

# INVESTING IN CALIFORNIA AGRICULTURE'S CLIMATE SOLUTIONS

## CLIMATE SMART AGRICULTURE PROGRAMS

The Nation's Salad Bowl | Credit: Malcolm Carlaw

The state of California launched its innovative Climate Smart Agriculture programs starting in 2014, funding them with proceeds from the state's cap-and-trade program. The grant programs—the first of their kind in the country—provide unique resources for farmers and ranchers to adopt transformative management practices that reduce potent greenhouse gas (GHG) emissions, increase carbon storage in soils and woody plants, and protect at risk agricultural lands, all while providing multiple benefits that improve the health and resiliency of our farms, ecosystems and communities.



### SUSTAINABLE AGRICULTURAL LANDS CONSERVATION PROGRAM (SALCP)

SALCP supports the reduction of GHG emissions associated with urban sprawl and rural ranchette development by protecting at risk agricultural lands. The program funds agricultural conservation easements to maintain land in farming as well as grants to local governments to improve farmland conservation planning and policy development. Since 2014, **\$79 million** in SALCP funding has protected almost **80,000 acres in 25 counties**, and will deliver an estimated **42 million metric tons CO<sub>2</sub>e** emissions reductions over 30 years. SALCP is administered by the Department of Conservation on behalf of the Strategic Growth Council.



### STATE WATER EFFICIENCY & ENHANCEMENT PROGRAM (SWEEP)

The SWEEP program supports farmers and ranchers in harnessing the power of efficient irrigation to conserve water while simultaneously reducing on-farm energy use and GHG emissions. Since 2014, SWEEP has invested **\$67.5 million** in **606 projects in 33 counties**, which will deliver an estimated **303,310 metric tons CO<sub>2</sub>e** emissions reductions over 10 years. SWEEP is administered by the California Department of Food and Agriculture (CDFA).



### HEALTHY SOILS PROGRAM

This program provides grants to producers to implement innovative management practices that store carbon in soil and woody plants and also improve soil fertility, reduce erosion, and increase water-holding capacity. The program also funds researchers and nonprofits to develop demonstration projects on working farms to extend the reach and impact of the program. Launched in 2017, more than **\$5 million** in Healthy Soils grants has gone to **86 projects** on farms and ranches in **31 counties**, which are estimated to deliver the equivalent of **117,600 metric tons CO<sub>2</sub>e** emissions reductions over 10 years. The program is administered by CDFA.



### ALTERNATIVE MANURE MANAGEMENT PROGRAM (AMMP)

AMMP supports dairy and other livestock producers in installing projects to reduce methane emissions from manure storage and handling. **Seventeen projects in seven counties** were awarded a total of more than **\$9.6 million** through the first round of grants in early 2018, and are estimated to deliver the equivalent of **367,476 metric tons CO<sub>2</sub>e** emissions reductions over five years. AMMP is administered by CDFA.

### TO DATE, THESE PROGRAMS COLLECTIVELY:



Fund Climate Smart Agriculture projects on almost 750 farms and ranches in 49 counties



Save at least 28 billion gallons of water annually



Reduce California's GHG emissions by more than 42.5 million metric tons of CO<sub>2</sub>e over the life of the projects



Permanently conserve almost 80,000 acres of agricultural land



Remove the equivalent of more than 9.1 million passenger vehicles from the road for a year




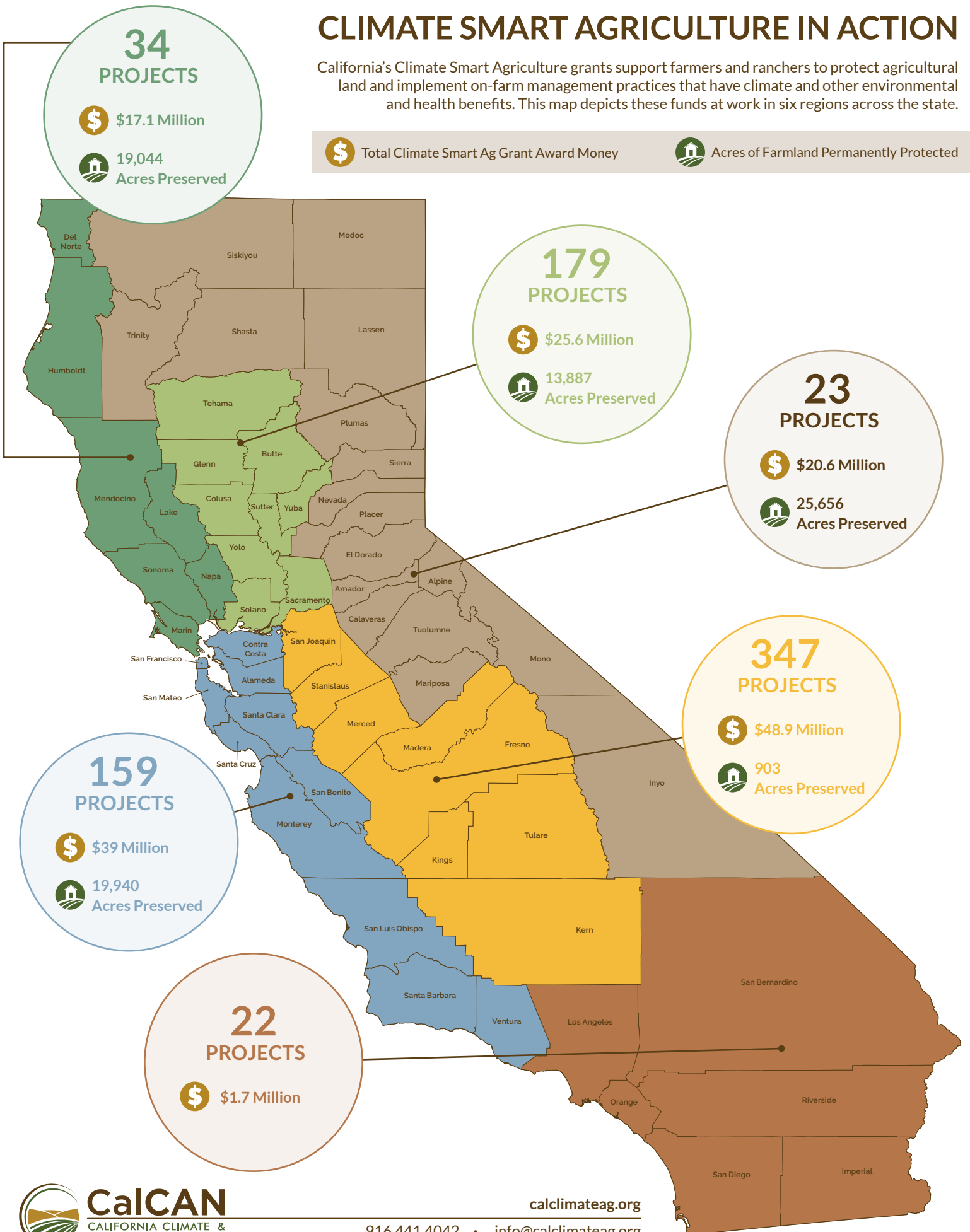
Cost about \$56 per metric ton of CO<sub>2</sub>e reduced, among the most cost-effective of California's climate investments

# CLIMATE SMART AGRICULTURE IN ACTION

California's Climate Smart Agriculture grants support farmers and ranchers to protect agricultural land and implement on-farm management practices that have climate and other environmental and health benefits. This map depicts these funds at work in six regions across the state.

 Total Climate Smart Ag Grant Award Money

 Acres of Farmland Permanently Protected



## CLIMATE SMART AGRICULTURE

# SUSTAINABLE AGRICULTURAL LANDS CONSERVATION PROGRAM (SALCP)

California loses an average of 50,000 acres a year of agricultural land, the equivalent of more than one and a half times the area of San Francisco. California's robust agricultural economy and our rural economies depend on this finite resource. The loss of farmland, especially to urban and suburban development, also contributes to rising greenhouse gas (GHG) emissions. A 2012 study by UC Davis researchers found that an acre of urban land emits 70 times more GHGs than an acre of irrigated cropland.

As part of the state's efforts to support in-fill development and reduce vehicle miles traveled, in 2015 the state launched the Sustainable Agricultural Lands Conservation Program (SALCP). SALCP is a competitive grants program that funds agricultural conservation easements and strategic planning grants for local governments to protect farm and ranch land at risk of development. This program is the first in the country to invest in farmland conservation as a strategy to avoid future GHG emissions associated with transportation and urban development.



### IMPACT OF SALCP

- Acres preserved: almost **80,000**
- Total easements funded: **52**
- Total strategy grants awarded: **8**
- Number of counties awarded grants: **27**
- GHG reductions (over 30 years): Almost **42 million metric tons CO<sub>2</sub>e** over 30 years, equivalent to removing almost **9 million cars** from the road for one year\*



### FINANCES

- Average cost for GHG emissions reductions: **\$55 per metric ton of CO<sub>2</sub>e\*\***
- Total budget to date: **\$79 million**
- Budget for FY 2017-18: **\$34 million**
- Proposed budget for FY 2018-2019: SALCP receives a continuous appropriation from the Strategic Growth Council as part of the Affordable Housing and Sustainable Communities program.



### ADDITIONAL BENEFITS TO CALIFORNIANS

- Continued viability of California's productive agriculture sector and rural economies
- Carbon sequestration in agricultural soils and woody plants
- Open space for hiking, hunting and other forms of recreation
- Flood mitigation
- Absorption and filtration of water to recharge groundwater and improve water quality
- Wildlife habitat

### TOP SEVEN COUNTIES AWARDED

COUNTY	TOTAL AWARDS
Monterey	12
Sierra	4
Sonoma	4
Butte	3
Mono	3
Napa	3
Santa Cruz	3

*SALCP is administered by the Department of Conservation (DOC) on behalf of the Strategic Growth Council.*

*More information is available on their website: [www.conservation.ca.gov/dlrp/SALCP/Pages/Index.aspx](http://www.conservation.ca.gov/dlrp/SALCP/Pages/Index.aspx)*

\* Calculated with DOC data and US EPA's Greenhouse Gas Equivalencies Calculator

\*\* Air Resources Board, California Climate Investments 2017 Annual Report

# SALCP PROFILES

Counties with SALCP Grants



**CALIFORNIA RANGELAND TRUST**  
Yolo, Calaveras, Humboldt and Monterey counties  
**Award Amount: \$16,113,975**  
**17,973 Acres Protected**

The California Rangeland Trust has received SALCP grants to protect four ranches in four counties from being sold and developed as rural ranchettes or converted to more intensive agriculture uses (e.g., almonds or wine grapes). In addition to avoiding increased greenhouse gas emissions, keeping these large acreages in ranching provides groundwater recharge, carbon sequestration, and wildlife habitat connectivity with adjacent natural areas, such as the Blue Ridge Berryessa Natural Area in Yolo County, the Gabilan Range near Salinas, and the salmon-bearing South Fork of the Eel River. In fact, some of the matching funds for the easements have come from wildlife agencies.

*"The SALCP grants are a critical resource for enabling us to protect some of the 400,000 acres of ranches on our waiting list. We have leveraged more than \$15 million in matching funds needed to protect these valuable ranches."*

- Nancy Schaefer, Bay Area Program Manager, California Rangeland Trust



**SONOMA COUNTY AGRICULTURAL PRESERVATION & OPEN SPACE DISTRICT (AG + OPEN SPACE)**  
Sonoma County

**Award Amount: \$1,750,000**  
**1,100 Acres Protected**

Two SALCP grants were awarded to Ag + Open Space to protect 1,100 acres on two organic dairy farms. The region's rolling grasslands, soil types and climate are ideal for grazing and have supported ranches and dairies for decades. The two dairies are located on roads identified as scenic corridors and their protection will help maintain the county's rural character. Further, both properties are owned by multi-generational farm families whose children intend to stay in agriculture. These families have a strong connection to the land and see the easements as a way to remain economically viable and leave a legacy.

*"The combination of land prices and the pressure to develop in Sonoma County makes it difficult for farming families to stay in agriculture. SALCP is critical for leveraging funds to protect our working lands while also reducing carbon emissions."*

- Misti Arias, Acquisition Program Manager, Ag + Open Space

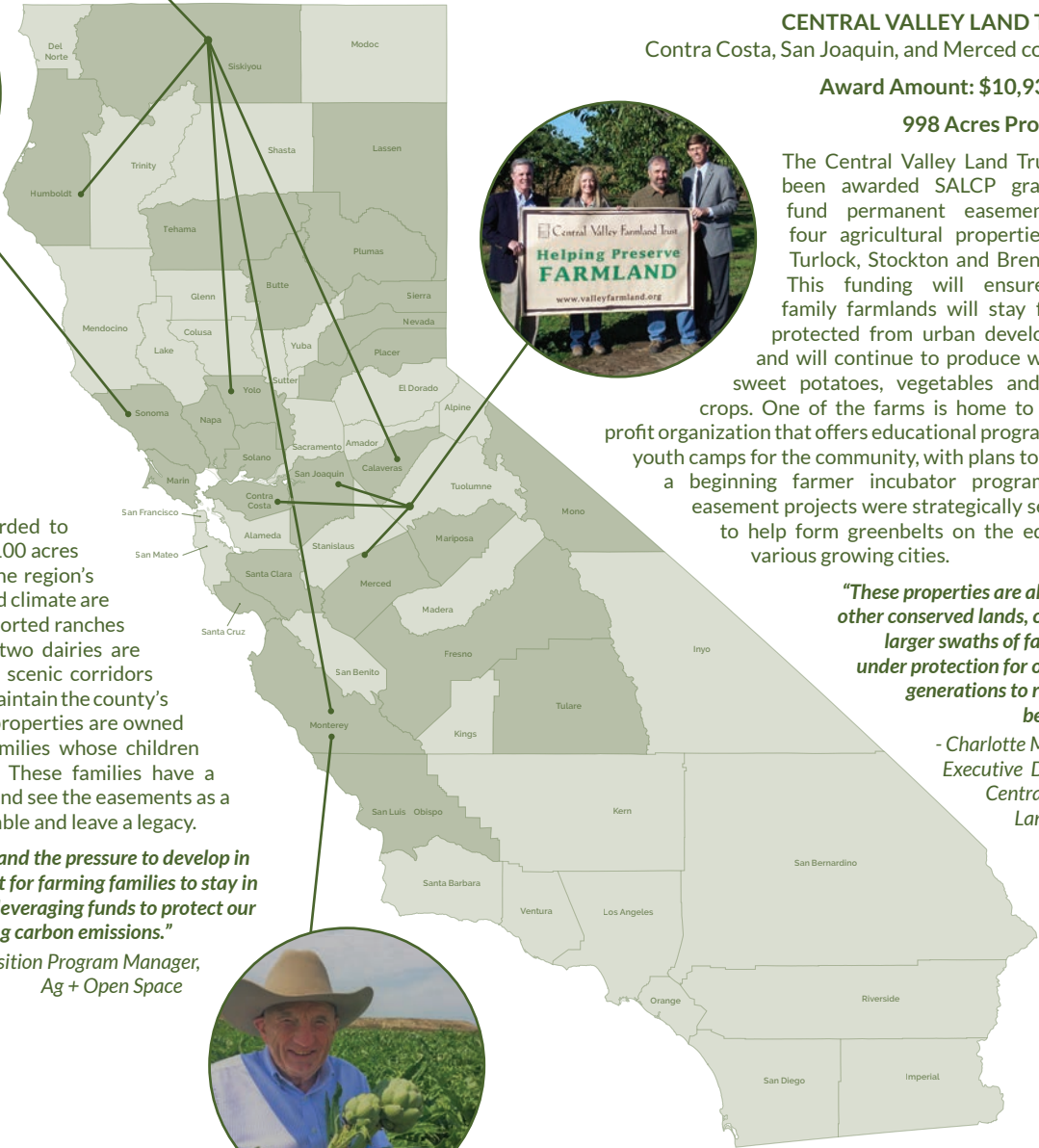
**AG LAND TRUST**  
Monterey County

**Award Amount: \$10,915,700**  
**2,034 Acres Protected**

The Ag Land Trust in Monterey County was established in 1984 and in that time has put 85 agricultural easements in place on some of California's most valuable irrigated farmland that produces strawberries, lettuce, broccoli, and more. Their 10 SALCP grants are located adjacent or within a few miles of the city limits of Salinas, Gonzales, Soledad and others, in an effort to direct urban growth away from farmland with high productivity and land values. Most farmers in the area have been there for several generations and want to see the land stay in agriculture.

*"The community values the open space and clean air in our region, and don't want the area to turn into another Silicon Valley. Once farmland is paved over, it's gone forever."*

- Sherwood Darington, Managing Director, Ag Land Trust



**CENTRAL VALLEY LAND TRUST**  
Contra Costa, San Joaquin, and Merced counties

**Award Amount: \$10,932,010**  
**998 Acres Protected**

The Central Valley Land Trust has been awarded SALCP grants to fund permanent easements on four agricultural properties near Turlock, Stockton and Brentwood. This funding will ensure that family farmlands will stay forever protected from urban development and will continue to produce walnuts, sweet potatoes, vegetables and other crops. One of the farms is home to a non-profit organization that offers educational programs and youth camps for the community, with plans to launch a beginning farmer incubator program. The easement projects were strategically selected to help form greenbelts on the edges of various growing cities.

*"These properties are also near other conserved lands, creating larger swaths of farmland under protection for our next generations to reap the benefits."*

- Charlotte Mitchell, Executive Director, Central Valley Land Trust

# CLIMATE SMART AGRICULTURE

## STATE WATER EFFICIENCY AND ENHANCEMENT PROGRAM (SWEEP)

California's chronic water shortages and cyclical droughts are predicted to worsen in the face of climate change. The farmers who produce our food are especially vulnerable to the state's increasing water insecurity. To respond to these threats, in 2014, the Brown Administration established California's State Water Efficiency and Enhancement Program (SWEEP) to support improved on-farm water use efficiency that saves water, energy and reduces greenhouse gas (GHG) emissions.

SWEEP provides grants to growers for irrigation management improvements, including increased efficiency measures, soil moisture monitoring equipment, solar pumps and more. The program is very popular with farmers—during the first six grant rounds, almost three times more applications were received than were funded.



### IMPACT OF SWEEP

- Number of counties receiving grants: **33**
- Total projects funded: **606**
- Water savings: More than **28 billion** gallons annually, or more than 42,000 Olympic-size swimming pools
- GHG reductions: **303,310** metric tons CO<sub>2</sub>e over 10 years, equivalent to removing **65,000** cars from the road for one year\*



### FINANCES

- Average cost for GHG emissions reductions: **\$56** per metric ton of CO<sub>2</sub>e\*\*
- Total budget to date: **\$67.5 million**
- Budget for FY 2017-18: **Zero**
- Proposed budget for FY 2018-19: The Governor's proposal includes zero in GGFR and \$18 million in Prop. 68 funds; CalCAN is seeking **\$40 million** for the program



### ADDITIONAL BENEFITS TO CALIFORNIANS

- Reduces agricultural use of scarce water supplies
- Improves air quality from more efficient irrigation pumps and solar pumps
- Cuts water and energy bills for farmers

### TOP TEN COUNTIES AWARDED

COUNTY	TOTAL AWARDS
Fresno	87
Tulare	70
Butte	54
San Luis Obispo	51
Kern	42
Monterey	38
Colusa	33
Kings	32
Merced	29
Glenn	23

*SWEEP is administered by the California Department of Food and Agriculture (CDFA).*

*More information is available on their website: [www.cdfa.ca.gov/oefi/sweep/](http://www.cdfa.ca.gov/oefi/sweep/)*

\* Calculated with CDFA data and US EPA's Greenhouse Gas Equivalencies Calculator  
 \*\* Air Resources Board, California Climate Investments 2017 Annual Report

# SWEEP PROFILES

Counties with SWEEP Grants



**PAO YANG**  
Fresno, Fresno County

**Award Amount: \$100,000**

Farmer Pao Yang started farming four years ago on 40 acres of family land recently converted from almonds and grapes to a diversified Asian vegetable and herb operation. Pao received technical assistance from UC Cooperative Extension that enabled him to successfully apply for his SWEEP grant. With the funds, Pao replaced valves and installed drip irrigation throughout the farm, resulting in significant water use and cost savings. His energy use is also reduced (and therefore GHG emissions)—he estimates his farm’s annual \$8,000 energy bill is halved as a result of these improvements. Because he is able to deliver water more precisely to his crops, Pao is seeing less weed pressure which reduces labor costs, increases yields, and bolsters his farm’s economic viability.

*“We couldn’t have done the application without help from University of California Cooperative Extension.”*  
- Pao Yang



**COLLINS FARM**  
Davis, Solano County

**Award Amount: \$79,108**

After three decades operating the country’s only endive farm, Rich Collins and his wife Shelly fulfilled a lifelong dream in 2007 by buying a 195-acre farm near Davis. Today, Collins Farm is home to several small farm businesses that produce a cornucopia of organic produce including berries, apricots, figs, vegetables, hops for a local brewery, sheep for meat and chickens for eggs. They received a SWEEP grant to put solar panels on their barn, replace a gasoline-powered well pump with a solar-powered pump, and install a greywater system to use recycled water from their produce washing station to irrigate fields. They also installed soil moisture sensors which give them information on when and how much to irrigate.

*“Conserving water is not rocket science, but there is a learning curve. SWEEP supports producers in taking risks to learn new methods.”*

- Rich Collins

**EMERALD SEED COMPANY**  
El Centro, Imperial County

**Award Amount: \$99,249**

Emerald Seed Company breeds disease-resistant seed varieties, which they sell throughout the world. Located near the Mexican border, the farm has limited access to water and experiences unpredictable precipitation and wind storms. The farm relies on surface water delivery which fluctuates annually depending on statewide water supplies and snowpack. With the SWEEP grant, Grower and Operations Manager Josh Cordova invested in infrastructure to increase their water security. To capture and store more water when it is available, they built an on-site reservoir. Josh also installed an electric pump to replace their diesel-powered pump, which reduces carbon emissions and energy costs. Soil moisture sensors enable Josh to manage irrigation more efficiently.

*“We’re saving money and water while reducing carbon emissions. Most importantly, this gives us the flexibility to irrigate how and when we need to most.”*

- Josh Cordova



**SHARYNE MERRITT FARM**  
Carpinteria, Santa Barbara County

**Award Amount: \$54,808**

Water availability is one of several climate-related challenges facing California’s avocado industry, along with higher temperatures, new invasive pests and wildfires and mudslides. Making the most of scarce water resources motivated Sharyne Merritt to apply for a SWEEP grant for her avocado orchard near Carpinteria. She purchased solar-powered weather stations to monitor soil moisture, temperature, humidity, evapotranspiration, and wind speed. She can hone irrigation timing and amounts by tracking data online, eliminating over-watering and using less energy to pump water. She also applied mulch in the orchards to cut down on moisture loss due to evaporation.

*“This new system cuts costs for electricity and labor because now I can fine-tune our system from my computer. And on cold nights, not only does it prevent frost damage to the trees by alerting me to turn on the irrigation, but I don’t have to wake up every two hours to check thermometers.”*

- Sharyne Merritt



# CLIMATE SMART AGRICULTURE

## HEALTHY SOILS PROGRAM

Credit: Deborah Pagliaccia

California's farms and ranches play a critical role in achieving the state's ambitious greenhouse gas (GHG) reduction targets. They serve as sinks for atmospheric carbon by sequestering it in soils and woody plants where carbon is needed for plant growth. Farm management practices like composting, reduced tillage, and planting windbreaks and hedgerows can produce healthy, biologically-active soils rich in organic matter.

In 2017, California launched the Healthy Soils Program, a trailblazing initiative that provides grants to farmers and ranchers who adopt soil-building practices that increase on-farm carbon sequestration and reduce on-farm GHG emissions. The program also funds demonstration projects to showcase healthy soils practices and accelerate their adoption through farmer-to-farmer education.



### IMPACT OF THE HEALTHY SOILS PROGRAM

- Farms awarded incentive grants: **64**
- Farms awarded demonstration projects: **22**
- Number of counties with Healthy Soils grants: **31**
- GHG reductions: **117,600** metric tons CO<sub>2</sub> emissions reductions over 10 years, equivalent to removing more than **25,000** cars from the road for one year\*



### FINANCES

- Budget for FY 2016-17: **\$7.5 million**
- Budget for FY 2017-18: **Zero**
- Proposed budget for FY 2018-19: The Governor's proposal includes \$5 million in GGRF and \$9 million in Prop. 68 funds; CalCAN is seeking **\$25 million** for the program



### ADDITIONAL BENEFITS TO CALIFORNIANS

- Reduces the use of chemical fertilizers
- Improves air and water quality and the health of rural communities
- Increases biodiversity and wildlife habitat
- Increases water infiltration and retention, aiding with water conservation, flood mitigation and erosion control
- Improves on-farm soil fertility and plant health

### TOP TEN COUNTIES AWARDED

COUNTY	TOTAL AWARDS
Merced	11
Sonoma	8
San Luis Obispo	6
Yolo	6
Fresno	4
Marin	4
Riverside	4
San Diego	4
Santa Barbara	4
Stanislaus	4

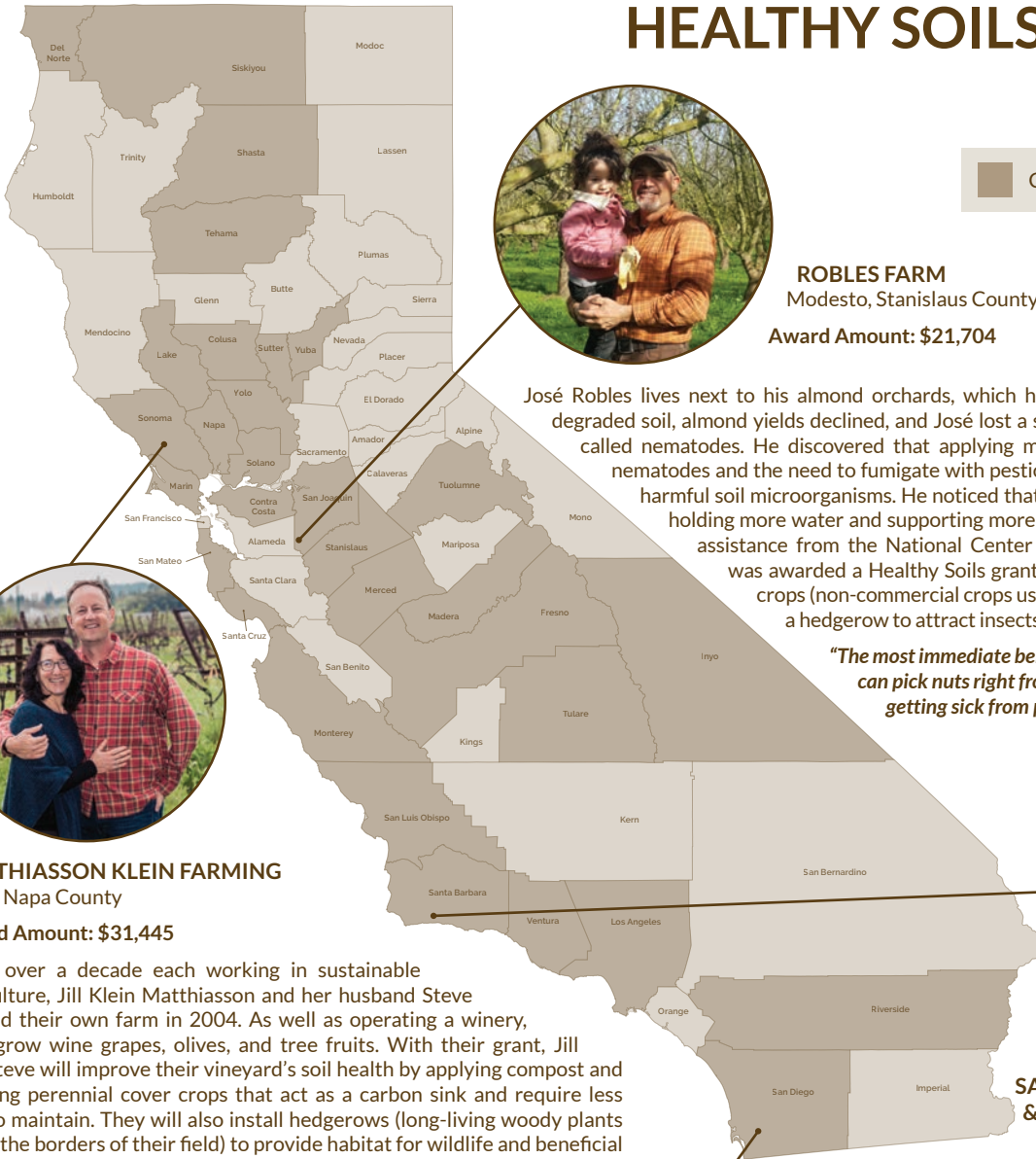
*The Healthy Soils Program is administered by the California Department of Food and Agriculture (CDFA).*

*More information is available on their website: [www.cdfa.ca.gov/oefi/healthysoils](http://www.cdfa.ca.gov/oefi/healthysoils)*

\* Calculated with CDFA data and US EPA's Greenhouse Gas Equivalencies Calculator

# HEALTHY SOILS PROGRAM PROFILES

Counties with HSP Grants



**ROBLES FARM**  
Modesto, Stanislaus County  
Award Amount: \$21,704

José Robles lives next to his almond orchards, which he has farmed since 2005. Due to degraded soil, almond yields declined, and José lost a section of trees to soil-borne pests called nematodes. He discovered that applying mulch and compost eliminated the nematodes and the need to fumigate with pesticides, which killed both helpful and harmful soil microorganisms. He noticed that healthier soils work like a sponge, holding more water and supporting more productive trees. With application assistance from the National Center for Appropriate Technology, José was awarded a Healthy Soils grant to apply compost and plant cover crops (non-commercial crops used to improve soil health) as well as a hedgerow to attract insects and improve orchard pollination.

*"The most immediate benefit we get is to our health. Now, we can pick nuts right from the trees without worrying about getting sick from pesticides."*

- José Robles



**MATTHIASSEON KLEIN FARMING**  
Napa, Napa County  
Award Amount: \$31,445

After over a decade each working in sustainable agriculture, Jill Klein Matthiasson and her husband Steve started their own farm in 2004. As well as operating a winery, they grow wine grapes, olives, and tree fruits. With their grant, Jill and Steve will improve their vineyard's soil health by applying compost and planting perennial cover crops that act as a carbon sink and require less fuel to maintain. They will also install hedgerows (long-living woody plants along the borders of their field) to provide habitat for wildlife and beneficial insects. By adopting these practices, they will sequester carbon, increase soil fertility and water-holding capacity, and produce higher quality grapes.

*"My livelihood is tied to the climate. As farmers, we're on the first line of defense, and we want to do everything we can to slow down the effects of climate change."*

- Jill Matthiasson Klein



**SANTA BARBARA BLUEBERRIES & RESTORATION OAKS RANCH**  
Gaviota, Santa Barbara County  
Award Amount: \$18,982

Ed Seaman started his farming career in Santa Barbara Blueberries' roadside farm stand. Since then, he has worked in every aspect of the operation, which he and his wife now own. They secured Healthy Soils funding in partnership with Restoration Oaks Ranch where the blueberry farm is located. Their focus is to build resilience in the face of extreme water insecurity. On the slope above their well, they will plant native shrubs and trees to reduce soil erosion, stabilizing the hillside and encouraging water penetration to recharge the aquifer. At the ranch, compost spread over grazed lands will add soil organic matter, thereby increasing soil carbon storage. Mulching the blueberry fields will increase soil moisture and cut irrigation demand.

*"We think we can take a holistic approach to keep more water and carbon in the soil, use less fertilizer and produce better crops. We want to demonstrate this on a working operation to show that this is replicable for people making a living in agriculture."*

- Ed Seaman



**PAUMA BAND OF LUISEÑO INDIANS**  
Pauma Valley, San Diego County  
Award Amount: \$100,000

In addition to growing 160 acres of avocados and citrus, the Pauma Band have a 40-acre vegetable operation that they will convert to a no-till olive orchard. Miguel Hernandez, Pauma Band Water Master and Agricultural Manager, credits the Healthy Soils grant with providing them resources to prioritize carbon sequestration and climate benefits in the transition. By practicing no-till agriculture, they will minimize carbon released when soil is disturbed and will use less diesel fuel by eliminating tillage-related tractor use. To prepare the soil, they will plant cover crops for three consecutive years to outcompete invasive weeds and bolster soil health. Funded as a demonstration project to conduct outreach, they will bring together farmers, tribal representatives and other stakeholders to learn from their experiences with climate smart practices.

*"It's all in the title. Healthier soils grow healthier food for our communities to eat."*  
- Miguel Hernandez

# CLIMATE SMART AGRICULTURE ALTERNATIVE MANURE MANAGEMENT PROGRAM (AMMP)

California is home to the country's largest dairy industry, with 1,400 dairies and nearly 1.8 million cows. With the high volume of milk and other dairy products produced in the state, there can come with it environmental impacts, including methane emissions from manure and the belches of cows. Half of the state's agricultural emissions come from livestock. Methane is a greenhouse gas that is between 30 and 70 times more potent than carbon dioxide. In 2016, Governor Brown signed legislation to require a 40 percent reduction in methane emissions from the dairy industry by 2030.

In 2017, California launched the Alternative Manure Management Program (AMMP) to provide grants to dairy and other livestock producers to support their transition to manure handling and storage strategies that reduce methane emissions. These strategies include composting manure, shifting from a liquid flush system to dry scraping, advanced solids separation, and improved pasture management.



## IMPACT OF AMMP

- Number of projects awarded: **17**
- Number of counties with AMMP grants: **7**
- GHG reductions: Methane equivalent to more than **367,000 metric tons CO<sub>2</sub>e** over 5 years, or to **removing more than 78,000 cars from the road** for one year\*



## FINANCES

- Budget for FY 2016-17: **\$9.8 million**
- Budget for FY 2017-18: CDFA proposes between **\$16 to 33 million** for AMMP out of the total of \$99 million for Dairy Methane programs
- Budget for FY 2018-19: Governor Brown has proposed \$99 million for AMMP and the Dairy Digester Research and Development Program. **CalCAN seeks \$40 million for AMMP**



## ADDITIONAL BENEFITS TO CALIFORNIANS

- Improved air and water quality
- Reduction in odors caused by ammonia release
- Production of aged manure and compost, valuable soil amendments
- Reduction in pathogens that can cause food safety issues

## COUNTIES AWARDED GRANTS

COUNTY	TOTAL AWARDS
Stanislaus	4
Tulare	4
Merced	3
San Joaquin	3
Del Norte	1
Humboldt	1
Marin	1

*AMMP is administered by the California Department of Food and Agriculture (CDFA).  
More information is available on their website:  
[www.cdfa.ca.gov/oeffi/AMMP](http://www.cdfa.ca.gov/oeffi/AMMP)*

\* Calculated with CDFA data and US EPA's Greenhouse Gas Equivalencies Calculator

# AMMP PROFILES

Counties with AMMP Grants



## ALEXANDRE FAMILY FARM Crescent City, Del Norte County

**Award Amount: \$749,746**

Blake and Stephanie Alexandre along with their five children operate an organic dairy and pasture-raised chicken business on a total of 7,000 acres in three Northern California counties. They attribute the high level of involvement of their children in the family business to the fact that they have made it interesting by diversifying, bottling and marketing their own milk, and hosting youth programs on the farm. The AMMP program will give them resources to upgrade some of their aging infrastructure. They will build a compost bedded pack barn to house their young stock. Rather than flushing the manure out of the alleys with water, they will instead use large amounts of bedding to produce compost underneath the cows. They will combine this material with crab shells, fish waste and wood shavings from the area to enhance the compost, then apply it to their 3,000 acres of pasture to improve soil health. This system will keep their calves healthier during the wet winters, and enables them to build a new facility that is organized and appropriately-sized.

*"Our business model is to do the right thing at every turn. This project is good for our cattle, our employees, our brand identity and the environment."*

- Blake Alexandre



## MANUEL DASILVA DAIRY Escalon, San Joaquin County

**Award Amount: \$575,000**

Jerry DaSilva's father bought their dairy more than 40 years ago when he was a toddler. They have grown the business to a total of 2,000 head of cattle and 500 acres of feed production. Jerry planned to upgrade his manure handling system but did not have the financing. Now, with his AMMP grant, he will install "weeping walls" that trap manure solids in the water used to flush his barns behind a wall of slats, which allows relatively clean water to seep through into storage ponds to be recycled. This will separate up to 85% of the manure solids to be spread on fields as fertilizer after drying on concrete pads.

In addition to cutting methane emissions and reducing nitrate leaching into groundwater, there are practical advantages such as requiring less labor and avoiding handling of the sludge in his ponds that is difficult to spread and clogs pipes.

*"When this opportunity came around, I hopped on it. This system will be better for my crops, better for water quality and will make me a better farmer in the long run."*

- Jerry DaSilva



## MAGNESON DAIRY Delhi, Merced County

**Award Amount: \$559,703**

Scott Magnuson's family has been running a farm near Ballico since the 1890's, and he hopes to pass the business along to his son and grandson. In 2004, they put a permanent conservation easement on the property which is on the banks of the Merced River, and in 2008 he converted to organic production. With his AMMP grant, Scott will make a number of improvements. He will install a mechanical screen separator that pushes manure solids onto a screen, moving the water out to be recycled and dropping the solids onto a concrete slab where he can shape them into windrows for composting. He will spread the compost on his pastures after the cows have rotated through to increase fertility and improve forage quantity, thereby increasing pasture time for the cattle and avoiding manure accumulation in the barns. Finally, he will also build a compost pack barn for his heifers, producing compost right underneath them by adding large volumes of bedding and aerating frequently.

*"What I like about this program is that there are all kinds of innovative new ways for managing dairy emissions that help our business and the land. Hopefully our project will make our dairy more sustainable for decades to come."*

- Scott Magnuson

