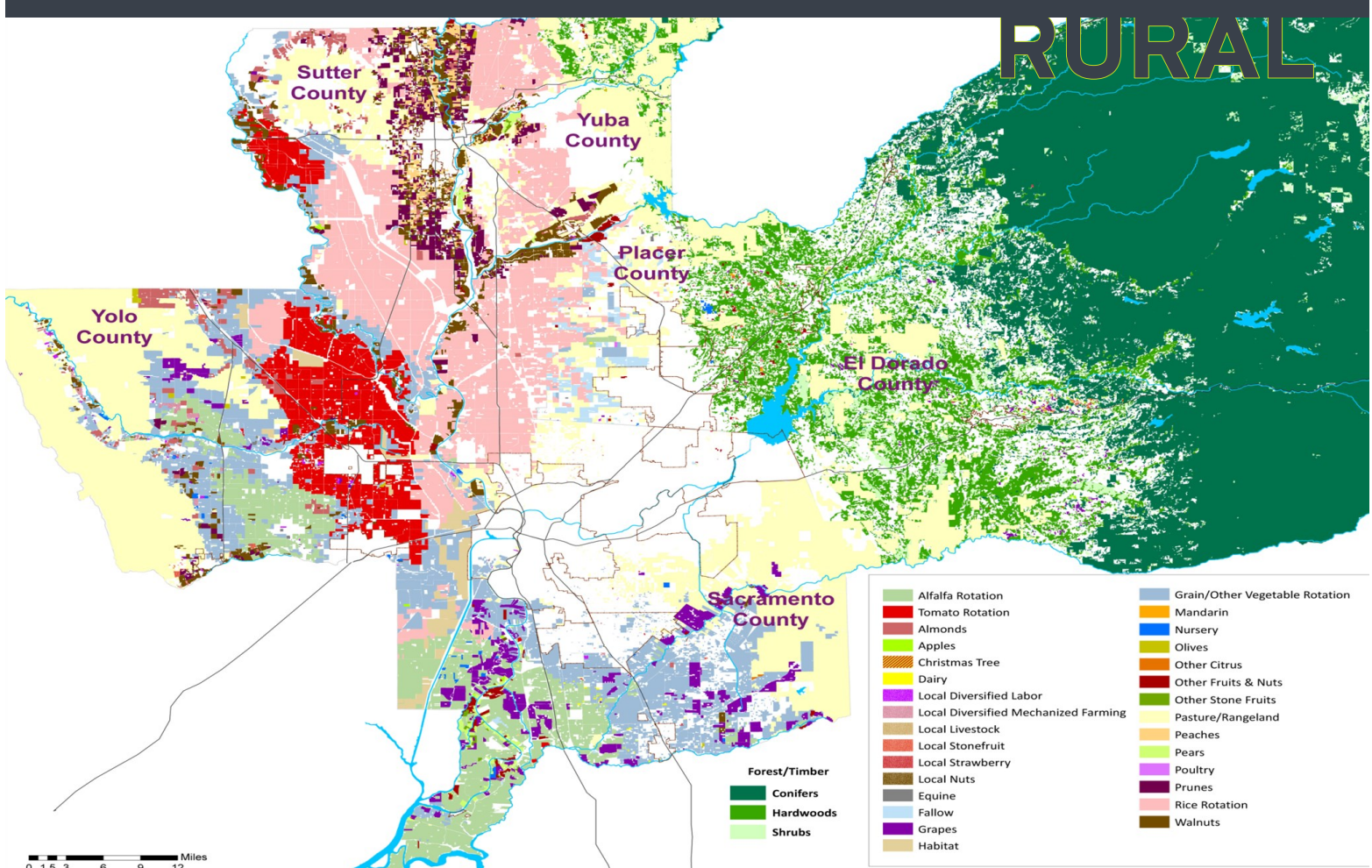
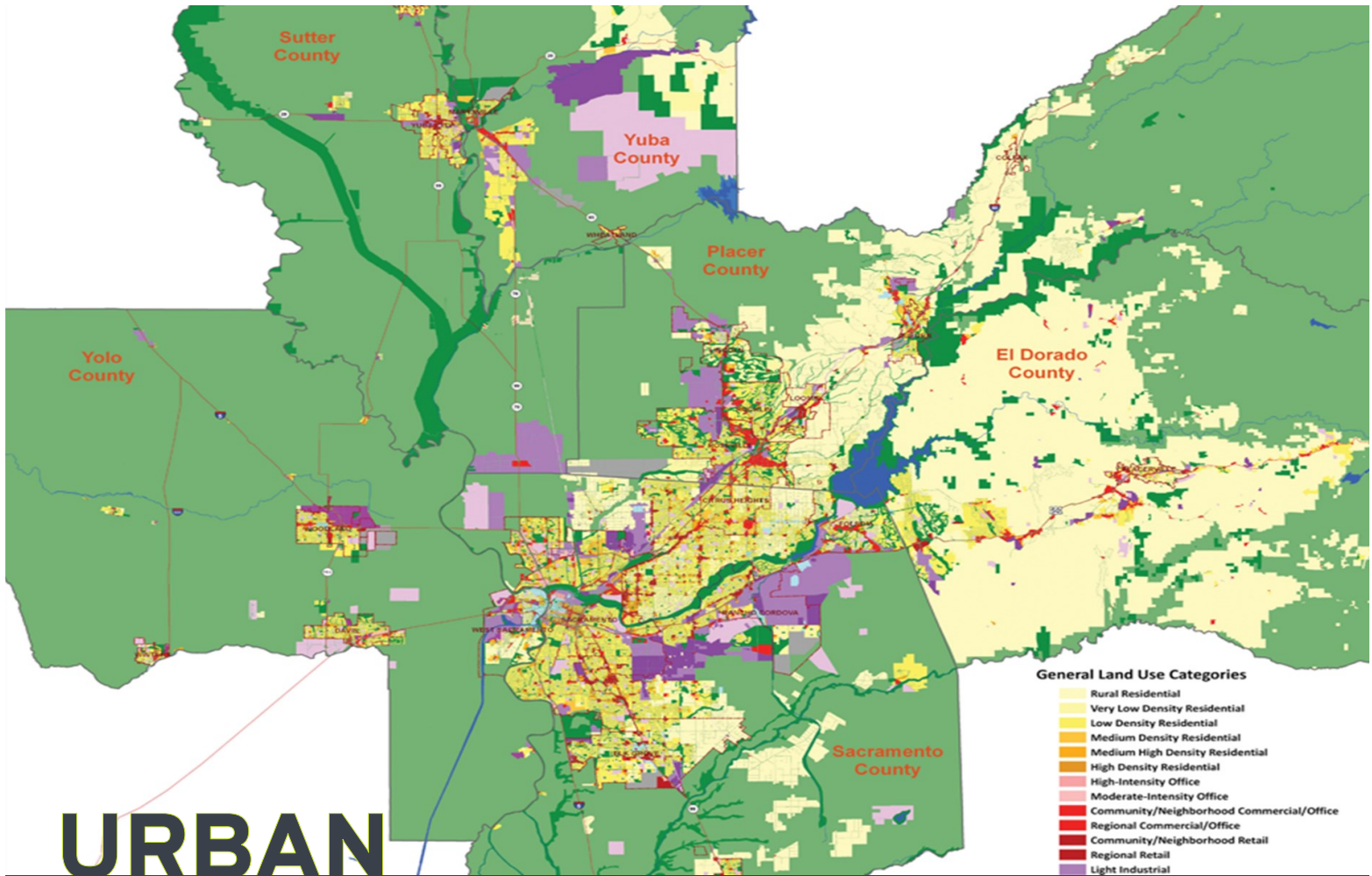




RURAL-URBAN CONNECTIONS STRATEGY (RUCS)

The Sacramento Area Council of Governments' unprecedented approach to enhance rural economies & the natural assets that drive them





0 1.5 3 6 9 12 Miles



RETHINKING “REGIONAL”

Bringing RURAL into the Planning Process

The Sacramento region has pioneered a new approach to addressing transportation, land use, air quality, & rural development issues.

Innovations in Planning

With roughly 85% of the region covered by rural lands and a booming agricultural economy, SACOG’s Board of Directors recognized the value of rural communities, forests, and agricultural lands as critical to our economy, our environmental health, our quality of life, and the future of our region.

In 2007, SACOG shifted the planning paradigm, launching the Rural-Urban Connections Strategy– known as RUCS– to look at the region’s growth and sustainability objectives from a rural perspective.

Mapping Out a New Approach

The traditional planning standard brings together a multitude of information on demographics, infrastructure, and the built environment. This approach creates an in-depth picture of urban areas, but can oversimplify the value of rural landscapes and the unique complexities of life in rural communities.

Through the application of cutting-edge analytical tools, the RUCS program strives to be an economic and environmental sustainability strategy for rural areas, enhancing the viability of the rural economy and resilience of the vital natural resources that drive it.

RUCS | 5 key topic areas:

Land Use & Conservation • Policies & Plans that Shape Rural Areas

The Infrastructure of Agriculture • Challenges to the Production Process

Economic Opportunities • New Ways to Grow Revenue

Forest Management • Growing Economic & Environmental Value

Regulations • Navigating Federal & State Environmental Guidelines

SAC REGION | BY THE NUMBERS

6 COUNTIES, 22 CITIES
2.4 MILLION RESIDENTS
60+ Farmers’ Markets
650k acres cropland
650k acres range & pastureland
85% Rural



The Value of Our RURAL ASSETS

The six-county Sacramento region is America's Farm to Fork Capital, with a wealth and diversity of agricultural bounty that is unrivaled, at the heart of one of the largest agricultural economies in the world.

Agricultural Advantage

The Sacramento region boasts an unrivaled array of assets supporting the food system, including productive soils and farmland, multi-generational knowhow, food entrepreneurs, favorable climate and water supply, and supportive institutions, such as RUCS and the world-renowned agricultural departments at UC Davis.

SPECIALTY CROPS:

[1] INCLUDE FRUITS, VEGETABLES, NUTS, & NURSERY CROPS

[2] TEND TO BE HIGHER VALUE & MORE LABOR INTENSIVE

Unique Opportunity

California is 1 of just 5 Mediterranean climates in the world – *marked by hot, dry summers and mild winters* – which not only gives our region unique recreational opportunities and vast diversity in wildlife species, but also provides a valuable competitive advantage as an agricultural producer. The Sacramento region is uniquely poised to tap into profitable specialty crop markets, growing high-value crops that most other regions cannot.

Sprouting Potential

Moreover, demand for local food is growing 9% a year nationwide, with the Sacramento region and the neighboring San Francisco Bay area both leaders in this shift to farm-to-fork consumption. The region's growers are well-positioned to capitalize on the rapidly expanding demand for locally grown food, with strategic proximity to these vast- and growing- consumer markets. The nearly 10 million residents of these two areas consume over 3.2 million tons of fruits, nuts, and vegetables each year. Consumers are willing to pay about 20% more for locally grown food, meaning big opportunity for local growers.

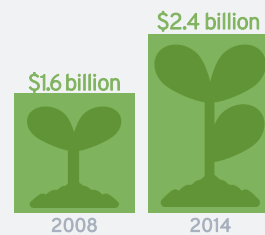
A Growing Industry

The region's **total crop value** grew

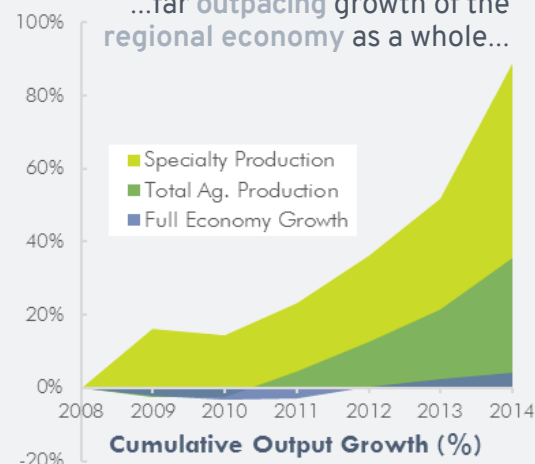
36%

in just 6 years

(in real \$)



...far outpacing growth of the regional economy as a whole...

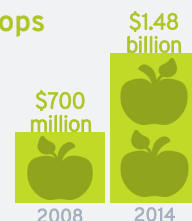


...even as the country faced the worst recession in nearly a century.

90% of this growth was from **Specialty Crops**

with value **DOUBLING** to nearly

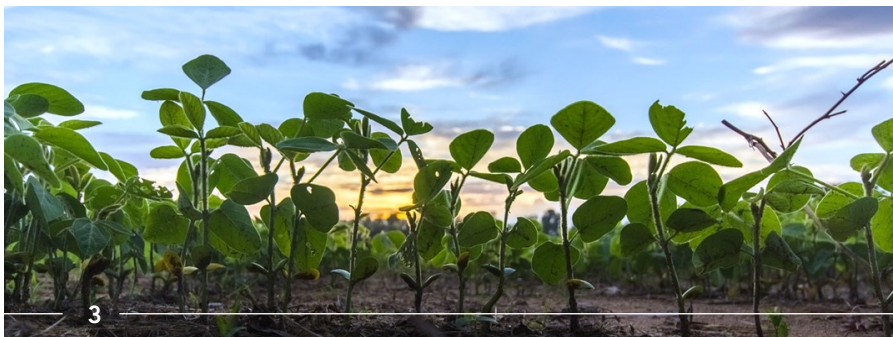
\$1.5 billion



Sac. region crops are exported to more



than 110 countries, bringing new dollars into the local economy.



SACOG's parcel-level CROP MAP details the region's rural landscape



1 Identify inputs & outputs of the ag. system



TOTAL COSTS	GROSS RETURNS	NET REVENUE	RETURN ON INVESTMENT
WATER DEMAND	LABOR HRS DEMAND	TRUCK TRIPS FOR HARVESTED YIELD	PEOPLE FED

- » Identify trade-offs between land uses
- » Forecast potential outcomes
- » Proactively plan for the future
- » Pursue strategies to enhance their competitive edge



TOOLS IN ACTION

What if farmers made a cropping change?

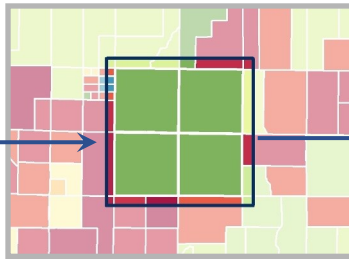
Imagine potential changes & compare outcomes:



WHAT IF...? "What if a farmer decided to switch these 2,000 acres from alfalfa to walnuts?"

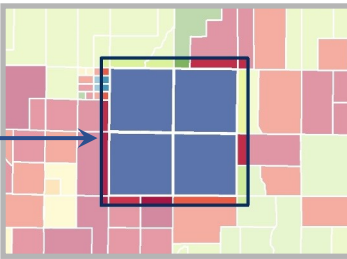
CURRENT CROPS

BASE CASE: WHAT'S GROWN TODAY



WALNUT SCENARIO

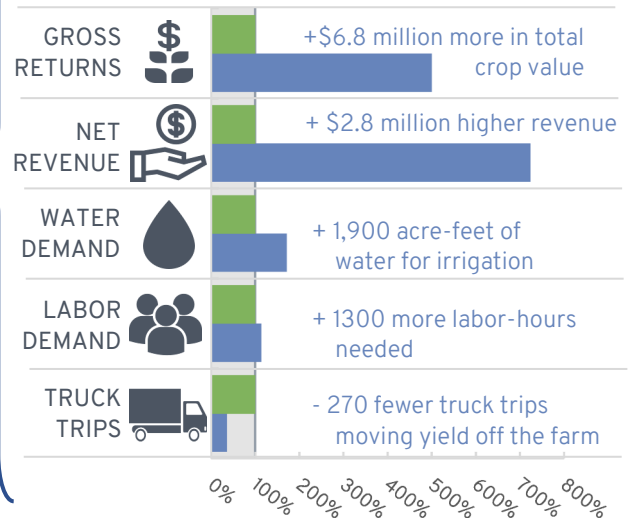
CONVERSION TO WALNUTS



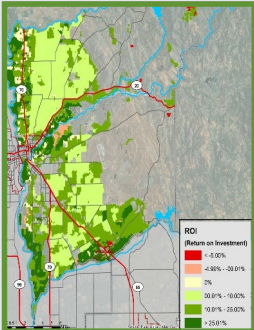
LEGEND: CROP MAP SNAPSHOT



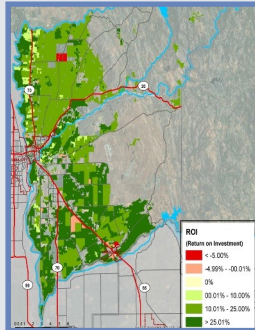
SCENARIO RESULTS: PERCENT CHANGE FROM BASE CASE



BASE CASE

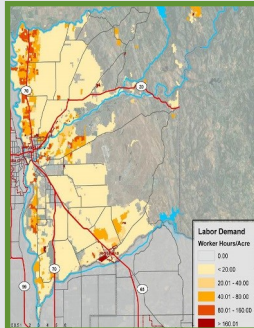


SCENARIO

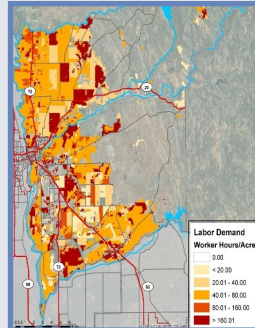


36% increase in Return on Investment (ROI)

BASE CASE



SCENARIO

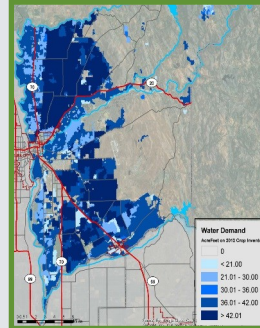


1100% more labor hours needed

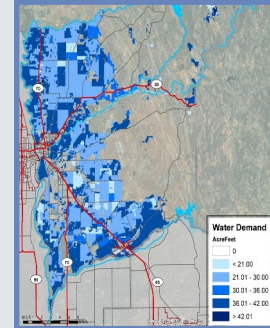
...and visualize results across the landscape.

These examples from SACOG's *Yuba Case Study* illuminate the scenario results metrics across the landscape, comparing a local market oriented cropping scenario with the base case:

BASE CASE



SCENARIO



8% less water needed for irrigation



LINKING FARM TO MARKET

Expanding Ag. Infrastructure

Farmers in the Sacramento region have identified a need for expanded regional agricultural infrastructure- such as food hubs- to help them get the crops they grow from farm to market.

Food hubs connect locally produced foods directly to market by creating new market channels between growers and consumers, and can help small & mid-size growers:

- » Access larger markets, such as institutional, wholesale, or even export buyers;
- » Become more resilient to uncertain market conditions;
- » Boost foods to higher premiums through value-added processing;
- » Create regional jobs, while increasing access to fresh, healthy food.

FOOD HUBS:

FACILITATE AGGREGATION, PACKING, PROCESSING, STORAGE, MARKETING, & DISTRIBUTION—ALL THE PROCESSES THAT MOVE FOOD FROM FARM TO TABLE

To help bridge this market gap and capitalize on an important emerging economic development opportunity, SACOG developed a suite of business tools, models, and business plan as resources for entrepreneurs, jurisdictions, developers, investors and other stakeholders to help inform investment decisions and advance the development of regional agricultural infrastructure.

For more information, see SACOG's [Food Hub Feasibility Analysis](#).

LOCATION COUNTS

Locating processing & distribution closer to farms provides for a more efficient system, reducing how many miles food travels between farm & table.

SACOG found that if a local tomato processor shut down:

Vehicle miles & transport CO₂ emissions would increase by **10x**



...leading to higher emissions than if the plant remained in operation.

RUCS tools allow policymakers to strategically plan for the future and ensure compliance with regulatory targets.

A prototypical, region-serving **FOOD HUB** would expect:



\$3.5 million
initial investment



cash positive
by Year 5



with annual profit growing to over



\$2 million
by Year 7

+ plus

500-700 acres
supplying produce
would earn



\$2.4 million
for
Local farmers

& supply ¼ of annual
fruits & vegetables
for 72,500 residents



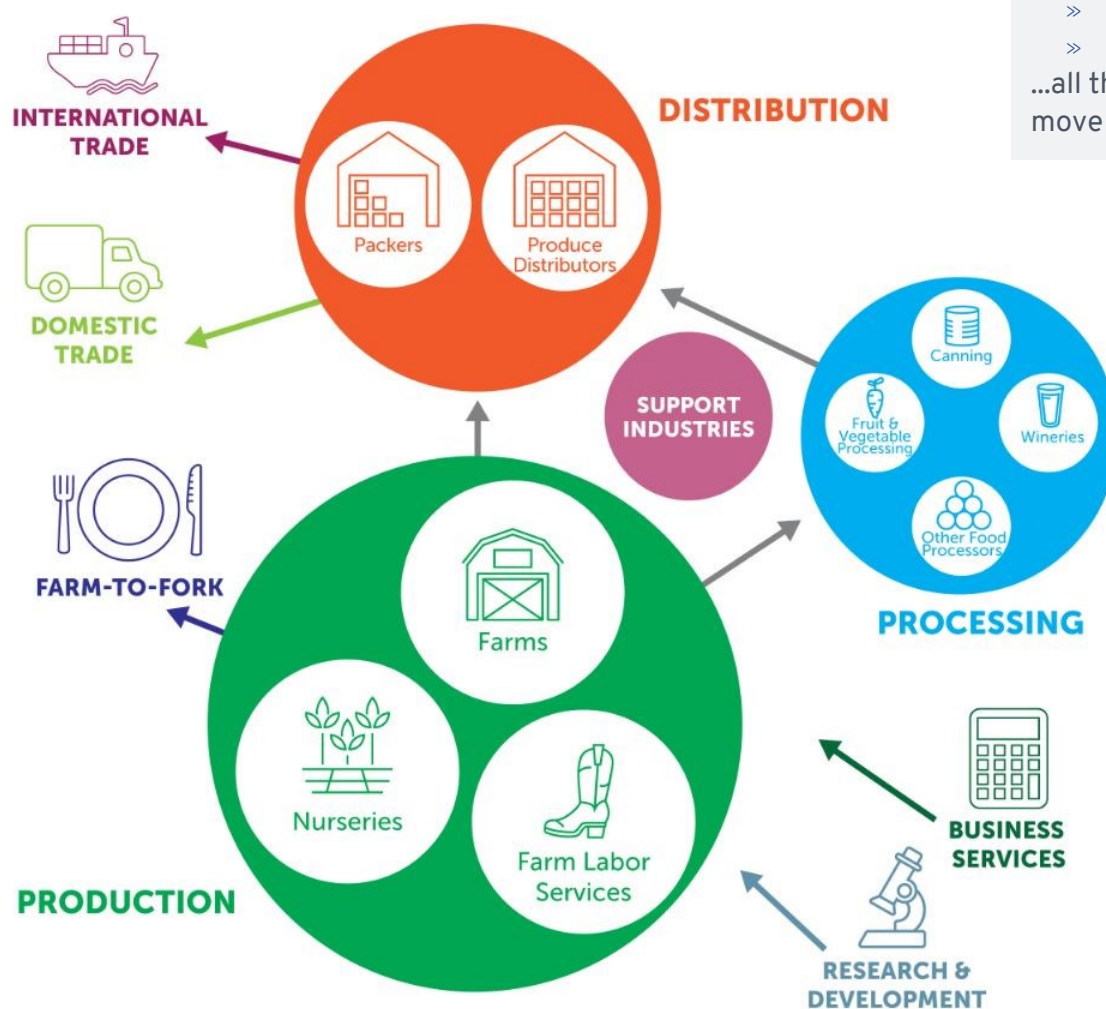
The Ag. Economy **BEYOND THE FARM**

Farms are just one element of a larger food system including processors, distributors and support industries that refine, enhance, and move food products from farms to consumers. Together these industries form the food and agriculture economic cluster.

The Industries within the Food & Ag. Cluster facilitate:

- » aggregation,
- » packing,
- » processing,
- » storage,
- » marketing, &;
- » distribution—

...all the processes that move food from farm to table.



SECTOR:

A BROAD SET OF SIMILAR ECONOMIC ACTIVITIES — E.G. TRANSPORTATION

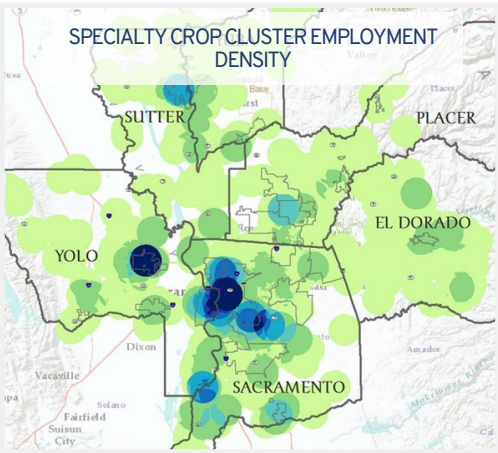
INDUSTRY:

INDIVIDUAL INDUSTRIES WITHIN A SECTOR

CLUSTER:

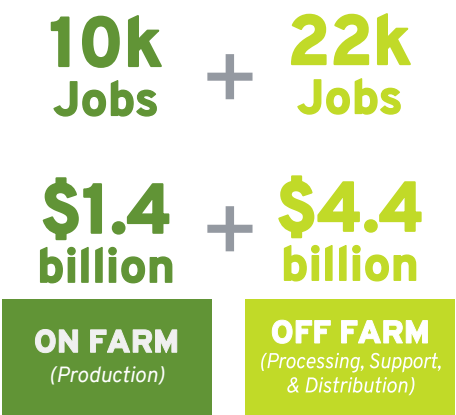
INTER-DEPENDENT GROUPS OF FIRMS AND RELATED INSTITUTIONS THAT GAIN BENEFITS FROM THEIR PROXIMITY AND INTERACTIONS

The food & ag. cluster creates industry jobs beyond the farm, with more jobs located in urban areas than in rural...



While people often think of agriculture as a predominantly rural industry, SACOG found that most of the region’s specialty crop jobs are actually located in urban areas.

The cluster as a whole provides 32 thousand jobs and 6.8 billion dollars to the regional economy.



...plus, the impacts of the food & ag. industry ripple out through the region’s economy at large, illustrated by “economic multipliers”

This ripple effect includes economic activity and jobs that are created by agricultural businesses, but not considered part of the industry. For example, like any other business, a farmer might contract with a lawyer or accountant, thereby leading to jobs elsewhere in the economy. This impact is quantified and expressed by the cluster’s “economic multipliers.”

MULTIPLIER:

THE RIPPLE EFFECT OF AN INDUSTRY, SECTOR OR CLUSTER ON THE FULL REGIONAL ECONOMY.

REGIONAL SPECIALTY CROP CLUSTER ECONOMIC MULTIPLIERS:

Employment Multiplier of 1.82

Each of these specialty crop jobs generates another 0.82 jobs in other areas of the regional economy.

Value-Added Multiplier of 1.90

Each dollar these specialty crop businesses contribute to gross regional product generates an additional \$0.90 across other regional industries.

Learn more in SACOG’s [Food System Multipliers Analysis](#).

The specialty crop cluster multipliers are among the highest in the region, when compared with a diverse range of key industries.

CLUSTER	EMPLOYMENT MULTIPLIER	VALUE ADD MULTIPLIER
Manufacturing	2.3	2.06
Construction	1.98	1.93
Specialty Crop Cluster	1.82	1.9
Professional & Scientific Services	1.75	1.82
Finance, Insurance, & Real Estate	1.7	1.52
Health	1.67	1.63
Legal	1.63	1.41
Retail	1.34	1.55

LAND USE & CONSERVATION

Supporting Smart Financial Stewardship

As California's population continues to grow, communities must expand to accommodate more people. However, urbanizing productive cropland can have real costs, both for the ag. economy, as well as the fiscal bottom line. By using these tools, community leaders can assess land use trade-offs and make data-driven decisions for the future of the region.

SACOG's [Yolo Case Study](#) compared development scenarios in Winters, CA, - a rural community of about 7,000 residents - and found that place-based, small-lot infill development generated a Return on Investment (ROI) for developers **DOUBLE** that of a large-lot greenfield scenario.

And, while infill is more costly up front, the net revenue to a jurisdiction is nearly 5x higher than greenfield.

PRESERVE LAND, PRESERVE PROFIT:

Yuba County set policies to safeguard their ag. economic base, while strategically allotting other areas for new jobs & residents.

These policies :

- Preserve **10,000 acres** of farmland from urbanization, thereby...
- Protecting **\$31 million per year** of ag. value in current crop mix, with...
- Potential to reach **\$150 million** per year, as farmers grow higher-value crops.

& SEE FISCAL FEEDBACK.

Yuba's balanced approach saves **\$40 million** a year in public operations & maintenance cost compared with development trends of the last 2 decades.

Farm lands tend to generate more local govt. revenue than they consume in public services.

FARM LANDS	VS.	DEVELOPED to URBAN
\$0.45 LOCAL COST		\$1.21 LOCAL COST

Per each \$1.00 paid in local property tax revenues

SACOG's [Yuba Case Study](#) compared the economic impacts of various development patterns, illuminating their effects on fiscal revenues & the ag economy.

	INFILL FOCUSED	COMPACT GROWTH	LOW DENSITY
Converted Ag Acres	2,623	6,169	11,127
Lost Ag Value (current cropping pattern)	\$5.6 MM	\$11.2 MM	\$17.3 MM
Lost Ag Value (specialty crop scenario)	\$39.5 MM	\$93 MM	\$150 MM
Infrastructure Cost	\$1.2 B	\$1.8 B	\$2.5 B
Annual O&M v. Revenue	\$22 MM	\$9 MM	-\$9 MM

The Sac region has begun to embrace these principles and the region's development footprint has dramatically shifted, with incoming per capita urbanization reduced by over 80%:

1988-2012

285

For every 1,000 new residents, 285 acres of farmland urbanized

2012-2036

49

For every 1,000 new residents, 49 acres of farmland urbanized

ENHANCING ECOSYSTEM SERVICES

Reinforcing Resiliency

Agricultural landscapes provide many benefits not captured by traditional markets known as 'Ecosystem Services.'

RUCS tools offer valuation techniques for quantifying resource values to help determine appropriate compensation for growers that preserve & enhance these societal, economic, and environmental benefits.

These tools can help public and private stakeholders incentivize behaviors that [renew and restore the natural assets that drive our regional economy](#), such as recharging groundwater or fostering habitat for pollinators.

Proactively working to sustain and fortify these foundational resources can:

- » **Strengthen resilience & long-term viability of the farming industry;**
- » **Maintain adequate resource availability for farmers to grow higher-value crops;**
- » **Safeguard the future of the ag. economy & create a competitive edge for region growers.**

In an upcoming study, SACOG will explore optimal approaches to maximize groundwater recharge on regional lands. The study will identify ideally suited agricultural lands across the region, with the right soils, crops, and geological conditions to maximize the amount of water that reaches underlying aquifers, while maintaining profitable crop production.



These croplands can be strategically flooded at times when water is abundant, so that farmers can restore the groundwater supply and bank these resources, saving up for a not-so-rainy day. By shoring up the groundwater supply that so many regional growers rely on, farmers can bolster their resilience and strengthen the future of the region's agricultural economy as a whole.

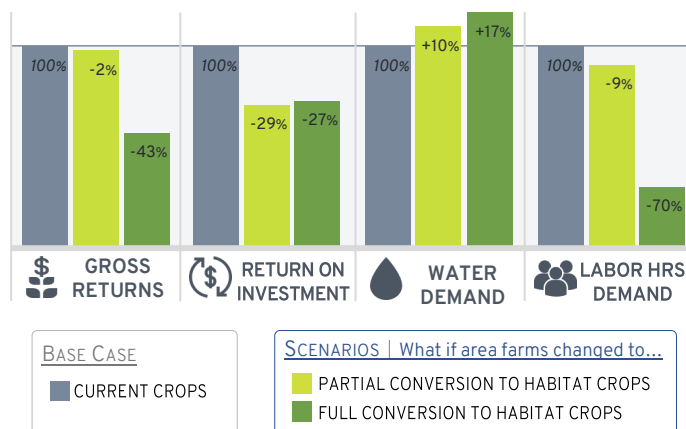
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WORKING LANDSCAPES LEVERAGING AGRICULTURE AS HABITAT

SACOG applied the RUCS toolkit to explore linkages between cultivated cropland that can double as wildlife habitat, and the economic & environmental trade-offs associated with these potential changes.

HABITAT CROPPING SCENARIO METRICS PERCENT CHANGE VS. BASE CROPPING CONDITIONS



Compared with current crops, farmers in the Sac. Delta would see a 57% reduction in returns if they grew only habitat-friendly crops, such as corn, rice, and alfalfa.

The results of this analysis provide non-profits & policymakers with the data they need to design incentive programs, by identifying the economic impacts growers would face when committing land and crops to be more habitat friendly.

As California's population continues to grow, undeveloped lands face increasing pressure. Working landscapes strategies that combine dual-purpose management strategies— such as fostering wildlife habitat, recharging groundwater, or maximize the beneficial uses we can attain from our limited supply of lands.

Read SACOG's [Agriculture & Habitat Pilot Study](#) to learn more.



The Rural-Urban Connections Strategy is an initiative of the Sacramento Area Council of Governments (SACOG).

SACOG is an association of local governments in the six county Sacramento region providing transportation planning and funding, and serving as a forum for regional issues, including linking land use, transportation, and air quality.

The Rural-Urban Connections Strategy (**RUCS**) is the region's economic & sustainability strategy focused on rural areas, complementary to the **Blueprint**, the region's overall growth strategy.

The Rural-Urban Connections Strategy has garnered national attention for leadership and innovation in rural planning.

The program was recognized as a **Top 25 Program for Innovations in American Government** in 2015 by Harvard's Kennedy School of Government, and received an **Innovations Award** from the National Association of Development Organizations in 2011.



S A C O G

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FOR MORE INFORMATION ABOUT RUCS EFFORTS AND PRIOR RESEARCH, VISIT:

www.sacog.org/rural-urban-connections-strategy

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