

Alameda County Agricultural Resiliency Project



ALAMEDA
LOCAL AGENCY FORMATION COMMISSION

Alameda County



RESOURCE
CONSERVATION DISTRICT



CALIFORNIA
STRATEGIC
GROWTH
COUNCIL



California
Department of
Conservation

Thank You!

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The Project Team acknowledges that we work on the traditional land of many indigenous people including, but not limited to, the Muwekma, Ohlone, the Confederated Villages of Lisjan, the Bay Miwok and the Yokut peoples.

We recognize the important role these tribes played,
and continue to play,
in managing the land that we call
Alameda County.

We look forward to the future, and implementing aspects of this plan with these tribes to protect human, cultural, and natural resources in the years to come.

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Glossary of Terms

AAC	Agricultural Advisory Committee
ACARP	Alameda County Agricultural Resiliency Project
ACRCD	Alameda County Resource Conservation District
CDFA	California Department of Food and Agriculture
ECAP	East County Area Plan
GHG	Greenhouse Gases
LAFCO	Local Agency Formation Commission (for the purposes of this report, the acronym LAFCO specifically refers to the Alameda County Local Agency Formation Commission)
NRCS	Natural Resources Conservation Service
ROSA	Resource Conservation, Open Space and Agriculture element
SALC	Sustainable Agricultural Lands Conservation Program
SLVAP	South Livermore Valley Area Plan
TVC	Tri-Valley Conservancy
UGB	Urban Growth Boundary
UCANR	University of California Agriculture and Natural Resources department
USDA	United States Department of Agriculture
VMT	Vehicle Miles Traveled

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Executive Summary

Alameda County is home to 1.6 million people in the East Bay of California. Diverse in land cover, industries and cultures, the 739 square miles within Alameda County (hereafter, referred to as the “County”) are filled with sprawling rangelands, tech hubs, centuries-old vineyards, urban centers, and much more.

While both topography and agricultural production in the County vary greatly from east to west, the constant is the significance of agriculture to the County’s identity and economy. Residents and agricultural producers alike continue to affirm this importance through voter-approved measures, demonstrated popularity of farmers markets, and expressed desire for local agriculture. In 2021, Alameda agriculture grossed over \$55 million, comprising approximately 36% of the County’s total gross domestic product value, with red wine grapes and cattle sales leading the industry. Despite this economic share, a long agricultural history, and the fact that the County boasts the greatest number of food systems employees throughout the Bay Area, the future outlook for agriculture is discouraging; increasing local land value combined with difficulty in accessing local land, are making it steadily more difficult for local farmers and ranchers to succeed.

This analysis identifies the most consistent threats facing agricultural lands in Alameda County as the price and scarcity of arable land, both of which are driven in part by competition with other important land uses, namely housing, and solar and energy production.

These competitors drive up land prices and make it increasingly difficult to access and protect existing and new agricultural lands. Additionally, climate change continues to pose threats for agriculture, as increasing temperatures, intense variation in precipitation, and resulting droughts or flooding impacts crops, land, and overall viability. Volatile markets and supply chains continue to introduce complications, and projections forecast stagnation and decreases in real farm production value and farm jobs in the County in the coming decades.

There is, however, cause for optimism. There are a number of solutions that are readily available to reinvigorate agriculture within the County but they will require commitments from jurisdictions and residents alike. These commitments to protect and expand agriculture from east to west will need to take as many forms as there are agriculture, and will thus need to consider grazing lands, urban gardens, commercial agriculture, and non-traditional farms such as rooftop and container gardens of various sizes.

In order to better understand where and how agriculture within the County needs to be further conserved or developed, this project, the Alameda County Agricultural Resiliency Project, was developed with funding from a Sustainable Agricultural Lands Conservation Program grant.

Created and executed by Alameda County Local Agency Formation Commission (LAFCO) and Alameda County Resource Conservation District (ACRCD), this project had three specific, related goals:

- A. Identify agricultural lands, including working lands, that should be prioritized for conservation.
- B. Focus infill development on healthy and resilient communities for disadvantaged and low-resource populations by supporting urban agriculture and community gardens within city limits.
- C. Reduce greenhouse gas emissions by finding new areas for urban and rural agriculture in close proximity to residential areas and conserving agricultural areas that reinforce urban growth boundaries both with land conservation measures, like easements, and with sustainable economic opportunities for agricultural producers.

The subsequent objectives of the grant were threefold:

1. Identify priority parcels of agricultural land, or land that could be converted to agricultural use, for conservation or new agricultural development within proximity to urban growth boundaries.
2. Identify priority parcels of agricultural land, or land that could be converted to agricultural use, for new or future urban farms or community gardens within underserved communities.
3. Review policies relevant to agriculture from the many government jurisdictions in Alameda County in order to make policy and program recommendations that work towards more regionally-planned, successful and sustainable agriculture in Alameda County.

The first two objectives were achieved through discussions of priority criteria with stakeholders, which then led to the development of interactive web maps that could be used for organizational or jurisdictional planning or grant development. The third objective included a systematic review of important government policy documents and conversations with stakeholders about desired and plausible policy changes, followed by the development of recommended policies, incentives, and other actions.

This report contains the aforementioned review findings and recommendations, and a synthesis of the stakeholder meetings held at the end of 2022. The interactive web maps described in this report identify priority agricultural areas to conserve near urban growth boundaries, as well as sites where the development of new urban farms or community gardens are likely to be most beneficial. The mapping tool intends to aid in more effective conservation efforts and grant applications, and a list of relevant state and federal grants is included in this report.

The stakeholders identified three primary areas of concern and need when it comes to protecting and promoting agriculture within the County:

- 1) Water quality and access
- 2) Land access and usability
- 3) Planning and funding to support agricultural stability and growth in Alameda County

Overall, this report finds that (unincorporated) Alameda County and several jurisdictions already have policies that support agriculture. Some of the most important policy documents include the East County Area Plan (ECAP), which changed urban growth boundaries and land use designations in the eastern part of the County to protect local agricultural lands; the South Livermore Valley Area Plan (SLVAP), which was incorporated into ECAP and provides a development plan for unincorporated areas south of Livermore and Pleasanton to support vineyards and wineries; and voter-approved Measure D (2000), which amended ECAP, protected agriculture and open spaces in eastern and south western areas of Alameda County, and permitted agricultural processing facilities.

This patchwork of strategies throughout the County
has resulted in an agricultural economy that is
currently struggling to be
protected and promoted uniformly.

Taking the current state of agriculture into consideration with stakeholder feedback, this report recommends goals and a number of policy and programmatic solutions to create more uniformity across aligned policies and address identified problems, related to the stakeholders' expressed concerns.

Specifically, this project team recommends policies and action steps aligned with the following goals:

Water

Ensure affordable and adequate access to quality water sources and water data for the variety of agricultural producers in Alameda County.

Land

Ensure land that is suitable for agricultural practices is available and accessible to new, beginning and existing farmers and ranchers.

Generate and maintain data about available parcels for agricultural development and protection in urban and rural areas of the County in a central location that is accessible to the public.

Planning

Affirm the importance of agriculture by adopting appropriate zoning laws and specific inclusion of agriculture in Climate Action Plans.

Ensure equitable access to healthy, local foods for all residents, particularly low income and underserved communities through applicable zoning, active food policy councils and enabling programming.

Funding

Ensure adequate funding and staff capacity to plan for agricultural lands protection and enactment of pro-agricultural policies.

Ensure landowners are compensated justly for the ecosystem services provided.

In a county as diverse in natural resources, land cover and cultures as Alameda, it is important to both promote the common value of protecting and expanding agriculture in its various forms while respecting the differences in needs of individual municipalities in the County. The purpose of this report is to find solutions that can be adapted and work for different areas, from east to west County, while working together to achieve the common goal of supporting and reinvigorating Alameda County agriculture so that it may be resilient for generations to come.

1. Introduction

The purpose of this report is to describe (1) the current state of agriculture, (2) related concerns of stakeholders in agricultural fields, and (3) how current and potential agricultural policies can support the growth and protection of agricultural communities and economies in Alameda County. This report specifically recommends pursuing local policy actions while also highlighting a variety of government grant programs and providing a planning tool that can facilitate agricultural resilience in the County.

For the purposes of this project and report, agricultural resilience in Alameda County considers and includes the protection of agricultural lands, the development of new agricultural lands where possible and supporting the economic viability of agriculture.

Over the course of developing this plan, the project brought together policy makers and community members involved in agriculture (hereafter, referred to as “stakeholders”). Together they considered the current state of agriculture and existing agricultural land conservation policies in the County. The goal of those discussions was to identify key criteria and goals for future agricultural conservation and planning.

Developing a cohesive agriculture resilience plan for a county like Alameda, which is variable in land cover, demographics and industry, is complex but vital to the viability of the County’s local food system and climate action goals. There appear to be varying degrees of interest in agriculture in the urban and rural environment by governments in the County: some jurisdictions have plans and implementable targets around agriculture, while others have set policies that they have so far been unachievable due to lack of financial and/or staffing resources. Other jurisdictions completely lack any agricultural plans or policies. The summary of these jurisdictions’ policies is discussed in more detail in sections 3 and 4 of this document.

In this report, agriculture is defined broadly, encompassing all growing for personal, community or commercial production, including land used for growing crops, vineyards, raising livestock, grazing, nursery products and urban agriculture, in addition to community and school garden sites.





Photo Credit: Jennifer Trevis, Livermore, CA

These land uses drive up land prices and make it increasingly difficult to protect existing agricultural lands or develop new areas for production. The COVID-19 pandemic further revealed inequities and vulnerabilities inherent to food systems, and the need for enhanced resiliency in all levels of food production¹ and consumption.² The intensity and resulting impacts of the unprecedented 2020 wildfire season,³ particularly for outdoor laborers like farmworkers,⁴ (who also faced unique threats during COVID-19⁵) further emphasized the need to adapt to and mitigate the impacts of a rapidly changing climate. The preservation of all forms of food production is of the utmost importance to ensure a thriving and resilient future for Alameda County.

The protection and expansion of agriculture in the County will require consideration of the many types of agriculture in both east and west County including grazing lands, urban gardens, commercial agriculture and non-traditional farms such as rooftop and container gardens. Thus, the development of agricultural goals and policies that work for the diversity of jurisdictions and agricultural types necessitated both urban and rural input. The variety of strategies identified will work in differing environments yet achieve a common goal of ensuring agricultural resilience in Alameda County.

¹ UC Davis: [How has the coronavirus pandemic impacted California food, agriculture and environment?](#) 2020

² UC University Giannini Foundation of Agricultural Economics: [U.S. Nutrition Assistance Program Responses to COVID-19](#), 2020

³ Cal Matters: [California fires in 2020, by the numbers](#), 2021

⁴ IOP Science: [Exposure of agricultural workers in California to wildfire smoke under past and future climate conditions](#), 2022

⁵ NPR: [Farm Workers Face Double Threat: Wildfire Smoke And COVID-19](#), 2020

1.1. Alameda County Agricultural Resiliency Project (ACARP)

This report and project are the products of the Sustainable Agricultural Lands Conservation (SALC) Program grant. Alameda County Local Agency Formation Commission (Alameda LAFCO), with the support of the Alameda County Resource Conservation District (ACRCD), applied for and received a Land Use Planning funding award in FY 2019-2020, Round 6 of SALC program grant cycles. In support of Alameda LAFCO and ACRCD's overlapping interest in conserving agricultural land in Alameda County, the project, titled the Alameda County Agricultural Resiliency Project (ACARP), has three related goals:

- A. Identify and Facilitate Protection of Agricultural Lands, including Working Lands, by highlighting priority and critical areas for conservation.
- B. Focus Infill Development on Healthy and Resilient Communities for Disadvantaged and Low-Resource Populations by supporting urban agriculture and community gardens within city limits.
- C. Reduce Greenhouse Gas Emissions by finding new areas for urban and rural agriculture in close proximity to residential areas, and conserving agricultural areas that reinforce urban growth boundaries to minimize food vehicle miles traveled.

The subsequent objectives of the grant were threefold.

- ☐ First, to identify priority parcels of agricultural land, or land that could be converted to agricultural use, for conservation or new agricultural development within proximity of urban growth boundaries.
- ☐ Second, to identify priority parcels of agricultural land, or land that could be converted to agricultural use, for new/future urban farms or community gardens within underserved communities.
- ☐ Third, to review policies relevant to agriculture, from the many government jurisdictions in Alameda County, in order to make recommendations that work towards more cohesive, beneficial and regional agricultural policies.

The first two objectives were achieved through discussions of priority criteria with stakeholders followed by the creation of interactive web maps that could be used for organizational planning or grant development. The third objective included a systematic review of important government policy documents and conversations with stakeholders about desired and plausible policy changes, followed by the development of recommended policies, incentives and other actions.

This report contains the full findings, including a review of the current status of agriculture-related policies in Alameda County, a synthesis of the stakeholder meetings held at the end of 2022, and a number of recommendations to conserve and grow agriculture within the County.

1.2. Summary of Grant Process

Sustainable Agricultural Lands Conservation (SALC) was developed by the Strategic Growth Council and is administered by the California Department of Conservation. Alameda LAFCO and the ACRCDC received funding from the SALC Land Use Planning grant program in March 2021. Alameda LAFCO collaborated with ACRCDC on the writing of the SALC grant application and subcontracted ACRCDC to carry-out the implementation and management of the awarded grant.

1.2.1. Sustainable Agricultural Lands Conservation (SALC) Grant Program

The Sustainable Agricultural Lands Conservation Program (SALC), a component of the Affordable Housing and Sustainable Communities Program, supports greenhouse gas (GHG) emission reduction goals by making strategic investments to protect agricultural lands from conversion to more GHG-intensive uses. Protecting critical agricultural lands from conversion to urban or rural residential development promotes smart growth within existing jurisdictions, ensures open space remains available, and supports a healthy agricultural economy and resulting food security. A healthy and resilient agricultural sector is becoming increasingly important in meeting the challenges anticipated as a result of climate change.

SALC is part of California Climate Investments, a statewide program that puts billions of Cap-and-Trade dollars to work reducing GHG emissions, strengthening the economy, and improving public health and the environment, particularly in disadvantaged communities. The Cap-and-Trade program also creates a financial incentive for industries to invest in clean technologies and develop innovative ways to reduce pollution. California Climate Investments projects include affordable housing, renewable energy, public transportation, zero emission vehicles, environmental restoration, more sustainable agriculture, recycling, and much more. At least 35 percent of these investments are located within and benefiting residents of disadvantaged communities, low-income communities, and low-income households across California. For more information, visit the California Climate Investments website at: www.caclimateinvestments.ca.gov.



Photo Credit: Jennifer Trevis, Livermore, CA

1.2.2. Alameda Local Agency Formation Commission (Alameda LAFCO)

A Local Agency Formation Commission (LAFCO) is a California state-mandated local agency that oversees the boundaries and influence of cities, special districts and certain local agencies in their region. They also manage the formation of new local and regional service agencies and special districts, consolidation of existing agencies/districts, any service extensions or retractions, and incorporation of new land from unincorporated areas by cities. Changes in LAFCOs' policies are typically in response to applications filed by local agencies, cities, landowners, or registered voters, though they are also allowed to initiate certain policies based on their own planning studies. For example, following recommendations or the creation of a LAFCO Municipal Service Review report, a LAFCO might decide to expand services provided by a sewer district or a municipal water district, or they might change the boundary of a city to include more or less land. As LAFCOs are directly involved with the boundaries and spheres of influence of the agencies and special districts they regulate, their involvement in the protection of agriculture from conversion to sprawl or other development is key.

The [Alameda LAFCO](#)'s goal is to provide oversight over local Alameda County governments to "ensure the orderly formation of local government agencies, to preserve agriculture and open space lands and to discourage urban sprawl."⁶ They are governed by a combination of elected officials that represent special districts, cities and the County Board of Supervisors.

1.2.3. Alameda County Resource Conservation District (ACRCD)

Resource Conservation Districts (RCDs) were first founded in the 1930s to assist farmers and ranchers during the Dust Bowl. RCDs now focus on agriculture and/or natural resource conservation based on the local concerns in their sphere of influence. In California, RCDs are special districts governed under Division 9 of the California Public Resources Code. Though RCDs are a form of local government, they are non-regulatory meaning that they have no authority to enforce or otherwise control the actions of public or private landowners. Thus, RCDs meet their objectives through voluntary partnerships, policy initiatives and other incentives.

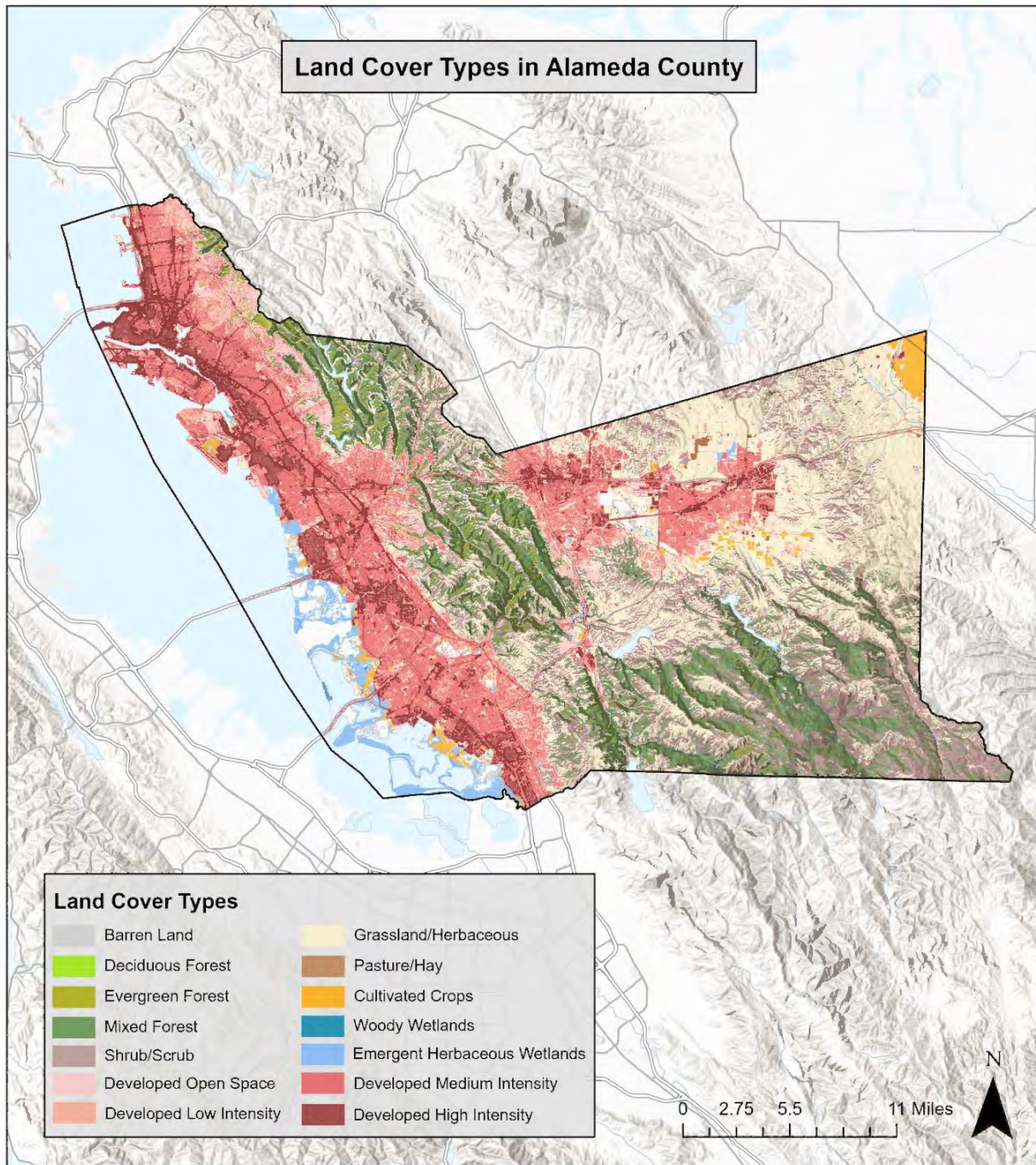
[Alameda County Resource Conservation District](#) (ACRCD)'s mission is to "enhance natural resources conservation, preserve wildlife and habitat and improve rangeland and agricultural management."⁷

1.3. Alameda County Overview

Alameda County is situated between the San Francisco Bay to the west and the San Joaquin Valley to the east, between Contra Costa and Santa Clara Counties to the north and south, in what is known as the East Bay of California. Moving from west to east, the County is characterized by flat, urbanized lands closest to the Bay, large hills that are part of the Diablo range and then rolling hills in most of the eastern part of the County with many different types of habitats throughout including wetlands, chaparral, oak woodlands and open grassland, as demonstrated by Map 1.

⁶ [Alameda LAFCO](#)

⁷ [Alameda County Resource Conservation District](#)



Map 1: Land Cover Types in Alameda County. Map produced by UCANR IGIS on August 28, 2023.

Climate to the west of the Diablo ridgeline is typically cooler with more narrow temperature ranges. The area is notorious for its fog cover, particularly in the summer and fall. East of the ridgeline tends to be drier with cooler temperatures in the winter and hotter temperatures in the summer and fall.

Spanning 739 square miles (472,960 acres), Alameda County is now home to 1.6 million people.⁸ The population per square mile in the County was 2,281 in 2020, though population density varies across the County, with the western urban areas more densely populated versus the rural areas in the eastern parts of the County.⁹ This is significantly higher than the average of 253.9 people per square mile for California as a whole.¹⁰ The majority of the population works in white-collar employment, with nearly 70% of the population 16 years of age or older engaged in this sector; the professional, scientific, technical, and administrative services industries dominate (16.5%), followed by healthcare and social assistance (12%).¹¹

The original peoples of this land, the Ohlone, Bay Miwok, Yokut, Confederated Villages of Lisjan and others, have stewarded this land for time immemorial and continue to live and work here. California, and the Bay Area in particular, is home to the most Native Americans in the United States today, and its growing population includes Tribal members from all over the country.¹²

1.4. Vision for the Future of Agriculture in Alameda County

A goal of this project and report was to further develop the resilience of agricultural systems in Alameda County. It is therefore important to understand what success looks like in achieving a thriving agricultural landscape and economy. After listening to desires from stakeholders, Alameda County LAFCO and ACRCO developed the following vision for the future of agriculture in Alameda County, to be achieved over the next decade.

Agriculture in Alameda County must strive to be increasingly sustainable, economically viable and accessible to ensure regional food system resilience in the face of climate change and other possible shocks. In this vision, small and family-owned farms thrive and contribute to the economic viability and diversity of farming communities. Seasonal farmworkers are compensated fairly and have dignified housing opportunities that are nearly, accessible, and safe. Beef and wine grape production continue to lead the agricultural sector with increasingly climate-smart practices. More culturally relevant foods, like the ongoing production of Afghani greens, Indigenous seeds, and Asian vegetables, meet the needs of the diverse residents in the County. All residents have access to local, delicious foods that meet both their nutritional and cultural needs and are able to participate in the food system to whatever degree they wish. Local governments support and incentivize urban and rural agriculture and increased access for local consumers. Renewable energy is integrated with farming and ranching where it makes sense to do so. Local consumers, institutions, and restaurants support their local farmers and ranchers by purchasing Alameda County grown products directly from Alameda County producers.

This vision of the future of agriculture for Alameda County necessitates collaboration and leadership among stakeholders from all different sectors to uphold and protect agriculture in all its forms.

⁸ US Census Bureau: [QuickFacts: Alameda County, California](#)

⁹ US Census Bureau: [QuickFacts: Alameda County, California](#)

¹⁰ Statista: [Population density in California 1960-2018](#)

¹¹ Healthy Alameda County: [Alameda Employment](#)

¹² California Courts: [FAQs about California's Indian Tribes and Tribal Communities](#), n.d.

2. Agriculture and Climate Change in Alameda County

This section describes the current agricultural economy, land use competition, and the impact of climate change on these industries and the environment within the County at large.

Alameda County is diverse in its demographics and industries as well as its land cover and uses. While much of the County's population is within the jurisdiction of the fourteen cities, over 50% of land in the County is unincorporated (277,824 acres), with six specific unincorporated areas.¹³ The County includes over 53,000 acres of state and regional park land and over 7,300 acres of urban park land,¹⁴ and even more acreage of rangelands and woodlands.¹⁵

Eastern parts of the County are typically characterized by its vast grazing lands, viticulture, and relatively rural communities, while west County is dominated by metropolitan areas and more traditionally urban and suburban environments. These two apparent dichotomies of farming – large-scale commercial farms versus smaller-scale¹⁶ urban or community farms – are not exclusively within east and west County, respectively. For example, the City of Livermore hosts the community garden nonprofit [Fertile GroundWorks](#). Similarly, commercial farming can thrive within urban spaces, as evidenced by [Kula Nursery](#) and [Berkeley Basket CSA](#). All forms of agriculture exist all across the County, and in 2017, 446 farms were in operation,¹⁷ encompassing just over 180,000 acres.¹⁸

¹³ County of Alameda, CA: [General Maps of Unincorporated Alameda County](#), 2010
Alameda County Incorporated cities: Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark Oakland, Piedmont, Pleasanton, San Leandro, Union City. Unincorporated areas: Ashland, Castro Valley, Cherryland, Fairview, San Lorenzo, Sunol.

¹⁴ County of Alameda, CA: [Alameda County Parks, Recreation Historic Sites Directory](#), 2003

¹⁵ California Water Boards: San Francisco Bay Regional Water Quality Control Board Watershed Management Initiative Integrated Plan Chapter: [3.2 Alameda Watershed Management Area](#), 2004

¹⁶ Defined by the USDA, a “small farm” relates to income versus size; defined as an operation that grosses between \$1,000-\$350,000 annually. The [University of California Small Farm Program](#) broadens this definition to include limited resource, direct-to-consumer, socially-disadvantaged farmers, those who have integrating cropping and/or livestock systems, and more.

¹⁷ Note: This estimated number of farms and acreage are based on those farms that interact with the USDA in some capacity (e.g., loan or grant applications, technical assistance, farm registration, etc.). However, we know that many active farms in Alameda County do not interact with the USDA and thus are not officially counted in this number. This is particularly true for farms where the land is not owned by the farmer and leases are short-term and/or the farm is run by a non-profit entity. Reasons farms may not interact with the USDA are numerous and varied, but often it is because they are ineligible for most/all USDA programs or they are unaware/unable to access USDA programs. Hence, the USDA numbers are more likely to undercount small, urban farms.

¹⁸ USDA NASS: [2017 USDA Census of Agriculture - County Profile - Alameda County California](#); note that 2017 is the most recent available data

2.1. Agriculture in Alameda County

California remains a leader in agriculture for the country, producing over a third of vegetables and three-quarters of fruits and nuts for the nation.¹⁹ In 2021, dairy, grapes, almonds and cattle topped the charts as the most valuable agricultural products from California.²⁰ These popular products are also grown in Alameda County, with wine grapes and cattle leading with the highest value.

Agriculture has been a foundation of the Alameda County area since it was settled by Europeans during the mission era and then established as a California County in 1853.²¹ The Livermore Valley became one of the first wine growing regions in the state of California, with Robert Livermore planting the first wine grapes in the 1840s,²² becoming an award-winning wine region by the 1880s.²³



Photo Credit: Henry Mohr, 1900

¹⁹ CDFA: [California Agricultural Production Statistics](#)

²⁰ CDFA: [California Agricultural Production Statistics](#)

²¹ Anderson, Kat. *Tending the wild: Native American knowledge and the management of California's natural resources*. Univ of California Press, 2005.

²² Alameda County Board of Supervisors District 1: [Agricultural Resources](#)

²³ Tri-Valley Conservancy: [Realizing the Heritage: Grape Growing and Winemaking in the Livermore Valley](#), 2022

During the 1960s, County farmers cultivated four main crop types: dry-farmed grains (primarily barley and winter wheat), irrigated pasture (for dairy cattle or hay), vineyards (for wine), and irrigated row crops, particularly tomatoes, sugar beets, vegetables, roses, cauliflower, lettuce, cucumbers, and apricots.²⁴ Despite the long history of agriculture, Alameda area soils are not intrinsically fertile, lacking available phosphorus and/or nitrogen and thus requiring amendments such as fertilizer to increase yields.

The 1966 Soil Report cautioned farmers and ranchers about soil erosion and recommended low- or no-till methods.²⁵ At the time, wells were the primary source for agricultural water, though the South Bay Aqueduct was under construction. Even then there was concern about overdrafting the water table as well as an acknowledgement that some of the water was unfit due to an abundance of boron and other impurities.²⁶ At the same time, there were also concerns about loss of cropland due to industrial and residential development as well as farm consolidation (the number of farms was decreasing but the average size of farms was increasing). Despite those issues, farming and ranching was still considered “well diversified and highly efficient”.²⁷ Additionally, Alameda County also boasted a strong food processing industry (the most economically productive sector of an already strong manufacturing industry in the County), though the majority of the foods processed were grown outside of the County.

Agriculture continues to be a significant economic driver in the County. The tradition of viticulture continues today and while red wine grapes continue to be the highest value crop in the County, the variety of agriculture production has expanded since the 1880s. Urban farms, community gardens and farmers markets are spread throughout the more densely populated areas of west County and vineyards, grazing lands, nurseries and field crops span large swaths of east County; forms of each also exist throughout the County.

For the purposes of this project and report,
the definition of agriculture includes all types of production
for commercial and personal or community consumptive use,
including vineyards, rangelands, field crops,
urban farms and community gardens.

This definition includes the 446 operating farms, as defined by the USDA, as well as a good number that are not captured in the USDA’s definition. Over 180,000 acres in Alameda County are under some sort of production – cropland, conservation program, pasture, rangeland,

²⁴ USDA Soil Conservation Services in cooperation with California Agricultural Experiment Station (1966). Soil Survey: Alameda Area, California. Series 1961, Number 41. U.S. Government Printing Office, Washington, D.C. Pages 31 & 74.

²⁵ USDA Soil Conservation Services in cooperation with California Agricultural Experiment Station (1966). Soil Survey: Alameda Area, California. Series 1961, Number 41. U.S. Government Printing Office, Washington, D.C. Pages 31-32.

²⁶ USDA Soil Conservation Services in cooperation with California Agricultural Experiment Station (1966). Soil Survey: Alameda Area, California. Series 1961, Number 41. U.S. Government Printing Office, Washington, D.C. Pages 71.

²⁷ Survey: Alameda Area, California. Series 1961, Number 41. U.S. Government Printing Office, Washington, D.C. Page 74.

woodland, idle land or farmstead, as defined by the USDA's Census of Agriculture, last completed in 2017.²⁸ The Census of Agriculture counts all acreage that is owned, rented or used by the farmers and ranchers, though it may not capture all production, due to the way the USDA quantifies and communicates with farmers and ranchers.²⁹ A further explanation of these potential data gaps is described in section 2.1.2. Producer Demographics.

2.1.1. Agricultural Economy in Alameda County

In 2021, the most recent data available at the time of this report showed the estimated total gross value of agricultural production in Alameda County was just over \$55 million, about a 25% increase over the previous year.³⁰ This total value comprised approximately 36% of Alameda County's total gross domestic product (GDP) value in 2021.³¹ The value of agricultural production surpassed government and private-goods producing industries, though remained behind the service industry in the County.³²



Photo Credit: Jennifer Trevis, Livermore, CA

²⁸ USDA NASS: [2017 USDA Census of Agriculture - County Profile - Alameda County California](#)

²⁹ USDA: [Census 2017 United States Summary and State Data](#)

³⁰ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021

³¹ FRED Economic Data | St. Louis Fed: [Gross Domestic Product: All Industries in Alameda County, CA \(GDPALL06001\)](#): Accessed July 13; 2021 observation \$152,982,207, updated December 8, 2022

³² FRED Economic Data | St. Louis Fed: [Current Dollar Gross Domestic Product by County: California](#)

³³ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021

Additionally, the County specializes in other fruit and nut production: in 2021, fruit and nut crops – not including wine grapes – totaled \$6.3 million, encompassing 1,900 acres.³⁴ The County also hosts some of the oldest olive groves in California, with some orchards continually producing for over 200 years.³⁵

Despite comprising a substantial present share of the County’s GDP, the value of agricultural production has not translated into the overall viability of Alameda agriculture at large. State projections show real farm production value, adjusted for inflation, remaining the same from 2021 - 2038 and then decreasing slightly.³⁶ This bleak trend extends to employment as well. Despite a 2017 report that found the greatest number of food systems employees – including both agriculture and food sector establishments – across all the counties in the Bay Area region to be in Alameda County,³⁷ most non-farm sectors (e.g. manufacturing, transportation, wholesale and retail, government) in the County are projected to grow from 2021-2050 while farm jobs are expected to remain stagnant.^{38, 39} Currently, only 0.2% of Alameda County’s population is employed in farming, fishing, and forestry with nearly 5% in food prep or serving.⁴⁰



Photo Credit: Jennifer Trevis, Happy Acres Farm, Sunol, CA

³⁴ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021

³⁵ Alameda County CDA: [2016 Alameda County Agricultural Crop Report](#), 2016

³⁶ Caltrans: [Alameda County Economic Forecast](#), n.d.

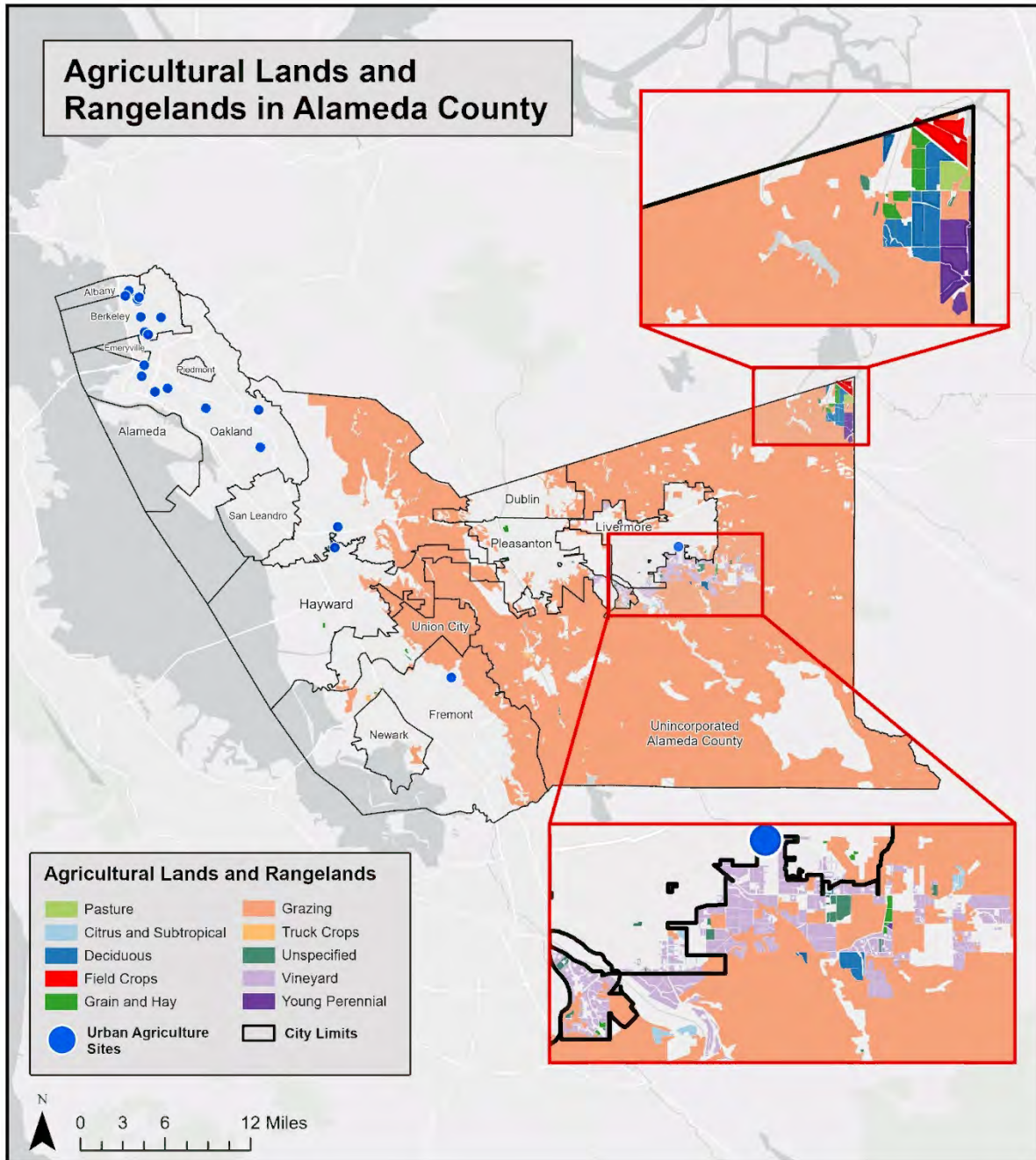
³⁷ Association of Bay Area Governments: [The Bay Area Food Economy: Existing Conditions and Strategies for Resilience](#), 2017

³⁸ CalTrans: [Alameda County Economic Forecast](#), n.d.

³⁹ Alameda County LAFCO: [20-Year Review of Measure D “Save Agriculture and Open Space Lands” Initiative](#)

⁴⁰ Healthy Alameda County: [Employment](#); count includes only those over 16 years of age

Map 2 shows the spread of agriculture production throughout the County. Note that the urban agriculture sites data was created by the University of California Agriculture and Natural Resources (UCANR) department, which captures urban farms, school and community gardens, last updated in 2020. This does not capture all existing forms or sites of production in urban settings, and is likely an undercount. This data gap is further detailed in section 2.1.1.5., that examines urban agriculture.



Map 2: Agricultural Lands and Rangelands in Alameda County. Map produced by UCANR IGIS team on August 23, 2023

Table 1 provides a breakdown of acreage and dollars grossed by agricultural category in 2021 with further details of each agricultural category following.

Table 1: 2021 Agriculture Statistics in Alameda County.

2021 Agriculture Stats in Alameda County⁴¹		
Agriculture category	Total acreage	Total Gross Value
Field crops (including range and pasture)	138,000	\$8,609,000
Fruit and Nut Crops (includes wine grapes, olives and pistachios)	4,600	\$28,482,000
Nursery Products (including ornamental trees, cut flowers, vegetable starts)	116	\$5,768,000
Vegetable crops	150	\$317,600
Livestock and Poultry (includes cattle, calves, sheep, goats, pigs, bee pollination, apiary products and more)	-	\$12,062,000
Totals	142,866	\$55,238,600

In 2021, the value of agricultural production comprised over one-third of Alameda County's total economy.⁴²

Investing in agricultural resilience will require an understanding of the variety of agricultural production in Alameda County. Each of these different crop categories carry their own advantages, needs and challenges. For example, vegetable crops require significantly different labor inputs and land requirements as compared to rangeland maintenance, as well as differing production values, as evidenced by Table 1.

Given the County's history of agriculture in addition to a longstanding identity as a unique winegrowing region and hub for cattle ranching and equine industries, it is important to note the traits and threats that characterize these different agricultural categories. However, across categories, a variety of threats remain constant; the high cost of land, leading to increased competition between sectors that require land and among farmers seeking to secure land leases or purchases. This will be further detailed later in this section. Opportunities that target individual crop and production categories, as well as agriculture as a whole, will be discussed in section 5, "Summary of Current Challenges and Opportunities Facing Agriculture in Alameda County."

⁴¹ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021

⁴² FRED | St. Louis Fed: [Gross Domestic Product: All Industries in Alameda County, CA \(GDPALL06001\)](#)

2.1.1.1. Viticulture

Wine production has formed the identity of Alameda County agriculture and the Livermore Valley more specifically. The specific soils and climate have long lent themselves to the production of high-quality grapes and wine.⁴³ While wine grape production and value can fluctuate depending on the market and environmental conditions, the overall trend over the last 20 years (2000-2020) has been upwards, particularly with red wine grapes.⁴⁴ Red and white wine grapes combined totaled \$22.1 million in 2021 in Alameda County.⁴⁵



Photo Credit: Jennifer Trevis, Rancho Milagro, Livermore, CA

Although wine grapes are the highest value crop in Alameda County, the winery industry still struggles to turn a profit. A University of California Davis survey of Livermore Valley wineries, commissioned by the Tri-Valley Conservancy, found that the majority of wineries surveyed were unprofitable in 2019.⁴⁶ The same survey reveals that 19 Livermore Valley vineyards, comprising approximately 20% of the valley's vineyard acreage, found it more profitable to lease bearing land to a custom farming company at \$500 an acre, rather than farm, make and sell the wine themselves.⁴⁷

⁴³ Tri-Valley Conservancy: [Realizing the Heritage: Grape Growing and Winemaking in the Livermore Valley](#), 2022

⁴⁴ Alameda County LAFCO: [20-Year Review of Measure D "Save Agriculture and Open Space Lands" Initiative](#)

⁴⁵ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021

⁴⁶ Tri-Valley Conservancy: [Realizing the Heritage: Grape Growing and Winemaking in the Livermore Valley](#), 2022

⁴⁷ Tri-Valley Conservancy: [Realizing the Heritage: Grape Growing and Winemaking in the Livermore Valley](#), 2022

Even despite the fact that the take-home was only \$300 per acre since vineyard owners spent \$200 per acre to supply water.⁴⁸ The dearth of profits in the wine industry are likely driven by a complex combination of factors that include lack of interest in outside investment, inadequate infrastructure, and insufficient market share compared to other California wine-growing regions.

2.1.1.2. Livestock, Range, and Pastureland

Rangelands have been a defining feature of eastern Alameda County, with 250,000 acres in rangeland production in the 1960s.⁴⁹ Over the last 60 years, this acreage has been cut nearly in half, with only 135,000 acres in range and pasture lands in 2021,⁵⁰ due to a variety of factors. Still, livestock, range and pasture land in 2021 grossed a total of \$14.6 million, nearly one-third of the total agricultural production in the County.



Photo Credit: Jennifer Trevis, Livermore, CA

In addition to the unprecedented impacts the COVID-19 pandemic had and continues to have on all sectors, there were many other environmental factors in 2020 that had widespread ramifications for the agricultural sector, affecting the cattle industry in particular. The SCU Lightning Complex fires that began in August and the longstanding drought preceding 2020 both had substantial impacts on forage as well as infrastructure.⁵¹

⁴⁸ Tri-Valley Conservancy: [Realizing the Heritage: Grape Growing and Winemaking in the Livermore Valley](#), 2022

⁴⁹ [A Brief History of Agriculture in Alameda County](#) - page 58

⁵⁰ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021

⁵¹ Alameda County CDA: [2020 Alameda County Agricultural Crop Report](#), 2020

The fires destroyed fencing, barns, other ranching buildings, stock ponds, and more while the enduring drought caused 73% of rangeland forage loss in 2020, significantly impacting production in the region.⁵² On the consumer end, the pandemic shifted restaurants and grocery store trends: beef consumption and demand declined, flooding supply and creating lower prices for ranchers, further impacting the cattle industry in Alameda County that was already experiencing aforementioned environmental impacts.⁵³

While acreage and quality of pasture and rangeland has fluctuated over the years, it does not yet seem to have impacted cattle stocks, which has remained somewhat steady at 13,400 over the past five years.⁵⁴ The value of livestock, however, has fluctuated and steadily decreased from a high of \$23.4 million (2020 inflation-adjusted) in 2015⁵⁵ to \$11.4 million in 2021.⁵⁶ While larger trends, like the market price per pound of beef, contribute to value, it is worth noting that the general lack of slaughter and processing facilities throughout the state have significant impacts for the viability of cattle and ranching operations, particularly smaller operations.⁵⁷ The lack of facilities in Alameda County specifically, requires ranchers to leave the County to process their cattle, impeding access for ranchers,⁵⁸ as well as increasing greenhouse gas emissions due to increased Vehicle Miles Traveled (VMTs).⁵⁹

It is reasonable to assume that the lack of in-county processing facilities may make it more challenging for a direct-to-consumer model, like selling processed meats directly at a farmers' market. It is also worth noting that the decline of pasture and associated forage for grazing cattle also has its impacts on economic viability for ranchers, as the potential financial strain associated with the need to purchase forage or other feed supplies can further exacerbate the impacts of varying market prices.

2.1.1.3. Equine Industry

The equine industry is another identity sector for Alameda County, encompassing breeding, training, and boarding facilities for horses, riding, and competition.⁶⁰ The industry, however, has changed since its popularity beginning in the 1980s; with about a 30% decrease in the County's horse population from 2003-2010.⁶¹

⁵² Alameda County CDA: [2020 Alameda County Agricultural Crop Report](#), 2020

⁵³ Alameda County CDA: [2020 Alameda County Agricultural Crop Report](#), 2020

⁵⁴ Alameda County LAFCO: [20-Year Review of Measure D "Save Agriculture and Open Space Lands" Initiative](#)

⁵⁵ Alameda County LAFCO: [20-Year Review of Measure D "Save Agriculture and Open Space Lands" Initiative](#)

⁵⁶ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021

⁵⁷ UCANR: [California's local meat suppliers struggle to stay in business](#), 2021

⁵⁸ ACRCO: [A Needs Assessment for Livestock Processing Services in San Francisco's East and South Bay](#), 2015

⁵⁹ Caltrans: [VMT Reduction](#)

⁶⁰ Alameda County LAFCO: [20-Year Review of Measure D "Save Agriculture and Open Space Lands" Initiative](#)

⁶¹ Alameda County LAFCO: [20-Year Review of Measure D "Save Agriculture and Open Space Lands" Initiative](#)

The Alameda County Agricultural Advisory Committee developed an equine sub-committee charter, in response to this decline in the equine economy, attributed to the adoption of Measure D (2000), which imposed limits on floor-to-area ratios.⁶² Measure D is further discussed in later sections of this document.

The sub-committee has been tasked with restoring the equine industry, focusing on restoring needed infrastructure, updating permitting procedures, and promoting an integrated agritourism vision that would lift up all sectors of Alameda County agriculture, namely viticulture, in addition to equine industries.⁶³



Photo Credit: Jennifer Trevis, Creek Hill Farms, Livermore, CA

2.1.1.4. Organic Agriculture

Organic food continues to grow in popularity for U.S. consumers. In 2021, U.S. organic food product sales topped an estimated \$52 billion, a 48% increase from 2010.⁶⁴ Alameda County's supply of organic agricultural products has grown much more slowly. In 2019, nine registered organic producers were harvesting an estimated 122 acres,⁶⁵ while in 2021, there were 11 registered organic producers, harvesting an estimated 283 acres.⁶⁶

⁶² Agricultural Advisory Committee: [Equine Sub-Committee Charter](#)

⁶³ Agricultural Advisory Committee: [Equine Sub-Committee Charter](#)

⁶⁴ USDA ERS: [Organic Agriculture](#).

⁶⁵ Alameda County CDA: [2019 Alameda County Crop Report](#), 2019

⁶⁶ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021



Photo Credit: Jennifer Trevis, Jamal Watani Farm, Sunol, CA

2.1.1.5. Urban Agriculture

Urban agriculture can potentially provide many benefits for residents, including educational and workforce development opportunities, access to locally-grown fresh produce, a community gathering place and green space in built environments.⁶⁷

In 2021, there were 36 known community gardens totaling 52 acres and 269 school gardens totaling 92 acres in Alameda County, which has remained constant since 2019.^{68, 69, 70} It is important to note that this is potentially a large undercount, as there has not been a consistent or widespread survey of urban farmers. Given this fact, there is a lack of information about the demographics, financials, number and acreage of urban farms in Alameda County, in addition to types of crops produced. The primary purpose of these farms is also not known though many of them may have primarily educational, community and/or health-related goals, rather than commercial production.

⁶⁷ ACRC: [Urban Agriculture](#)

⁶⁸ Alameda County CDA: [2019 Alameda County Crop Report](#), 2019

⁶⁹ Alameda County CDA: [2020 Alameda County Crop Report](#), 2020

⁷⁰ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021



Photo Credit: Jonathan DeLong, REAP Climate Center, Alameda, CA

The University of California Agriculture and Natural Resources (UCANR) coordinated a map for farmers to self-report [urban agriculture sites](#) in the Bay Area, providing more details on several urban farms in Alameda County. This is where data for this report comes from (see Map 2). However, given that all information is voluntarily self-reported to the database, and the database has only been active since September 2022, the map certainly undercounts the number of urban farms in the area.

2.1.1.6. Farmers Markets

Farmers markets can provide higher profit margins for farmers and ranchers by providing options to sell directly to their community – upwards of 90 cents on the dollar, compared to an average of 17.4 cents per dollar when indirect markets are involved, according to a 2017 statistic.⁷¹

Unfortunately, the overall number of farmers markets in Alameda County have been on the decline. In 2019, 35 farmers markets with 728 stalls⁷² fell to 26 farmers markets with 585 stalls by the end of the year.⁷³ By 2021, there were 27 certified farmers' markets in Alameda County but with a growth in the number of stalls to 893.⁷⁴

The mismatch between the decline in farmers markets with a rise in the number of stalls may indicate a high demand from farmers for the market opportunity that farmers markets' offer but a reduction in access by the public. As of this report production, the crop report for 2022 has not yet been released, but the Alameda County Community Development Agency notes 20 certified farmers' markets operating in the County, 14 of which operate year-round.⁷⁵

⁷¹ Ecology Center: [Berkeley Farmers' Markets](#)

⁷² Alameda County CDA: [2019 Alameda County Crop Report](#), 2019

⁷³ Alameda County CDA: [2020 Alameda County Crop Report](#), 2020

⁷⁴ Alameda County CDA: [2021 Alameda County Agricultural Crop Report](#), 2021

⁷⁵ Alameda County CDA: [Farmers' Markets - Commercial Agriculture](#)

These data do not indicate from where farmers are originating, as it is common for farmers to attend farmers markets outside their counties of production. There are also a number of non-certified markets, including those hosted by the Agricultural Institute of Marin, The Ecology Center, Pacific Coast Farmers' Market Association and others, in addition to farm stands and Community Supported Agriculture (CSAs) that are often coordinated by the farms themselves and are not included in the numbers presented here.

2.1.2. Producer Demographics

The United States Department of Agriculture (USDA) conducts a Census of Agriculture every five years; the survey is sent to producers who sold products totaling \$1,000 or more in annual revenue, the USDA's working definition of a farm.⁷⁶ While this captures a large swath of farmers and ranchers nationwide, it relies on producers opting-in to respond and may significantly undercount farmers and ranchers who do not bring in \$1,000 in revenue annually (e.g., farms that donate their produce or sell it at low cost),⁷⁷ or farms with non-farm product revenue streams (e.g., those that are funded by educational programming fees, donations, etc.), as may be the case for many urban farmers.

In Alameda County,
465 producers, identified as male, operated 175,752 acres,
compared to 373 female producers who operated just over 113,000 acres.⁷⁸
The average age across all demographics of producers in the County is 59.⁷⁹

Given the potential undercounting caveat, the best available and most recently published data on farmer demographics is from the 2017 Census of Agriculture which counts 446 farms in operation in Alameda County with 838 producers.⁸⁰ According to the Census, a producer is defined as the individual who is involved in farm operation decision making.⁸¹

In 2017, the majority of producers in Alameda County were over 45 years old (83%), with the largest proportion between the ages of 55-64.⁸² Nearly 40% of producers worked off-farm 200 days or more a year,⁸³ indicating the importance of multiple incomes for the viability of the agriculture community. Table 2 breaks down the number of producers by race. The final column provides the racial breakdown for all of Alameda County by percentage of total population, according to the U.S. Census.

⁷⁶ USDA NASS: [Appendix A. Census of Agriculture Methodology](#)

⁷⁷ The \$1,000 minimum annual revenue threshold is what the USDA uses to define a farm.

⁷⁸ USDA NASS: [Quick Stats: Alameda County, U.S. Census of Agriculture 2017](#)

⁷⁹ USDA NASS: [Quick Stats: Alameda County, U.S. Census of Agriculture 2017](#)

⁸⁰ USA: [Alameda County: 2017 Census of Agriculture Race/Ethnicity/Gender Profile](#); there are often more than one producers per farm - explaining the greater number of producers, as compared to total farms.

⁸¹ USDA NASS: [Appendix B. General Explanation and Census of Agriculture Report Form](#)

⁸² USDA NASS: [Quick Stats: Alameda County, U.S. Census of Agriculture 2017](#)

⁸³ USDA NASS: [Quick Stats: Alameda County, U.S. Census of Agriculture 2017](#)

Table 2: Producers in Alameda County in 2017. *Note that individuals can identify as more than one race or ethnicity which is why total percentages are greater than 100%.

Race of Producer	Number of Producers ⁸⁴	Acreage Operated ⁸⁵	Percent of total producers that identify with each race or ethnicity* (n=838)	Percent of total population in Alameda County that identify with each race or ethnicity* (n=1,628,997) ⁸⁶
American Indian or Alaska Native	4	40	0.5%	1.1%
Asian	29	494	3.5%	34.5%
Black or African American	15	Too little data	1.8%	10.7%
Hispanic	91	10,357	10.9%	22.2%
White	762	182,599	90.9%	28.8% ⁸⁷

These percentages stand in contrast to the breakdown of agricultural producers by race; while white individuals make up less than 30% of the total population in the County, they make up over 90% of agricultural producers. In a similar disparity, black individuals make up almost 11% of the total population but under 2% of producers.

In summary, agricultural producers in Alameda County are predominantly white, older and increasingly working off-farm. These statistics indicate the importance of not only protecting current agricultural land, but also ensuring that the agricultural economy is robust and creates opportunities for younger, more racially diverse farmers and ranchers to enter the agriculture industry and succeed.

2.1.2.1. Farmworkers

Farmworkers are vital for a thriving agricultural economy and are consistently the most vulnerable and often least-paid workers in the U.S.⁸⁸ Permanent farmworkers in the County have been decreasing, totaling 305 in 2017; seasonal farm workers totaled 288 in 2017.⁸⁹ These totals may be gross undercounts, however, given the sensitive nature of citizenship and immigration status of many (migrant) farmworkers.

⁸⁴ USDA NASS: [Quick Stats: Alameda County, U.S. Census of Agriculture 2017](#)

⁸⁵ USDA NASS: [Quick Stats: Alameda County, U.S. Census of Agriculture 2017](#)

⁸⁶ U.S. Census Bureau: [Quick Facts, Alameda County, California](#)

⁸⁷ "White alone, not Hispanic or Latino;" White alone is 47.1%. Data: U.S. Census Bureau [Quick Facts, Alameda County, California](#)

⁸⁸ Economic Policy Institute: [The farmworker wage gap continued in 2020](#), 2021

⁸⁹ Alameda County Ag Advisory Committee: [Housing Element Public Review Draft](#)

Despite this likely undercounting, it is important to put the full number of farmworkers (n=593) in context of total farms (n=466) and total producers (n=838) in the County in 2017, as they are the foundation of the agricultural economy. In recognition of the seasonality and variability of work, in addition to low-incomes, there are special housing needs considerations for farmworkers.⁹⁰

At the time of this report writing, the Agricultural Advisory Committee is planning to consider a Live-Work-Farm policy and model to address the housing crisis as it relates to farmworkers at a future meeting, as a response to the County's public comment solicitation for Agricultural Employee Housing.⁹¹

2.2. Competition for Land Use and Threats to Agriculture in Alameda County

Despite the large share of the overall economy that agriculture in Alameda County holds, there are significant threats to agricultural viability, primarily due to land prices and subsequent competition between and valuation among different land uses. Two of the most persistent challenges related to land use competition that result in increasing land prices are the potential development of agricultural land into new housing to address a chronic and severe housing shortage in the region or into energy production.

2.2.1. Housing

While the population of the Bay Area at large is expecting stagnant growth in the short term, the California Department of Transportation is projecting that the population of Alameda County will grow at a slightly faster rate over the next two years.⁹² Over the long term, the Association of Bay Area Governments expects the number of households in the County to grow by 54% by 2050.⁹³ This growth and subsequent demand for housing has not yet been met with adequate supply and Alameda County residents are deeply familiar with the Bay Area housing crisis. Nearly a quarter of residents face severe housing problems, defined as dealing with at least one of the four following issues: overcrowding, high housing costs, lack of kitchen, or lack of plumbing.⁹⁴

As a result of the urgent need for housing development, house and land values continue to rise. According to the real estate broker Compass, the median house value in all of Alameda County peaked in 2022 at just under \$1.5 million,⁹⁵ which is a 70% increase from 2020, already an 11% increase from 2019.⁹⁶

⁹⁰ Alameda County Ag Advisory Committee: [Housing Element Public Review Draft](#)

⁹¹ Alameda County Ag Advisory Committee: [Agenda August 22, 2023](#)

⁹² Caltrans: [Alameda County Economic Forecast](#)

⁹³ Plan Bay Area 2050: [The Final Blueprint Growth Pattern](#) - updated January 21, 2021

⁹⁴ Healthy Alameda County: [Severe Housing Problems](#)

⁹⁵ Compass: [San Francisco Bay Area Home Price Appreciation & Market Cycles Since 1990](#)

⁹⁶ Caltrans: [Alameda County Economic Forecast](#)

An average of 6,000 new homes per year started construction in Alameda County from 2015-2020⁹⁷ and in mid-2021 there were just under 630,000 housing units in Alameda County.⁹⁸ New construction between 2021-2026 is forecasted to average 5,500 homes per year and will be primarily condominiums and apartment complexes.⁹⁹

Jurisdictions in incorporated and unincorporated Alameda County must plan to accommodate nearly 89,000 new housing units between 2023 and 2031.¹⁰⁰ More specifically, more affordable housing needs to be developed, including housing facilities and projects for farmworker communities. **The current expected construction rate will not meet this need.** Additional housing needs could be met with a variety of different housing models, including accessory dwelling units (ADUs), enhancing/bolstering infill density and mixed development with industrial and commercial projects.

Strategies or solutions that focus on meeting housing supply solely on a numbers basis, however, may ignore potentials for synergy between housing development and agriculture or other community garden space integration and will not solve the housing crisis or support the more vulnerable households.¹⁰¹ It is also imperative that this new development not be at the expense of agricultural or other working lands. For example, through the encouragement of infill development, agriculture can be protected while still addressing the housing crisis. Beyond infill, it is important to develop a variety of different housing options that spare agriculture and work towards meeting climate change and housing goals, such as green design features¹⁰² and utilizing existing financial resources for sustainable infill housing development.¹⁰³



Photo Credit: Jennifer Trevis, Happy Acres Farm, Sunol, CA

⁹⁷ Caltrans: [Alameda County Economic Forecast](#)

⁹⁸ U.S. Census Bureau: [QuickFacts: Alameda County, California](#)

⁹⁹ Caltrans: [Alameda County Economic Forecast](#)

¹⁰⁰ Association of Bay Area Governments: [Final Regional Housing Needs Allocation Plan: San Francisco Bay Area, 2023-2031](#), 2022

¹⁰¹ Bay Area Council Economic Institute: [Solving the Housing Affordability Crisis in Alameda County](#)

¹⁰² Example: [Green Affordable Housing Program - USGBC-LA](#)

¹⁰³ Example: State of California [Affordable Housing and Sustainable Communities Program \(AHSC\)](#)

2.2.2. Energy production

Much of Alameda County is also appropriate for renewable energy production, particularly wind and solar power. The Altamont Pass Wind Resource Area was established in 1980 by the California Energy Commission within both Alameda and Contra Costa Counties.¹⁰⁴ After lawsuits and multiple wind energy operators' subsequent repowering, the Resource Area increased its energy production with new higher-capacity turbines while reducing the overall number of turbines.^{105,106} Nearly all of the area is now concurrently used for cattle grazing.

Alameda County has developed 11 solar projects that encompass over 19,000 panels on rooftop and carports of County facilities that generate 3.5 megawatts, offsetting 38,600 tons of carbon emissions over 30 years.¹⁰⁷ These County facilities include the Dublin Office of Emergency Services, Santa Rita Jail, Wiley W. Manuel Courthouse in Oakland and more.¹⁰⁸ Large-scale solar projects continue to face concerns in Alameda County, however, in regards to sizing and siting. The Board of Supervisors Transportation and Planning Committee has continued to review policy recommendations to determine best options.¹⁰⁹ In response to recommendations from County staff, the Agricultural Advisory Committee created a Solar Subcommittee which has drafted policies that both preserve agricultural lands and allow for the potential to develop agrivoltaics.¹¹⁰ Agrivoltaics is an emerging field that has developed methods to incorporate solar arrays into agricultural land without impacting the production or arability.¹¹¹

2.2.3. Lack of infrastructure and community demand for local agriculture

Other challenges to agriculture within the County include a lack of needed infrastructure for product processing as well as a lack of community demand for local agriculture. Both of these challenges were expressed by stakeholders at the group meetings and in subsequent conversations.

This report defines “local agriculture” as agriculture products
grown in Alameda and Contra Costa Counties.

As previously stated, the lack of infrastructure, particularly as it relates to meat processing and wastewater facilities for winemaking, is aligned with a decline in agricultural production. Stakeholders also noted the need for more refrigerated-storage facilities, particularly nearby highways so as to make product transport easier. This infrastructure need is described in more detail in sections 4 & 5. Stakeholders involved in this project also spoke to the lack of consumer awareness and resulting lack of demand for locally-grown products, including wine.

¹⁰⁴ County of Alameda, CA: [Wind Turbine Projects - Current Development Projects - Policies & Plans Under Consideration](#)

¹⁰⁵ Local News Matters: [New Altamont Pass wind farm replaces hundreds of old turbines, helps Alameda County meet clean energy goals](#), 2021

¹⁰⁶ County of Alameda, CA: [Wind Turbine Projects - Current Development Projects - Policies & Plans Under Consideration](#)

¹⁰⁷ County of Alameda, CA: [Solar Energy](#)

¹⁰⁸ County of Alameda, CA: [Solar Energy](#)

¹⁰⁹ County of Alameda, CA: [Solar Policies](#)

¹¹⁰ County of Alameda, CA: [Solar Policies](#)

¹¹¹ NRDC: [Made in the Shade: The Promise of Farming with Solar Panels](#), 2022

The inadequacy of appropriate infrastructure within the County, combined with a disconnect between local producer and local consumer has contributed to the vulnerable position Alameda County agriculture currently holds.

2.3. The Impacts of Climate Change in Alameda County

Alameda County with its Mediterranean climate, has typically experienced mild winters and dry, warm summers, ripe for agricultural production and biological diversity.¹¹² This typical pattern has been shifting with climate change leading to both rising temperatures and rising tides. Urban and rural communities alike feel the impacts of increasing extreme heat and intense variability in precipitation. Climate change affects all sectors, but in particular, agricultural operations of all types and sizes are often at the frontlines of these impacts. Sea level rise, storm-related flooding, and multi-year droughts impact local infrastructure and water availability while wildfire threat and smoke disrupt outdoor work, crop quality, livestock health, and supply chains. The following topics detail the different ways that variability in heat and precipitation has impacted both Alameda County residents and agriculture.

2.3.1. Heat

The number of extreme heat days is trending upwards in the County, with a 67% increase from 2019 to 2020 and a total of 26 heat days in 2021.¹¹³ The California [Cal-Adapt](#) tools describe future climate change impact scenarios under various emissions projections, in relation to 30-year baseline data from 1961-1990. The emissions scenarios include a medium and high emission scenario, defined by the Intergovernmental Panel on Climate Change (IPCC), as emissions peaking at about 2040 and then declining (medium), and emissions rising continually through the end of 2099 (high).¹¹⁴ Under the medium emissions scenario, extreme heat days in the County will reach 13 days per year from 2035-2064 and 16 days per year by the end of the century (2070-2099). Under a high emissions scenario, extreme heat days are projected to top 16 days annually from 2035-2064 and 30 days annually from 2070-2099.¹¹⁵

Extreme heat can lead to an increase of heat-related illnesses, including exhaustion, dehydration and heat stroke.¹¹⁶ Warming temperatures will also increase smog,¹¹⁷ resulting in an increasingly negative effect on air quality and community member health for all Alameda County residents. In regards to agriculture, extreme heat has a negative effect on crop yields, causing plant stress and mortality and stunting plant growth, as well as negatively affecting farmworker health and safety.¹¹⁸

¹¹² California Climate Adaptation Strategy: [Region San Francisco Bay Area](#)

¹¹³ Healthy Alameda County: [Number of Extreme Heat Days](#)

¹¹⁴ Cal Adapt: [Which RCP \(emissions\) scenarios should I use in my analysis?](#)

¹¹⁵ Cal Adapt: [Local Climate Change Snapshot](#) - Alameda County

¹¹⁶ Alameda County Public Health Department: [Heat and Health](#)

¹¹⁷ County of Alameda, CA: [Climate Change Impacts](#)

¹¹⁸ Parker, L. E., McElrone, A. J., Ostoja, S. M., & Forrestel, E. J. (2020). [Extreme heat effects on perennial crops and strategies for sustaining future production](#). Plant Science, 295.

Extreme heat also impacts the interactions between pollinators and plants, further stressing and diminishing both pollinator and plant health.¹¹⁹ Warm nights – defined as daily minimum temperature above 61.2°F – averaged 4 nights per year from 1961-1990 in the County and are projected to reach 37 nights per year under medium emissions scenario from 2070-2099 and 76 nights per year under high emissions scenario in the same time period.¹²⁰ Warm nights are important to track because many high value crops grown in Alameda County require a certain number of chill hours, defined as the number of hours below 45°F or hours between 32-45°F from the beginning of November to the end of February.¹²¹

At this time, it is not known how many days are expected to be below 45°F in the County specifically, however, Cal-Adapt projects the average minimum temperature to rise 3.1°F from the average of 46.8°F by 2064 under medium emissions scenarios and 4°F under high emissions.¹²² While grapes, currently the highest value crop in Alameda County, do not require as many chill hours as stone fruits (typically less than 200 hours),¹²³ increasingly warm nights may pose a threat to the fruit and nut industry, ranked third in gross value for the County.¹²⁴



Photo Credit: Jennifer Trevis, Cherryland Elementary Garden, Cherryland, CA

Despite warming trends as a whole for the region, more localized areas with microclimates within the County might experience variations from this warmer trend, with cooler and wetter winters. While there are excellent models that predict general upward movement in temperatures, taking into account the marine layer and mountain ranges, there may be pockets within the County that experience cooler temperatures as time goes on. Ensuring that agriculture is resilient in the face of this increasing variability in temperature is therefore paramount.

¹¹⁹ Inside Climate News: [Extreme Heat Poses an Emerging Threat to Food Crops](#), 2022

¹²⁰ Cal Adapt: [Local Climate Change Snapshot - Alameda County](#)

¹²¹ UCANR: [Spring 2018 Weather Confounds: Lack of Chill for Trees, Frost Damage in Grapes](#), 2018

¹²² Cal Adapt: [Local Climate Change Snapshot - Alameda County](#)

¹²³ UCANR: [Spring 2018 Weather Confounds: Lack of Chill for Trees, Frost Damage in Grapes](#), 2018

¹²⁴ CDFA: [California Agricultural Statistics Review 2020-2021](#)

2.3.2. Water

The impacts of climate change cause will likely cause both a shortage of freshwater availability and the unfortunate reality of sea level rise and accompanied flooding. Both impact local agriculture significantly.

According to climate models, there is an 80% likelihood of 3 feet or more sea level rise above the current high tide line from 2016-2040 in the County.¹²⁵ Rising tides can lead to increasing salinity in groundwater and other saltwater intrusions in aquifers, with resulting impacts on agriculture that relies on groundwater.¹²⁶ Alameda was the first County in the Bay Area to conduct a sea level rise vulnerability assessment from 2011 to 2014.¹²⁷ The resulting Adapting to Rising Tides project (ART) presents strategies to both communicate risk and resolve vulnerability issues with shoreline communities in the face of sea level rise and storms,¹²⁸ while also facilitating new collaborative adaptation planning efforts among jurisdictions and shorelines in the East Bay.¹²⁹

Increasing droughts and associated water shortages affect both farmers and ranchers and non-farming residents. In 2021, Alameda County spent 47 weeks in moderate drought or worse, up from 43 weeks in 2020.¹³⁰ Cal-Adapt projects that the maximum length of a dry spell—number of consecutive days with precipitation less than 1 millimeter—will increase to an average of 121 days annually (up from the 114-day baseline average from 1961-1990) under a medium emissions scenario from 2035-2064 with annual precipitation fluctuating greatly, with briefer, more intense storm events.¹³¹

2.3.4. Climate-smart agriculture

Despite an overall decline in Alameda County's natural forest cover, the remaining forest cover still acts as a net carbon sink, removing 55,300 metric tons of carbon dioxide per year,¹³² equivalent to removing over 12,000 gas powered cars from the road.¹³³ Also, an effective sink, the County's soil stored 12.7 million metric tons of carbon in 2000,¹³⁴ equivalent to removing 2.8 million gas-powered vehicles from the road.¹³⁵

Specific agricultural practices can not only adapt in the face of rising temperatures and associated freshwater shortages, but can also work to mitigate climate change by reducing emissions and drawing down greenhouse gasses into soils and woody plant materials.

¹²⁵ Risk Finder: [Alameda County, CA, USA](#)

¹²⁶ USDA Climate Hubs: [Southwest Regional Climate Hub and California Subsidiary Hub Assessment of Climate Change Vulnerability and Adaptation and Mitigation](#), 2015

¹²⁷ California's Fourth Climate Change Assessment: [San Francisco Bay Area Region Report](#)

¹²⁸ [Alameda County ART Project](#)

¹²⁹ California's Fourth Climate Change Assessment: [San Francisco Bay Area Region Report](#)

¹³⁰ Healthy Alameda County: [Weeks of Moderate Drought or Worse](#)

¹³¹ Cal Adapt: [Local Climate Change Snapshot](#) - Alameda County

¹³² Global Forest Watch: [Alameda County](#)

¹³³ US EPA: [Greenhouse Gas Equivalencies Calculator](#)

¹³⁴ Global Forest Watch: [Alameda County](#)

¹³⁵ US EPA: [Greenhouse Gas Equivalencies Calculator](#)

These practices, such as low or no-till, cover cropping, intercropping and more, are commonly referred to as climate-smart agriculture. Climate-smart agriculture practices can:

1. Increase carbon sequestration;¹³⁶
2. Increase water infiltration;¹³⁷
3. Reduce greenhouse gas emissions.¹³⁸

Climate-smart agriculture is a key strategy to achieve both viability in the agricultural economy and climate resiliency, drawing down carbon and reducing emissions while providing a number of co-benefits and ensuring the ability to bounce back in the face of future shocks. The conservation of agricultural land, particularly land farmed with these practices, is a key public health tool, climate change mitigation strategy, and economy stabilizer.¹³⁹

2.3.5. Impact on underserved populations

While the wide variability in precipitation, heat and associated impacts due to climate change affect all residents of Alameda County, the burden falls disproportionately on underserved communities. A recent report from the Environmental Protection Agency (EPA) found that populations that are most socially vulnerable – categorized by income, educational attainment, race/ethnicity and age – are the most exposed to the worst impacts of climate change.¹⁴⁰ Hispanic and Latino communities in particular are most often in weather-exposed industries, like farm labor, and are particularly vulnerable to increases in heat and associated health impacts.¹⁴¹

2.4. Section Summary

- Alameda County's 739 square miles is split between urban areas and rural, unincorporated communities, with a substantial portion of the land in farming, rangelands and state, regional or urban parkland. Many of the unprotected open space areas within urban growth boundaries face development pressures due to growing energy and housing needs.
- Large-scale solar projects have faced controversy over sizing and siting due to the amount of land traditional projects require. The Solar Subcommittee of the Agricultural Advisory Committee has drafted policies to address both needs.

¹³⁶ Bai X, Huang Y, Ren W, Coyne M, Jacinthe PA, Tao B, Hui D, Yang J, Matocha C. [Responses of soil carbon sequestration to climate-smart agriculture practices: A meta-analysis](#). Glob Chang Biol. 2019 Aug;25(8):2591-2606. doi: 10.1111/gcb.14658. Epub 2019 May 16.

¹³⁷ USA: [Climate-Smart Agriculture: Soil Health & Carbon Farming](#)

¹³⁸ NCAT ATTRA: [Food Miles: Background and Marketing](#)

¹³⁹ Farmers and other public health professionals can use the [USDA COMET-Planner](#) to determine the greenhouse gas emissions offset and other carbon sequestration benefits due to specific agricultural practices.

¹⁴⁰ US EPA: [EPA Report Shows Disproportionate Impacts of Climate Change on Socially Vulnerable Populations in the United States](#), 2021

¹⁴¹ US EPA: [Social Vulnerability Report](#)

- In 2021, agriculture in Alameda County grossed over \$55 million in sales. The highest value crops were red wine grapes and cattle and calves, grossing just over half of the whole sector. At this time, the agricultural economy's growth is expected to slow and eventually stagnate.
- Agricultural producers in Alameda County are predominantly white, older and increasingly working off-farm, illuminating the need for agricultural lands protection and opportunities for younger, more racially diverse farmers and ranchers to enter the agriculture industry and succeed, to ensure the agricultural economy is robust and resilient.
- Climate change impacts urban and rural communities in Alameda County in many ways and while all sectors are affected, agricultural operations of all types and sizes have felt disproportionate impacts. Extreme heat, warmer nights and increasing variability in precipitation is projected to increasingly impact agriculture over this century.



Photo Credit: Jennifer Trevis, Monarch Bay, San Leandro, CA

3. Review of Existing Agriculture and Land Use Policies in Alameda

This section describes the planning and land use policies within Alameda County's jurisdictions based on a review of policy and legislative documents.¹⁴²

3.1. Document Review Process

The ACARP team reviewed county-wide and city-specific policy documents relating to agriculture and land use, including the most recent General Plans and Climate Action Plans for Alameda County and for each incorporated city in the County: the City of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro and Union City. In some cases, relevant specific plans were also reviewed, including each of the unincorporated areas that had plans: Ashland/Cherryland, Castro Valley, Fairview and San Lorenzo.

The purpose of the review was to identify challenges and opportunities related to the goals of this project so that policy solutions, including model policies, could be highlighted within this report. A summary of the document review follows.

3.2. Eastern and Western Alameda County

Both eastern and western Alameda County have a long agricultural history. Though much of the land that was farmed or used as rangeland since colonization, particularly in western Alameda County, has since been lost to urbanization, there is support from residents and a number of policies meant to conserve what agricultural land remains in the County.

In reviewing the policy documents for each jurisdiction, we noticed divisions in circumstances that were roughly split between eastern and western parts of the County. Jurisdictions west of Pleasanton ridge mostly lack space for large scale agriculture and rangeland. These jurisdictions were less likely to mention commercial agriculture or agricultural zoning in their planning documents. Many had only a few or no city-sponsored or -supported community gardens or farmers markets, despite the typically smaller parcel areas and residential densities being well suited for smaller-scale agricultural projects. Jurisdictions east of Pleasanton Ridge, however, tended to have more explicit mention of open space and large parcel agriculture along with agricultural zoning and an interest in maintaining agriculture in or around their jurisdictions.

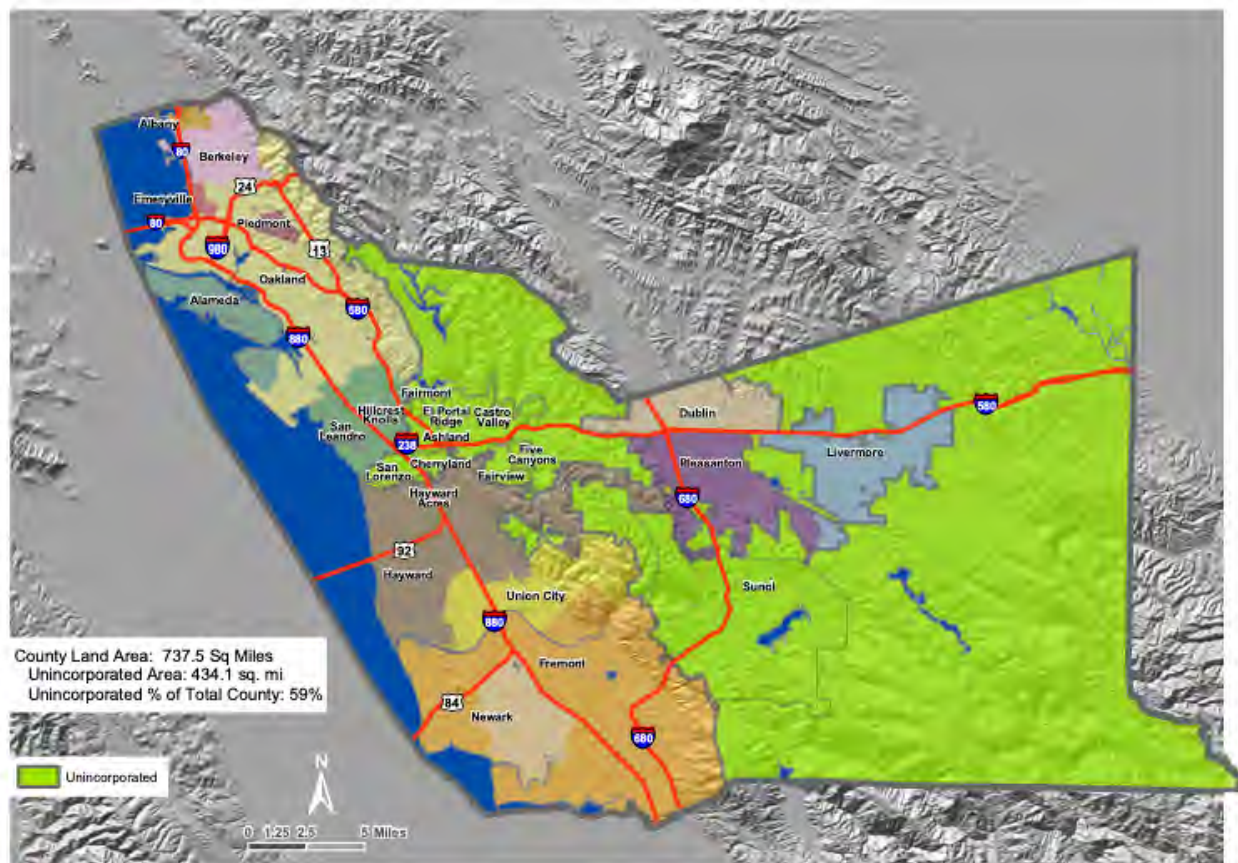
There are of course many similarities across the County. Jurisdictions on both sides of the County have urban growth boundaries that are likely to hold steady, but for different reasons.

¹⁴² Note: State and Federal laws and budgets can and often influence agricultural policy, programming and funding, but a review of that magnitude was outside the scope of this project and report.

In more rural east County, most jurisdictions require voter approval to move the urban growth boundary whereas in west County, most jurisdictions' urban growth boundaries abut other jurisdictions urban growth boundaries due to density. In both cases this suggests that loss of agriculture due to development is more likely to occur within urban growth boundaries than outside of them.

3.3. Existing County-Wide Agricultural Policies

There are several pieces of local legislation and ongoing planning efforts to conserve, grow and sustain agriculture in the region. The following is a review of four important policy documents directing agriculture and agricultural land use in unincorporated Alameda County (Map 3). An analysis of municipal agricultural policies follows.

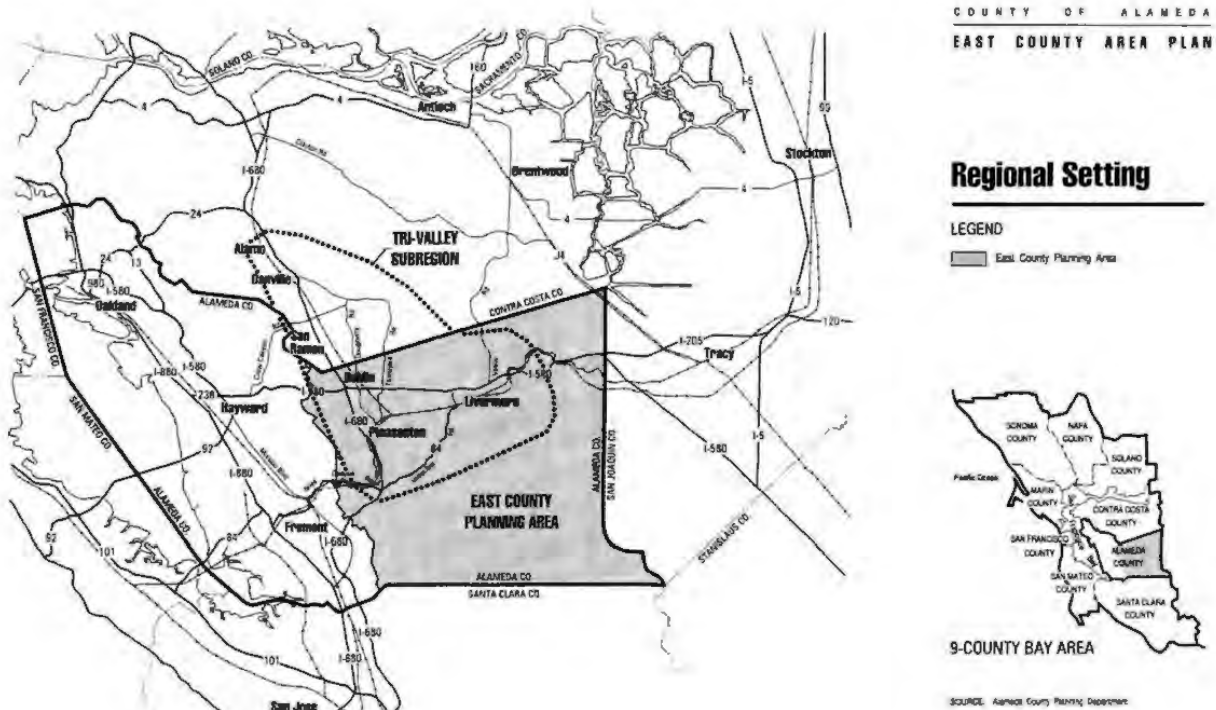


Alameda County Community Development Agency, March 2010

Map 3: General Map of Unincorporated Alameda County - [Maps - Planning - Community Development Agency - Alameda County](#)

3.3.1. East County Area Plan (ECAP)

The East County Area encompasses 418 square miles of eastern Alameda County and includes the cities of Dublin, Livermore, Pleasanton and a portion of Hayward as well as surrounding unincorporated areas (Map 4).¹⁴³ This area has historically experienced significant growth pressure with conflicts between housing development, agriculture, job creation and renewable energy development. East County is home to the majority of rural agricultural land and production in Alameda County and the ECAP has extensive policies related to agricultural land preservation.



Map 4: East County Area Plan (ECAP) coverage. From: [East County Area Plan](#)

The Plan was originally adopted in 1994 and then significantly amended in 2002 after the passage of Measure D (discussed below). Amendments that have been incorporated into the document include:¹⁴⁴

- Revisions to the urban growth boundary to remove North Livermore from urban development.
- Lands designated for Urban Reserve were redesignated as Large Parcel Agriculture.
- Land use policies for the Large Parcel Agriculture, Resource Management, and Rural Residential designations became more restrictive.

¹⁴³ Alameda County CDA: [East County Area Plan \(ECAP\)](#), page 1.

¹⁴⁴ Alameda County CDA: [East County Area Plan \(ECAP\)](#), page 11.

The Agriculture section of ECAP identifies a goal of maximizing long-term productivity of East County's agricultural resources.¹⁴⁵ To support this goal, numerous policies and implementation programs are defined. Of particular interest to this analysis are the following policies:

- [Policy 75](#): The County shall enforce the provisions of the Alameda County Right-to-Farm Ordinance on all lands within and adjacent to agricultural areas.¹⁴⁶
- [Policy 89](#): The County shall retain rangeland in large, contiguous blocks of sufficient size to enable commercially viable grazing.¹⁴⁷
- [Program 39](#): The County shall support the efforts of the non-profit South Livermore Valley Agricultural Land Trust [now the Tri-Valley Conservancy]¹⁴⁸ and the Alameda County Open Space Land Trust [does not exist] to purchase or receive and hold fee title or agricultural easements as governed by its by-laws. The County shall support continued private ownership and productive use of agricultural lands, and public acquisition of open space lands for public park purposes, outside the urban growth boundary.¹⁴⁹

3.3.2. Measure D (2000 and 2022)

Measure D, Save Agriculture and Open Space Lands Initiative, was approved by Alameda County Voters in 2000. The measure amended the ECAP and the Castro Valley General Plan including a revision of the urban growth boundary to protect agriculture and open space in east Alameda County and Castro Valley, and limit housing development to within existing city boundaries. A vote by the citizens is required to change policies laid out in Measure D unless the proposed policies are consistent with the general plan amendments approved by voters. The Measure permitted agricultural processing facilities (e.g., wineries, olive presses) and agricultural enhancing commercial uses¹⁵⁰ which was further amended by the voters in 2022 to increase the floor-area-ratios allowed for agricultural buildings and covered equestrian riding arenas with a measure of the same name (Measure D).

Measure D via ECAP directs the County to meet State housing obligations for the East County area within the new County UGB “to the maximum extent feasible.” If State-imposed housing obligations make it necessary to go beyond the urban growth boundary, the voters of the County may approve an extension of the boundary.

¹⁴⁵ Alameda County CDA: [East County Area Plan \(ECAP\)](#), page 22.

¹⁴⁶ Alameda County CDA: [East County Area Plan \(ECAP\)](#), page 22.

¹⁴⁷ Alameda County CDA: [East County Area Plan \(ECAP\)](#), page 24.

¹⁴⁸ A brief history of the change can be found in [Alameda LAFCO South Livermore Valley Special Study](#). 2023. Chapter 3.7 - Conservation Easements and Public Lands/Parks, page 26..

¹⁴⁹ Alameda County CDA: [East County Area Plan \(ECAP\)](#), page 27.

¹⁵⁰ Addition of Agricultural Support Services: Measure D Policy 81A is ECAP Policy 78; Measure D Policy 85 is ECAP Policy 82; and Measure D Policy 301A is ECAP Policies 326 – 338.

The Board of Supervisors may approve housing outside the UGB for the purpose of meeting housing obligations if, subject to the requirements of the State housing law (i.e., Regional Housing Needs Allocation - RHNA), criteria specified by Measure D can be met. Requirements for the Board of Directors to approve housing development outside the UGB are outlined in ECAP.¹⁵¹

There are some aspects of Measure D that have not been fully implemented. For example, the measure called for the creation of an agricultural land trust by Alameda County, if no appropriate land trust was available. Tri-Valley Conservancy currently fills the role of the land trust identified in Measure D, but there are specific stipulations about the land trust that were laid out in the Measure and have not been executed, including a call for the County to levy a fee on parcels to defray the costs of financing the operations of the land trust.¹⁵² No such in-lieu fee was ever adopted.

In 2022, Alameda LAFCO commissioned a report to review the outcomes of Measure D's land use policies.¹⁵³ The report highlights a major success of the measure - no agricultural land outside of urban growth boundaries has been lost or converted to other land uses since Measure D was passed in 2000. However, the report also makes clear that Alameda County has experienced significant losses in farm-based employment and a "sizable decline in sales revenue and productive agricultural use of other agricultural activities (e.g., pasture and dry farming, ranching and horse boarding)".¹⁵⁴ It also calls out Alameda County's "stagnant agricultural economy".¹⁵⁵ The report found that one of the significant factors contributing to the decline of rangeland and pasture, in particular, is drought and the resulting impact on forage conditions, as previously detailed.¹⁵⁶



Photo Credit: Jennifer Trevis, Pleasanton, CA

¹⁵¹ Alameda County CDA: [East County Area Plan \(ECAP\)](#), page 13.

¹⁵² Revisions to North Livermore Intensive Agriculture, Policy 301A (5) outlined in Measure D

¹⁵³ [LAFCO's 20-Year Review of Measure D and Proposed Recommendations](#)

¹⁵⁴ Alameda County LAFCO: [20-Year Review of Measure D "Save Agriculture and Open Space Lands" Initiative](#) Page 4.

¹⁵⁵ Alameda County LAFCO: Measure D Report: Findings and Conclusions. 2022. Page 3.

¹⁵⁶ Alameda County LAFCO: [20-Year Review of Measure D "Save Agriculture and Open Space Lands" Initiative](#)

LAFCO's Measure D report makes several recommendations including additional changes to the floor-area-ratio (which was accomplished by Measure D 2022), a new process for reviewing building envelope allowances and a call for Alameda's Agricultural Advisory Committee to "develop policies on how to enhance agricultural business".¹⁵⁷

3.3.3. Alameda County General Plan

California State Law requires each County to prepare and adopt a general plan which provides long-range policy guidance related to physical, economic and environmental growth in the area. Elements of the Alameda County's current General Plan were mostly adopted by the Board of Supervisors in the 1970s (Conservation, Open Space and Noise Elements) though the most recent Housing and Safety Elements are more current (2015 and 2013 respectively) with an updated Housing Element expected by the end of 2023.

Countywide Elements that have been adopted by the Board of Supervisors have established important policies for the protection of agriculture in Alameda County and supporting climate resilience and community health through incentivizing community-based agriculture. Below is a brief summary of the enacted policies from those existing elements.

Conservation Element

- Calls for the establishment of the Agricultural Advisory Committee.¹⁵⁸
- Calls for education and outreach regarding resource conservation.¹⁵⁹
- Calls for urban development toward less productive ag land in order to protect prime agricultural land.¹⁶⁰
- Calls for several actions to financially incentivize agricultural production including maintenance of the Williamson Act.

Open Space Element

- Discusses three types of Open Space: 1) cultivated agriculture, 2) uncultivated agriculture, and 3) major parks and recreation areas.¹⁶¹
- Open Space Objectives lay out several important policies including stabilizing open space property values and enhancing the urban and rural economy of Alameda County by containing urban growth through the preservation of open space including agricultural open space.¹⁶²
- Implementation Principles calls for the use of zoning to retain agricultural lands in large holdings.¹⁶³

¹⁵⁷ Alameda County LAFCO: Measure D Report: Findings and Conclusions. 2022. Pages 3-4 and Amendment 1.

¹⁵⁸ Alameda County: Conservation Element, Page I-92.

¹⁵⁹ Alameda County: Conservation Element, Page I-92.

¹⁶⁰ Alameda County: Conservation Element, page I-89.

¹⁶¹ Alameda County: Open Space Element 1994, page 3.

¹⁶² Alameda County: Open Space Element 1994, page 8.

¹⁶³ Alameda County: Open space Element 1994, page 13.

Currently the Alameda County General Plan has a few ongoing programs to support agriculture in the County including the maintenance of the Williamson Act and the Agricultural Advisory Committee but they have not been able to implement some of their more progressive policies and programs laid out in other parts of their General Plan such as modifying the tax structure of agricultural lands or protecting urban adjacent agriculture. These not yet implemented policies are detailed in the Policy Recommendations Section (section 6).

3.3.3.1. Changes to the Alameda County General Plan

Alameda County is currently in the process of revising several parts of its general plan including the Conservation, Scenic Route and Open Space Elements as well as developing a new optional Agriculture Element. These combined elements will be known as ROSA (Resource Conservation, Open Space and Agriculture).¹⁶⁴ Work on ROSA has been delayed, so our analysis is focused on existing Countywide Elements.

The County's Safety Element and the Community Climate Action Plan are also both being updated as of the time of writing this report. Due to the significant overlap, Community Development Agency staff has suggested combining them into one element.¹⁶⁵ Virtual stakeholder workshops were held in the first half of 2023 as part of the update of the Alameda County Community Climate Action Plan. Public review of the draft will start in Fall 2023.¹⁶⁶

Additionally, Alameda County Community Development Agency is also working on the newly required Environmental Justice Element with review of the document occurring in summer 2023. A final draft is expected to be approved by the Alameda County Board of Supervisors by the end of the 2023 calendar year.



Photo Credit: Jennifer Trevis, Calhoun Sisters Ranch, Livermore, CA

¹⁶⁴ Alameda County: General Plan Annual Report and Housing Element Annual Report for 2020

¹⁶⁵ Alameda County: General Plan Annual Report and Housing Element Annual Report for 2020, page 6.

¹⁶⁶ Per conversations with Alameda County CDA.

The Ashland and Cherryland Community Health and Wellness Element, published in 2015, includes many of the necessary elements of an Environmental Justice Element and therefore served as a model for the County's element.

Together, ROSA, the Climate Action Plan and the Environmental Justice Element provide an opportunity to think holistically about agriculture and food systems in Alameda County and make other County-wide agricultural policies documents, listed below, more cohesive and implementable.

3.3.4. South Livermore Valley Area Plan (SLVAP)

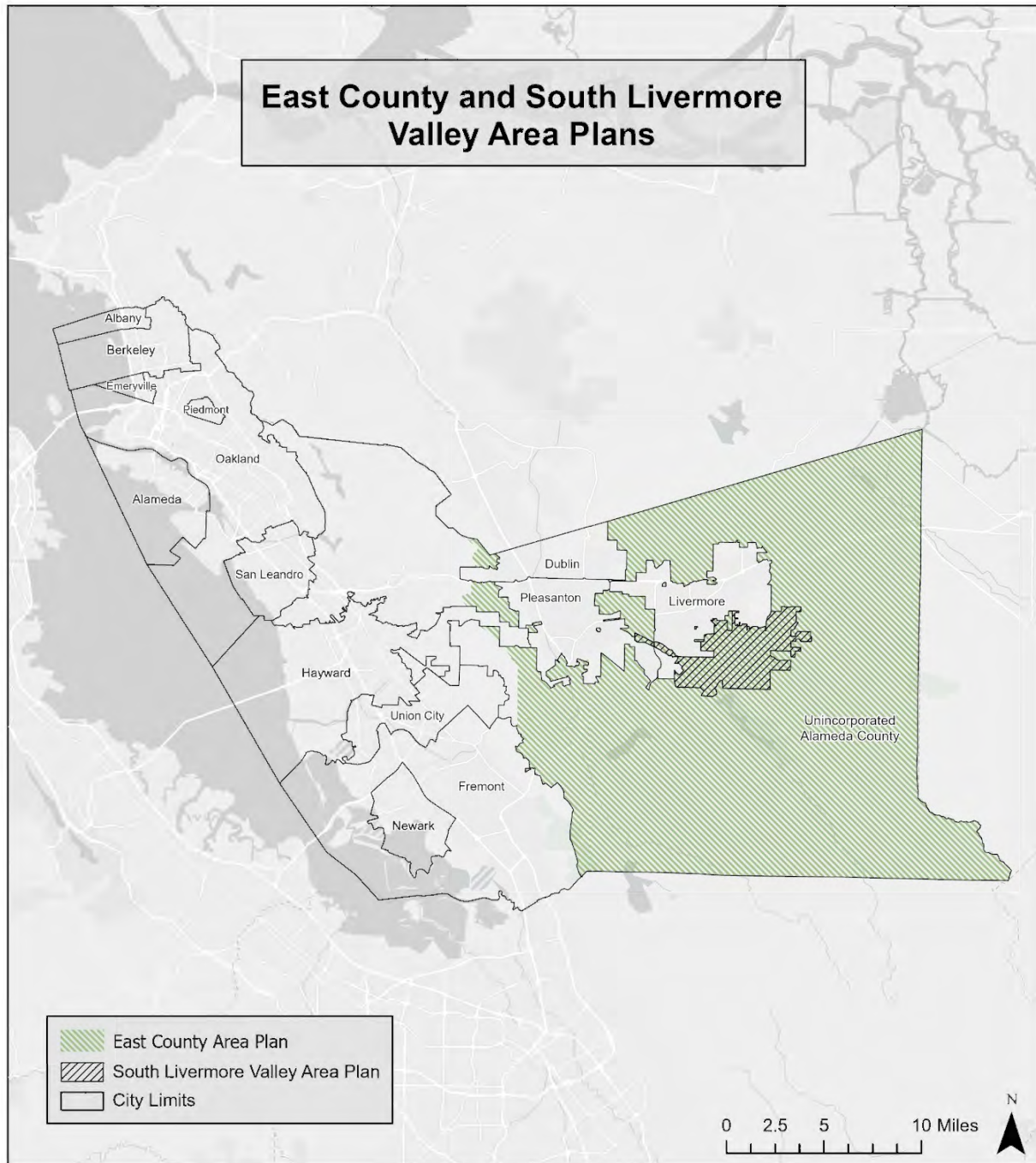
The South Livermore Valley Area Plan (SLVAP) was incorporated into the ECAP in 1994. It was adopted by the Board of Supervisors in February 1993. The SLVAP provides a development plan for approximately 14,000 acres of unincorporated Alameda County south of Livermore and Pleasanton in order to plan growth in a way that helps the wine industry thrive. The document outlines a three-piece plan to encourage viticulture preservation and expansion in the region. First, it creates a density bonus system which awards property owners with smaller minimum parcel sizes if the landowner plants wine grapes or other cultivated agriculture and puts the property under agricultural easement. Second, it establishes an agricultural land trust (role filled by Tri-Valley Conservancy). Third, it requires all new urban development in the area to contribute to the viticulture economy of the region through the development of new vineyards and/or agricultural easements, financial contributions to the agricultural land trust, refurbishment of existing wineries, or building of amenities such as golf courses, conference centers, and museums. A review of the SLVAP was recently conducted by the Alameda Local Agency Formation Commission ahead of a sewer extension project and is a useful document to find more information about the original document.¹⁶⁷



Photo Credit: Margaret Moody, Pleasanton, CA

¹⁶⁷ Alameda LAFCO: [South Livermore Valley Special Study](#). 2023.

The SLVAP is not to be confused with the South Livermore Valley Specific Plan (SLVSP) which is a specific planning document from the City of Livermore which was adopted in November 1997 and amended in 2004 and 2020. The SLVSP plans for urban development and agricultural mitigation in just 1,891 acres directly outside of the City of Livermore limits. Both the SLVAP and ECAP create specific plans that address agriculture, but only for eastern portions of the County, as demonstrated in Map 5.



Map 5: Each County and South Livermore Valley Area Plans. Map produced by UCANR IGIS team on August 25, 2023.

This current more-eastern area focus and related gap for the more urban areas to the west provides an opportunity to develop a similarly cohesive plan for agriculture in the western portions of the County.

3.3.5. Alameda County Climate Action Plan (CCAP)

The Alameda County Climate Action Plan (CCAP) was approved by the Alameda County Board of Supervisors in February 2014.¹⁶⁸ The current CCAP established a Green Infrastructure Action Area and set a reduction target of 158,100 MT CO₂e by 2050 which is 80% (238,200 MT CO₂e) below 1990 levels. The action area items include developing an urban forestry management plan (not yet completed) and supporting new, local urban agricultural opportunities.

Additionally, the plan:

- Identifies carbon sequestration in natural areas as a strategy for emissions reductions,¹⁶⁹ but does not clearly identify the role agriculture and healthy soils play in emissions reductions.
- Identifies three strategies related to Community Gardens and Agriculture to reduce emissions including:¹⁷⁰
- Establishment of a community garden program. [not yet completed]
- Development of urban edge agriculture opportunities in collaboration with agriculture nonprofits and local farmers. [not yet completed]
- Establishment of farmers market sites in the unincorporated County. [not yet completed]

A new CCAP planning process was initiated by the County in 2022 with a public workshop in February 2023 and is expected to be completed by the end of 2023.

3.4. Section Summary

The ACARP team conducted a review of relevant city and County policy documents from Alameda County (including unincorporated areas) and its fourteen cities. Eleven planning departments met with the ACARP team to ensure a fair review of the policies and their challenges and successes in regards to agriculture and related land use. The most glaring issue that emerged from this process was the current continuum of agricultural policies and the resulting lack of common goals around regional agriculture.

¹⁶⁸ Alameda County CDA is working to update the CCAP as of 2023.

¹⁶⁹ Alameda County: CCAP, page 68.

¹⁷⁰ Alameda County: CCAP, page 68.

- Jurisdictions west of Pleasanton Ridge mostly lack space for large scale agriculture and rangeland and were more likely to have little or no mention of commercial agriculture or agricultural zoning in their planning documents. East County had more explicit mention of open space and large parcel agriculture, and tended to have agricultural zoning and an interest in maintaining agriculture in or around their jurisdictions.
- A number of jurisdictions, including unincorporated Alameda County, have strong urban growth boundaries requiring voter approval for any changes. These boundaries benefit rural agriculture and other open spaces by minimizing development pressure and instead compelling infill or redevelopment. Additionally, the Alameda County General Plan and Climate Action Plan, the South Livermore Valley Area Plan and the East County Area Plan all include policies that support the preservation of agricultural land in the County.
- Voter-approved actions, namely Measure D (2000 and 2022), in addition to a number of County-wide policies that protect agriculture point to residents that are generally supportive of local agriculture.



Photo Credit: Jennifer Trevis, Copper Moon Ranch, Livermore, CA

4. ACARP Stakeholder Meetings

To fulfill the third ACARP objective, conversations with stakeholders to discuss desired and realistic policy changes followed the systematic review of key local government policy documents. This chapter details the process and lessons learned from these meetings.

4.1. Summary of Meetings with Planning Departments

After reviewing policy documents for each jurisdiction in Alameda County (summarized in section 3.1.), the ACARP team followed up with all willing and available jurisdictions (11 of the 14) between March and November of 2022. Prior to each meeting the prepared summary of the documents was sent to the planning department for their review. The goal of each meeting was then to (1) ensure that the ACARP team's review and subsequent interpretation of the documents was appropriate and (2) to discuss the implementation successes and challenges of the relevant strategies, policies and programs listed in their plans.

4.2. Summary of Stakeholder Meeting Attendees

In addition to one-on-one meetings with the planning departments, the ACARP valued and wanted to include the opinions of additional stakeholders on policies and programs in Alameda County. To this end, a group of stakeholders working in or are deeply involved with the local agricultural field was developed and refined over a series of planning meetings between ACRCO and LAFCO. Additional stakeholders of interest were identified during one-on-one meetings with planning departments. The final list of invitees included local agencies and politicians; farmers, ranchers, farmworkers and agricultural organizations; food, food systems and farmers' market organizations; land trusts; environmental organizations; tribes; educational organizations (including those with school gardens); and economic organizations (see Appendix 9.1. for a full list). The outreach list was meant to be as inclusive as possible.

In total, three stakeholder meetings were scheduled: one virtual meeting, one in-person meeting in Livermore, CA, and one in-person meeting in Berkeley, CA. Everyone on the final outreach list was invited to attend any of the community outreach meetings depending on what was most convenient. The meeting that was scheduled in Livermore had a low RSVP rate (4 people total) and ultimately was canceled. The individuals who signed up were redirected towards one of the two remaining meetings. The virtual meeting was held on November 30th, 2022. There were 44 RSVPs and 49 attendees from 39 organizations. The second meeting was held in-person at the Brower Center in downtown Berkeley on December 5th, 2022. There were 19 RSVPs and 14 attendees from 11 organizations. In total from the two meetings, 57 individuals from 47 unique organizations were in attendance (Appendix 9.2.).

4.3. Summary of Stakeholders' Challenges and Opportunities

Stakeholders who participated in the meetings were encouraged to share their thoughts and experiences around agriculture within Alameda County as well as give feedback on how a mapping tool might be used to advance agriculture conservation and growth in the region. While the challenges they voiced were extensive and diverse, they also identified clear opportunities for advancement within the County's agricultural sector.

4.3.1. Water

The stakeholders found common concerns over water access and availability, though east and west Alameda County farmers and ranchers voiced different water challenges.

Concerns in east County were around well installation and old well decommissioning. Individuals working on public land found CEQA application requirements slow and challenging, impeding necessary infrastructure for farmworker housing, waste streams and water for cattle. There were also discussions about a lack of data around water, specifically stakeholder shared concerns that there is no central jurisdiction managing the groundwater for water quality, quantity and distribution issues in the region (see footnote).¹⁷¹ Negative impacts to streams and riparian systems were also discussed as a concern as many rural agricultural locations may lack appropriate waste management, which could add nutrient runoff (i.e., pollution) to nearby water bodies.¹⁷² There were also concerns about water infrastructure for cattle in areas that needed or wanted to be grazed.

Urban areas in west County shared a similar concern regarding water quality and access, but rather than seeking wells, they voiced issues with how to connect to and afford public water. Most urban farmers pay for water at residential rates which can be prohibitively expensive depending on the crop and other factors.¹⁷³

4.3.2. Land

During the meetings, stakeholders described many separate issues around land access and usability.

Agricultural landowners and land managers brought up
that the housing and energy sectors
drive up land prices in the area and also seem to have
land use priority in most jurisdictions.

¹⁷¹ It is important to note that despite stakeholders sharing this concern over a lack of central groundwater data, Zone 7 is the Groundwater Sustainability Agency for all of Eastern Alameda County and maintains nearly 50 years of groundwater data, water quality data and specifically salt loading and water quantity for the Livermore Basin. Zone 7 is also the local permitting agency for all of Eastern Alameda County. Well permit information can be accessed [here](#).

¹⁷² Zone 7 Water Agency: [Nutrient Management Plan](#), 2015

¹⁷³ Diekmann, Lucy & Gray, Leslie & Baker, Gregory. (2017). Drought, water access and urban agriculture: a case study from Silicon Valley. Local Environment.

Stakeholders shared a lack of clarity as to where agriculture is allowed and where it could be developed since different jurisdictions have variations of right-to-farm ordinances,¹⁷⁴ while others have no explicit agricultural policies in their planning documents. Additionally, certain vacant lands may not be suitable for food production, e.g., Brownfield sites with high levels of contamination, or areas with challenging water access. Other areas have protective measures or special zoning that disallows the addition of needed agricultural infrastructure such as water and sewer connections, worker housing and/or warehouse/refrigeration units.

A majority of urban farmers, as well as many ranchers,
are operating on land they don't own.

Stakeholders voiced interest in a County-wide or regional system and application process for land access that benefits low-income farmers and distribution areas across agencies and jurisdictions. Farmers and ranchers don't necessarily need to own the land they are stewarding but need to feel secure with long-term leases. Stakeholders offered the [Sunol Agricultural Park](#) and [East Bay Regional Parks District's grazing program](#) as successful models.

There were also discussions about a lack of information about where existing, rural agricultural land can be protected. There was concern over protected lands owned by public entities, held without easements. These lands aren't necessarily protected in perpetuity and may be sold or converted from open space to development. There were also opinions voiced regarding the priority to conserve additional land versus promoting or otherwise assisting the agricultural industry through subsidies, incentives, government-investments or other programs.

4.3.3. Planning and Funding

Many farms in Alameda County are small-to-moderately sized operations with just a few large-scale wineries, ranches and nurseries. Among the small operations, many are under-resourced and struggling to be economically successful. Stakeholders present mentioned concerns related to declining wine and horse industries, and tight profit margins in the cattle industry, despite all three providing significant economic value within the County. Stakeholders mentioned a need for better and more diverse local market opportunities, including ethnic food hubs, and asked for governmental policies that support local partnerships between farmers and ranchers and direct-to-consumer models while reducing operating costs, such as farmers markets, wine tasting, U-pick farms, Community Supported Agriculture shares/boxes¹⁷⁵ and food distribution hubs.¹⁷⁶ Government policies could also be utilized to prioritize leasing of land to local ranchers and farmers rather than those residing and primarily working outside of the area.

Stakeholders stressed the need for more structural and non-structural infrastructure. Physical infrastructure needs included warehouses and refrigeration storage. To be the most successful, these would ideally be located close to transportation hubs.

¹⁷⁴ Wacker, M., Sokolow, A.D., and Elkins, R. 2001. [County Right-to-Farm Ordinances in California; Assessment of Impact and Effectiveness](#). University of California Agricultural Issues Center, AIC Issues Brief, Number 15.

¹⁷⁵ USDA: [Community Supported Agriculture | National Agricultural Library](#)

¹⁷⁶ An example of a successful local food hub can be found in [Farmers Exchange of Earthly Delights](#) based in the Northern San Francisco Bay Area.

Similarly, stakeholders also discussed the need for adaptive management and equitable resource distribution including increased considerations about farmer/farmworker housing and protections which are needed, in part, due to unstable employment in this sector (e.g., seasonal operational needs). Additionally, there were calls for infrastructure for marketing and partnership development, such as through building of local food hubs. As part of this marketing, several stakeholders were interested in working towards clarifying with the public what urban and rural agriculture entails and provides to Alameda County, but agreed that such work would require local meetings and a longer time duration and planning process, which falls outside the scope of this particular project.

Due to the quickly changing environment in the region, in terms of climate, culture and economics, landowners and land managers proposed government actions that provide additional technical assistance, multi-level/stacked benefits and/or financial compensation for providing ecosystem services on their managed lands. Both urban and rural agriculture already provide a multitude of ecosystem services annually and with additional funding and assistance could be doing even more to sequester carbon, retain water and provide wildlife habitat, among their many other benefits.¹⁷⁷

Older farmers pointed out that the age gap is widening between current and beginning farmers, but young farmers pointed out that the cost of land is prohibitive, thus they have nowhere to farm or ranch. There was a request for more programs and policies that facilitate land transfer between generations (see footnote).¹⁷⁸

4.4. Section Summary

- The ACARP team convened a diverse group of stakeholders from local agriculture and adjacent fields to discuss current policy impacts and desired changes in late 2022.
- Stakeholders expressed concerns over water access and availability, though east and west Alameda County farmers and ranchers voiced different water challenges. They also described issues related to land access and usability and challenges related to the declining wine, cattle and horse industries.
- Stakeholders mentioned a need for better and more diverse local markets, including ethnic food hubs, and asked for policies that support local partnerships and direct-to-consumer models, such as farmers markets, and agritourism, such as wine tasting, U-pick farms, and CSA distribution hubs.
- Stakeholders also shared the need for infrastructure, such as warehouses and refrigeration, as well as adaptive management and equitable resource distribution including increased considerations about farmer housing and protections.

¹⁷⁷ There are some programs that already offer compensation for ecosystems services such as California Department of Food and Agriculture's Healthy Soils Program and the US Department of Agriculture's Conservation Stewardship Program offered through the National Resources Conservation Service, but eligibility to these programs as well as the onerous application processes can put these programs out of reach of many farmers and ranchers.

¹⁷⁸ California Farmlink provides a number of [programs and services](#) that "support lending and land access... to create equitable opportunities for underserved farmers and fishers."

5. Summary of Current Challenges and Opportunities Facing Agriculture in Alameda County

Despite the many strengths and opportunities in Alameda County, that will be further detailed in the next section, there are some weaknesses worth noting and addressing.

5.1. Current Challenges Facing Agriculture and Land Use in Alameda County

In reviewing the jurisdictional and County-wide policy documents, one of the most glaring issues was around the continuum of agricultural policies between jurisdictions and thus, the lack of common goals related to regional agriculture. Some jurisdictions had thoughtful, implementable targets on protecting and promoting local agriculture while others established policies or programs that they have either been unable to achieve or support. Other jurisdictions did not have any agricultural policies or zoning in their policy documents. In discussing these issues with each jurisdiction, it was clear that there are many challenges associated with implementing pro-agricultural policies and programs including:

- Competition with other land use priorities, especially housing;
- An absence of viable agricultural land or community garden opportunities, or an absence of public requests for such opportunities;
- A lack of sufficient and appropriate planning or programming staff or staff time including competing priorities within departments; and/or
- Inadequate funding for implementation activities.

Another challenge is the language and enforcement of the voter-approved Measure D – the Save Agriculture and Open Space Lands Initiative which passed in 2000. The main objectives of the measure were to save agricultural open space from greenfield development and minimize the fragmentation of the County’s agricultural lands. However, there is some ambiguity over whether the measure was also intended to support and enhance agriculture in Alameda County more broadly, as opposed to solely conserving existing agricultural lands. Additionally, there are currently some misaligned policies between Measure D and ECAP, though these issues are currently under review (see section 5.2). Measure D has also not been fully implemented; for example, the in-lieu fees meant for open space land acquisition have not been collected.¹⁷⁹

¹⁷⁹ Measure D - Save Agriculture and Open Space Lands (2002), Policy 60. Note: it is unclear why collection of these fees have not been implemented.

Without these in-lieu fees, there is a lack of funding that could be used to supplement investment in agritourism or other economic development opportunities to fulfill some of the aims of the original Measure. It is unclear why these fees have not been implemented. Based on the ACARP team's discussions with the planning departments in Alameda County, one of the most consistent threats to the protection and development of agriculture in the area is competition with other important land uses, namely housing and energy production, as previously mentioned. The need for land for these purposes can cause increased land prices, making it too expensive for farmers or ranchers to secure adequate land for production. High land prices also make it more attractive for existing farmers and ranchers or large landholders to sell their land for non-agricultural development where it is feasible (i.e., where zoning allows for it). High land prices, which are driven by assessment at the land's "highest and best use"¹⁸⁰ (housing subdivisions, typically), further add to the estate tax burden faced by families attempting to transfer agricultural lands to the next generation, which can lead to sales of agricultural lands to developers to make ends meet.¹⁸¹ High land prices can also drive-up lease prices which can lead to competition between farmers and ranchers for land, further shrinking already low profit margins in this industry.

The last several decades in Alameda County have also seen a decline or issues around agricultural infrastructure. To start, many years of drought have led to concerns about water quantity, quality and associated costs. In East County, some wells are in need of being decommissioned and new wells are needing to be built. There are some concerns about nitrate and other pollutants in local aquifers.¹⁸²



Photo Credit: Jennifer Trevis, Carbon filter strip, Sunol, CA

¹⁸⁰ Knight, R. L. (2007). [Ranchers as a keystone species in a west that works](#). *Rangelands*, 29(5), 4-9.

¹⁸¹ Brunson, M. W. & Huntsinger, L. (2008). [Ranching as a Conservation Strategy: Can old ranchers save the new West?](#) *Rangeland Ecology & Management*, 61(2), 137-144.

¹⁸² Alameda LAFCO: [South Livermore Valley Special Study](#). 2023. Chapter 5.1 - Livermore Valley Groundwater Quality Issues.

Similarly, in the Livermore Valley in particular, there are concerns about wastewater removal from vineyards during the winemaking process, though there is ongoing work to improve these conditions (see more in section 5.2).¹⁸³ There were additional concerns voiced during interactions with stakeholders around a lack of local or nearby infrastructure for food storage and processing (e.g., lack of slaughter facilities, canning facilities, refrigeration).

In addition to physical infrastructure needs, there were consistent calls for better marketing and communication about local products to local consumers and a need for right-to-farm ordinances within city boundaries.¹⁸⁴ Together, the high cost of land¹⁸⁵ and housing in the Bay Area overall,¹⁸⁶ in addition to the lack of local agricultural infrastructure, capacity and partnerships,¹⁸⁷ results in locally produced food that is not necessarily cheaper or more convenient than imported products. This difficulty in consumer access to locally grown products may reinforce greater reliance on third party wholesalers, as opposed to the development of a robust local, direct-to-consumer market.

5.2. Current Opportunities for Agriculture and Land Use in Alameda County

Agricultural preservation and sustainable growth in Alameda County will require communal goals and cohesive policies throughout the County. Fortunately, there are already a number of plans, organizations and foundational work that can be built upon to facilitate these actions. As an example of beneficial policy, unincorporated Alameda County, Fremont, San Leandro, Livermore, Dublin and Pleasanton all have strong urban growth boundaries (UGBs) requiring voter approval for any changes. Strong UGBs benefit rural agriculture and other open spaces, by minimizing development pressure and instead compelling infill- or re-development. Likewise, Alameda County maintains a Williamson Act program that allows eligible private landowners to enter into a long-term contract with the County that reduces the landowner's property tax assessment based on its agricultural or open space value rather than the full market ("best use") value.^{188, 189}

Other jurisdictions have thoughtful policies that support agriculture in other ways. For example, Livermore has several policies and programs that maintain and enhance agriculture inside and outside of their urban growth boundary and they often work closely with the Tri-Valley Conservancy on permanent conservation easements.¹⁹⁰

¹⁸³ Alameda LAFCO: [South Livermore Valley Special Study](#). 2023.

¹⁸⁴ Wacker, M., Sokolow, A.D., and Elkins, R. 2001. [County Right-to-Farm Ordinances in California; Assessment of Impact and Effectiveness](#). University of California Agricultural Issues Center, AIC Issues Brief, Number 15.

¹⁸⁵ Compass: [In the Bay Area, Land Is More Valuable Than the Homes That Sit on It](#), 2017

¹⁸⁶ NBC: [This Bay Area City Ranks as One of the Most Expensive in the World, According to New Economist Intelligence Report](#), 2022

¹⁸⁷ Association of Bay Area Governments: [The Bay Area Food Economy: Existing Conditions and Strategies for Resilience](#), 2017

¹⁸⁸ County of Alameda, CA: [Williamson Act Revision](#)

¹⁸⁹ A map of current Williamson Act properties in Alameda County can be viewed on the ACARP map ([here](#)), through the "Data Atlas" tab, using the "All Layers" drop down. The "Williamson Act Parcels" is at the bottom of the list.

¹⁹⁰ Imagine Livermore 2045: [Agriculture and Forestry Resources](#)

On the other side of the County, Ashland / Cherryland (in unincorporated Alameda County),¹⁹¹ Hayward,¹⁹² the City of Alameda,¹⁹³ and Oakland¹⁹⁴ have successfully promoted and maintained small scale agriculture, including community gardens and small livestock (chickens and bees), within their jurisdictions due to progressive urban agricultural policies. Only Livermore,¹⁹⁵ Oakland,¹⁹⁶ and Alameda County¹⁹⁷ have right-to-farm or limited agriculture “by right” ordinances.



Photo Credit: Jennifer Trevis, Back yard chickens, Alameda, CA

Many of these policy gains were thanks to local food policy councils and similar agricultural organizations working in the County. For example, Alameda County has a County-appointed council that advises the County Board of Supervisors on aspects of agriculture in the County: the Agricultural Advisory Committee (AAC). The AAC has several subcommittees working on important policy and programming topics for the County including equestrian and urban agriculture issues.

¹⁹¹ Community Health and Wellness Element for Ashland and Cherryland

¹⁹² City of Hayward: Hayward 2040 General Plan Policy Document (2014), Community Health and Quality of Life Element

¹⁹³ City of Alameda [Urban Farm and Garden Plan](#)

¹⁹⁴ City of Oakland: Oakland Equitable Climate Action Plan (2020) and the city code and zoning for “Urban Agriculture and Community Gardens” (2014).

¹⁹⁵ Code Publishing: [Chapter 8.16 RIGHT TO FARM \(codepublishing.com\)](#)

¹⁹⁶ City of Oakland: [Urban Agriculture and Community Gardens \(oaklandca.gov\)](#)

¹⁹⁷ Alameda County CDA: [Right to Farm](#), 2005

The AAC also started discussions on payments for ecosystem services¹⁹⁸ which have since become topics of discussion among the ACRCDD and Altamont Landfill Open Space Committee in Alameda County. Work on developing programs related to this topic are slow but ongoing. On a smaller scale, there are a number of other councils and organizations advocating for local agriculture. The Ashland / Cherryland Food Policy Council (also called the Eden Area Food Alliance) analyzed the vacant lots in the area for their suitability as community gardens and green spaces.^{199, 200, 201} [Dig Deep Farms](#), now operating six farms in Alameda County, was founded in 2005 by the Alameda County Deputy Sheriffs Activities League (DSAL) in the San Leandro Hills to offer reprieve for those experiencing food insecurity.²⁰² DSAL also worked with [ALL IN Alameda County](#) to launch [ALL IN Eats](#), with the goal of bolstering local food systems, supporting job growth and using climate-smart agriculture practices through the implementation of a circular food economy.²⁰³ Unfortunately, several of these smaller food policy groups as well as ALL IN Eats have gone latent in recent years.

The Tri-Valley Conservancy (TVC) is another important agricultural organization in the County. As a land trust, the group protects and cares for the land by developing conservation and wildlife easements with local landowners. They have protected more than 5,400 acres of land in the south Livermore Valley (Dublin, Livermore, Pleasanton, San Ramon (Contra Costa County) and Sunol) since 1994. They also work closely with local jurisdictions and engage in important strategic planning, outreach, and advocacy work. For some recent examples, TVC released an important University of California Davis research report on the economic viability of the Livermore Valley wine region in 2020.²⁰⁴ They also advocated for Measure P, which was passed by Livermore voters in 2022 and permits the building of a sewer line outside of Livermore's urban growth boundary which will help make the south Livermore Valley wine region more attractive to investors and more economically sustainable.²⁰⁵ Concurrently, TVC is working with the Alameda County Community Development Agency to amend ECAP²⁰⁶ to clear up policy ambiguities and incongruencies with the original Measure D (2000) which will make the wine region more attractive to potential investors.²⁰⁷

Alameda County also has Zone 7 Water Agency which, among other duties, monitors and sustainably manages water quality and quantity issues in eastern Alameda including much of the surface and groundwater basin in the Livermore Valley. In 2015, the agency produced the Nutrient Management Plan which was further updated in their 2021 Alternative Groundwater Sustainability Plan Update. The purpose of these plans was to describe existing and future groundwater nutrient concentrations and their relationships to planned expansion of recycled water projects and possible future development in and around Livermore.

¹⁹⁸ California Rangeland Trust: [Ecosystem Service Study](#)

¹⁹⁹ Ashland Cherryland Food Policy Council: [Ashland Cherryland Vacant Land Survey Report](#), 2015

²⁰⁰ [Ashland Cherryland Public Draft Urban Greening Plan](#), 2015

²⁰¹ [Ashland Cherryland Food Policy Council: Vacant Land Survey](#)

²⁰² Dig Deep Farms: [DSAL | San Leandro CA](#)

²⁰³ ALL IN Eats: [Circular Food Economy](#)

²⁰⁴ Tri-Valley Conservancy: [UC Davis Study Released!](#) 2022

²⁰⁵ Livermore Vine: [Livermore's Measure P comfortably surpasses threshold to pass](#), 2022

²⁰⁶ The East County Area Plan (ECAP) was reviewed in section 3.3.1. of this report.

²⁰⁷ Notes on the proposed ECAP changes can be found in this Alameda County Planning Commission meeting agenda from 8/7/2023, Item 1. [Alameda County Planning Commission meeting agenda 8/7/2023.](#)

The research ultimately led to the increased scrutiny of on-site wastewater treatment permits in commercial settings (e.g., wineries) including additional requirements for nitrogen removal.^{208, 209}

Beyond effective and supportive policy measures and organized groups, Alameda County is also home to residents that are generally supportive of local agriculture. Within the County there are many popular, year-round farmers markets, farm-to-table restaurants, and agritourism destinations.

In 2000 and 2022, voters in Alameda County passed two pro-agriculture measures, both called Measure D,²¹⁰ suggesting community interest in preserving agricultural land in eastern Alameda County. Also, in 2022 Livermore voters passed the previously mentioned Measure P.



Photo Credit: Jennifer Trevis, Sabio on Main presents a Farm to Fork demonstration hosted at Calhoun Sisters Ranch, Livermore, CA

There are also numerous opportunities that can potentially facilitate preserving and growing local agriculture in Alameda County, including new innovations and resilient crops as well as funding and technical assistance. Advances in vertical, raised-bed and greenhouse farming, as well as openness of developers and planning departments to green roofs, result in many more (urban or developed) locations that are suitable for food production than before.

²⁰⁸ Zone 7 Water Agency: [Nutrient Management Plan](#), 2015

²⁰⁹ Zone 7 Water Agency: [Alternative Groundwater Sustainability Plan for the Livermore Valley Groundwater Basin](#), 2021

²¹⁰ Reviewed in section 3.3.2. of this report.



Photo Credit: Jennifer Trevis, Former Bluma Flower Farm, Sunol, CA

For example, University of California Berkeley hosts [Bluma Flower Farm](#) on top of a student housing apartment complex²¹¹ and a Whole Foods in Oakland houses [Rooftop Medicine Farm](#).²¹² Along with technological advances is growing community interest around culturally relevant foods, food sovereignty and food justice as well as food security in a changing climate.^{213, 214, 215, 216} Similarly, there has been increased interest by the public in the role of grazing animals for vegetation management and subsequent fire threat reduction, particularly on public and government agency-owned properties.

Regarding funding and technical assistance, ACRCDD, University of California Cooperative Extension, and USDA Natural Resources Conservation Service (NRCS) office in Livermore already provide technical assistance to rural and urban farmers and ranchers in Alameda County.

²¹¹ [Bluma Flower Farm](#)

²¹² [Eater SF: How 1-Acre Anti-Capitalist Rooftop Medicine Farm Fights Gentrification from Whole Foods' Roof in Oakland's Temescal Neighborhood](#), 2022

²¹³ The People's Food and Farm Project: [The People's Vision for Food Sovereignty in the Bay Area - E / J Solutions](#), 2022

²¹⁴ [Kula Nursery](#)

²¹⁵ [Sunol AgPark Farmers](#)

²¹⁶ [Planting Justice](#)

Additionally, the new USDA NRCS Office of Urban Agriculture in Oakland²¹⁷ and nearby USDA supported People's Gardens²¹⁸ are expected to provide expanded services to urban farmers in the coming months and years. Regarding land access, ACRCDC recently received a grant to work with the cities of Oakland and Hayward to pursue long-term lease agreements with farmers within their city limits.²¹⁹ This is particularly important because there is significant interest in small- and medium-scale (urban) farming in Alameda County based on conversations with stakeholders, but there is insufficient land that is available, affordable, and viable.

There has also been significant financial support for agriculture at-large from the state and federal government in fiscal years 2022-2023. California's investments in agriculture totaled \$477 million, the majority of which was funneled through the California Department of Food and Agriculture, and particularly went to programs for climate-smart agriculture and disadvantaged farmers and ranchers such as the [Alternative Manure Management Program](#), the [Healthy Soils Program](#), [State Water Efficiency and Enhancement Program](#), [Conservation Agriculture Planning Grant Program](#) and [California Underserved Producers Program](#). Unfortunately, the 2023-2024 budget saw cuts to some of this funding. More locally, both the ACRCDC²²⁰ and local NRCS offices are providing funding for implementation of conservation projects on farms and ranches.

There are also a few time-sensitive opportunities to promote agriculture in the Bay Area: General Plan Environmental Justice elements and the Association of Bay Area Government's Priority Conservation Area "refresh." Environmental Justice, defined as the "fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies,"²²¹ is now a required element of the General Plans of all cities and counties in California with disadvantaged communities.²²² This addition to state-mandated General Plans is due to SB1000, which was passed and signed into law in 2016.²²³

Local governments with disadvantaged communities must include and address environmental justice in such communities in their general plans. This can be done either through stand-alone elements, i.e., an Environmental Justice element, or through the incorporation of environmental justice goals, objectives or policies into other Plan elements.²²⁴ Environmental justice elements are expected to include opportunities related to the reduction of pollution, promotion of public health and the increase of healthy food options, all of which would benefit from better access to

²¹⁷ USDA: [Urban Agriculture](#)

²¹⁸ USDA: [The People's Garden](#)

²¹⁹ USDA FSA: [Increasing Land, Capital, and Market Access Program Projects](#)

²²⁰ ACRCDC: [Urban Agriculture](#)

²²¹ [Government Code Section 65040.12.](#)

²²² [Government Code Section 65302](#); also includes communities already identified by California Environmental Protection Agency pursuant to Greenhouse Gas Reduction Fund Investment Plan and Communities Revitalization Act Section 39711

²²³ California Office of Planning and Research: [General Plan Guidelines Chapter 4: Environmental Justice Element](#), 2020

²²⁴ [Government Code Section 65302](#)

locally produced food. Several jurisdictions have already drafted their Environmental Justice elements as of the writing of this report including Oakland²²⁵ and Alameda County.²²⁶

The Association of Bay Area Government's Priority Conservation Areas are natural or open space locations in the San Francisco Bay Area designated for long-term protection and preservation by the regional planning agency. Organizations can apply for this designation and associated protections for certain areas or they can be nominated by private citizens. The areas fall into one of four categories: natural landscapes, agricultural lands, urban greening and regional recreation. Since the Priority Conservation Areas were last updated in 2014, there have been 185 Areas identified ranging from 3 to 400,000 acres.²²⁷ The Association of Bay Area Government's "refresh" of their Priority Conservation Area criteria and goals began in Fall 2022 and will continue through 2023. As Priority Conservation Areas include agricultural lands in their designations, it is timely to be involved in discourse defining and prioritizing definitions and possible funding allocations related to future Priority Conservation Areas in the region.

5.3 Section Summary

- Municipalities in Alameda County suggested that the most consistent threat facing the protection and development of agriculture in the area is competition with other important land uses, namely housing and energy production (solar and wind). This competition, in turn, makes land in Alameda County more expensive and makes it difficult to maintain agricultural land use, particularly inside urban growth boundaries.
- The lack of full enforcement of Measure D, necessary infrastructure for agricultural processing and consumer demand for Alameda-grown products has generated significant challenges for the viability of agriculture within the County as whole.
- There are a number of opportunities for bolstering the agricultural sector right now: several organizations are pursuing campaigns or projects that will help to grow Alameda County's wineries and urban farm capacity and clarify existing policies, in addition to other aims.
- There are a few larger-scope, time sensitive opportunities for incorporating more intentional and regional agriculture-specific planning in the Bay Area as a whole through jurisdictional General Plan Environmental Justice elements and the Association of Bay Area Government's Priority Conservation Area refresh.

²²⁵ City of Oakland: [Oakland 2045 General Plan | Environmental Justice](#)

²²⁶ County of Alameda, CA: [Environmental Justice Element of the General Plan](#)

²²⁷ A map of current Priority Conservation Areas can be found on the ACARP web map under "Basic Information" section: <https://geodata.ucanr.edu/acrcd/#>

6. Recommendations to Protect and Promote Agriculture in Alameda County

Throughout this grant process, stakeholders expressed the desire for jurisdictions to adopt policies that help to promote and grow local agriculture – both production and access.

Both rural and urban agriculture in Alameda County have the ability and need to expand to ensure its long-term economic resiliency. This will require more long-term, regional-level planning to develop County-level agricultural goals that ensure more cohesion across jurisdictions and unincorporated areas. To do this effectively will require taking into account the needs of those most typically systemically disregarded (often farmers and ranchers themselves).

Every jurisdiction within Alameda County has unique needs as well as unique capabilities and interests to generate and enact policies that benefit local agriculture. This has resulted in a wide variety of existing land use policies related to agriculture in the County that have been implemented to varying degrees of success, as previously detailed. We recommend that with proper investment and support, many of the policies, programs and actions outlined below can help to affirm and address growers' concerns about access, economic viability, environmental sustainability, expansion and protection.

The three large themes of concern that emerged from the stakeholder meetings, as discussed in section 4, included: (1) concerns related to water quality, access and availability; (2) identification of and access to suitable land for agriculture development and protection; and (3) planning and funding for agriculture development, protection and economic support of farmers and ranchers.

The following includes recommended goals with suggested action items and model policies for specific government bodies, agencies and organizations (indicated in parentheses at the end of each recommendation) to protect and promote the presence, expansion and viability of agriculture and agricultural communities within Alameda County. Also included are existing policy items from the different policy documents discussed in section 3 that have not yet been enacted or adopted, that would also work to achieve the recommended goals.

6.1. Water

Problem statement: Water access, quantity and quality remains a concern for all stakeholders, though east Alameda County farmers and ranchers focused on well installation and old well decommissioning and west Alameda County farmers struggled to connect to and/or afford public water.

Goal: Ensure affordable and adequate access to quality water sources and water data for the variety of agricultural producers in Alameda County.

Recommendations:

1. Preserve open space areas in unincorporated areas for better water infiltration and management through conservation or agriculture easements (Alameda County Board of Supervisors).
2. Subsidize water delivery²²⁸ for urban farms and community gardens to incentivize more urban food production (City Councils, Alameda County Board of Supervisors, Alameda County Community Development Agency (CDA)).
3. Enforce Federal, State and local water quality requirements and mandates, including the National Pollutant Discharge Elimination System (NPDES) (Zone 7, Regional Water Board 2, San Francisco Bay).
4. Incentivize or subsidize the collection and use of rainwater, runoff and gray water in urban areas for agricultural production through grants for related infrastructure, like rain barrels and filters (City Councils, ACRC, Alameda County CDA, local NRCS offices in Stockton, Davis, Livermore and Oakland).
5. Collect and maintain data related to surface and groundwater water use and accessibility, including aquifer size, stability and quality, for public access in one primary data hub (Alameda County LAFCO, Zone 7).²²⁹
6. Provide expanded and grow existing community outreach and engagement programs to build stakeholder awareness and use of existing groundwater database and surface water data hub (Zone 7, Alameda County LAFCO, City planning departments).

6.2. Land

Problem statement: Land access, usability and “best use” value imperils agricultural resilience and viability. Competing land uses drive up prices, and many producers are priced out or in unstable leases.

²²⁸ Alameda County Water District: [Rate and Fee Schedule](#)

²²⁹ Zone 7 is the Groundwater Sustainability Agency for Eastern Alameda County and has a state approved Alternative [Groundwater Sustainability Plan](#)

Goal 1: Ensure land that is suitable for agricultural practices is available and accessible to new, beginning and existing farmers and ranchers.

Goal 2: Generate and maintain data about available parcels for agricultural development and protection in urban and rural areas of the County in a central location that is accessible to the public.

Recommendations:

1. Generate data on vacant parcels within county boundaries to identify land available for community gardens and urban farms (Alameda County Tax Assessor’s Office, Public utilities, City planning departments).²³⁰
 - a. Collect and maintain vacant parcel data to allow for agricultural development in urban areas (Alameda County LAFCo, City planning Departments).²³¹
 - b. Develop portal to connect landholders with vacant land to interested farmers for leasing (ACRCD City planning departments, UCANR, Alameda County CDA).²³²
 - c. Provide quarterly community meetings to share tools²³³ for accessing and utilizing vacant parcel information, specifically for agricultural producers (City government staff, Alameda County LAFCO).
2. Survey existing urban farms to establish better baseline data for demographic, financial and crop production information in addition to points of sale and customers (City Councils, Alameda County CDA, UCANR, ACRCD).
3. Evaluate and pursue alternative soil-less farming practices/projects on brownfields or other urban lands otherwise unsuitable for land-based practices (City government staff, Alameda County LAFCO, ACRCD, UCANR, Alameda County CDA, NRCS).
4. Continue and expand managed, sustainable grazing²³⁴ on state and regional parkland for better water infiltration and management²³⁵ (California State Parks, East Bay Regional Park District, Livermore Area Recreation and Park District).
5. Encourage the development of community gardens / farms and urban agriculture to produce food through:
 - a. Streamlining permits processes for agricultural uses (City Councils).

²³⁰ Model: Vacant parcels in [Ashland Cherryland Vacant Land Survey Report](#)

²³¹ Model: [City of Pittsburgh, PA adopt-a-lot](#)

²³² Model: [Land Access – California FarmLink](#) Portal; [Match.Graze – UCANR](#) Portal

²³³ Data layer could be added to already available tools such as [ACARP’s web map](#) and [Bay Area Greenprint](#).

²³⁴ See Benefits of Grazing – [Grazing on Public Lands - UCCE Sonoma County](#)

²³⁵ Model: East Bay Regional Park District: [Grazing | East Bay Parks](#)

- b. Reducing fee and permitting process for urban agriculture sites and increase market opportunities on-site so that new and beginning urban producers can more easily / directly sell their products²³⁶ (City Councils).
- 6. Develop Least-Conflict mapping tool to determine sites suitable for solar development that maintain agriculture (UCANR).²³⁷

Existing policies that achieve stated goals that have not yet been realized:

- 1. Enact Policies 84 & 93 of ECAP: provide incentives to landowners to both stimulate agricultural investments and enhance economic viability of existing or potential rural agricultural uses ^{238, 239} (Alameda County Board of Supervisors, Alameda County CDA).
- 2. Adopt Program 29 of ECAP: Develop guidelines for the establishment of buffers to protect existing agriculture from nearby potentially incompatible land uses²⁴⁰ (Alameda County Board of Supervisors).
- 3. Enact policy from Alameda County General Plan, Open Space Principal: acquire excess federal, state, and local parcels in urban areas to use for open space.²⁴¹ (Alameda County Board of Supervisors).

6.3. Planning

Problem statement: The lack of unified, supportive policies across jurisdictions threatens the future of agriculture in Alameda County.

Goal 1: Affirm the importance of agriculture by adopting appropriate zoning laws and specific inclusion of agriculture in Climate Action Plans.

Goal 2: Ensure equitable access to healthy, local foods for all residents, particularly low resource and underserved communities through applicable zoning, active food policy councils and programming.

²³⁶ Model: Berkeley's urban agriculture ordinance allows for smaller-scale farming with a lower impact (7,500 square feet or smaller, operating hours between 8am-8pm, have a maximum of 20 participants for workshops or classes, and have a maximum of 20% of the area covered in farming structure) without needing to procure a permit Berkeley's new urban agriculture ordinance encourages residents to grow their own food

²³⁷ Model: WSU Least-Conflict Solar Siting

²³⁸ Alameda County CDA: East County Area Plan (ECAP), page 24.

²³⁹ Alameda County CDA: East County Area Plan (ECAP), page 25.

²⁴⁰ Alameda County CDA: East County Area Plan (ECAP), page 26.

²⁴¹ Alameda County: Open Space Element 1994, page 10.

Recommendations:

1. Develop and adopt County-wide goals to conserve existing agriculture, develop new production sites, and grow a new generation of farmers and ranchers (Alameda County Board of Supervisors, Agricultural Advisory Committee).
2. Set goals for growth and protection of local agriculture systems in local Climate Action Plans by considering agriculture's impact on greenhouse gas emissions (e.g., Vehicle Miles Traveled (VMT) of food items) (County Board of Supervisors, City Councils).
 - a. Promote shorter, more resilient food chains and associated reduced VMTs by showcasing farm to table restaurants, schools and government bodies sourcing food locally and from farmers markets (City government staff, UCANR).

**Local scope is defined as the East Bay:
Alameda and Contra Costa Counties**

3. Recognize the contributions of cover types, including green cover, grass grid for hard landscaping drainage, and more, for reduction of emissions and improvements for air and water quality as strategies in Climate Action Plans (City government staff).
4. Adopt Live-Work-Farm housing model and policy and conduct survey of farmworker housing needs (Alameda Agricultural Advisory Committee, Alameda County Board of Supervisors).
5. Support increased access for affordable, culturally relevant and healthy foods for all residents by accepting SNAP/EBT/WIC at all farmers market, include appropriate and accessible signage, develop grant programs to increase buying power of SNAP/EBT/WIC benefits when spent at the farmers market, and offer more frequent farmers markets with reduced application fees to allow for a variety of smaller, more diversified farmers to sell (Alameda County CDA).
6. Require subsidized community gardens to have regular "open to the public" hours to encourage education, community and other green space benefits (City Councils).
7. Support school gardens and youth development and involvement in food systems with direct school, after-school and summer programming related to agriculture and farming (Alameda County CDA, City Councils, Alameda County Board of Supervisors, Alameda County of Education, school districts, community colleges).
 - a. Include farm field trips, volunteer opportunities, farm-to-school meals and/or mentoring partnerships between farmers and community gardens in educational offerings and events throughout the years for both adults and students (Alameda County of Education, school districts, community colleges).

8. Develop right-to-farm policies and ordinances in both urban and rural jurisdictions with accompanying zoning and rule changes.²⁴² (Alameda County Board of Supervisors, City Councils).
9. Develop and/or enforce city mandates for green space area per capita, or Open Space Ratio²⁴³ and include agriculture and gardens in those green space definitions (City Councils, City planning departments).
 - a. Incentivize the development and maintenance of green roofs and pocket gardens to reduce runoff in urban areas to meet mandates and reduce urban heat island effects through mini-grant programs and tax breaks (City Councils, Special Districts, City planning departments).
10. Maintain a buffer of undeveloped land around city limits for open space, agriculture and/or grazing (Alameda County Board of Supervisors, City planning departments).
11. Revive existing food policy councils & develop new food policy councils in jurisdictions (City Councils).
12. Develop a local Alameda produce marketing campaign to attract local demand for local products (Alameda County CDA).
13. Support and facilitate local produce use in local institutions, including schools, colleges, hospitals and more through the provision of grants (California Department of Food and Agriculture Farm to Fork Program, Alameda County Community Development Agency)
14. Alameda County LAFCO conduct its Municipal Service Review and related sphere of influence updates on ACRCO to ensure the preservation of critical agricultural and open
15. Conduct more outreach and marketing for the Williamson Act to encourage higher enrollment numbers (City planning departments).

Existing policies that achieve stated goals that have not yet been realized:

- Enact Policy 80 of ECAP: support on-site housing for full-time on-site farm employees.²⁴⁴ (Alameda County Board of Supervisors, Alameda County Community Development Agency).

²⁴² Model: The City of Berkeley has developed zoning and rule changes that allows and encourages urban farming within city boundaries Berkeley's new urban agriculture ordinance encourages residents to grow their own food

²⁴³ See: Modern Compact Cities: How Much Greenery Do We Need? - PMC

²⁴⁴ Alameda County CDA: East County Area Plan (ECAP), page 23.

- For those jurisdictions besides Livermore that are within the ECAP boundaries, enact Policy 88: encourage the cities in East County to adopt policies and programs²⁴⁵ to fund the Tri-Valley Conservancy²⁴⁶ for the protection of resources and the preservation of a continuous open space system outside urban growth boundaries.²⁴⁷ (City Councils, City planning departments).
- Modify the tax structure on agricultural lands as called for in the Alameda County General Plan Conservation Element to make Alameda County growers more competitive with other counties.²⁴⁸ (Alameda County Auditor-Controller Agency).
- Develop compensation processes for urban adjacent agricultural producers as called for in the Alameda County General Plan Conservation Element, to promote protection of agricultural production and land preservation at the urban edge.²⁴⁹ (Alameda County Board of Supervisors, Alameda County CDA, City Councils).

6.4. Funding

Problem statement: Farmers and ranchers in Alameda County continue to struggle with a lack of public resources and financial assistance, environmental stresses and consumer issues that either decrease demand and/or flood supply, when combined with land prices make it increasingly difficult to survive in farming.

Goal 1: Ensure adequate funding and staff capacity to plan for agricultural lands protection and enactment of pro-agricultural policies.

Goal 2: Ensure landowners are compensated justly for the ecosystem services provided.

Recommendations:

1. Dedicate financial and staff resources to complete ROSA,²⁵⁰ as the comprehensive open space and outdoor element for the County of Alameda General Plan. Upon completion, other agricultural promoting policies can be more effectively instated. (Alameda County Board of Supervisors, Alameda County CDA).

²⁴⁵ Examples provided for policy 88 in ECAP: “such as mitigation fees for the conversion of agricultural lands within city boundaries and on lands to be annexed to a city”

²⁴⁶ Note: Alameda County Open Space Land Trust was replaced by the Tri-Valley Conservancy.

²⁴⁷ Alameda County CDA: [East County Area Plan \(ECAP\)](#), page 24.

²⁴⁸ Alameda County: Conservation Element, page I-91.

²⁴⁹ Alameda County: Conservation Element, page I-91.

²⁵⁰ ROSA: Alameda County is currently in the process of revising several parts of its general plan including the Conservation, Scenic Route, and Open Space Elements as well as developing a new optional Agriculture Element - combined known as ROSA (Resource Conservation, Open Space and Agriculture).

2. Support development of green roofs and other non-traditional agriculture through grant programs, tax breaks or other incentives for new developments with green architecture.²⁵¹ (City Councils, City planning departments).
3. Develop or otherwise support low-cost loans, grants and/or farm subsidies for rural crop replanting (Alameda County CDA).
4. Develop grant or cost-share program for urban farms for long-term leases on publicly-owned vacant land parcels (Alameda County CDA, ACRCDD, NRCS).
5. Grow programs that incentivize more sustainable methods of growing for urban agriculture sites through the provisions of grants for associated climate friendly growing practices (CDFA, ACRCDD, NRCS).
6. Direct funding for regional-scale programs for ecosystem services generated on working lands²⁵² (Stockton and/or Davis USDA FSA offices, Livermore NRCS office, Alameda County Community Development Agency, CDFA).

Existing policies that achieve stated goals that have not yet been realized:

- ☐ Adopt in-lieu fees as called for in Measure D in order to finance land trust operations (Alameda County Board of Supervisors).

6.5. Section Summary

This section outlines policy actions for different jurisdictional bodies, agencies, and departments in Alameda County.

The ACARP team suggests the adoption of the following goals and associated policy actions that jurisdictions can enact, adopt or otherwise support:

Water	<i>Goal:</i> Ensure affordable and adequate access to quality water sources and water data for the variety of agricultural producers in Alameda County.
Land	<p><i>Goal 1:</i> Ensure land that is suitable for agricultural practices is available and accessible to new, beginning and existing farmers and ranchers.</p> <p><i>Goal 2:</i> Generate and maintain data about available parcels for agricultural development and protection in urban and rural areas of the County in a central location that is accessible to the public.</p>

²⁵¹ Model: Fremont and Union City have policies on green roofs: [Green Building | City of Fremont, CA Official Website](#); Union City: [Climate Action Plan](#)

²⁵² Model program: [NRCS Conservation Stewardship Program](#)

Planning

Goal 1: Affirm the importance of agriculture by adopting appropriate zoning laws and specific inclusion of agriculture in Climate Action Plans.

Goal 2: Ensure equitable access to healthy, local foods for all residents, particularly low income and underserved communities through applicable zoning, active food policy councils and enabling programming.

Funding

Goal 1: Ensure adequate funding and staff capacity to plan for agricultural lands protection and enactment of pro-agricultural policies.

Goal 2: Ensure landowners are compensated justly for the ecosystem services provided.



Photo Credit: Jennifer Trevis, Sunol Agricultural Park, Sunol, CA

7. ACARP Planning Map Tool

The next step of ACARP is to identify which agricultural areas are most at risk of urban and/or suburban development and sprawl and for a land-holding entity to pursue a SALC Agricultural Conservation Acquisition grant.

The mapping tool described in the following section was created for this purpose.

The mapping tool was built to meet two of the primary objectives of this grant project: (1) to identify priority parcels of land to be conserved or developed into long-term agricultural use via acquisition or easement to reinforce urban growth boundaries and (2) to identify priority parcels of agricultural land or land that could be converted to agricultural use for new/future urban farms or community gardens within underserved communities. The final mapping tool is therefore meant to aid organizations and agencies in determining programmatic fit of specific parcels of land for certain grant programs while still being a useful tool for long-term agricultural conservation planning.

The map can be used to build highly customizable models that are based on the priorities of each user and/or a handful of grants that can facilitate agricultural land acquisition. The variables, rankings and scale were developed by the ACARP team in conjunction with the [University of California Division of Agriculture and Natural Resources Informatics and GIS Program](#), building off of feedback from land trusts, local jurisdictions and other stakeholders. The map for this project is meant to complement the functions of other available regional mapping tools including [Bay Area Greenprint](#), [Conservation Lands Network](#) and the [Altamont Landfill Open Space Committee's Parcel Ranking Tool](#).

7.1. Stakeholder Feedback on Map Development

To ascertain how to best configure the interactive mapping tool, the ACARP team met with organizations and agencies that might have an interest in acquiring, preserving, or establishing new agricultural land in rural or urban parts of the County. In total, the team met with the seven organizations during the development phase: the City of Hayward, John Muir Land Trust, California Rangeland Trust, Tri-Valley Conservancy, the City of Livermore, Hayward Area Recreation District, and California Farmland Trust. During the meetings we asked each organization:

1. What info/data are you currently using to make decisions about land acquisitions/conservation or community garden siting, and why? What do you like and what do you not like about the process?
2. What spatial scale would be most valuable – do you look at overall habitat value or specific aspects of a property (e.g., ponds).

3. What variables do you consider when making your land use decisions? Distance to certain highways, wildlife corridors, other conserved properties, etc.? What about population demographics, local greenness, distance to transit, etc.?
4. Do you rank certain variables higher than others? If so, how do you rank them or how many tiers do you have?

Each of the organizations take a wide variety of priorities into consideration when making land acquisition or easement decisions including size and location of the parcel, organizational priorities, habitat and water features, and more. Many of the organizations, particularly the land trusts, typically only consider developing conservation easements or making acquisitions when (1) there is a willing landowner who has approached the organization and (2) there is funding available to make the purchase or easement contract. We also spoke with organizations about the grants they most frequently used to make agricultural conservation easements and acquisitions. They told us that common programs were the [Sustainable Agricultural Lands Conservation \(SALC\) Program](#) Agricultural Conservation Acquisition grants, [Wildlife Conservation Board grant](#) for land acquisition, [California State Coastal Conservancy](#) grants, and Natural Resources Conservation Service (NRCS) [Agricultural Conservation Easement Program](#) grants.

The conversations were extremely informative and helped determine map functionalities. Specifically, organizations asked for a tool that could be used to either (1) identify high-priority areas for future agricultural development, particularly community gardens in urban settings, and/or (2) help identify which grants might be most appropriate in funding the land purchase or easement development of known parcels.

7.2. Planning Map Tool

The interactive map is designed to have some basic information that can be turned on and off including city limits, sphere of influence,²⁵³ Association of Bay Area Governments' (ABAG) Growth Geographies,²⁵⁴ Williamson Act parcels, protected areas (e.g., parks), and parcels under conservation easements. Then there are four customizable models based on four common grants that are used for acquiring agricultural land and developing conservation easements. Each model is based on 7-19 criteria, with some criteria overlap between grants.

Criteria are derived from data layers that have been spatially resampled into 160-acre hexagons (0.25 square miles) covering the entire County, and assigned normalized scores from 0-1. Users can prioritize or weight the individual criteria on a 0 to 5 scale, which are then linearly

²⁵³ According to Alameda LAFCO, "A "Sphere of Influence" is the physical boundary and service area that a local governmental agency is expected to serve in the future. Establishment of this boundary is necessary to determine which governmental agencies can provide services in the most efficient way to the people and property in any given area. The Sphere of Influence requirement also works to discourage urban sprawl by preventing overlapping jurisdictions and duplication of services. Commissions cannot tell counties or cities what their planning goals should be. Rather, LAFCOs coordinate the orderly development of a community through reconciling differences between city and county plans so the most efficient urban service arrangements are created for the benefit of area residents and property owners."

[Authority - Local Agency Formation Commission - Alameda County](#)

²⁵⁴ Plan Bay Area: [Chapter 1: Introduction and Growth Geographies](#), 2021

combined to represent an overall suitability score. In this way, the hexagons play the role of planning units which, when symbolized with the model data, highlight specific areas in Alameda County as conservation priorities. Users may also upload shapefiles of parcels or other areas-of-interest to the interactive map to see if a parcel aligns strongly with the priority criteria for one of the four grants. The outputs of the tool can be printed in a document detailing the grant of choice, the most appropriate areas (hexagons), and the weights given to each criterion.

7.3. State Funding Options for Protecting and Encouraging Agriculture Development

Table 3 describes the various State funding options that are available to protect and support agriculture in Alameda County, many of which are included in the map tool. While not a comprehensive list of all the options to fund agricultural conservation and development, this table is an important foundation of consistent options that currently exist.

Funding levels for these various grant programs change annually, depending on the California budget and other factors. In addition to the grants below, it is expected that after the Association of Bay Area Governments redesign their [Priority Conservation Area](#) program that there will be funding available regionally for agricultural land conservation.

Table 3 State Funding Options for Agriculture Conservation

Program Name	Description	Eligible Applicants	Web Link
Department of Conservation - Sustainable Agricultural Land Conservation Program	The program provides funding for agricultural land protection that prevents conversion to more greenhouse gas intensive uses. Funding is available for capacity building, acquisitions, and planning.	Eligible applicants depend on the program component, and include, but are not limited to, the following: <ul style="list-style-type: none"> <input type="checkbox"/> Cities <input type="checkbox"/> Counties <input type="checkbox"/> Non-profit organizations <input type="checkbox"/> Resources Conservation Districts <input type="checkbox"/> Park and open space districts or authorities <input type="checkbox"/> Tribes <input type="checkbox"/> LAFCO's <input type="checkbox"/> Councils of Governments 	SALC Guidelines

Wildlife Conservation Board - Land Acquisition Program	<p>The program provides funding for land acquisition that supports the following objectives:</p> <ul style="list-style-type: none"> • Protects biodiversity; • Climate change resilience and connectivity; • the State Wildlife Action Plan; • Conserves or enhances working landscapes; • Conserves or enhances water-related projects; and/or • Enhances public access. 	<ul style="list-style-type: none"> <input type="checkbox"/> Non-profit organizations <input type="checkbox"/> Local government agencies <input type="checkbox"/> Federal agencies <input type="checkbox"/> State agencies <input type="checkbox"/> CA Native American Tribes 	Land Acquisition Program
State Coastal Conservancy - Land Protection Program	<p>The program provides funding for land protection projects that meet priorities listed in the 2023-2027 Strategic Plan. The strategic plan references statewide and regional documents including, but not limited to, Pathways to 30x30, the Natural and Working Lands Climate-Smart Strategy, and the San Francisco Bay Area Conservation Lands Network.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Public Agencies, including Joint Power Authorities and Federally-Recognized Indian Tribes <input type="checkbox"/> Nonprofit organizations with 501(c)(3) status <input type="checkbox"/> Other community-based organizations and non-federally-recognized tribes may apply with a 501(c)(3) fiscal sponsor 	Coastal Conservancy Grants
CA Department of Food and Agriculture - Healthy Soils Program	<p>The program provides funding for conservation management practices that improve soil health, sequester carbon, and reduce greenhouse gas emissions. Funding is available as incentives, and for demonstration projects.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Growers and ranchers 	CDFA - OEFI - Healthy Soils Program

CA Department of Food and Agriculture, Urban Agriculture Grant Program	The program provides funding for urban food system infrastructure, workforce development, and mentoring. (This program is still under development)	<input type="checkbox"/> Urban farmers <input type="checkbox"/> Community based organizations	CDFA Office of Farm to Fork - Urban Agriculture Grant Program
USDA Natural Resources Conservation Service - Agricultural Conservation Easement Program	This federal program provides funding for two separate programs: 1) Agricultural Land Easements and 2) Wetland Reserve Easements. The Agricultural land easement program protects existing croplands and grasslands from non-agricultural uses through conservation easements and the Wetland program helps to protect, restore and enhance wetlands that have been degraded by agricultural practices	<p>Agricultural Land Easements:</p> <input type="checkbox"/> Private landowners <input type="checkbox"/> Tribal landowners <input type="checkbox"/> Land trusts <input type="checkbox"/> State and local governments or non-governmental organizations that have existing farmland, rangeland and grassland protection programs <p>Wetland Reserve Easements:</p> <input type="checkbox"/> Tribal landowners <input type="checkbox"/> Private landowners	Agricultural Conservation Easement Program

To ensure resilience of Alameda County's agricultural sector, a variety of grants will need to be secured by eligible applicants. Strategic partnerships that connect producers and consumers; across the variety of land uses possible, will need to be formed and/or affirmed to ensure agricultural protection and conservation benefits all residents and all sectors.

7.4. Section Summary

- The mapping tool commissioned for ACARP was designed to aid organizations and agencies in determining programmatic fit of specific parcels of land for certain grant programs while still being a useful tool for long-term agricultural conservation planning. The map can build highly customizable models that are based on the priorities of each user and/or a handful of grants that can facilitate agricultural land acquisition.
- The map tool was created by the [University of California Division of Agriculture and Natural Resources Informatics and GIS \(IGIS\) Program](#) with input from the ACARP and targeted feedback from land trusts, local jurisdictions and other stakeholder input.
- A variety of public funding options exist to protect and promote agriculture within California and have various annual funding cycles



Photo Credit: Jennifer Trevis, Calendula, Berkeley, CA

8. Conclusions

The investment in a resilient agricultural future for Alameda County
is an investment in public health, the local economy,
and climate change goals.

Alameda County is home to a variety of industries, cultures and a robust history of unique and successful agricultural production. This diversity of land cover, people, jurisdictional goals and beyond needs to be respected and supported while also pursuing a unified goal of protecting and boosting the agricultural economy within the County. The purpose of this report has been to identify challenges as they relate to the larger food system and identify policy and programming solutions that can be adapted and work for different jurisdictions as needed. This report makes recommendations and suggests which should be high priority but stakeholders including the AAC can choose which of these recommendations might be prioritized in the future as well as determine if any further policy or ordinance review is necessary.

The following recommendations have been identified as high priority by the ACARP project team:

Priority objectives to protect and promote agriculture in Alameda County:

- Develop and adopt County-wide goals to conserve existing agriculture, develop new production sites, and grow a new generation of farmers.
- Dedicate financial and staff resources to complete ROSA, as the comprehensive open space and outdoor element for the County of Alameda General Plan.
- Develop right-to-farm policies and ordinances in both urban and rural jurisdictions with accompanying zoning and rule changes.
- Develop local Alameda produce marketing campaign(s) to attract local demand for local products.

The designing and enacting of the policies identified above are best suited to be undertaken by public agencies such as City planning departments and Alameda County's Agricultural Advisory Committee and the Community Development Agency. However, for these solutions to be successful, it will take residents of the County to ensure that Alameda County agriculture thrives.

It will also require effective and efficient communication and coordination within and between City and County departments, agencies and organizations. The necessary coordination between

agencies, jurisdictions and landowners to discuss and implement the recommendations could be aided with an additional SALC capacity building grant.

There is an urgent need to meet this challenge and ensure the resiliency of Alameda County agriculture. Climate change continues to impact all sectors with increasingly variable impacts, social inequities continue to grow and we all still need to eat. The time is now to plan long-term, on a regional scale, for a more resilient food system. If stakeholders and policymakers are successful in enacting these recommendations, then Alameda County could see a thriving agricultural economy that meets climate change goals, addresses injustices and ultimately benefits public and environmental health.



Photo Credit: Jennifer Trevis, Urban school garden, Alameda, CA

9. Appendix

9.1. List of organizations whose representatives were invited to stakeholder meetings

Local Agencies and Politicians

Alameda Contra Costa Transit District
Alameda County Assessor's Office
Alameda County General Service Agency, Office of Sustainability
Alameda County Agricultural Advisory Committee
Alameda County Board of Supervisors District 1, Office of Supervisor Haubert
Alameda County Board of Supervisors District 2, Office of Supervisor Valle
Alameda County Board of Supervisors District 3, Office of Supervisor Chan
Alameda County Board of Supervisors District 4, Office of Supervisor Miley
Alameda County Board of Supervisors District 5, Office of Supervisor Carson
Alameda County Community Development Agency
Alameda County Farm Bureau
Alameda County Public Health Department
Alameda County Special Districts Association
Alameda County Surplus Property Authority
Alameda County Waste Management Authority (StopWaste)
Alameda County Water District
Albany Community Development
ALL IN Alameda County
Altamont Landfill Open Space Committee
Bay Area Air Quality Management District
Berkeley Planning & Development Department
Berkeley Unified School District, Gardening and Cooking Program
California Agricultural Commissioners and Sealers Association
California Department of Fish & Wildlife - CDFW
City of Alameda Planning, Building, and Transportation Department
City of Fremont Planning
Climate Action Plan Advisory Committee
Contra Costa Resource Conservation District
Contra Costa Water District
County Office of Emergency Services Alameda County
Coyote Valley Open Space Reserve
Dublin City Planning & Zoning
East Bay Municipal Utilities District (EBMUD)
East Bay Recreation and Parks District (EBRPD)
Eden Area Municipal Advisory Council
Emeryville Planning Division
Fairview Municipal Advisory Council
Hayward Area Recreation District (HARD)

Hayward Planning Division
Livermore Area Recreation & Park District (LARPD)
Livermore Planning Division
Metropolitan Transportation District/ Association of Bay Area Governments
Newark Planning Department
Oakland City Planning
Oakland Unified School District School Gardens Program
Piedmont Planning & Zoning
Plan Bay Area 2050
Pleasanton Planning Division
Representative for California's 11th Congressional District
Representative for California's 13th Congressional District
Representative for California's 15th Congressional District
Representative of the 15th Assembly District
Representative of the 16th Assembly District
Representative of the 18th Assembly District
Representative of the 20th Assembly District
Representative of the 25th Assembly District
San Leandro Planning & Zoning
Santa Clara County Dept of Planning
Santa Clara Valley Open Space Authority
San Francisco Public Utilities Commission
Sunol Citizens' Advisory Council
Union City Planning Department
USDA Natural Resources Conservation Service, Livermore Office
Zone 7 Water Agency

Farmers, Ranchers, Farmworkers and Agricultural Organizations

Acta Non Verba Farm
Alameda Backyard Growers
Ayudando Latinos A Soñar
Biel Properties Inc.
Bluma Farm
California Climate and Agriculture Network (CalCAN)
City Slicker Farms
Common Vision
Community Alliance with Family Farmers
Contra Costa Alameda County Cattlemen's Association
California Cattlemen's Association
Crohare Olive Orchard
Darcie Kent Winery
Deep Medicine Circle
Dig Deep Farms
Eden Urban Farms
Kitchen Table Advisors
Livermore Valley Wine Growers Association
Paradise Community Garden

Pie Ranch
Sustainable Agriculture Education (SAGE)
UC Davis Sustainable Agriculture Research & Education Program
Vieira Ranch Investments
Wente Vineyards

Food, Food Systems and Farmers' Market Organizations

Alameda County Community Food Bank
Berkeley Food Institute
Berkeley Food Policy Council
CUESA (now known as Foodwise)
Center for Whole Communities
Farms to communities / Growing together
Freedom Farmers Market / Mo Better Foods
Food Culture Collective
Food First
Fresh Approach
HEAL Food Alliance
HOPE Collaborative
International Rescue Committee New Roots
Mandela Partners
Oakland Bloom
Pacific Coast Farmers' Market Association
Planting Justice
Town and City Permaculture

Land Trusts

Agriculture and Natural Resources Trust
California Farmland Trust
California Rangeland Trust
Central Valley Land Trust
Claremont Canyon Conservancy
Muir Heritage Land Trust
Ohlone Mitigation Bank
Save Mt Diablo
The Cultural Conservancy
The Trust for Public Land - SF Bay Area region
Tri-Valley Conservancy

Environmental Organizations

Alameda Creek Alliance
California Invasive Plant Council
Community Action for a Sustainable Alameda
David R. Brower, Ronald V. Dellums Institute for Sustainable Policy Studies

Friends of Livermore - Save North Livermore Valley
Friends of San Lorenzo Creek
Friends of the Vineyards and Open Space
Great Old Broads for Wilderness
Green Foothills
Greenbelt Alliance
Grove Way Neighborhood Association
Justice Outside
Master Gardeners/School Gardens
REAP Center
Sierra Club Southern Alameda County
Sierra Club Tri-Valley Area
TOGETHER Bay Area

Tribes

Amah Mutsun Tribal Band
California Indian Basketweavers Association
California Indian Environmental Alliance
Coastanoan Ohlone Rumsen-Mutsun Tribe
Indian Canyon Mutsun Band of Costanoan
Ione Band of Miwok Indians
Muwekma Ohlone Tribe of the San Francisco Bay Area
North Valley Yokuts Tribe
Pacific Intertribal agricultural council
Sogorea Te Land Trust
The Confederated Villages of Lisjan
The Ohlone Indian Tribe
Wilton Rancheria

Educational Organizations

UC Division of Agriculture and Natural Resources, including UC Cooperative Extension
UC Berkeley Department of Environmental Science, Policy, and Management
UC Berkeley Environmental Design
UC Davis Dept Human Ecology
UC Davis Environmental Science & Policy
UC Davis Landscape architecture & environmental design

Economic Organizations

Bay Area Council Economic Institute
Bay Area Planning Directors Association
East Bay Economic Development Agency
Innovation Tri Valley
SPUR

9.2. List of organizations whose representatives attended a stakeholder meeting

100K Trees for Humanity
Alameda County Agriculture Advisory Committee
Alameda County Community Development Agency
Alameda County General Service Agency, Office of Sustainability
Castro Valley Municipal Advisory Council
Acta Non Verba
Alameda County Assessor's Office
Alameda County Water District
ALL IN Alameda County
Berkeley Food Institute
Biel Properties Inc.
Bishop O'Dowd High School (school garden program)
Bluma Flower Farm
California Department of Fish and Wildlife
California Farmland Trust
City of Oakland
City of Pleasanton
Community Alliance with Family Farmers
Contra Costa Resource Conservation District
East Bay Economic Development Agency
Food Culture Collective
Food First
Friends of Livermore / Save North Livermore
Friends of San Lorenzo Creek
Goldman School of Public Policy
Greenbelt Alliance
Hayward Area Recreation & Park District
John Muir Land Trust
Merritt College's Agroecology Dept Workforce Development
Oakland Unified School District
Real Estate Appraisal Division, Alameda County Assessor's Office
REAP Climate Center
Sandra Frost, Local farmer/gardener
Alameda County Waste Management Authority (StopWaste)
Tri-Valley Conservancy
UC Division of Agriculture and Natural Resources
Union City
Wente Vineyards

Organizations that RSVP'd but were not able to attend

USDA Natural Resources Conservation Service, Livermore Office
California Indian Environmental Alliance
City of Emeryville, Planning Department

City of Fremont, Community Development
Common Vision
HEAL Food Alliance
John Muir Land Trust
Merritt College's Agroecology Dept Workforce Development
Tri-Valley Conservancy
Zone 7 Water Agency



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