

# Sacramento Area Regional Planning



# Regional Planning?

What's the future and how do we prepare for it?

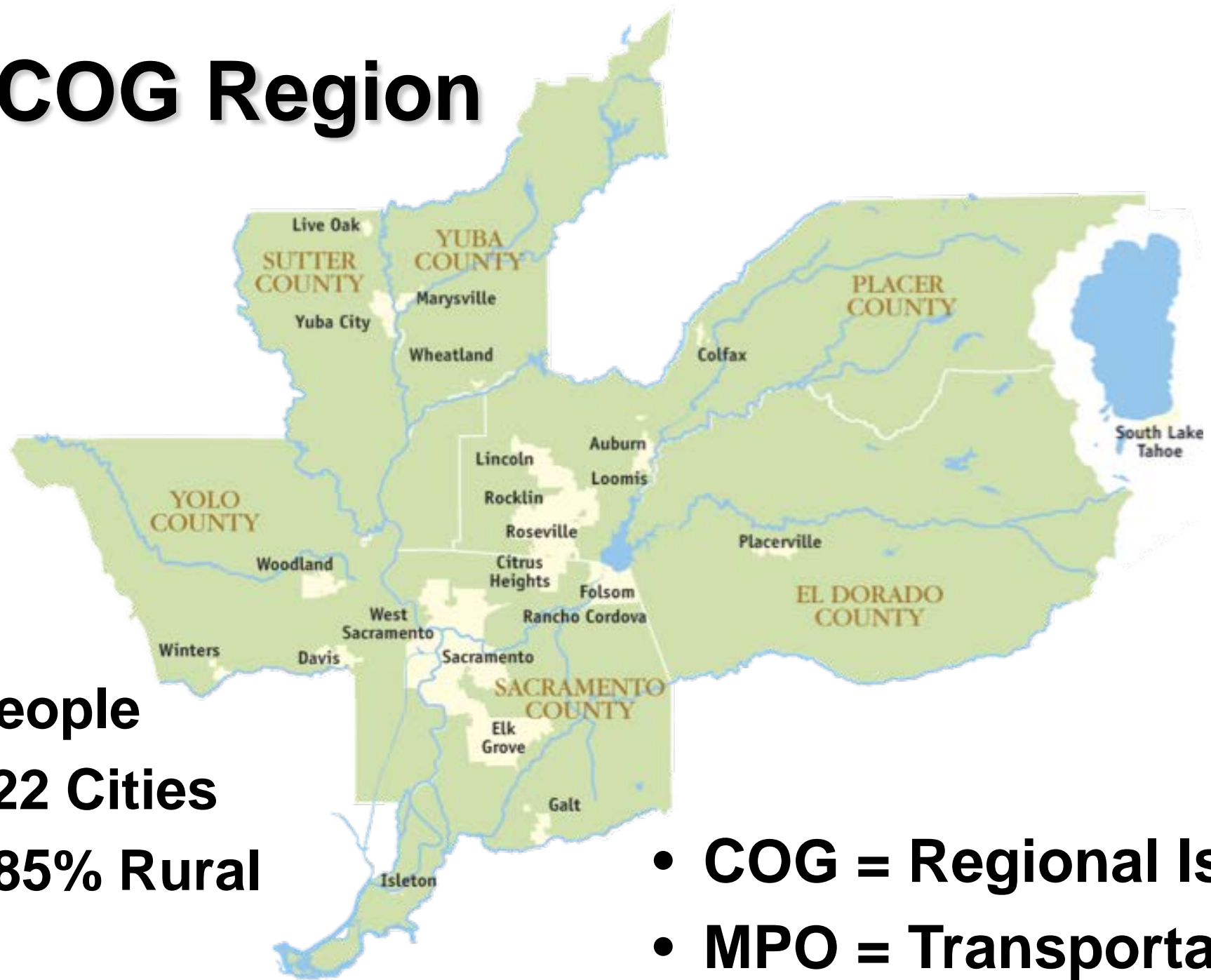
Public-Private partnerships?

Rural-Urban connections?





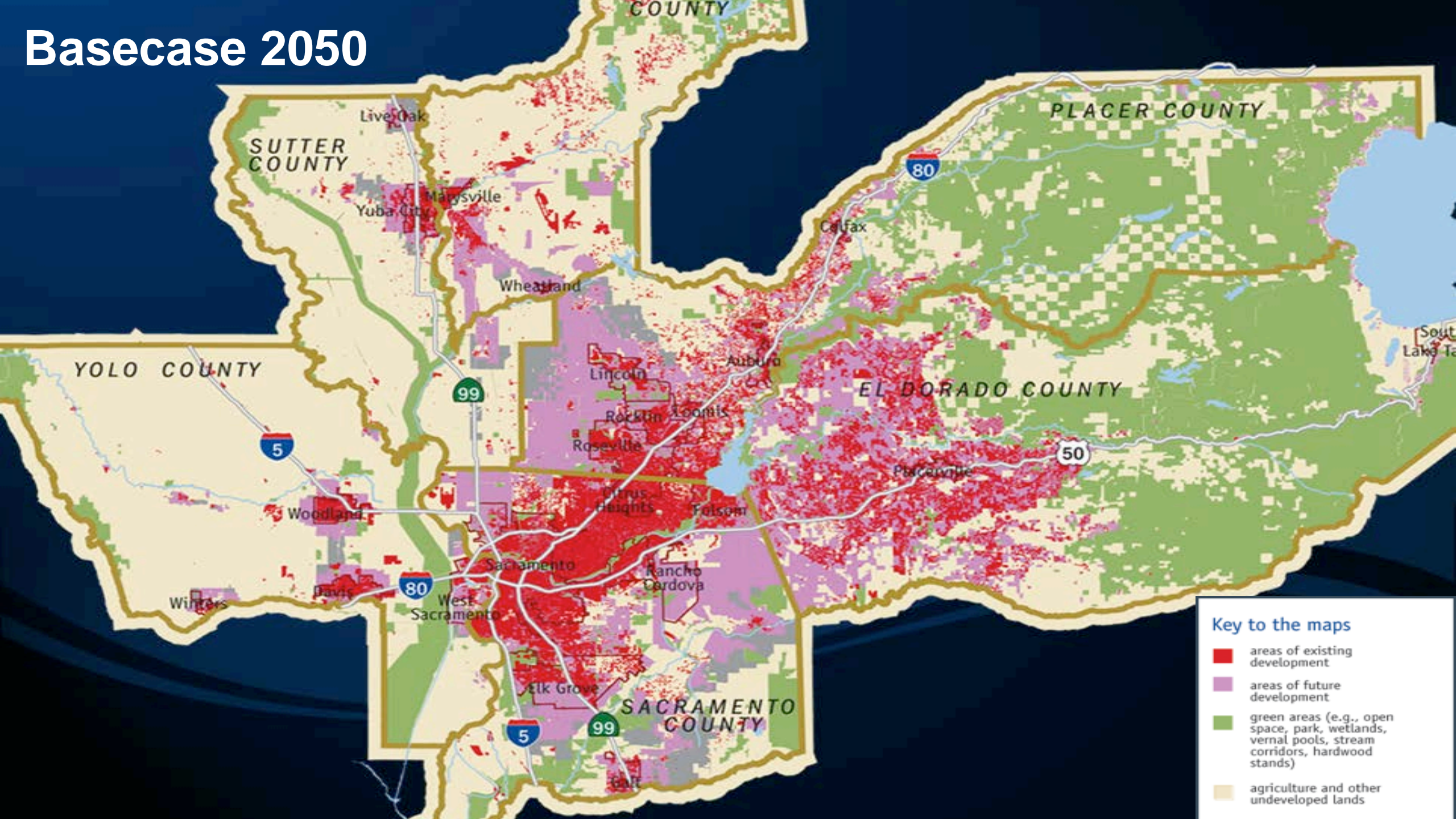
# SACOG Region



- **2.3 million people**
- **6 Counties, 22 Cities**
- **15% Urban, 85% Rural**
- **6,500 sq-mi**

- **COG = Regional Issues**
- **MPO = Transportation**

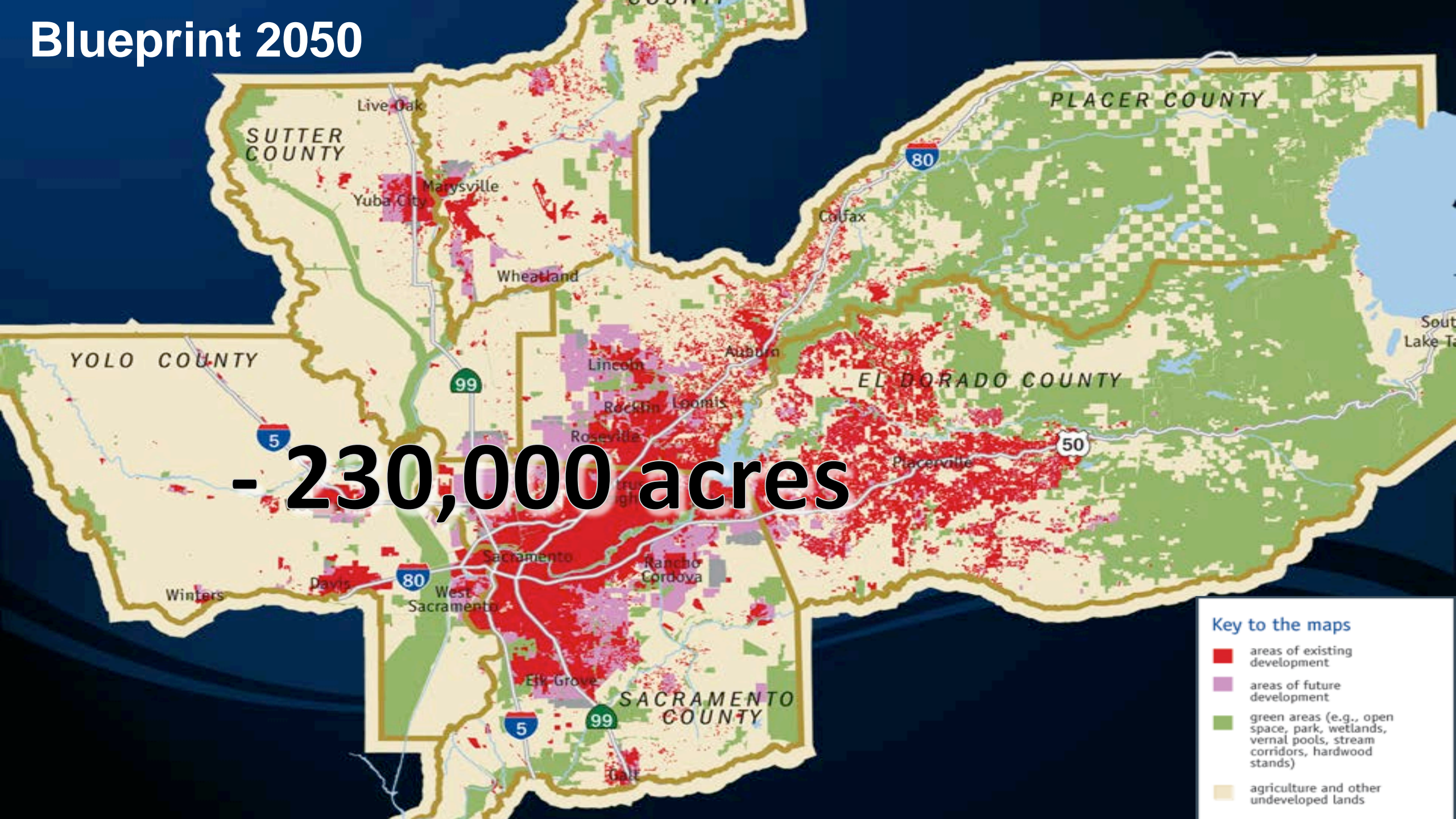
# Basecase 2050



### Key to the maps

- areas of existing development
- areas of future development
- green areas (e.g., open space, park, wetlands, vernal pools, stream corridors, hardwood stands)
- agriculture and other undeveloped lands

# Blueprint 2050



- 230,000 acres

## Key to the maps

- areas of existing development
- areas of future development
- green areas (e.g., open space, park, wetlands, vernal pools, stream corridors, hardwood stands)
- agriculture and other undeveloped lands

# Land Use-Transportation Plan

For every 1,000 new residents:

1988-2012

**285**  
acres

2012-2036

**49**  
acres

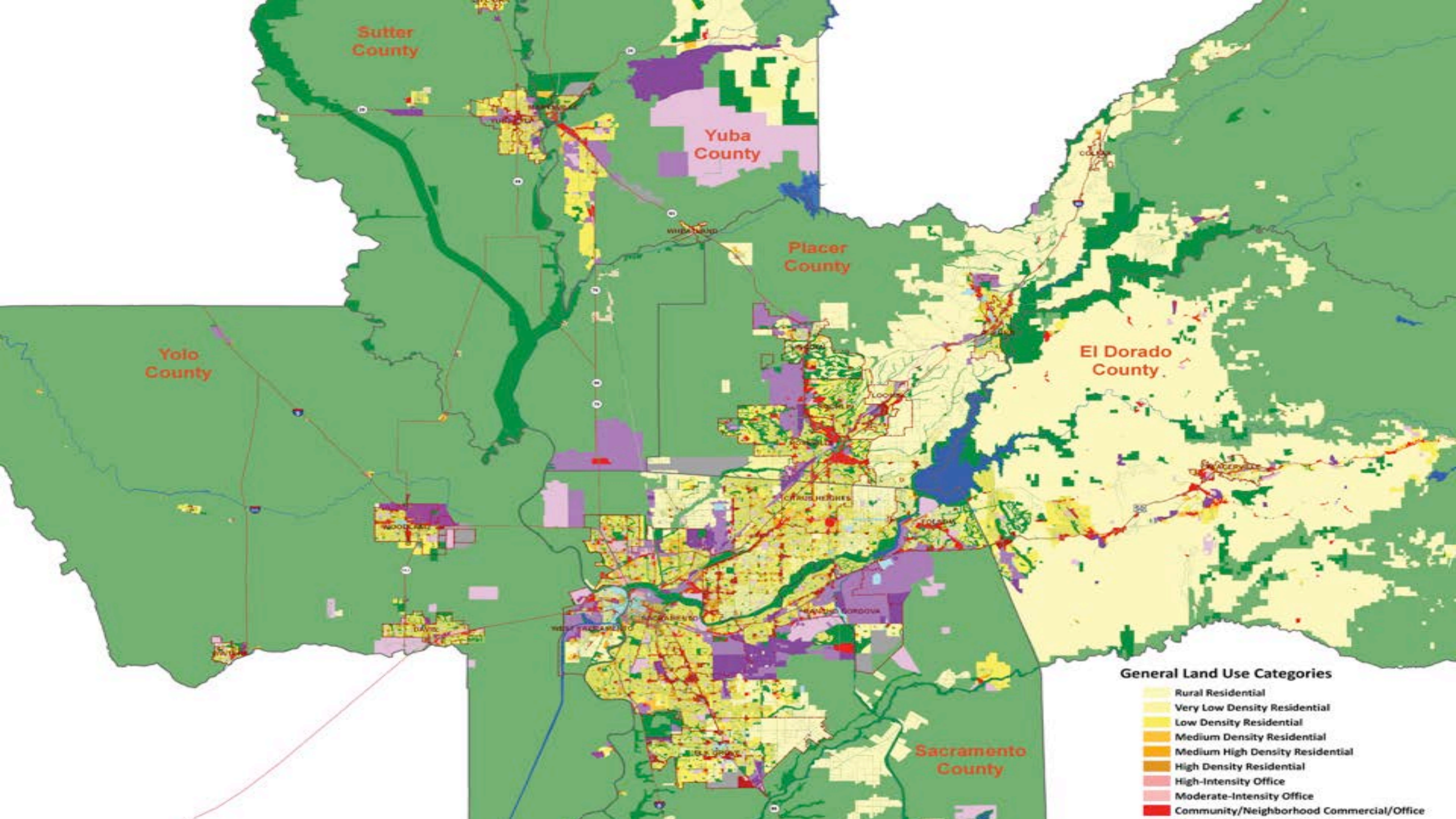


# Rural-Urban Connections Strategy



Enhancing rural economic viability and environmental sustainability





Sutter County

Yuba County

Placer County

Yolo County

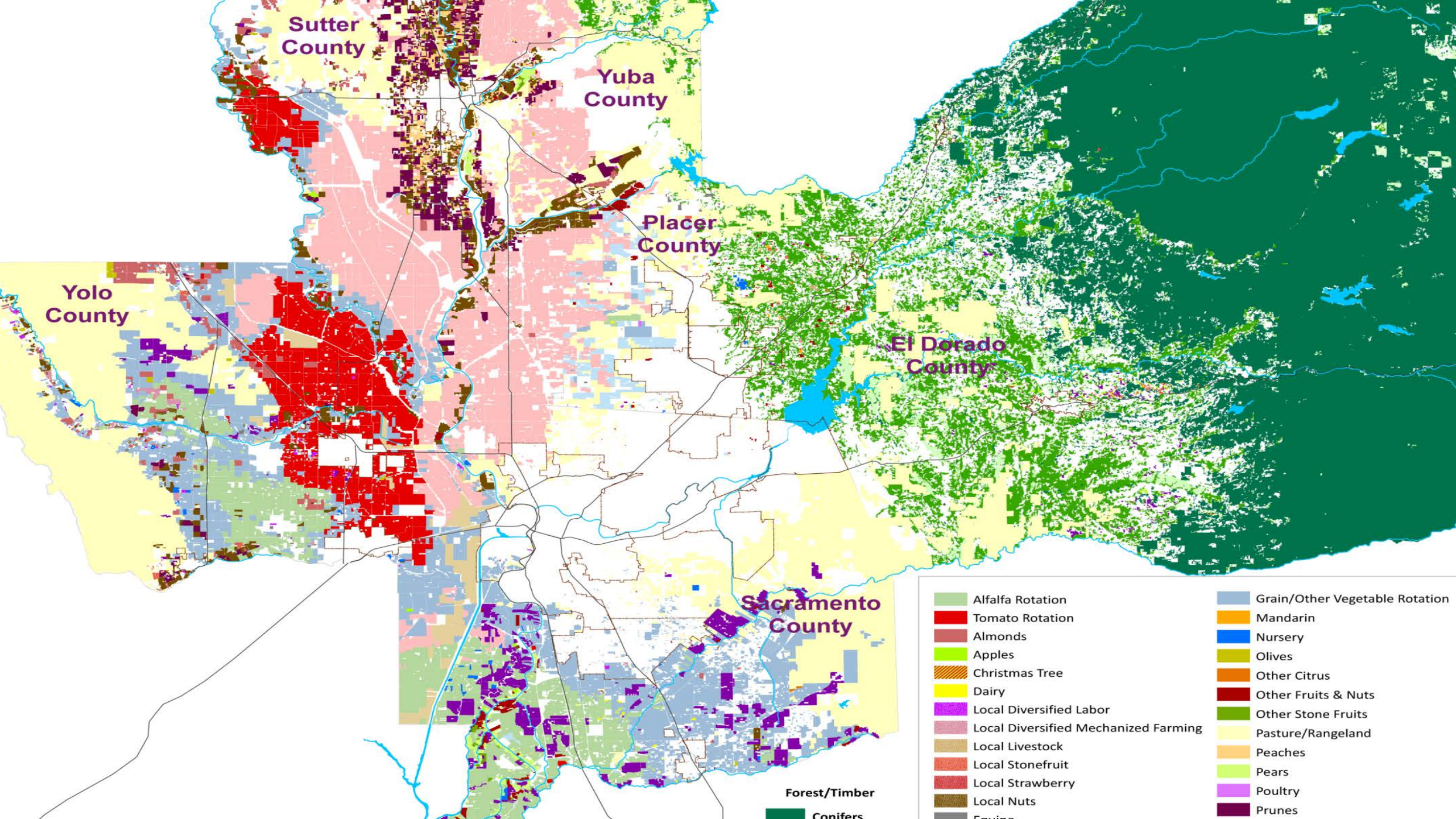
El Dorado County

Sacramento County

**General Land Use Categories**

- Rural Residential
- Very Low Density Residential
- Low Density Residential
- Medium Density Residential
- Medium High Density Residential
- High Density Residential
- High-Intensity Office
- Moderate-Intensity Office
- Community/Neighborhood Commercial/Office





Sutter County

Yuba County

Placer County

Yolo County

El Dorado County

Sacramento County

Forest/Timber

Conifers

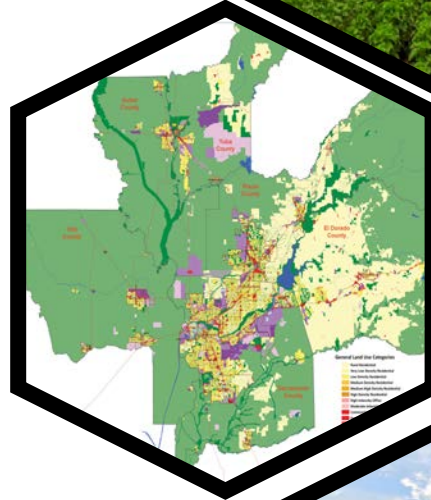
- |   |  |
|---|--|
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span> Alfalfa Rotation  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; border: 1px solid black;"></span> Grain/Other Vegetable Rotation |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #FF0000; border: 1px solid black;"></span> Tomato Rotation   | <span style="display: inline-block; width: 15px; height: 10px; background-color: #FFA500; border: 1px solid black;"></span> Mandarin                       |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black;"></span> Almonds   | <span style="display: inline-block; width: 15px; height: 10px; background-color: #0000FF; border: 1px solid black;"></span> Nursery                        |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span> Apples  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #9ACD32; border: 1px solid black;"></span> Olives                         |
| <span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #FF8C00 2px, #FF8C00 4px); border: 1px solid black;"></span> Christmas Tree | <span style="display: inline-block; width: 15px; height: 10px; background-color: #FF4500; border: 1px solid black;"></span> Other Citrus                   |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #FFFF00; border: 1px solid black;"></span> Dairy   | <span style="display: inline-block; width: 15px; height: 10px; background-color: #8B0000; border: 1px solid black;"></span> Other Fruits & Nuts            |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black;"></span> Local Diversified Labor   | <span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black;"></span> Other Stone Fruits             |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #D9534F; border: 1px solid black;"></span> Local Diversified Mechanized Farming  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #FFFFE0; border: 1px solid black;"></span> Pasture/Rangeland              |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #C9A07E; border: 1px solid black;"></span> Local Livestock   | <span style="display: inline-block; width: 15px; height: 10px; background-color: #FFDAB9; border: 1px solid black;"></span> Peaches                        |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #C0504D; border: 1px solid black;"></span> Local Stonefruit  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span> Pears                          |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #C0392B; border: 1px solid black;"></span> Local Strawberry  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #DDA0DD; border: 1px solid black;"></span> Poultry                        |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black;"></span> Local Nuts  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #4B0082; border: 1px solid black;"></span> Prunes                         |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #808080; border: 1px solid black;"></span> Equine  |  |

# RUCS Topics

Land Use and  
Conservation



Forest Management



Regulations



Infrastructure for  
Agriculture

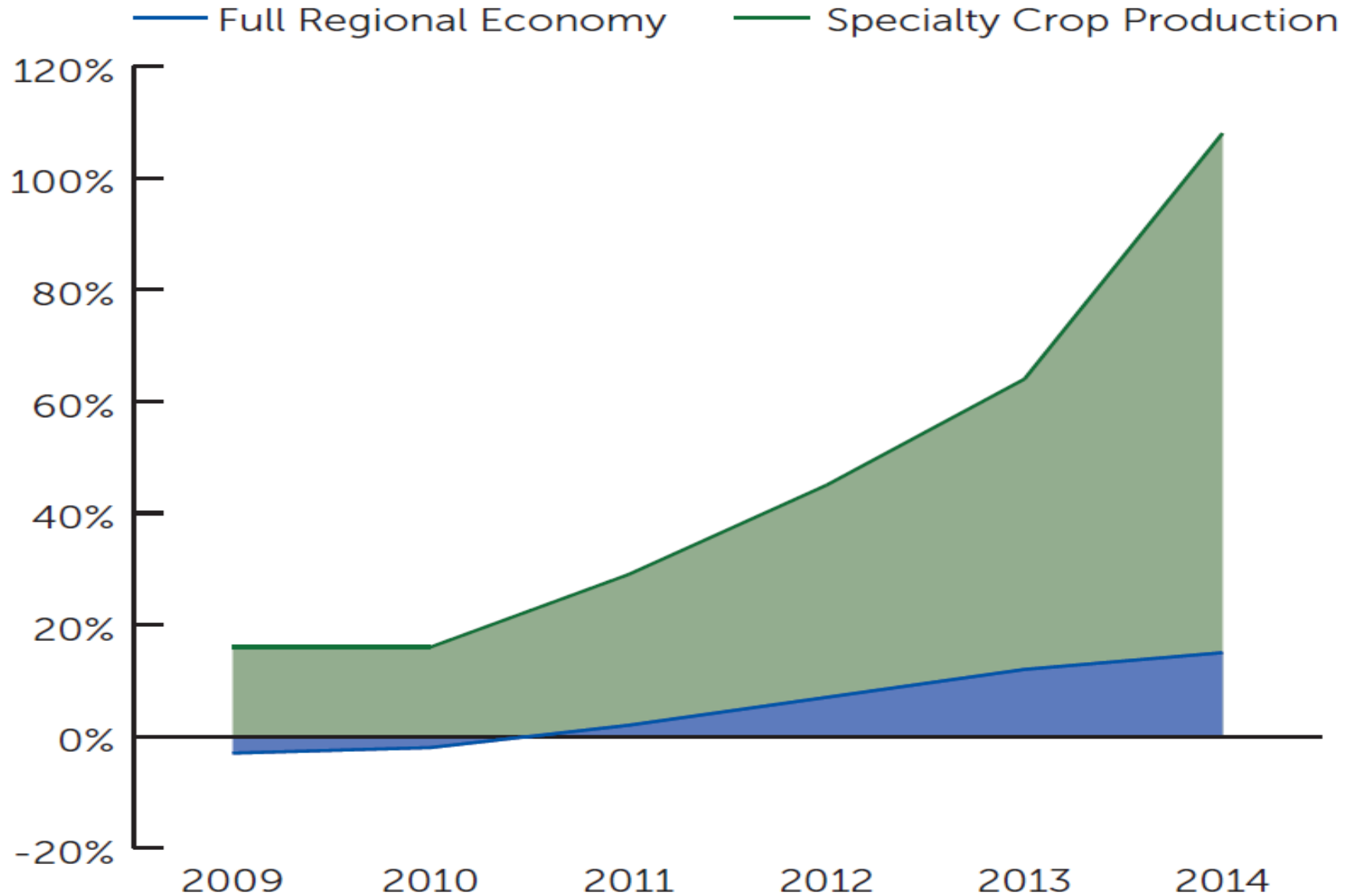


Market Opportunities



# Growing Food Grows the Economy

**Cumulative  
Output  
Growth  
since 2008  
(in nominal  
dollars)**



# Export Markets





# Local & Regional Markets



- 10 million residents between Sacramento and Bay Area regions
- Together consume 12.5 billion pounds of food each year
- Demand for locally grown food increasing 9% year over year
- Price premiums of around 20% for local food



# What is Local?



# Ag & Food System Spending



Direct

Ag & Food Cluster

Multiplier



# Opportunities & Challenges

## Export Markets



- Natural assets
- Rising demand
- Value added products
- Lack of infrastructure
- Water, labor supply
- Regulations
- Climate change
- ***Position the region***
- ***Attract investment***

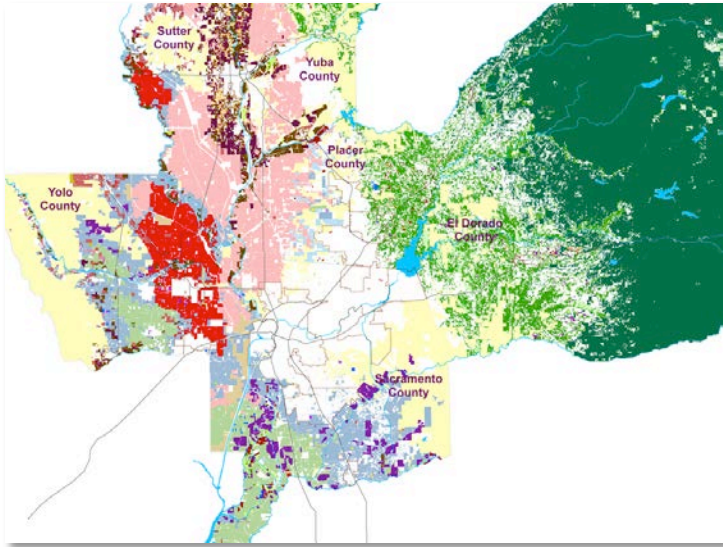
## Local Markets



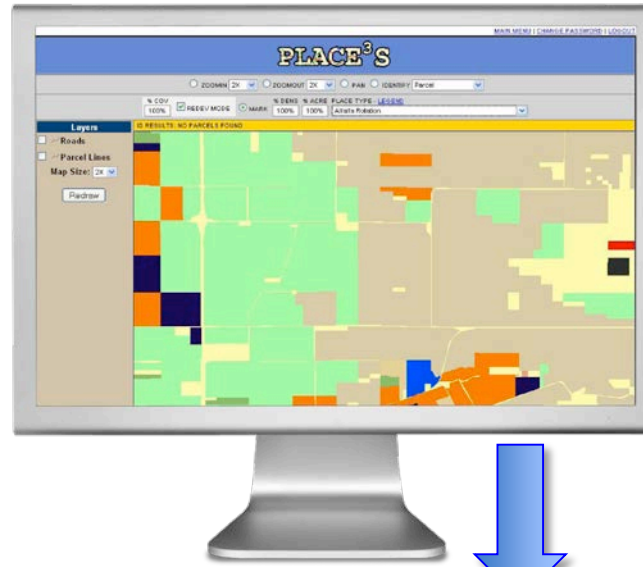


# RUCS Toolkit

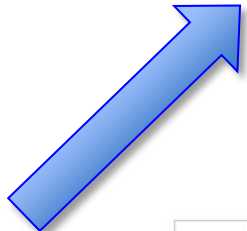
# RUCS Crop Map



# RUCS Scenario Analysis Tool



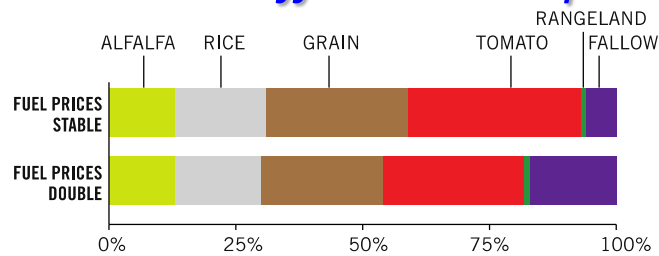
# Ecosystem Services



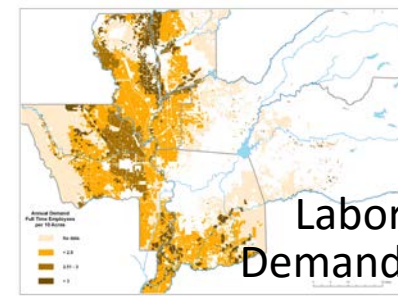
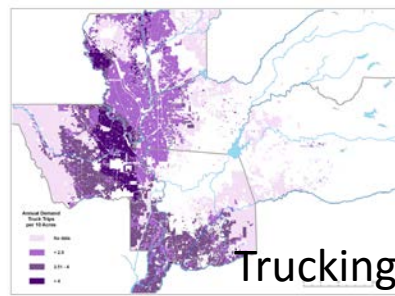
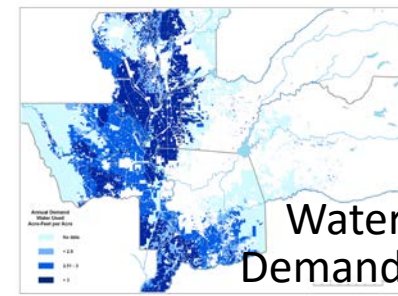
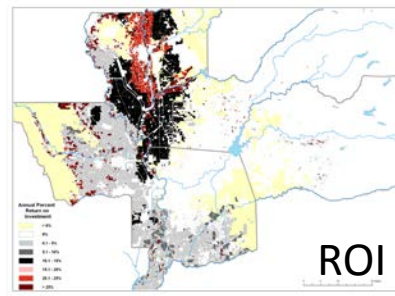
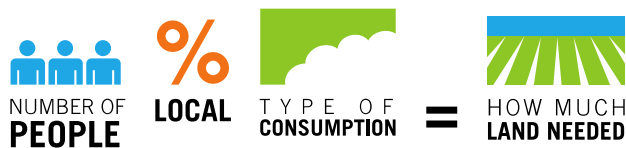
# Scenario Results

## Modules Informing Scenarios

### Market Affects on Crops



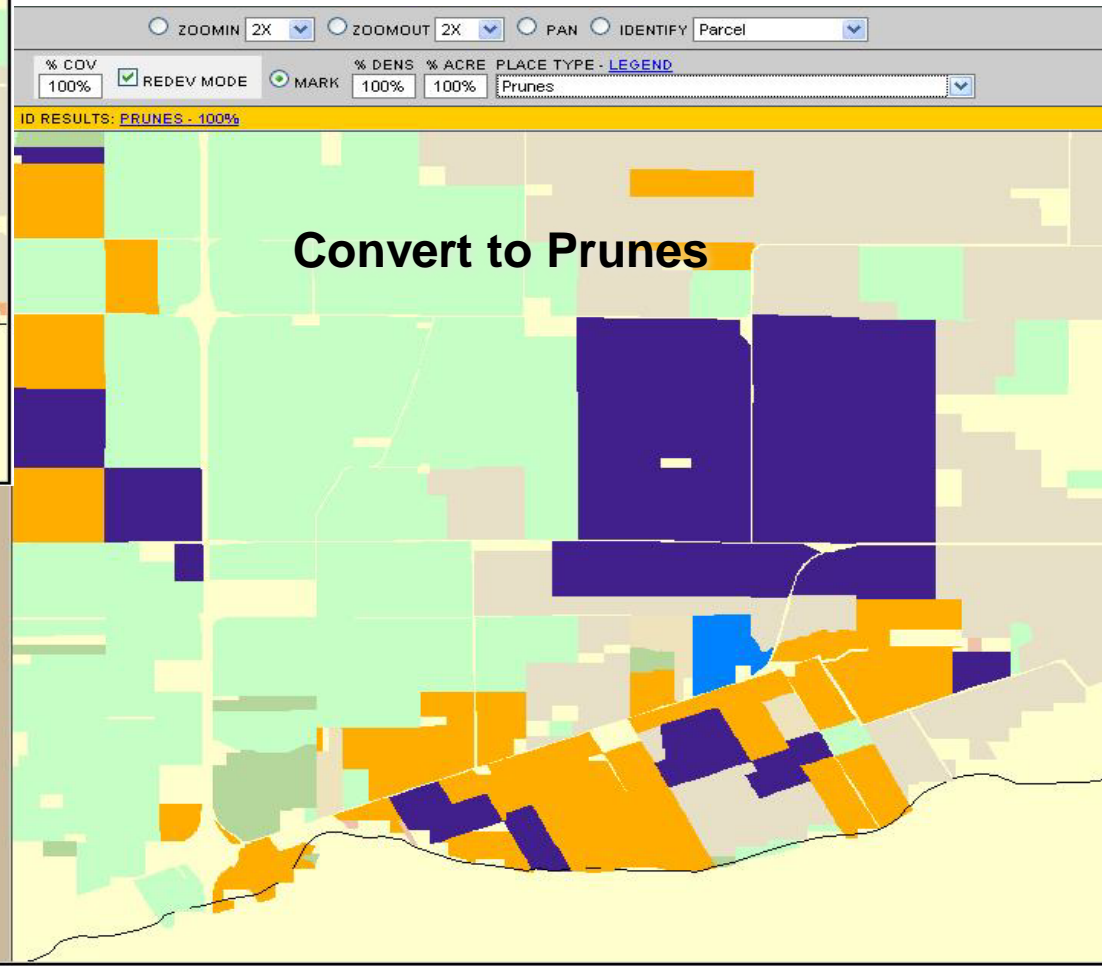
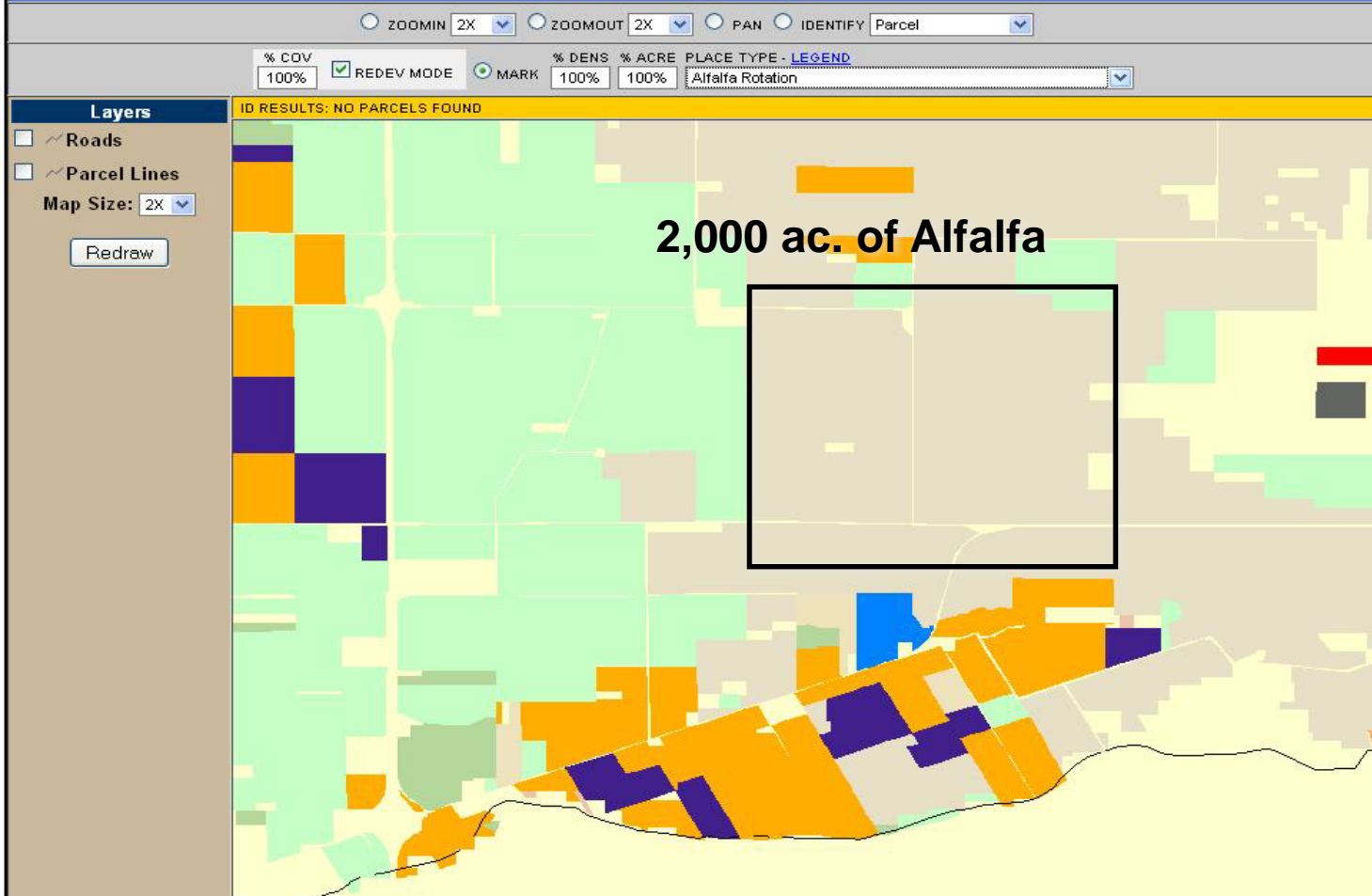
### Local Market Food Production



## Food System Multiplier Study



# Crop Change Scenario: Alfalfa to Prunes



# COMPARE SCENARIOS - RESULTS

CURRENT PROJECT: [YOLO SGC SCENARIOS](#) PROJECT TYPE: NEIGHBORHOOD LEAD ORGANIZATION: SACOG STUDY AREA: CUSTOM STUDY SHAPEFILE

CURRENT SCENARIO : **BASE CASE**

## SCENARIO COMPARISON

SCENARIO NAME	TOTAL ACRES	AG ACRES	AG VALUE	AG COST	AG RETURN	AG PCT RETURN	AG WATER ACRE / FEET	AG LABOR FTE	AG TRUCK TRIPS
BASE CASE	0	562,360.4	\$708,969,323	\$567,227,852	\$141,741,471	25.0%	995,064	2,677.1	112,912
ALFALFA TO PRUNE	0	562,360.4	\$711,029,876	\$568,792,417	\$142,237,459	25.0%	994,567	2,686.9	112,865

[JOB DIVERSITY CHART](#)

[HOUSING DIVERSITY CHART](#)

LOGGED IN AS [LIBBYOS123](#)

[CONTACT SITE](#) [HELP](#) [DESK](#)

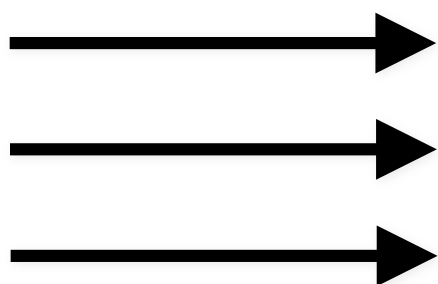
Value: + \$2M

Return: + \$500,000

Water: -500 ac-ft

Labor: + 10 workers

Trucks: - 47 trips



GHGs?

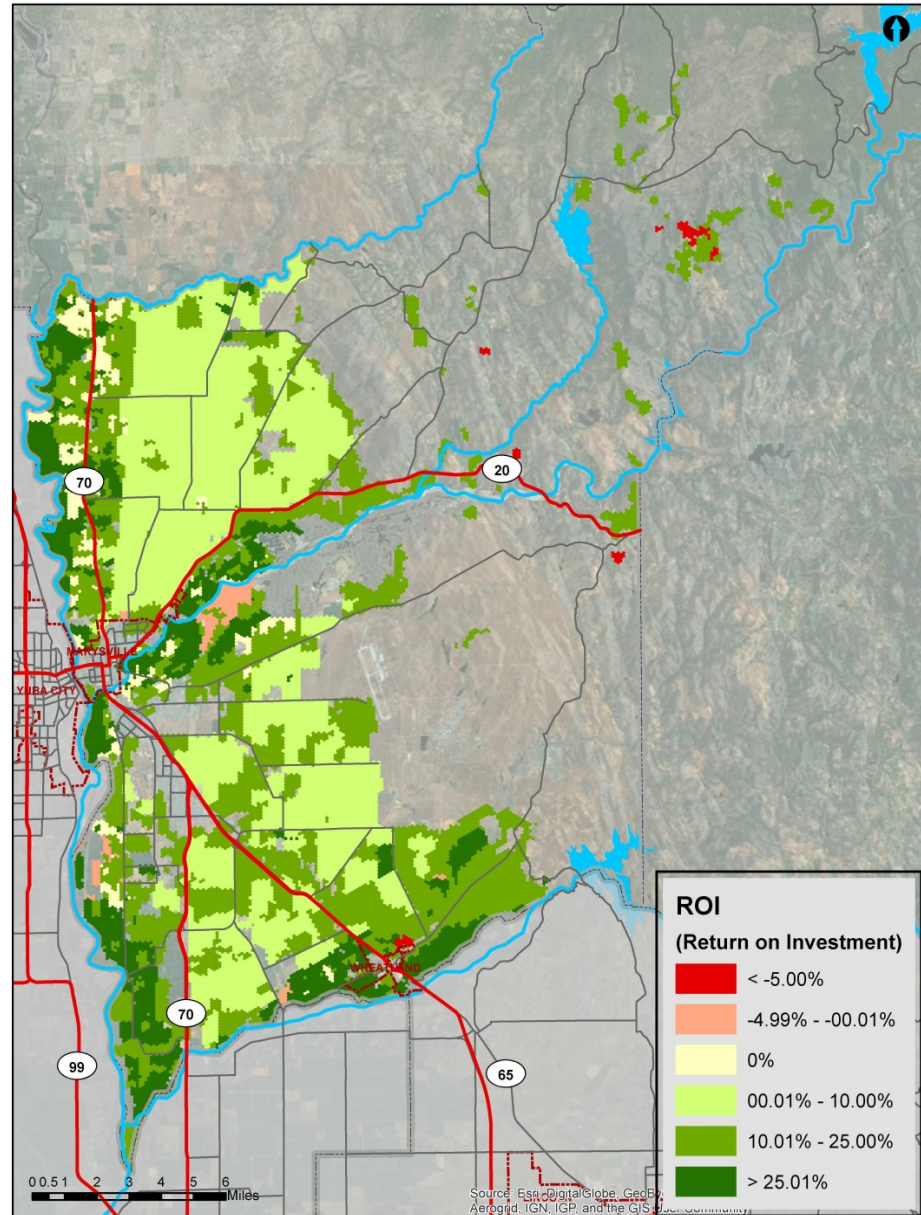
GW Recharge Potential?

Habitat Potential?

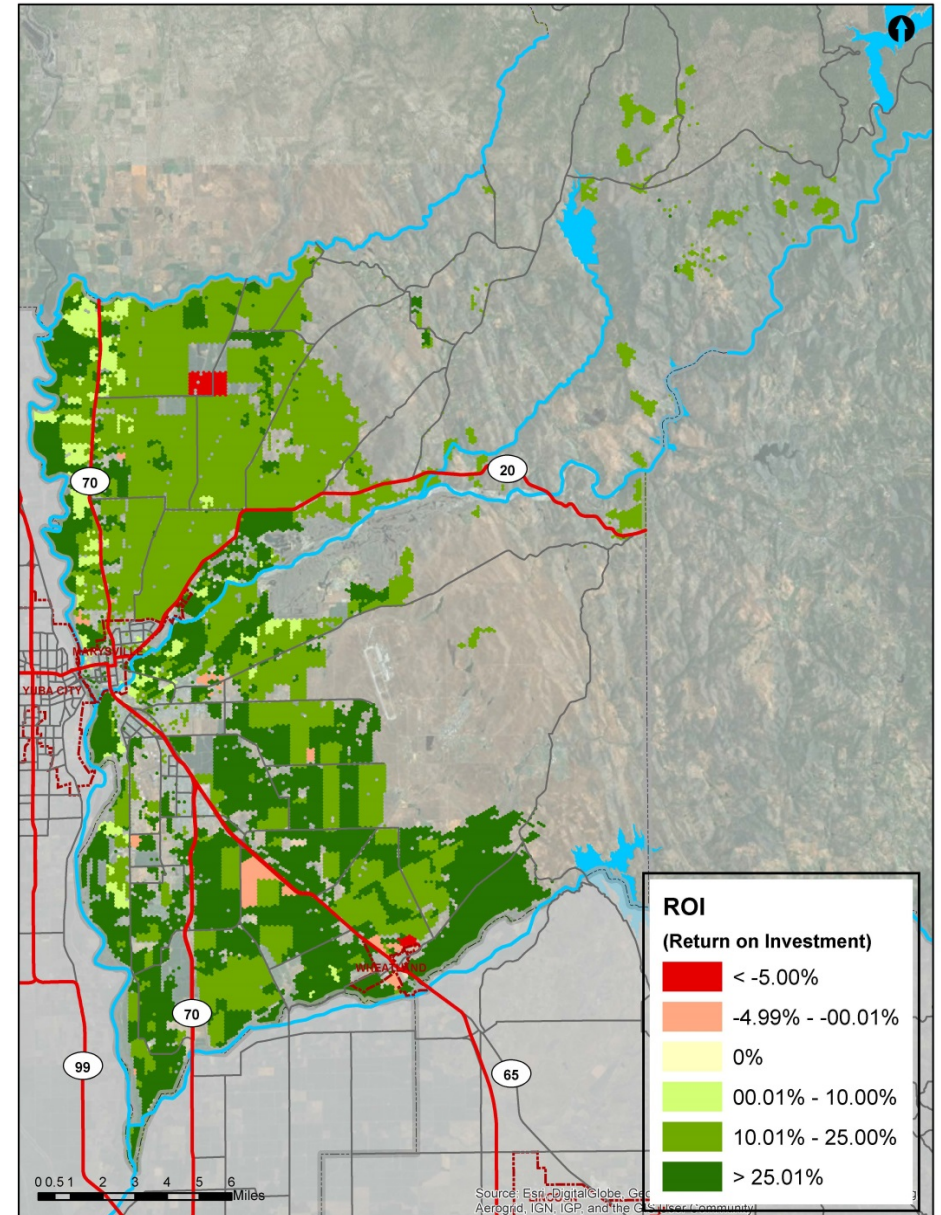
# What's the impact on the region?

Indicators	Scenario									
	Base Case	Local Food Hub	High ROI	High Revenue	Low Revenue	High Water	Low Water	High Labor	Low Labor	Specialty Crop
Overall Agriculture Output (In \$ millions)	360	368	516	591	213	434	283	458	317	1,824
Labor (millions of hours)	2.6	2.9	6.1	8.2	1.2	4.3	1.4	10	0.6	32
Water (thousands of acre-feet)	417	418	246	452	191	461	190	371	205	339
Return on Investment (%)	26	25	43	29	8	24	13	11	41	36

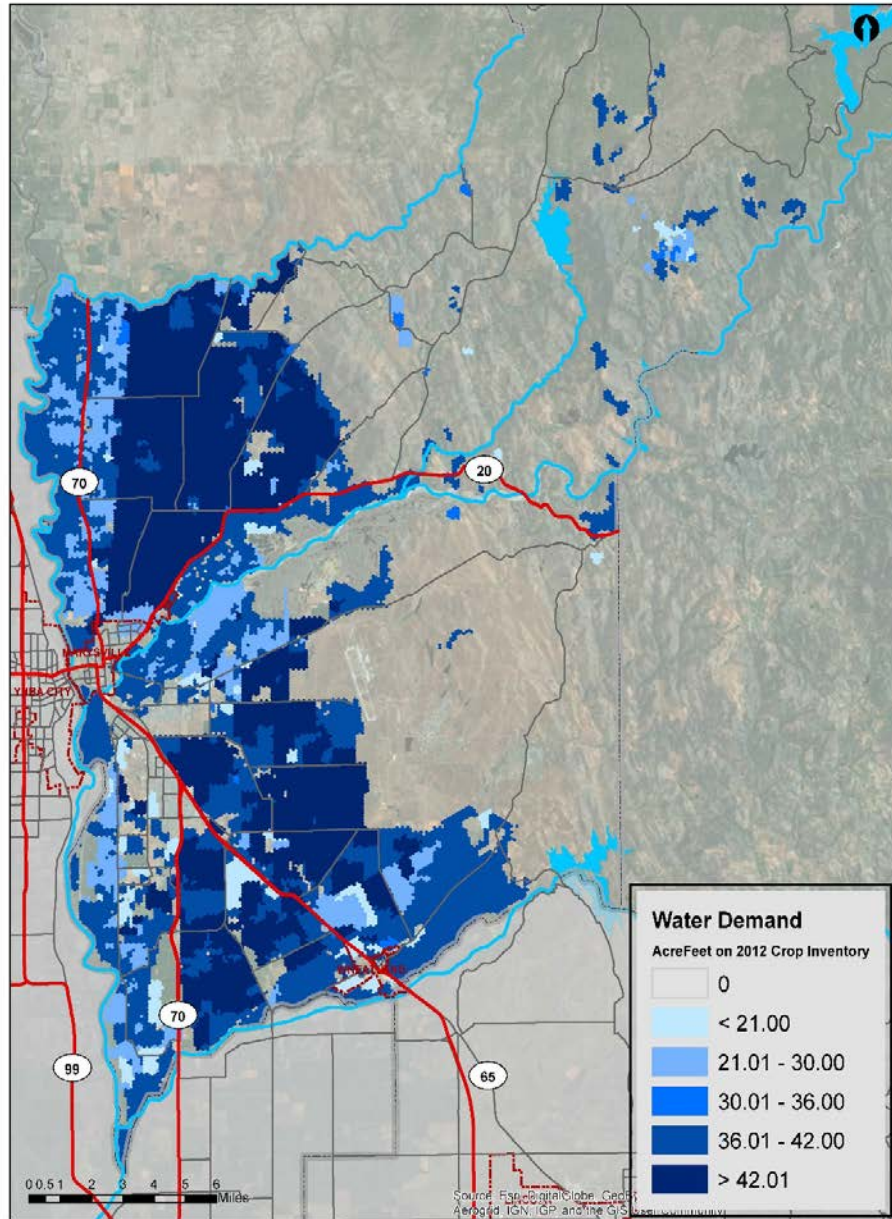
# Base Case



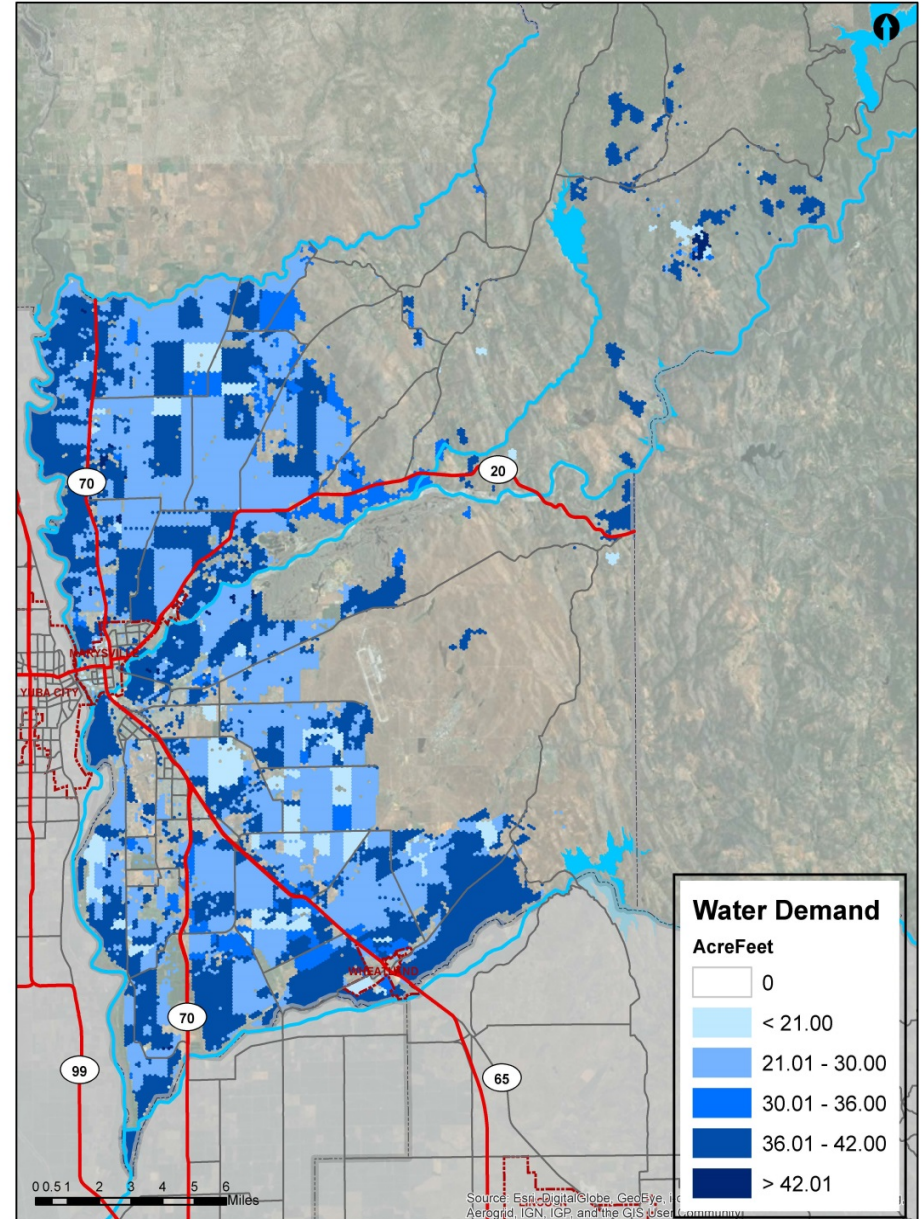
# Specialty Crop Scenario



# Base Case

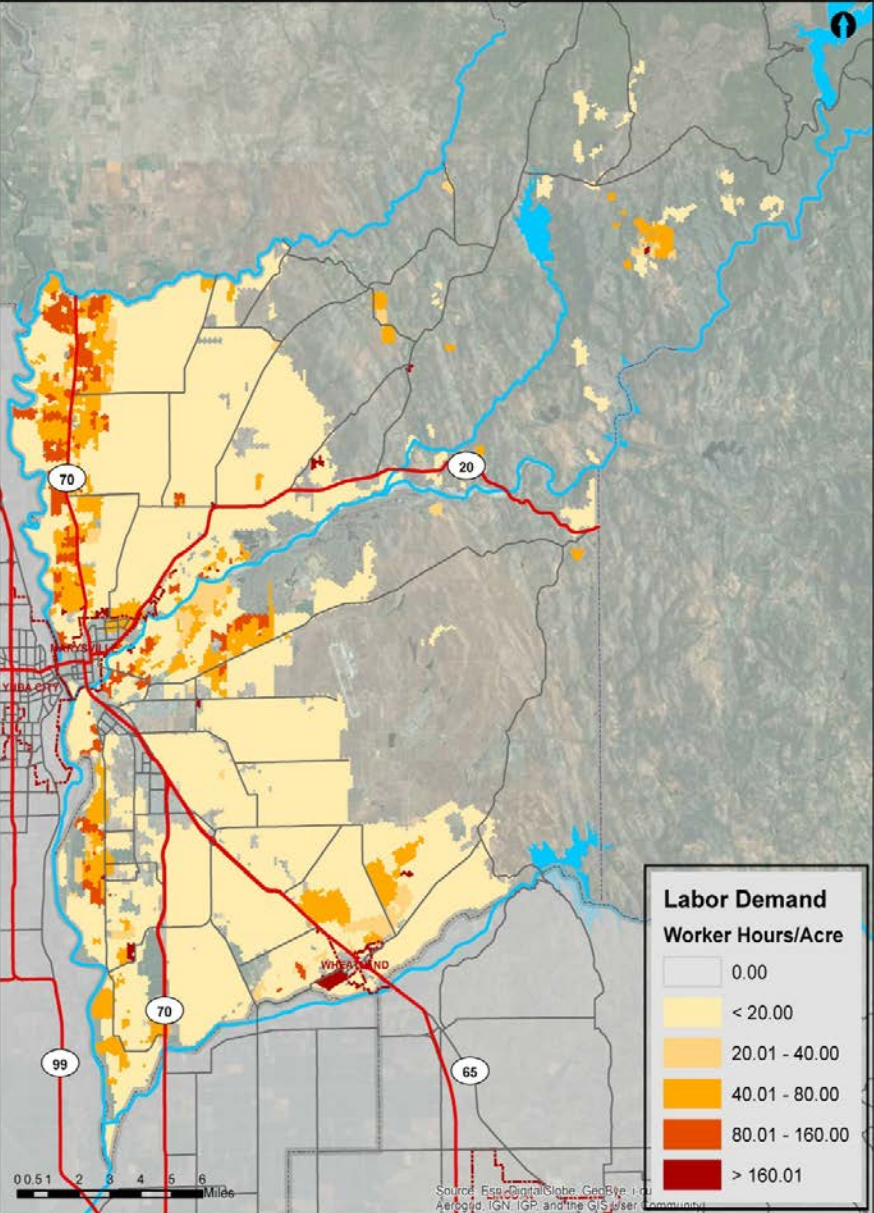


# Specialty Crop Scenario

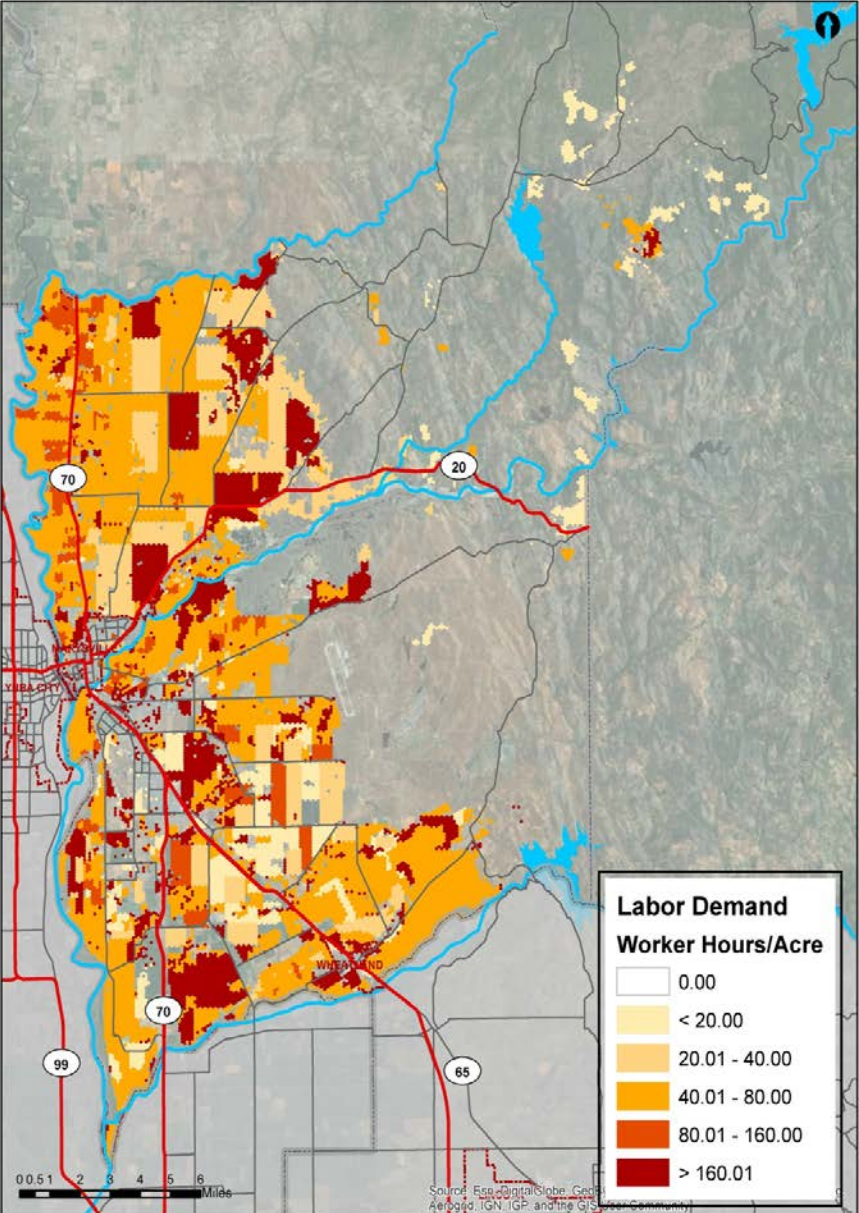




# Base Case



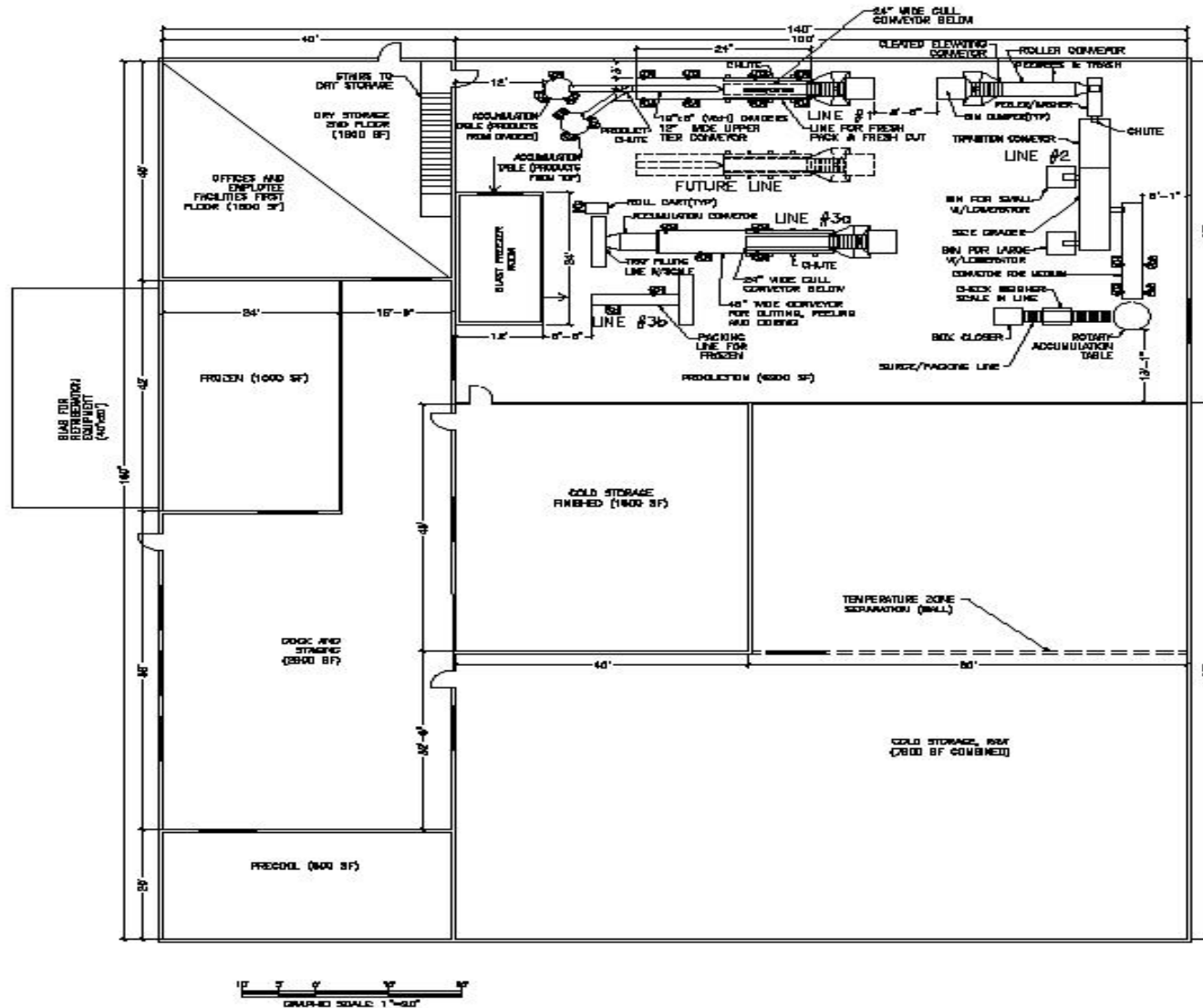
# Specialty Crop Scenario



# Food Hub Business Plan



## PACKING/PROCESSING CENTER LAYOUT



## Food Hub Prototype Facility

- 23,000 square feet
- Capital costs of \$6.5 million (\$3.5 million upfront)
- Volume of 7,800 tons per year (at scale)
- Advisory role at facility to assist farmers



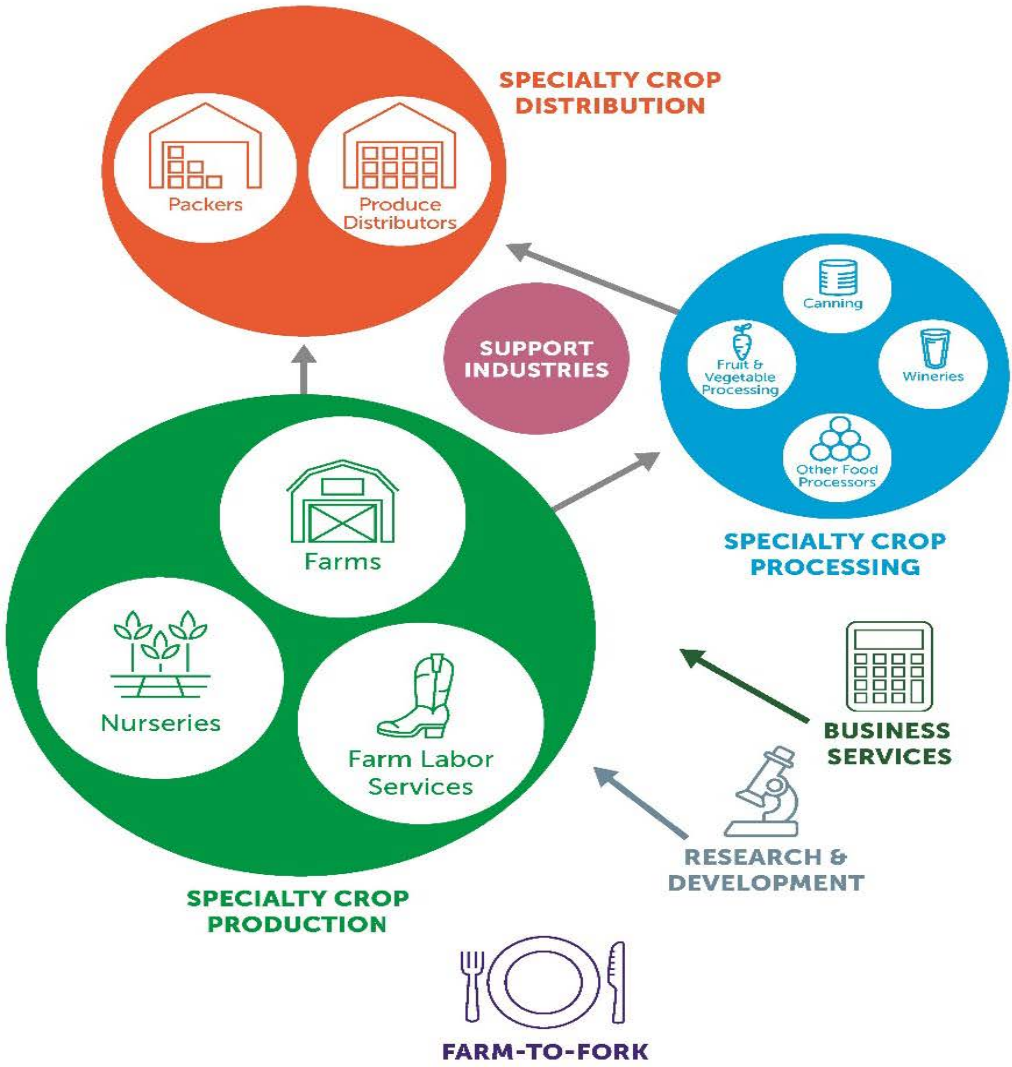
## Food Hub Operations Phasing

	Year 1	Year 4	Year 6	Year 8	Year 15
Number of hub processing lines	-	2 <b>Cut</b>	3 <b>Dry</b>	4 <b>Freeze</b>	4
Annual tons	312	2,059	5,830	7,787	7,787
Net Cash Flow	<b>\$503,645</b>	<b>\$248,700</b>	\$1.12 M	\$1.43 M	\$1.43 M
Internal Rate of Return				6%	22%
<b>Ag Acres Needed</b>	<b>27</b>	<b>171</b>	<b>539</b>	<b>743</b>	<b>743</b>
People Fed (at 25% of fruit & veg consumption)	2,635	16,700	52,600	72,500	72,500

# Ag & Food Economic Multiplier

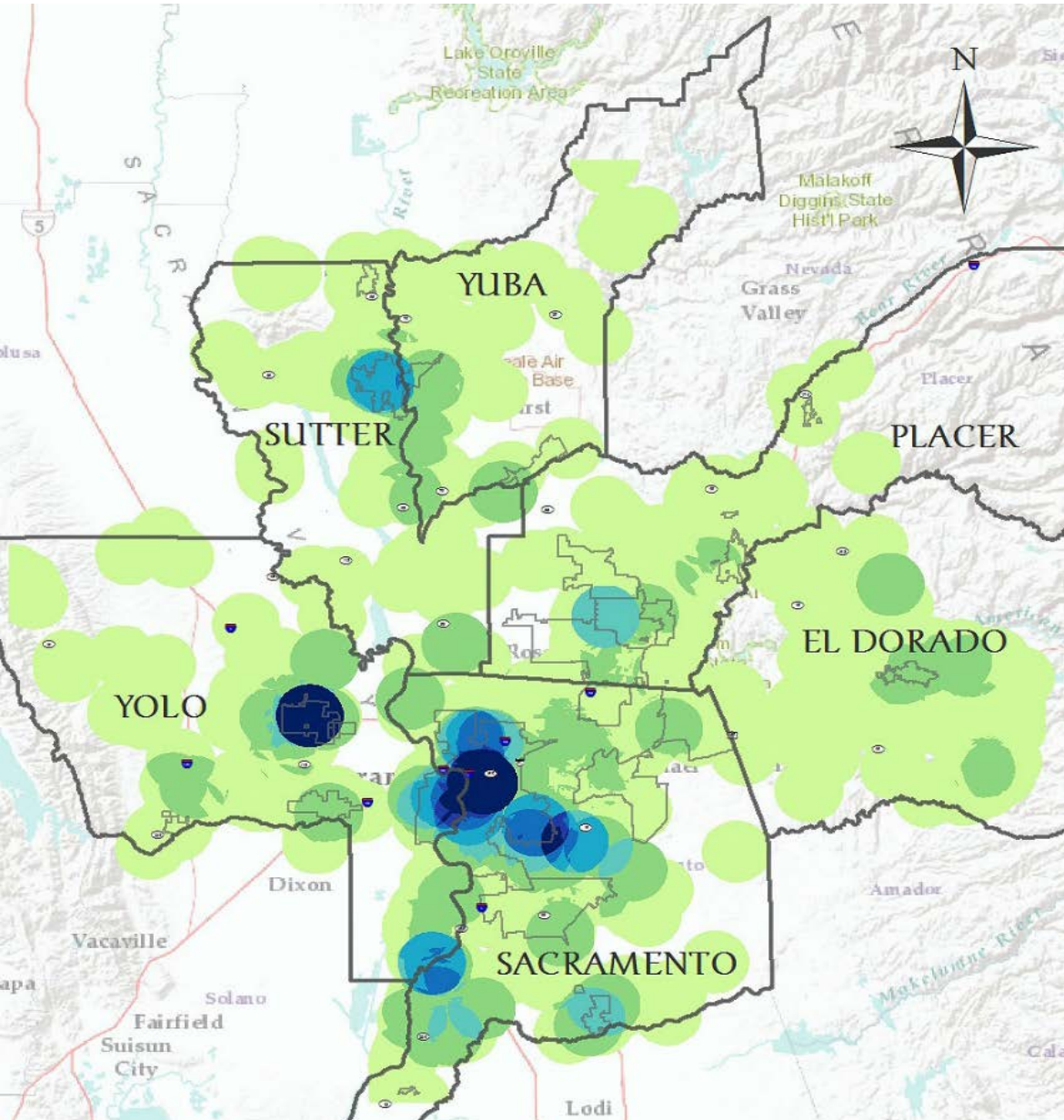


# Specialty Crop Cluster Multiplier Study



CLUSTER	EMPLOYMENT MULTIPLIER	VALUE ADD MULTIPLIER
Manufacturing	2.3	2.06
Construction	1.98	1.93
<b>Specialty Crop Cluster</b>	<b>1.82</b>	<b>1.9</b>
Professional & Scientific Services	1.75	1.82
Finance, Insurance, & Real Estate (F.I.R.E)	1.7	1.52
Health	1.67	1.63
Legal	1.63	1.41
Retail	1.34	1.55

# More Cluster Jobs in Urban vs. Rural Areas



# Food Systems and Air Quality





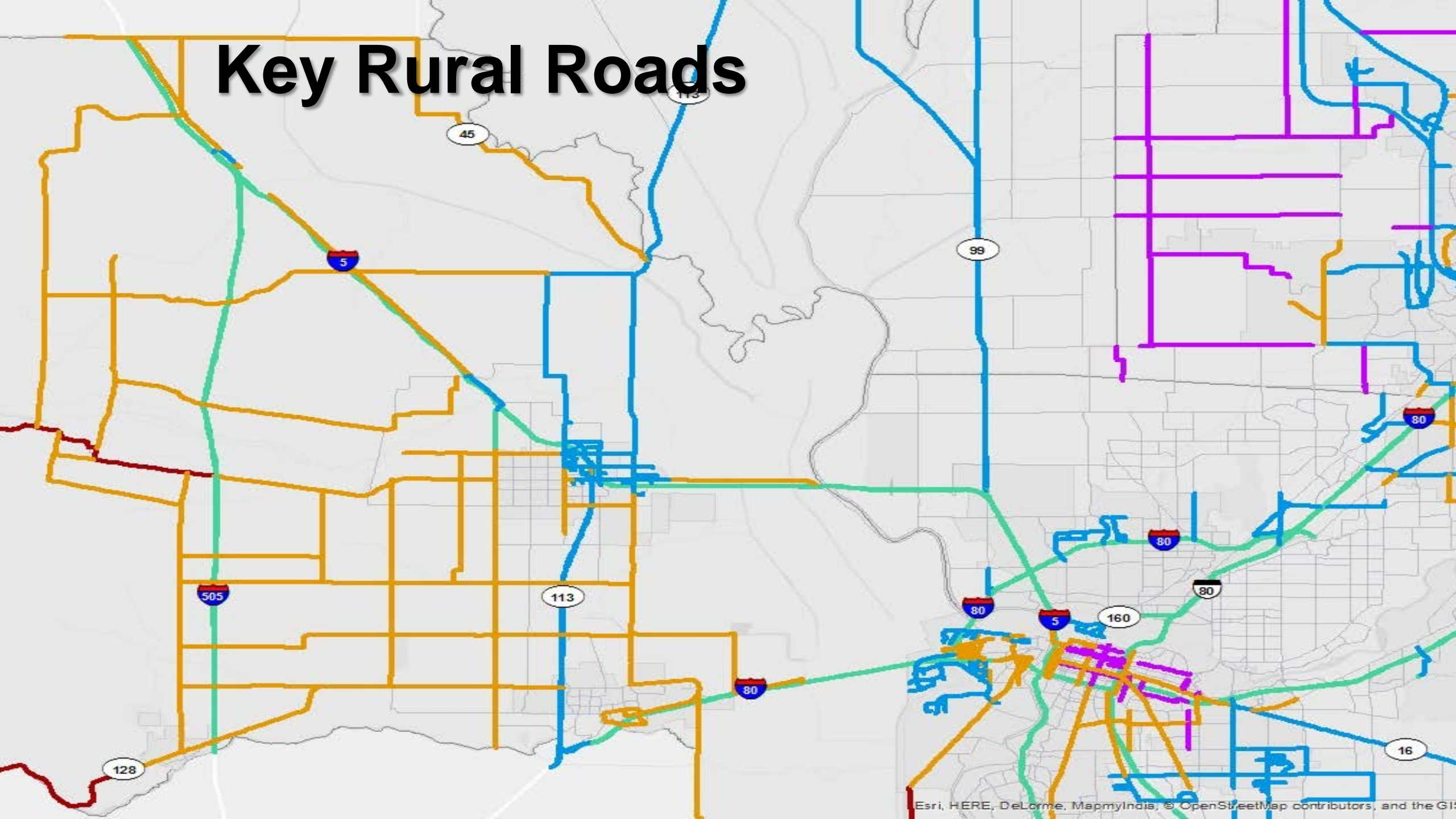


# Yolo Co. Processing Study

***Emissions Performance***

	Tomato Rotation (Base Case)	Tomato Rotation (No PCP)
Total VMT/year	545,000	5,447,000
Transportation CO2	850	8,000
On-filed CO2	25,000	25,000
Tomato Processing CO2	36,000	29,000
Total CO2	61,850	62,000
CO2 Change (Crops + Processing)	--	0.20%
CO2 Change (Just Crops)	--	--

# Key Rural Roads



# Land Use Fiscal Analysis



# Economic Impact on Ag

	Infill Focused	Compact Growth	Low Density
Converted Ag Acres	2,623	6,169	11,127
Lost Ag Value (base)	\$5.6 MM	\$11.2 MM	\$17.3 MM
Lost Ag Value (specialty crops)	\$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

# Land Use Policies That Support Agriculture



## Smaller Lots, Infill and Redevelopment



- 230,000 ac. of Farmland Loss

## Reduce Urban – Rural Conflicts

- Buffers
- Ag Parks
- Right-to-Farm
- Policy Boundaries
- City-County Agreements

## Ag Land Conservation and Viability

- Infrastructure investments
- Supportive Zoning
- Voter Initiatives
- Open Space Plans
- Easements, TDRs, etc.



***“Our analysis finds that per acre greenhouse gas emissions from urban land uses average **58** times greater than those from crop production. This compares favorably with the multiple of **70** found by Jackson, et al.”***

Source: A New Comparison of Greenhouse Gas Emissions from California Agriculture and Land Use, May 2015

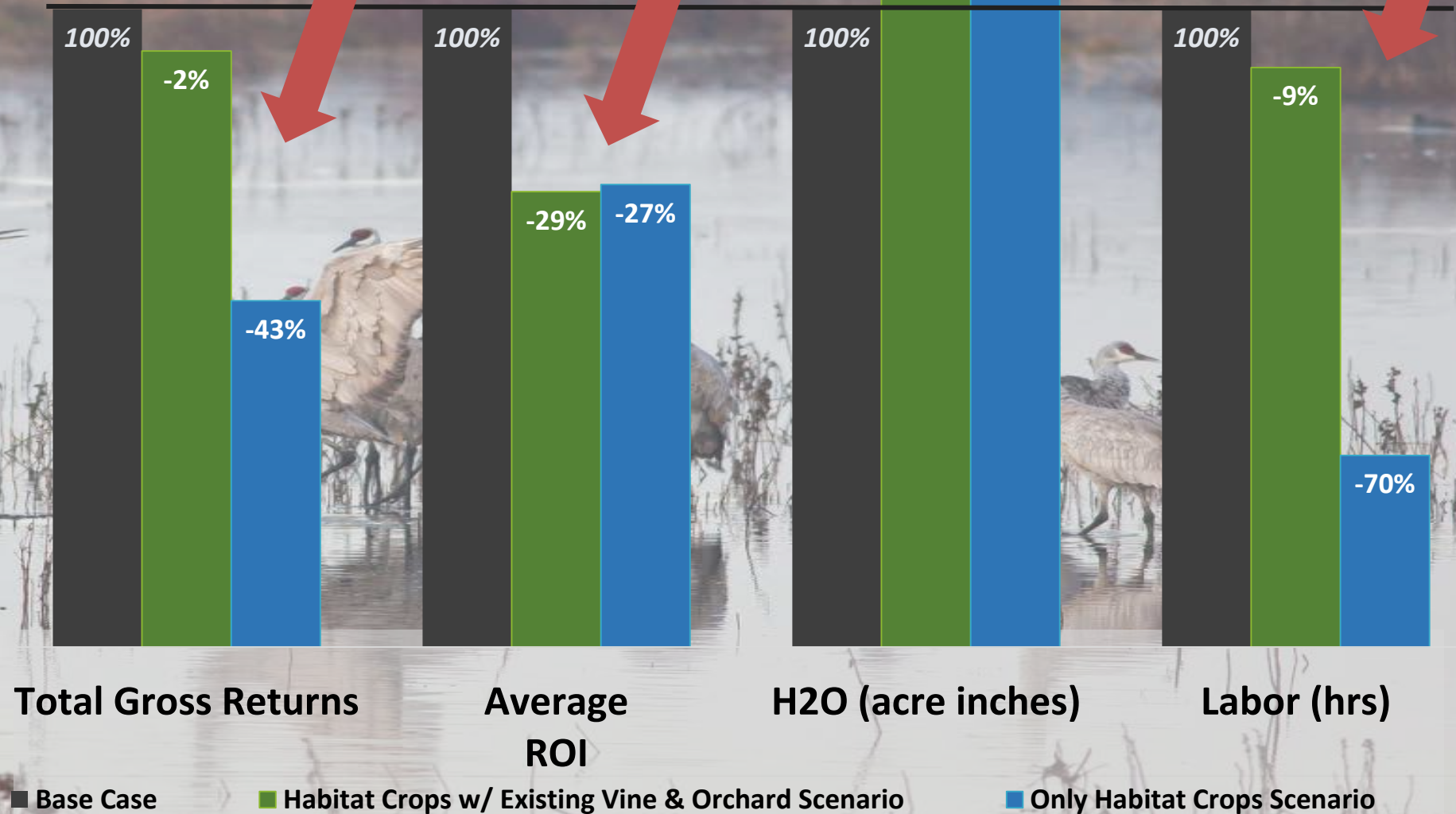
# Ecosystem Services

- Habitat
- Groundwater Recharge
- Water Resources
- Flood Control
- Carbon Sequestration
- Air Quality
- Market-based solutions
- ***Working Landscapes Project***



# WORKING LANDSCAPES PILOT STUDY: AGRICULTURE AND HABITAT

*Sacramento & Yolo County Delta*







Water



Rural Communities



Labor



Recreation/  
Tourism