summaries.pdf
00:41:03 Serena Unger: GSAs and RCDs would be good to talk to

00:43:48 Joseph McIntyre: FYI eligible applicants for the program are: Eligible regional block grant applicants are: (1) Groundwater Sustainability Agencies ("GSAs"), (2) federally recognized California Native American tribes, (3) non-federally recognized California Native American tribes on the contact list maintained by the Native American Heritage Commission; (4) public agencies; (5) nonprofit groups with 501(c) status; and (7) Watermasters implementing an approved groundwater sustainability plan or approved alternate plan
00:48:16 Serena Unger: Overlays scare - problems with scenic, wildlife overlays. application has noble beginning but often is a thorn. Becomes subject to the interpretation of who's beind the desk at the time.
00:48:52 Serena Unger: Concern with a thing as big as an overlay needs sufficient stakeholder input.
00:51:25 Serena Unger: Comments from Kim Prillhart, shared that county was starting to take steps at streamlining. Rather than specific overlay zone, why not just occur for all farm operation in AE in ag in OS since county has already zoned these for where ag can occur. We need to look bigger to promote ag as a whole and expand for all ag.
00:53:44 Serena Unger: Overlay aside, concepts in Cornerstone 2 intriguing. Creating a liaisons but where it's housed needs more thought. Economic program with access to capital, farmworker housing piece.... Agree that geographic specific overlay - smaller producers have parcels in different places. Wouldn't get support. We need more farmers involved in this conversation.
00:55:46 Serena Unger: So many other good options as a lead strategy. access to land, farmworker housing, job training, Farmlink and Alba doing great work around access to land with BICOP, to see that kind of investment in VC. Ombudsman, to navigate all agencies.
00:58:57 Serena Unger: FB is a network. Asked county managers about an overlay. Originally, for some didn't like then liked it. Can we talk to Yolo farmers about it?
01:04:31 Joseph McIntyre: Sonoma Co Ag + Open Space: https://www.sonomaopenspace.org
01:07:46 Lucas Zucker: Fascinating history
01:11:10 Serena Unger: Sonoma Ag and Open space is doubling down on land access to farmers
01:13:47 Serena Unger: Undecided about the Resiliency District. for last SOAR, ag stakeholders trued to revise it and wasn't successful. Tools need to exist in VC, conservation easements and Williamson Act reassessment, TDRs, ...need resources in VC. TNC in only entity for production farmers.. Often doesn't happen because market value isn't achieved. Gun shy of thought of running a campaign. But could be convinced....
01:15:00 Serena Unger: Open space district would have board of directors. Supervisors haven't been friendly to ag accept when they needed it for SOAR. How to control BoS on where they go with this?
01:15:52 Serena Unger: Community in Sonoma constantly wrangling with it.
01:16:47 Serena Unger: Shouldn't be about OS - SALC is about ag land preservation.
01:21:00 Serena Unger: What's most interesting...the potential for reordering of politics around this. Dynamic has been envi and ag on two different sides. Ag has fair critique about looking at open space. This puts $ from the public to what they say they want. Public needs to

pay for what they want. Have the envi and ag community work together. Could be political breakthrough.
01:24:01 Serena Unger: Governance of it is really important. Who's holding the easements is aligned with ag. Envi stakeholders interfacing on runoff, water quality standards, etc. Zero impact groups navigating that in unchartered waters. So governance is not just façade for fallowing and habitat. Ecosystem services are opportunity but important to understand VC.
01:31:03 Philip McGrath: I'm for the idea of a strong land conservation funding program, just still not sure if the community would support it when SOAR is here for another 30 years. It's reassuring to hear John's coverage of the idea in 2004. I would only hope it would be the same today, but it is so expensive here today. Not sure if the community is ready for more taxes. In my farming career, I have been approached by 2 different offers from non profits for land conservation. Unfortunately, the values were too low.
01:36:05 Serena Unger: Ag education - Ensure that it's science based and covers all farming not just organic.
01:36:19 Serena Unger: Treasure our Farms program
01:38:54 Serena Unger: Cornerstone 4 do in conjunction with other cornerstones. UCCE to be convener for efforts...education programs. All skills are aging out, not just farmers. PR piece. Can be done in an economically efficient way.
01:39:28 Serena Unger: Cornerstone 2, have labels like VC Grown. For public to recognize the value and connect.
01:42:11 Philip McGrath: I have given thousands of tours to all ages and adults from around the world. The interest in Ag Education in VC is unbelievable. We are 55 north of LA. The research institutions,whether organic or conventional, we have here is the best. This concept is very important!

Appendix I. Education and Awareness Working Group List

Education and Awareness Advisory Group			
Name	**Name Last**	**Affiliation**	
Ruben	Alarcon	Cal State Channel Islands agriculture program,	
Patricia	Duffy	Workforce Development Board of Ventura County	
Dorothy	Farias	Ventura College agriculture program	
Matthew	Fienup	Center for Economic Research and Forecasting California Lutheran University	
Alex	Flores	Santa Paula Unified School District	
Anna	Jackson	Ventura County Farm to School Collaborative	
Laurie	Lary	Ventura County Office of Education	
Mary	Maranville	Students for Eco Education and Agriculture (SEEAG)	
Phil	McGrath	McGrath Family Farms	
Kat	Merrick	Totally Local VC	
Sue	Poland	California Women in Agriculture (CWA)	
Annemiek	Schilder	UC Cooperative Extension/Hansen Agricultural Research and Extension Center	
Monica	White	Food Share	

Appendix J: Education and Awareness Meeting Notes

VC SACP Strategy
Ag Education and Awareness Strategy meeting
Meeting # 4: Sept 8, 4 pm - 5 pm

Participants: Annemiek Schilder, Dorothy Farias, Laurie Lary, Patricia Duffy, Ruben Alarcon

Meeting purpose
Review the draft Ag Education & Awareness Strategy for the Ventura County Sustainable Ag Conservation Plan, to refine the strategies for the formal agriculture education element.

Agenda

- Check in (5 mins)
- Overview of the draft Ag Education & Awareness Strategy (below) (5 mins)
- Discussion about the strategies for the formal agriculture education element (30 mins)
- Discussion about any models that might be useful to reference and briefly describe

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VC SACP Strategy:
Ag Education and Awareness Report
Sept 8 draft

Section 1. Introduction

The conservation and economic viability of agriculture goes well beyond the purview of direct stakeholders, including farmers, ranchers, farm workers, landowners, processors, distributors, direct-market outlets, agricultural support businesses, funders, lenders, and community organizations focused on agricultural issues. A robust agricultural economy and permanent protection of agricultural resources requires public awareness, sense of connection and commitment to action.

This report is an integral element in the overall *Ventura County Sustainable Agriculture Conservation Planning Strategy.* It documents existing agricultural education and awareness efforts in Ventura County, analyzes relevant best practices and models and outlines an *Implementation Plan for a Multifaceted and Agricultural Education and Awareness Strategy.* This report is intended to inform practitioners and stakeholders about the critical role of education and awareness in sustaining the County's agricultural resources, and to be a roadmap for action.

Section 2. Existing Agricultural Education and Awareness Efforts
Final versions In process: Program spreadsheet; Overview of programs;
Section 3. Precedents, Best Practices & Models
Section 4. Implementation Plan for a Multifaceted Education and Awareness Strategy

EDUCATION AND AWARENESS STRATEGY - *Crafting an Implementation Plan for a Multifaceted Education and Awareness Strategy that fosters co-stewardship of a* vibrant agriculture sector as a foundation for community health, well-being and identity, as well as essential for climate change resilience and a diverse, equitable economy.

OBJECTIVES

1. Promote activities that help the general public feel benefited by, connected with, invested in and proud of the conservation, resilience and prosperity of Ventura County agriculture.
2. Through coordinated, formal and informal agricultural literacy and agricultural education programs at K-12 educational institutions and on farms, develop school childrens' foundational knowledge about agriculture in general and a deep understanding about Ventura County agriculture in particular.
3. Facilitate young people's exploration and pursuit of diverse careers related to a dynamic, vital, sustainable agriculture with an emphasis on career opportunities within Ventura County.
4. Create the operational structures and secure the resources necessary to provide a framework for coordinating, supporting and enhancing existing public education and awareness efforts.
5. Establish a stakeholder roundtable, similar in structure and purpose to the Ag Futures Alliance (which became inactive a decade ago), to help the community bridge the rural-urban divide by conducting periodic facilitated workshops to surface, discuss and address issues and/or conflicts.

STRATEGIES AND ACTIONS

The primary strategy for fulfilling the objectives above will be to create a new program, tentatively called the **Rural-Urban Connections (RUCs) Program.** The concept is for the program to be located within the UCCE Ventura County Office, but co-developed with other leading Ventura County agricultural education organizations for common benefit. The program is also intended to be a pilot for UCCE offices in other counties that have similar goals for coordinating, supporting and enhancing their public education and awareness efforts. Below is a high-level outline for this proposed program: structure, goals, activities, metrics of success and implementation plan.

Rural-Urban Connections Program - Purpose/ Need Statement
The purpose of this program is to foster coordination of existing entities and their activities, strengthen their collective impact and help increase needed financial resources for current and new initiatives. The hoped-for outcome is a political and cultural environment that supports public co-stewardship of a vibrant and resilient agriculture in the County. The risks of continuing business as usual include public apathy, misinformation or lack of information, and existing organizations competing for resources.

Rural-Urban Connections Program - Structure

The general purpose of UCCE is to develop with UCANR: science-based information about agriculture, youth development, family and consumer sciences, and natural resources, and deliver that information to local audiences. UCCE operates at the intersection of and in partnership with farm and non-farm communities. It strives to create healthy communities, healthy food systems, a healthy environment, and healthy Californians.

The dynamic Ventura County UCCE Office is an ideal location to pilot the RUCS program. It currently has a staff of over 20 people and is growing. It will soon be hiring an Academic Coordinator in Science Communication as well as educators in areas such as food preservation and food waste reduction, workforce development, and climate resilience. It already also plays a connecting, convening and coordinating role and can be a liaison between UCCE programs and programs of other partners.

The RUCs program will be incorporated into the current UCCE structure.

- Program lead will report to the County Director
- Program lead will work closely with existing and emerging UCCE staff, who will also engage with the RUCs program as part of their work plans.
- Program will be supported by the existing UCCE Advisory Board of leading agricultural education organizations
- Program will have guided by an Executive Committee of UCCE staff and a subcommittee of the Advisory Board

The RUCs program will also be innovative within the current UCCE structure.

- Activities that are beyond the capacity of RUCs program and UCCE staff, will be supported by contractors and project funding (e.g. development of grant proposals on behalf of multiple partners; development of wayside signage; conference organization consultant)

Rural-Urban Connections Program Strategy Goals

Goal 1. Create the operational structures and secure the resources necessary to provide a collaborative framework for coordinating, supporting and enhancing existing public education and awareness efforts
Goal 2. Promote activities that help the general public feel benefited by, connected with, invested in and proud of the conservation, resilience and prosperity of Ventura County agriculture.
Goal 3. Support development of school childrens' foundational knowledge about agriculture in general and a deep understanding about Ventura County agriculture in particular
Goal 4. Facilitate young people's exploration and pursuit of diverse careers related to a dynamic, vital, sustainable agriculture with an emphasis on career opportunities within Ventura County

Rural-Urban Connections Program Strategy Goals with Objectives and Activities

Goal 1. Create the operational structures and secure the resources necessary to provide a collaborative framework for coordinating, supporting and enhancing existing public education and awareness efforts

Objective 1.1. UCCE staff and the UCCE Advisory Board, with input from additional stakeholders, will develop a three-year plan for the RUCs program collaborative framework, including identification of activities, a budget, funding sources, and any additional needed operational structures (such as subcommittees)

Activities:

- With UCCE as the backbone organization, the RUCs program manager will identify partner organizations and engage with this network to establish the key elements of a collective impact model for: with a common agenda, shared measurement systems, mutually reinforcing activities and continuous communication

- In collaboration with the partner network, develop and promote a portal with a searchable database of organizations and events, job board, resources, etc.
- Establish metrics of for all objectives below

Goal 2. Promote activities that help the general public feel benefited by, connected with, invested in and proud of the conservation, resilience and prosperity of Ventura County agriculture.

Objective 2.1. UCCE staff and the UCCE Advisory Board will establish a Stakeholder Roundtable, similar in structure and purpose to the Ag Futures Alliance to help the community bridge the rural-urban divide by conducting periodic facilitated workshops to surface, discuss and address issues and/or conflicts

Activities:

- RUCs program manager will organize this Roundtable and facilitate regular meetings

Objective 2.1. UCCE and stakeholders will identify a process for developing and disseminating collective messaging

Activities:

- Could potentially be supported by dedicated project funding and contractors
- Could include ag awareness campaigns with messaging around specific timely issues
- Could include creation of wayside signage program (including digital)
- Co-stewardship could be key theme

Goal 3. Support development of school childrens' foundational knowledge about agriculture in general and a deep understanding about Ventura County agriculture in particular

Objective 3.1. Help coordinate and enhance formal and informal agricultural literacy and agricultural education programs at K-12 educational institutions and on farms

Activities:

- Conduct a bi-annual survey of formal and informal programs, including tracking perceived program gaps
- Develop a plan for addressing programs gaps
- Disseminate the survey results and a plan for addressing programs gaps
- Develop, facilitate and help fund a network of ag educators; including identifying a key points of contact, especially in the high schools
- Organize an annual ag education conference
- Track and enhance connections between K-12 and colleges
- Organize training sessions for teachers and counselors
- Facilitate coordination with non-profit organizations, such as SEEAG, and collaboration with formal education programs
- Track and help support school garden demonstration sites
- Develop and foster arts programs and activities that are related to agriculture activities, landscapes and traditions

Goal 4. Facilitate young people's exploration and pursuit of diverse careers related to a dynamic, vital, sustainable agriculture with an emphasis on career opportunities within Ventura County

Objective 4.1 Develop more high school classes offered by Community Colleges in coordination with new Internships and practical job training opportunities
Objective 4.2 Develop new work-based learning programs in partnership with employers
Objective 4.3 Provide engaging information that prompts students to become informed about and explore these careers (could be modeled on the www.100plusjobs.org
Objective 4.4 Provide career training for ag workforce (at all levels) in the County

Rural-Urban Connections Program - Metrics of Success

High level/initial

- Buy-in from, and ongoing engagement of, all existing ag education and awareness programs in the County
- Championed/supported by UCANR and other UCCE County Offices, as a pilot
- Development of a detailed strategic action plan
- Program funding to get started, including funds for some orgs participating in the Advisory Council

Ongoing

- More funding (and less competition for funding) for existing ag education and awareness programs
- School kids ag literacy levels, including knowledge of VC agriculture
- More students feeling positive about ag and ag careers
- Buy in from the school district administrators and from the Ventura County Office of Education around farm-to-school programs
- Levels of public engagement and public knowledge, including expansion of audiences
- Ag education students remaining in the County for their education and returning for careers
- Enrollment numbers in programs and courses; number of students moving from HS to a CC to a 4-year ag program; matriculation data
- Ag-related jobs/careers: types, numbers, and salaries
- Numbers of people pursuing ag-related careers
- Career ladder pathways both from field level jobs and from school education programs: types and numbers
- Labor data (e.g. over and under employment in various ag sector jobs; wage data, etc.)

Rural-Urban Connections Program - Implementation plan [to be developed]

- High-level, 3-year strategic action plan outline
- High-level 3-year budget including potential revenue sources.

Notes

- SK:
    - There will be a number of elements to the final product
    - What we have here will be woven into the broader report

- Section 4:
  - Sk: We need an anchor institution/key actor
    - Rural urban connections program
    - Primary goal is to strengthen collective impact
- Best format to expedite feedback

- LL: Start with a google doc so we can take some time to look at it and then circle back
- What model would be best for collaboration between all involved institutions?
- LL: CATA (Cal ag and teachers association) has representatives around the state
- DF: Cal Ag in the Classroom, FFA: for students
    - CATA creates a bridge to community colleges
- LL: does this structure support diverging groups or specific groups?
    - SK: roundtable looks at most difficult issues and some could be translated through public education or school piece
        - Could underlie a campaign for a countywide action
        - Should be used to look at challenges and create a dynamic forum with diverse stakeholders
    - LL: Rural Urban Connection could make sense to people at a high level but it might not make sense to other people (ex: in a school setting)
    - AK: We should come up with another name
- PD: Contact Talia for resources for farmers
- LL: Can we share the concept?
    - SK: Concept can be shared but not this document

VC SACP Strategy
Ag Education and Awareness Strategy meeting
Meeting # 3B: July 20, 1 pm - 1:45 pm

Participants: Annemiek, Amie, Sibella

- Farm to fork event tomorrow for VC housing

- Developing political and social climate needed for the continuation of ag

Context:
- UCCE hiring other coordinators: food waste, youth, climate, science educator
- Does makes sense
- UCCE lives at the intersection of farm and non-farm communities; seems like an extension of UCANR mission
- UCCE and FB were born at the same time and raised in the same cradle
- Lessons learned: we did not identify the owner of this work

UCCE
- Could be a program of UCCE
- UCCE as a connecting and coordinating role
- Both institutional and public
- Can you get funding and work together on grants
- Develop a dream program, very fleshed out and thought through
- What are the goals that support the overall program
- Pulling from the Ag Futures Alliance round table; in its heyday played a really important role; this is the advisory group for this program; PLAY THE FACILITATION ROLE FOR THAT PROCESS; why did it stop?
    - Representative and invite only
    - Lots credible ag representation
    - Been done successfully before (Use as a model)
    - JOHN WILL PUT TOGETHER SOME LANGUAGE AROUND THIS
- Need to communicate what the focus is; and what is not the focus; needs to be grounded in ag landscape

VC SACP Strategy
Ag Education and Awareness Strategy meeting
Meeting # 3A: July 12, 1 pm - 1:45 pm

Participants: Annemiek, Amie, John Krist, Sibella

Overview

- Document existing efforts
- Identify models
- Develop a strategy

Purpose of meeting:

- Refine strategy format so we can best identify models and develop the strategy
- Have some good lessons learned: needs an owner of strategies; this strategy needs a home

Ideas:

- UCCE can do education; can not do advocacy
- Science educator academic coordinator and/or community educational specialist
    - Many educators: master food preserver, farm worker issues, going to the public and farmers, farm advisors have their own groups; we are pretty well connected
    - Position could support partners
    - Leveraging existing and adding new partners
    - Already are some examples of coordinating roles
- Can UCCE be the glue?
- Also needs to be funds for the partners
- We have the county general plan 2040 (there is some funding for this); have the Thelma Hansen fund;
- could fund a pilot idea for a position and partnership support
- Options for long-term funding for resiliency.
- Also a survey for whether folks are connected
- Building off of SOAR and the concept of valuing ag
    - Need to be able to invest in a new ag

Ag Summit in October

Action items:

- UCCE sits with this
- Thinks about what this **program/position** might look like: mission, goals, activities
- SK will start with input from UCCE vision and org chart
- Others need to feed invested and be set to attract investments and lead proposals
- To meet next week:
- Follow up email:

- Thanks so much for your time and ideas on our call this afternoon. Annemiek - it is great news that you think it is worthwhile to explore the idea of a program/position at UCCE that focuses on urban-rural connectivity. As next steps Annemiek will send me the UCCE County vision and org chart and I will draft a high level draft outline for the goals and activities of this program/position.

Next week, we three will plan to meet and will also invite John Krist to join us, in a meeting to refine this outline so we can then present it to the broader Advisory Group for their input, sometime in the next month.

Ventura County Sustainable Agriculture Conservation Planning Strategy
Ag Education and Awareness Strategy Advisory Group
Meeting # 3: June 7, 2 pm - 3 pm

Ag Education and Awareness Strategy Advisory Group: Ruben Alarcon, Cal State Channel Islands agriculture program; Dorothy Farias, Ventura College Agriculture program; Alex Flores, Agriculture Teacher/FFA Advisor/Academy Coordinator at Santa Paula High School; Anna Jackson, Ventura County Farm to School Collaborative; John Krist, local outreach lead for the Ventura County Sustainable Ag Conservation Strategy; Mary Maranville, Students for Eco Education and Agriculture (SEEAG; David Maron, Ventura County Civic Alliance, Vice Chair and State of the Region Committee Chair; Maron Computer Services; Kat Merrick, Totally Local VC; Annemiek Schilder, UC Cooperative Extension

Participants in the June 7 meeting: Dorothy, Anna, John, David, Annemiek; Laurie Lary, VC Office of Education; Patricia Duffy, VC Workforce Development Board (both Laurie and Patricia will join the advisory group)
(could not make the meeting: Holly Nolan-Chavez, CCC Regional Director, Agriculture, Water, & Environmental Technology; Debra West. Project Coordinator for VC STEM Network)

Purpose of the Meeting: to review framing, ideas, needs and opportunities for the Ag Education/Institutions element in particular. The other element is general public: marketing, connecting, branding.

AGENDA

1. Brief introductions
2. Background resources:
    a. Ventura County Sustainable Agriculture Conservation Planning Strategy, Overview
    b. Ag Education & Awareness Strategy element: Overview and current status
    c. Revised List of initiatives and organizations
3. Discuss and amplify on, the Ag Education element (see summary notes from Apr 22 meeting, page 4 below)
    a. Goals
    b. Needs and gaps
    c. Ideas to fill gaps
    d. Potential models and best practices

ACTION ITEMS (from June 7 meeting)

- Create a survey to identify existing K-12 (- 16) school and informal programs that directly focus on, or indirectly address, the many elements of agricultural education. Annemiek will create a first draft for review, with the aim of finalizing it by the end of June.
- Laurie will take a lead in distributing the survey to VCOE curriculum administrators

- Survey results will inform an ag education summit being planned for fall 2022, and the ag education strategy being developed for this grant

Apr 22, 2022 Mtg # 2 Summary Notes - Ag Ed & Awareness Strategy Adv Comm
Ventura County Sustainable Agriculture Conservation Planning Strategy

Participants: Ruben Alarcon, Cal State Channel Islands agriculture program; Dorothy Farias, Ventura College Agriculture program; Alex Flores, Agriculture Teacher/FFA Advisor/Academy Coordinator at Santa Paula High School; Anna Jackson, Ventura County Farm to School Collaborative; John Krist, local outreach lead for the Ventura County Sustainable Ag Conservation Strategy; Mary Maranville, Students for Eco Education and Agriculture (SEEAG; David Maron, Ventura County Civic Alliance, Vice Chair and State of the Region Committee Chair; Maron Computer Services; Kat Merrick, Totally Local VC; Annemiek Schilder, UC Cooperative Extension/Hansen Agricultural Research and Extension Center, amschilder@ucanr.edu

AGENDA, April 22, 2022

1. Brief introductions (bios if any are needed)
2. Overview of where we are in the process (PPT)
3. Revised List of initiatives and organizations
4. Implementation Plan for a Multifaceted Education and Awareness Strategy - Summary of brainstorm from March 2 meeting
5. Discuss goals needs, opportunities and models for the Marketing/Connecting/ Branding track and the K - 14 (16) Agricultural Education and Literacy track

NEXT STEPS

- Organize a meeting around Ag Education to refine goals and needs and to discuss shorter term actions, potential models and longer-term strategies. Invite Adv, Group and also: Laurie Lary-Arnold (VCOE),Executive Director, Career Education, Ventura County Office of Education; Holly Nolan-Chavez, CA Community Colleges, **Regional Director,** Agriculture, Water, & Environmental Technology; Anthony Marenco, K12 Strong Workforce Program (SWP) Pathway Coordinator; Patricia Duffy, Workforce Development Board, Ventura County
- For General public: awareness, marketing, connecting, branding, SAGE will draft an outline of models and best practices that might be helpful.

SUMMARY NOTES, April 22, 2022 Meeting

Categories of efforts to consider for models research and final strategy:

1. Educational institutions:
   a. K-8 ag literacy
   b. High School through college ag education and ag career pathways
2. General public: awareness, marketing, connecting, branding

Educational Institutions: Specific needs and gaps around K-8 ag literacy; High School through college ag education and ag career pathways

Goals

- Keep the ag workforce (at all levels) in the County
- Create collective messaging across the board
- Measures of success: enrollment numbers in programs and courses; number of students moving from HS to a CC to a 4-year ag program; matriculation data; labor data to some extent (over and under employment in various ag sector jobs; wage data, etc.)
- Creation of a framework: work we are doing is valuable; need to better connect the puzzle pieces

Needs and gaps

- Need to get buy in from the school district administrators and from the Ventura County Office of Education
- Need more secure sources of funding
- Better messaging on good careers in ag that pay a good wage; focus on the other bits of ag (e.g. ag tech)
- Important to show where garden work connects with standards based curriculum
- Channel island and higher level institutions are not connected to high school, middle, elementary schools
- There is not a four-year college ag program in the County for interested HS students to feed into
- Kids who are interested in ag leave the country and don't come back
- Need to get all educators together
- Information gaps about what is going on currently; who is doing what
- Need to show that the CTE can do a transfer track; can supplement with certificates
- Students think that courses at Ventura College are not the same as a Cal State even though they are
- Public apathy is a risk factor
- VC farm to school operates in just a couple of cities; we are mostly in Oxnard (hi-need); we would like to expand to more districts (1000 Oaks, Simi Valley, etc);

Ideas to fill gaps

- Upcoming farm to school grant; could include career ed; this is a touchy subject; needs support across the board; track for regional partnership; want to establish a food hub - partnership with Phil McGrath
- Needs more support and buy in from Cty leadership; Maybe map the programs and the teachers: ag literacy (K-6/12), ag career pathways (Gr 7 - 12); and identify opportunities for partnerships and collaborations
- Make a network of ag educators to build connections between K-12 and colleges (maybe keep ag workforce in VC); once this is established -

    - talk to all of the ag educators from the highschools or just have one as a point of contact
    - we could have training sessions for teachers and counselors;
    - have an annual ag summit
- Talk with Laurie Lary (ne Arnold) (head of VC office of education) about workforce grants because she oversees their execution. (She is also a VC college advisory board member.)
- Build an interactive website about this as a dynamic resource

Potential models and best practices

- Look at innovative programs in other counties

General public: awareness building, marketing, connecting, branding

Goals

- Create collective messaging across the board
- Coordination and promotion of activities across the board
- Create a supportive political and cultural environment
- Measures of success: more funding (and less competition for funding); buy-in from all participants in the county
- Create a framework for action

Needs and gaps

- Public apathy is a risk factor
- Need to push info from this project into schools but also reach different audiences
- Residents need to be better educated (e.g. to understand pesticide use)

Ideas to fill gaps

- Create a master calendar of activities
- A general awareness campaign for the av resident; trying to get residents to support officials

Potential models and best practices

- What is going on in Sonoma Cty - remarkable land conservation program
    - Parallel county to VC
- Look at Santa Clara's ag education and awareness program
- Look into collective impact models

Ventura County Sustainable Agriculture Conservation Planning Strategy
Ag Education and Awareness Strategy
Advisory Group
Meeting # 1: March 2, 11 am - noon

Participants: Ruben Alarcon, Cal State Channel Islands agriculture program; Dorothy Farias. Ventura College agriculture program; Alex Flores, Santa Paula Unified School District; Anna Jackson, Ventura County Farm to School Collaborative; Mary Maranville, Students for Eco Education and Agriculture (SEEAG); Kat Merrick, Totally Local VC; Annemiek Schilder,UC Cooperative Extension

AGENDA

1. Brief introductions (bios if any are needed) (5 mins)

2. Ventura County Sustainable Agriculture Conservation Planning Strategy context (5 mins)

3. Ag Education and Awareness Strategy scope and timeline (10 mins)
   a. Q & A

4. Initial list of initiatives and organizations (20 mins)
   a. What/who is missing?
   b. What is extraneous?
   c. Best way to organize?
   d. Most helpful form of analysis?

5. Implementation Plan for a Multifaceted Education and Awareness Strategy (10)
   a. Potential goals
   b. Potential elements

6. Models and best practices to research (based on brainstorm about the implementation plan) (10 mins)
   a. Discussion and recommendations

7. Next steps
   a. Anecdotal and other information to complement Ventura economics research (request for comment by March 15)
   b. Comment on preliminary research for models and best practices to be completed by March 25. Zoom meeting or response via email? in late March/early April
   c. Other?

NOTES

Notes summarized in Follow-up email:

It was a pleasure to meet with you yesterday - several of you for the first time - to discuss the Ag Education and Awareness component of the Ventura County Sustainable Agriculture Conservation Planning Strategy. Thanks for all your resourcefulness.

To follow up:

- Thanks for your suggestions of groups/folks to add to this Advisory Group: VC chefs association; FFA - Alex Flores; CWA - local contact(?): Ag in the Classroom - local contact (?). Monica White, FoodShare. Please send contact information for these folks - and for others - and I will reach out to them.
- Here is the updated list of Ag Educ & Awareness orgs & initiatives. Please continue to add suggestions and information. I added a category - On-farm Ag Education and Events - and added a few listings.
- In our brief brainstorm about goals for and elements of the Implementation Plan for a Multifaceted Education and Awareness Strategy, to be developed over the coming months, I heard your main interests so far as being:
    - A cohesive marketing outreach (bi-lingual) campaign
    - Connecting what we are doing in different districts and areas to better coordinate and expand our work
    - Need to better integrate K-6, middle school (especially), high school ag literacy with higher education programs and ag industry
    - a dynamic, interactive listing of initiatives, orgs and resources
    - Meeting planned with all of the orgs in higher ed for ag and high schools; look at gaps etc.; for career pathways

I will reach out again in a few weeks to share the draft report of existing Ag Education and Awareness and to propose a list of a few models from other regions, for your comments and additions.

UPDATE IN RESPONSES TO THAT EMAIL

Fr John
Alex Flores: aflores@santapaulaunified.org
Monica White: MWhite@foodshare.com

Fr Kat

It was very nice to cyber meet you. Here is the contact for Alex Flores <aflores@santapaulaunified.org>, CWA- Sue Poland <suepoland@sbcglobal.net>, Food Share- Monica White <MWhite@foodshare.com>. I have reached out to the chiefs Association to see who the current contact is for the association. Once I get the contact I will forward it to you.

I also wanted to provide the info on my organization and our events. I apologize if it's too much info but wanted to make sure you had a picture of what we do.

Totally Local VC Agricultural Education Foundation
Totally Local VC is a collaborative initiative focused on promoting the importance and success of our local agriculture. We are dedicated to educating our youth and community members on the important role agriculture and Ag related businesses play in the success of not only our county but the world and the many links each of us has to agriculture.

Ag Related Events created and hosted by Totally Local VC
Ventura County Ag Week - We are in our 5th year
Totally Local VC's Farm to Fork Dinner Series - 2-3 dinners hosted a year - for the past 14 years
Totally Local VC's Taste of Local - Highlighting Farmers, Ag related businesses, chefs and purveyors - for 4 years
Student Farm/Culinary Tours - hosted 16 years
Ag in a Bag (new this year)

Note: Our outreach program - The Local Love Project worked directly with chefs, Ag related businesses and Farmers to help during the Thomas Fire (and recovery) as well as the past two years doing COVID relief.

Here are the numbers for the past two years on our locally produced and donated produce for our food boxes. I will pull together some of the poundage numbers as well.

Bulk Pick Ups
Working with 21 food banks/outreach distribution organizations.
Providing bulk pick up of produce items weekly
Serving 3,200 Households Weekly

Direct Delivery
Working in partnership with 21 organizations delivering food/produce boxes and home essential bags to homebound individuals i.e Disabled, elderly, quarantined health risk - Total of households 955 Weekly
Boxes of produce/food and bags 955

Farm workers
We have partnered with organizations - providing food boxes as well as home essential items. These bags also contain census information, Covid-19 safety tips, the list of all current food banks and outreach as well as info on 211. Informational items providing are bilingual

Working in partnership with direct delivery partners we are providing produce/food boxes being delivered directly to the fields.

Farm worker food distribution total: 1,550 boxes weekly

Distribution to Schools
This is Bulk Pick up
We are now delivering produce directly to several of the schools in the county. Two schools are currently doing pick ups of produce items.

- Santa Paula
- Oxnard
- Ventura

Produce is boxes by the schools and distributed to families in the school lunch program.
Total School program household estimated at over - 2,600 weekly

Local Love Pop Up Distribution and partnering Pop Up Distribution
Pre-Packed Bags and Boxes Produce and Home Essential Items For Distribution By Local Love

- 4 Pop Ups once weekly
- 5 partnering food distribution Pop ups

Total number households served weekly 1,000

Total number households served -

- 9,305 one week period
- 37,220 one month period

Produce provided to World Central Kitchen for Medical **Staff Meals**

- **Serviced to date - 19 Chefs Restaurants**

How is community and connectivity impacting production and land use? Where are the conflict points? The synergy points?

How is the community interacting with ag production and land use, and broader food systems issues? What are the needs around ag education and awareness? What is working well?

NOTES

INTRO

1. Project is to address issues around unprecedented challenges because of SGMA etc
2. Risks, opportunities, etc.
3. Key part is bringing in the importance of ag

Initial list of initiatives and organizations (20 mins)
What/who is missing?

- VC chefs association. (Kat
- Also share the lists of stakeholders (to get feedback)
- FFA - Alex Flores (Kat,
- CWA (CA

- AG in the Classroom VC (Kat)

What is extraneous?
Best way to organize?
Most helpful form of analysis?

School Food Education

- Totally VC
- Farm to school (teachers on special assignment; see Rio school district, like a 10 acres farm)
- Add revenues to schools
- COVID - disaster relief (KAT) for farmers and farm workers; yes quantify this; very important for resilience, especially since hospitality was closed down, also major education (KAT)

~~Community~~ Applied Ag Research and TA

- RCD (Ventura County office)
- NRCS (Ventura County office)
- UCCE (Ventura County office)
- Center for regen ag - Community research - Ojai

Food Security

- Get information about what was shared
- UCCE collected food from farms
- All the food banks (Get from food Forward - ask Kat)
- Monica White is a partners - Foodshare ED
- Also group doing food access for Oxnard
- Ventura College - food pantry for students - also partners with CalFresh
- CAL State Channel islands also has a pantry for students
- Feed the front line (does weekly food
- VC Farm Workers Foundation distributes food to farm worker
- Farm worker resource program (program within Ventura County municipality)

Farmers and Growers

- John - providing of growers of ag tourism
- VC has a marketplace that has become a hub to access lower priced food

Events

- Oxnard Insect festival - City of Oxnard
- Strawberry Festival - City Ox
- Salsa event - Ox
- Taste of local - TCv

- Chairs for charity - tCV
- Farm workers event field to fork
- Ojai wine festival

Categories that are missing

- Community education (eg ag-related series)
-

Implementation Plan for a Multifaceted Education and Awareness Strategy (10)

a. Potential goals
b. Potential elements

A cohesive marketing outreach (bi-lingual) campaign (Kat)

Connecting what we are doing in different districts; goal is to expand our work
Need to connect what we are doing with our higher education programs and ag industry
A resource list of who we all are (we would like to have something like that our our site)
Meeting planned with all of the orgs in higher ed for ag and high schools; look at gaps etc.; for career pathways;
Educate from field to fork and field to career
Connecting higher education w highschool and middle school; also highschool farms and district for creation of research;
List of resources: curriculums
Take HS students; put them in a bus and take kids to farms; and involved colleges
Ag in the classroom comes in and needs to be more wide-spread
VCC does dual enrollment with high schools
There is a break at middle schools
Goals:

AgMuseum - ag in a bag

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APPENDIX F.

A COMMUNITY OF GOOD STEWARDS: BUILDING A SUSTAINABLE FOOD SYSTEM

A Community of Good Stewards:
Building a Sustainable Food System in Ventura County

Ventura County Ag Futures Alliance

Issue Paper No. 4

January 2005

Ag Futures Alliance — A Different Approach

(Source: AFA Formation Final Report, February 2001)

Growers and others concerned about agriculture's survival formed a coalition named the Ag Futures Alliance (AFA) in late 1999 to address some of the more critical challenges facing farming in Ventura County. The initial purpose of AFA was to create a framework for actions to ensure that agriculture would remain a vibrant and vital element of the Ventura County landscape, culture and economy in perpetuity.

Recognizing a need for broad-based public commitment and participation, members of AFA agreed that Ventura County agriculture must make the environmental and health concerns of non-farming residents a top priority. The alliance invited representatives from a variety of social and environmental concerns to participate, and with few exceptions the offer was accepted.

It became clear to AFA participants that the first step must be to create meaningful two-way communication. The second step would be to build trust, and the third step would be to discover win-win solutions based on mutual respect and appreciation. It was during this third phase that AFA formed a subcommittee on stewardship, charging it with developing a set of principles and practices to guide farmers so they could conduct business without damaging the local environment.

Participants soon realized that if the principles and practices of stewardship were to be meaningful and effective, they had to be expanded to address the roles and obligations of other important components of the community, specifically consumers and policy makers. This document, the product of more than a year of work by the subcommittee and countless revisions by the entire AFA membership, reflects consensus by the members of the AFA roundtable on a new ethic of stewardship intended to guide interactions among everyone with a stake in local agriculture's future.

Acknowledgments

Thanks to the following people who, at one time or another, served on the AFA stewardship subcommittee: Eric Cardenas, Environmental Defense Center; Susan Johnson, Ventura County Agricultural Commissioner's Office; Scott Deardorff, Deardorff-Jackson Co.; Rex Laird, Ventura County Farm Bureau; Karen Schmidt, SOAR; and John Krist, Ventura County Star, who wrote this paper.

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Executive Summary

Members of the Ag Futures Alliance believe the long-term sustainability of Ventura County agriculture depends on the willingness of all sectors of the community to behave in ways that reinforce the industry's viability and to avoid behaving in ways that will harm it. In this document, AFA proposes a set of principles and practices that the three major elements of the community — farmers, consumer, and policy makers —can employ to translate that goal into action.

Taken together, these practices and principles constitute an expansive ethic of stewardship, describing the obligations each sector of the community owes to the others. For farming to remain a healthy component of the local economy, culture and society, the industry is obliged to respect the ecological integrity of its resource base and to operate in harmony with the broader community. And just as farmers must act as good stewards of the land to remain viable, so are members of the community obliged to act as good stewards of the agricultural industry if they wish to enjoy the benefits it provides. These include local economic stability, the aesthetic values of a rich and diverse landscape, and a healthy and affordable food supply.

The core of this document is a list of practices for each of three major sectors of the local community. For farmers, the recommendations focus on steps that minimize the biological and social effects of production and marketing techniques. For consumers, the practices are designed to illuminate the effect of economic and political actions — from food purchases to land-use decisions at the ballot box — on local agriculture. For policy makers, the suggested practices address the effect of land-use laws, regulations and other policies on the economic viability of farming.

It is critical for all segments of the community to realize that stewardship is a two-way street: If agriculture fails to respond to its neighbors' concerns, farmers will become vulnerable to political decisions that undermine their ability to conduct business. If consumers undermine the economic foundation of local agriculture, either directly or through the actions of their elected representatives, they imperil a critical component of the local economy and hasten conversion of farms and open space to an urban landscape.

It is AFA's hope that this document will help everyone understand how their actions ripple throughout the social, economic and cultural fabric of the county, and will enable them to make choices and decisions that accurately reflect their values.

Introduction

A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise.

— Aldo Leopold,
A Sand County Almanac

In his 1949 classic of conservation writing, pioneering ecologist Aldo Leopold called for the development of a "land ethic" that would redefine the relationship between human beings and their physical surroundings. Rather than regard the land as a resource to be exploited without regard for the future, he argued, human beings must bring the same ethical regard to their relationship with the land that they bring to their relationships with each other. He regarded this as necessary to prevent mismanagement and exhaustion of the resource base upon which humankind's long-term survival depends.

"All ethics so far evolved," he wrote, "rest upon a single premise: that the individual is a member of a community of interdependent parts. His instincts prompt him to compete for his place in that community, but his ethics prompt him also to cooperate (perhaps in order that there may be a place to compete for). The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land."

In this document, the Ag Futures Alliance proposes a similarly expansive ethic of stewardship with respect to Ventura County agriculture. In keeping with the principles outlined in its constitution, AFA believes that the long-term sustainability of this industry depends on the willingness of all sectors of the community to behave in ways that reinforce the viability of agriculture and to avoid behaving in ways that will harm it.

Just as consumers have a right to expect that farmers will not damage their air and water or supply them with unhealthy food, so farmers have a right to expect that consumers will not act in ways that gratuitously undermine the legal, political and economic foundations of farming. Just as elected officials have a right to expect the farm industry to abide by local laws and regulations, farmers have a right to expect that regulators will not act without considering the effect of those actions on the long-term viability of agriculture.

There is another way to express this ethic of stewardship: not as a bill of rights, but as a bill of obligations. For farming to remain a healthy component of the local economy, culture and society, the industry is obliged to respect the ecological integrity of its resource base and to operate in harmony with the broader community. And just as farmers must act as good stewards of the land to remain viable, so are members of the community obliged to act as good stewards of the agricultural industry if they wish to enjoy the benefits it provides. These include local economic stability, the aesthetic values of a rich and diverse landscape, and a healthy and affordable food supply.

Principles of Stewardship

Subsequent sections of this document will describe in detail the practices each of the three key sectors of the Ventura County community — farmers, consumers, and policy makers — can adopt to help ensure the survival of local farming while protecting natural resources and the land base upon which agriculture depends. In general, however, the principles underlying these practices may be summarized as an echo of Leopold's prescription: An action is right when it tends to preserve the integrity, stability and economic health of farming and the local environment. It is wrong when it tends otherwise.

These practices also reflect two of the guiding principles in the AFA constitution: We are accountable for the effect of our actions on other members of the community, and we must ensure that the actions we take today do not impede our ability to act the same way in the future.

For farmers, meeting this obligation means recognizing the biological and social effects of production and marketing techniques. For consumers, it means recognizing the effect of economic and political actions — from food purchases to land-use decisions at the ballot box — on local agriculture. For policy makers, it means recognizing the effect of land-use laws, regulations and other policies on the economic viability of farming.

It is critical for all segments of the community to realize that stewardship is a two-way street: If agriculture fails to respond to its neighbors' concerns, farmers will become vulnerable to political decisions that undermine their ability to conduct business. If consumers undermine the economic foundation of local agriculture, either directly or through the actions of their elected representatives, they imperil a critical component of the local economy and hasten conversion of farms and open space to an urban landscape.

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Practices of Stewardship for Consumers

Consumers have tremendous power to influence the profitability, and therefore viability, of the agricultural industry. They wield this influence economically, through their expenditures in the marketplace, and politically, through the regulatory decisions they either make directly at the ballot box or indirectly by appealing to their elected representatives for action. When buying food, consumers who value local agriculture express that support by spending their money in ways that reinforce farming rather than undermine it. When acting in the political realm, they encourage policies and regulatory actions that address community concerns without imposing an unsupportable burden on farming. They oppose or avoid actions that erode agriculture's viability unless there is an overriding public concern that cannot be addressed in any other way.

In the marketplace, consumers can act as good stewards in the following ways:

- Urge retailers to provide accurate and complete information about the source of food products they sell.
- Urge retailers to stock locally grown farm products when they are available.
- If there's a choice between locally grown farm commodities and imported farm commodities, buy local.
- Buy directly from producers whenever possible, through such venues as farmers markets and on-farm retail operations, as this ensures a larger share of the food dollar goes to the farmer rather than to intermediaries.
- Buy food that's in season, as it is less likely to be imported from distant sources.
- Buy food as close to its raw form as possible; most of the money spent on heavily processed and packaged food products goes to the marketing and processing sectors rather than to the growers.
- When buying packaged or processed food, give preference to those products that have been prepared by the producers or by locally based grower cooperatives as a "value-added" enterprise, instead of those prepared by second or third parties. This ensures more of the food dollar stays on the farm.
- When buying packaged or processed food, give preference to those utilizing minimal packaging so as to decrease waste and reduce resource use.
- Buy food that has been produced using sustainable practices, which may include organic production techniques.
- Be willing to pay slightly more for locally grown farm products, whether produced conventionally or organically, in recognition of the added but hard-to-quantify value a vibrant agricultural industry contributes to the local quality of life.
- Learn about sustainability and how its principles can be applied at the personal and community levels.

In the political realm, consumers can act on the principles of stewardship in the following ways:

- Vote for political candidates who support urban growth strategies that maintain the integrity of farmland and direct development within existing urban boundaries.

- Learn to distinguish between the normal activities of farming, such as tilling, frost protection and safe chemical application, and those that are abnormal and worthy of concern, such as improper and non-permitted pesticide or herbicide applications.
- Support efforts to identify and change farming practices that violate legal or regulatory standards, or which threaten public health and safety.
- Support efforts to establish and finance a land conservancy dedicated to acquiring development rights and other financial strategies to maintain land in farming.
- Support efforts to remove legal impediments to the perpetuation of family farms, such as excessive estate taxes.
- Support efforts to provide safe and suitable farmworker housing.
- Evaluate proposed amendments to comprehensive plans and other actions by local elected bodies for their likely effect on agriculture. Support through direct action — either by public testimony or by submitting written comments — those proposals that would reinforce farming's viability; oppose those that would undermine it.
- Support the formation and activities of community institutions that seek to build consensus among people of different viewpoints.

Practices of Stewardship for Farmers

Through its ability to affect the quality of the soil, air and water, agriculture influences the health of its own resource base as well as the quality of life enjoyed by all local residents. Long-term survival of the industry requires that farmers maintain or strengthen natural ecological processes, adopt sustainable production practices, and cultivate healthy economic and political relationships with the broader community.

In the environmental realm, farmers can act as good stewards in the following ways:

- Reduce or eliminate the use of materials that can harm the health of farmers, farmworkers, consumers or the environment, such as excess nutrients, pesticides and herbicides.
- Use beneficial insects and other techniques as part of an integrated pest management system.
- Match cropping patterns to the productive potential and physical limitations of the farm landscape.
- Maintain or restore natural ecological conditions along streams and other biologically important habitat areas.
- Promote healthy soil by sustaining the micro-organisms, organic matter and other natural constituents that contribute to its fertility and structure.
- Reduce runoff and erosion.
- Use renewable energy sources in place of non-renewable sources, and encourage efficiency in the use of non-renewables if their use is necessary.
- Maximize efficiency of water use, and ensure that consumption of water from local sources does not exceed the groundwater recharge rate or impair the functioning of ecosystems dependent on surface flows.

In the economic and social realms, farmers can act on the principles of good stewardship in the following ways:

- Develop and expand direct-to-consumer markets such as community-supported agriculture programs, on-farm retail operations and farmers' markets, in order to strengthen the relationship between growers and local residents.
- Strengthen relationships with consumers by providing labeling information about where and under what conditions products were grown
- Participate in educational programs intended to teach non-farmers about agriculture.
- Ensure equitable working conditions for farmworkers, including access to affordable health care and a fair wage.
- Ensure safe working conditions for farmworkers by providing training and appropriate equipment, and by adhering to all state and national labor laws.
- Support community efforts to provide affordable farmworker housing.

Practices of Stewardship for Policy Makers

Elected representatives who set public policy affect farming through their decisions regarding urban boundaries, development and transportation projects, zoning and other regulations. Ensuring the long-term viability of farming requires policy makers to evaluate the effect of any proposed action on the agricultural industry and to reject those proposals that would undermine it, unless there is an overriding public interest that cannot be served any other way.

Policy makers can act as good stewards in the following ways:

- Confine development within designated urban boundaries.
- Become educated about local, state and federal agricultural policies.
- Promote construction of farmworker housing.
- Provide financial support for local farmers markets, labeling programs and other efforts intended to forge stronger ties between farmers and consumers.
- Without compromising public health, safety or the environment, incorporate flexibility into permitting processes to account for the fluid and dynamic nature of the farming industry.
- Recognize that agricultural islands within cities may not be viable for farming over the long term, and develop a process to allow their development when that becomes the only economically sustainable option for the owner.
- Adopt policies giving permit priority to infill and high-density development instead of projects that consume raw land on the urban fringe.
- Establish, maintain and properly fund programs to educate the public about right-to-farm laws, legal farming practices and other issues pertinent to the rural-urban interface.
- Require developers of encroaching projects to dedicate property to create buffer zones between urban land uses and neighboring farms.
- Avoid prime farmland when siting schools, jails and other public facilities.
- Don’t extend or expand transportation corridors across prime agricultural land.
- When modifying existing roads and highways in agricultural areas, incorporate equipment crossings and other features to minimize conflict between motorists and farm-related traffic.
- Establish, maintain and properly fund a staff position to monitor land-use decisions by the local agencies, and to provide information necessary for sound policy decisions by elected officials.
- Don’t impose zoning and development standards that unnecessarily impede standard and legal farming practices.
- Establish a mechanism by which to involve farmers and agricultural landowners in the land-use planning process and to mediate ag-urban conflicts as they arise.

Conclusion

The Ag Futures Alliance was founded on the premise that conflicts between agriculture and its urban neighbors can best be resolved — or prevented — through honest and respectful dialogue among people with a wide range of views and interests. In keeping with that founding principle, AFA offers this document to the community as not just a set of ethical guidelines but as a basis for informed public discussion of Ventura County's future.

As this report makes clear, the obligations of good stewardship and agricultural sustainability belong to everyone. Farming cannot remain a healthy component of the local economy, culture and society unless the industry respects the ecological integrity of its resource base and operates in harmony with the broader community. Likewise, members of the community cannot continue to enjoy the benefits agriculture provides — including local economic stability, the aesthetic values of a rich and diverse landscape, and a healthy, affordable and local food supply — unless they act in ways that maintain agriculture's viability.

As members of AFA, we challenge our fellow community members to incorporate into their daily lives the ethical practices described in this document. We also encourage public participation in a continuing dialogue about the future of farming in Ventura County, and about the responsibility we all share for building that future.

Resources

Ag Futures Alliance
http://www.agfuturesalliance.net/index.htm

Agriculture Food & Human Values Society
http://www.clas.ufl.edu/users/rhaynes/afhvs/

California Institute for Rural Studies
http://www.cirsinc.org/

California Sustainable Agriculture Working Group
http://www.calsawg.org/

Center for Agroecology & Sustainable Food Systems
http://zzyx.ucsc.edu/casfs/

Community Alliance with Family Farmers
http://www.caff.org/

Fair Trade Research Group
http://www.colostate.edu/Depts/Sociology/FairTradeResearchGroup/

Leopold Center for Sustainable Agriculture
http://www.leopold.iastate.edu/

Sustainable Agriculture Research and Education (U.S. Department of Agriculture)
http://www.sare.org/

University of California Hansen Trust
http://groups.ucanr.org/Hansen/

University of California Sustainable Agriculture Research and Education Program
http://www.sarep.ucdavis.edu/

Ventura County Agricultural Commissioner's Office
http://www.ventura.org/agcommissioner/index.htm

Ventura County Farm Bureau
http://www.VCfarmbureau.com/