Regional Planning in the Sacramento Region

SACRAMENTO REGION Blueprint TRANSPORTATION / LAND USE PLAN

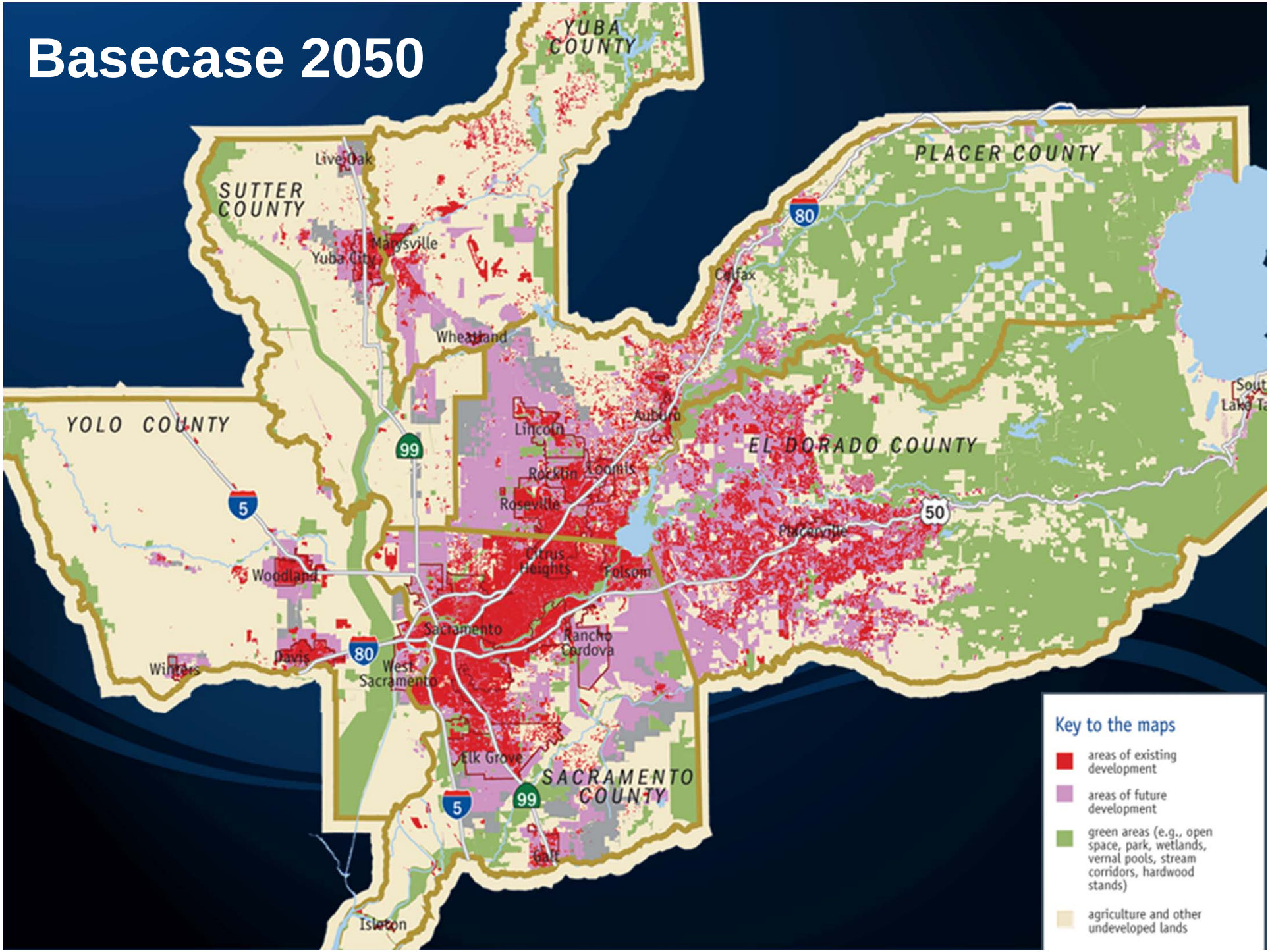
SACRAMENTO REGION RURAL–URBAN CONNECTIONS STRATEGY

SACRAMENTO REGION Blueprint TRANSPORTATION + LAND USE PLAN

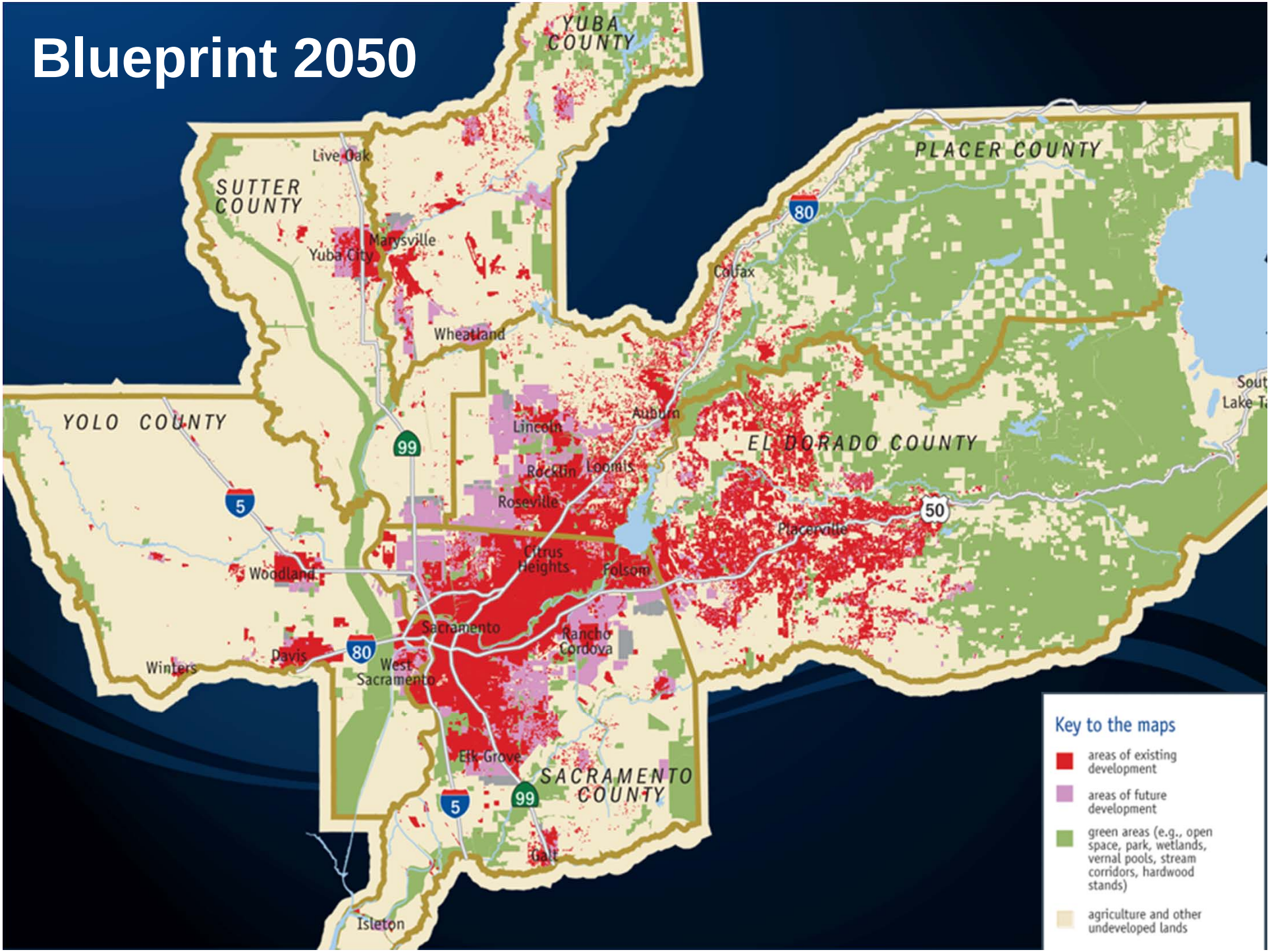
Blueprint Growth Principles

- **Housing Choices**
- **Transportation Choices**
- **Compact Development**
- **Use Existing Assets**
- **Mix Land Uses**
- **High Quality Design**
- **Protect Natural Resources**

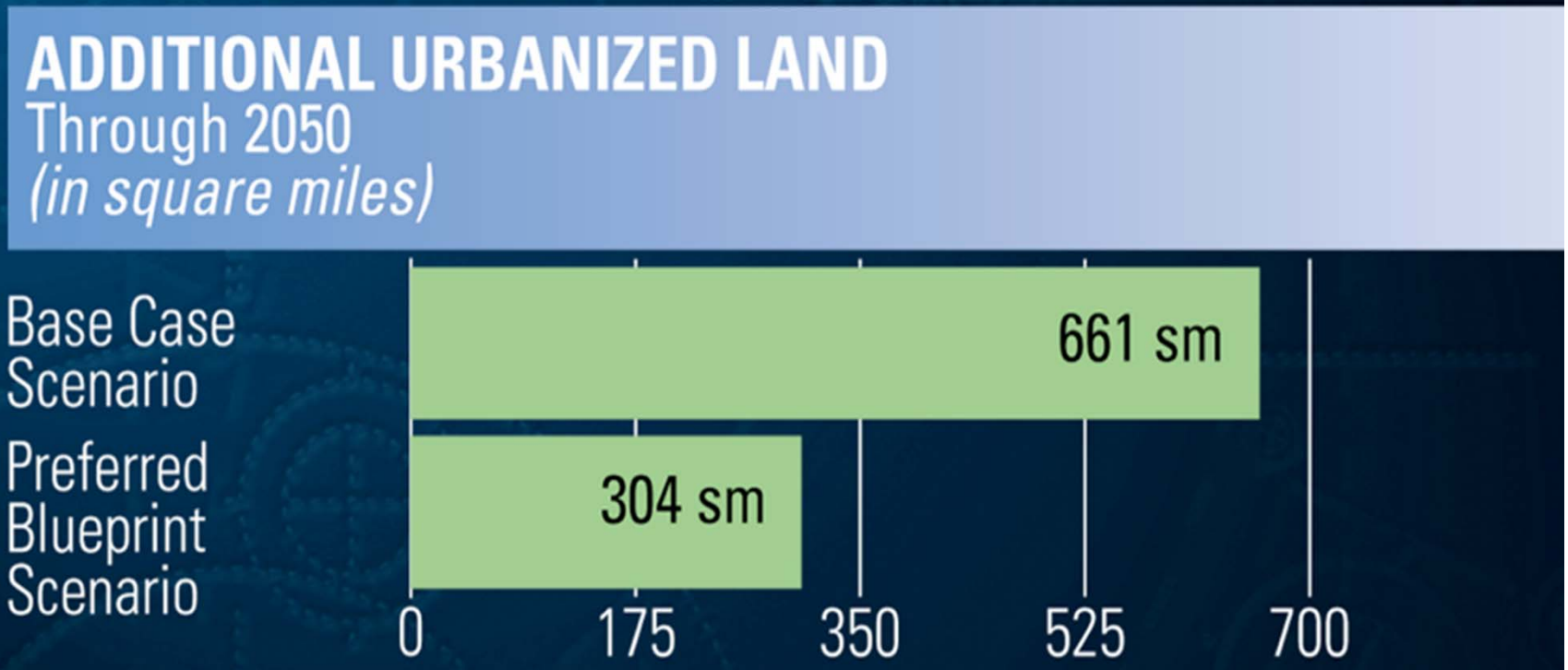
Basecase 2050



Blueprint 2050



Less Urban Land



Rural-Urban Connections Strategy

Enhancing Rural Economic Viability and Environmental Sustainability

RUCS Background

- Enhance rural economic viability
- Supports regional sustainability
- Primary rural industry is agriculture
- Test market changes, policy and econ. dev’l strategies
- Protect and enhance natural resources and ecosystem services

Topic Areas and Process

1. Land Use and Conservation Policies and Plans
2. The Infrastructure of Agriculture
3. New Economic Opportunities
4. Forest Management
5. Regulations

Current Conditions →

Innovations →

Implementation

Partnership Building

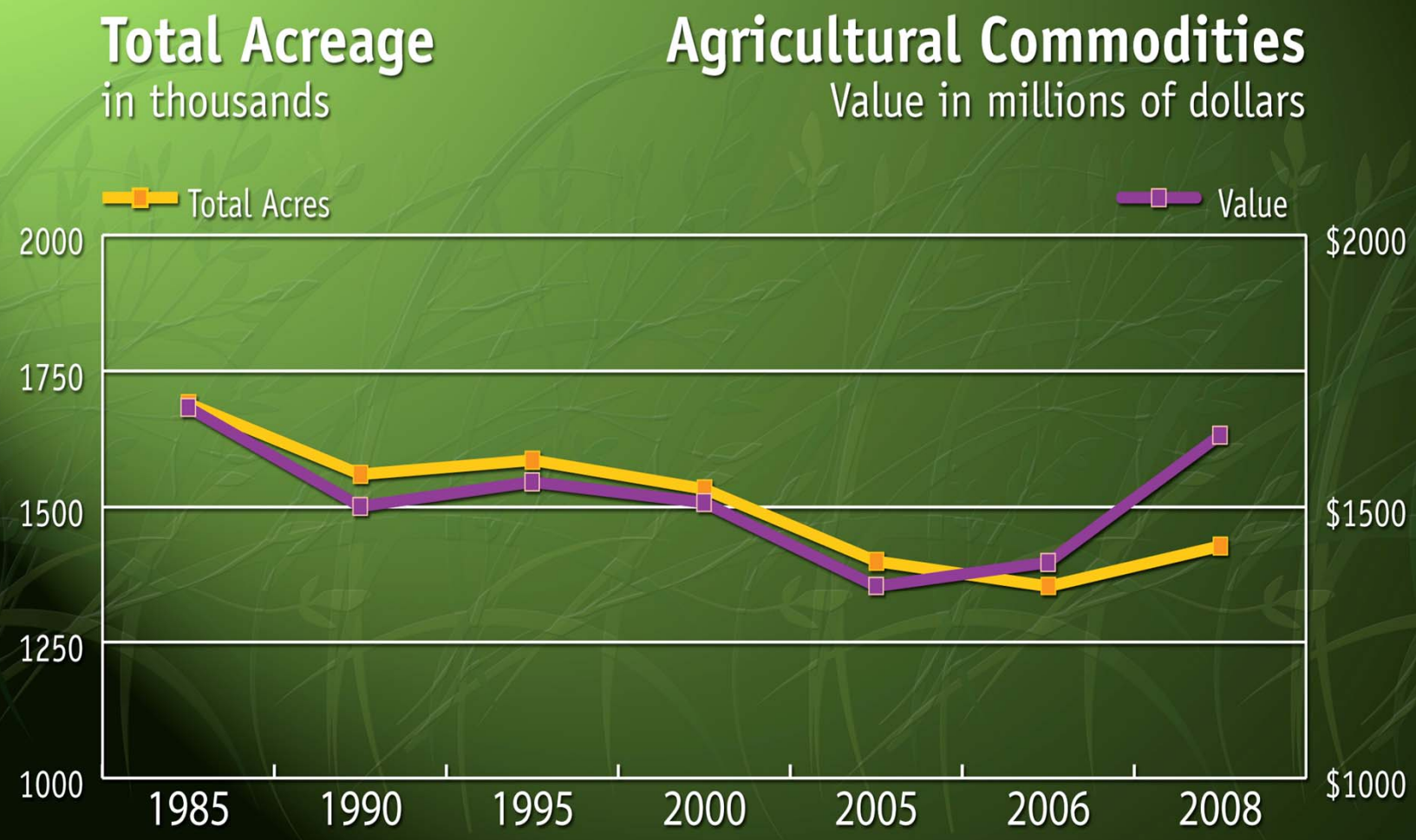
Blueprint & MTP

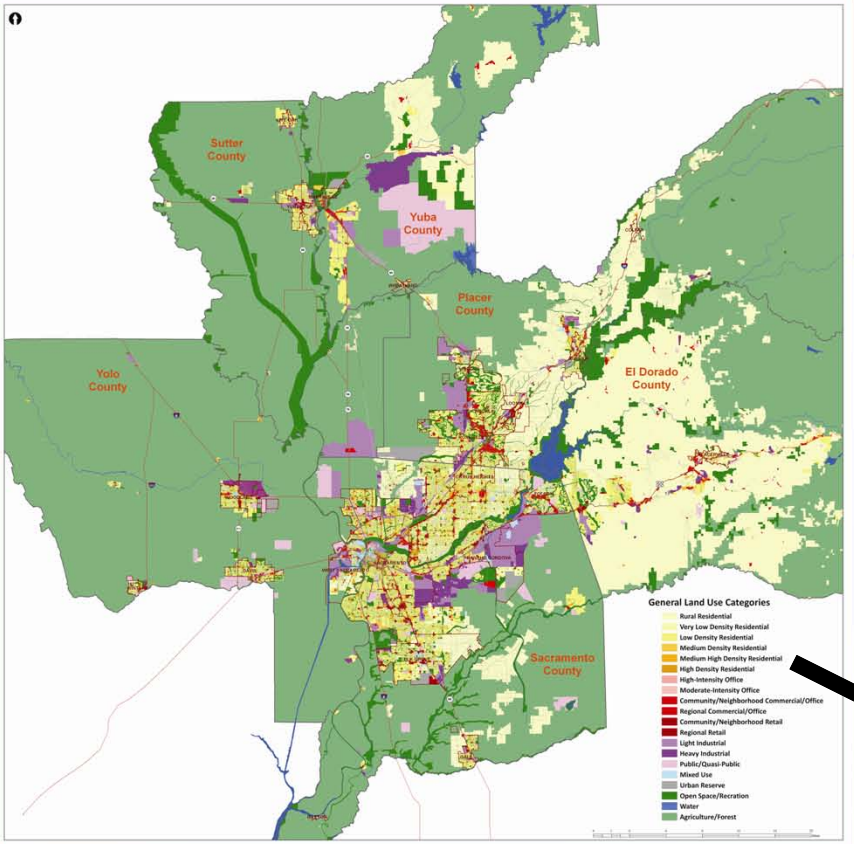
- Business
  - BIA, ULI, AIA
- AQMDs
- L/U & Transp Agencies
- Environmental
- PW & Water Agencies
- Fed & State Agencies
  - Resources
- Sustainable Community Engagement

Rural-Urban Connections

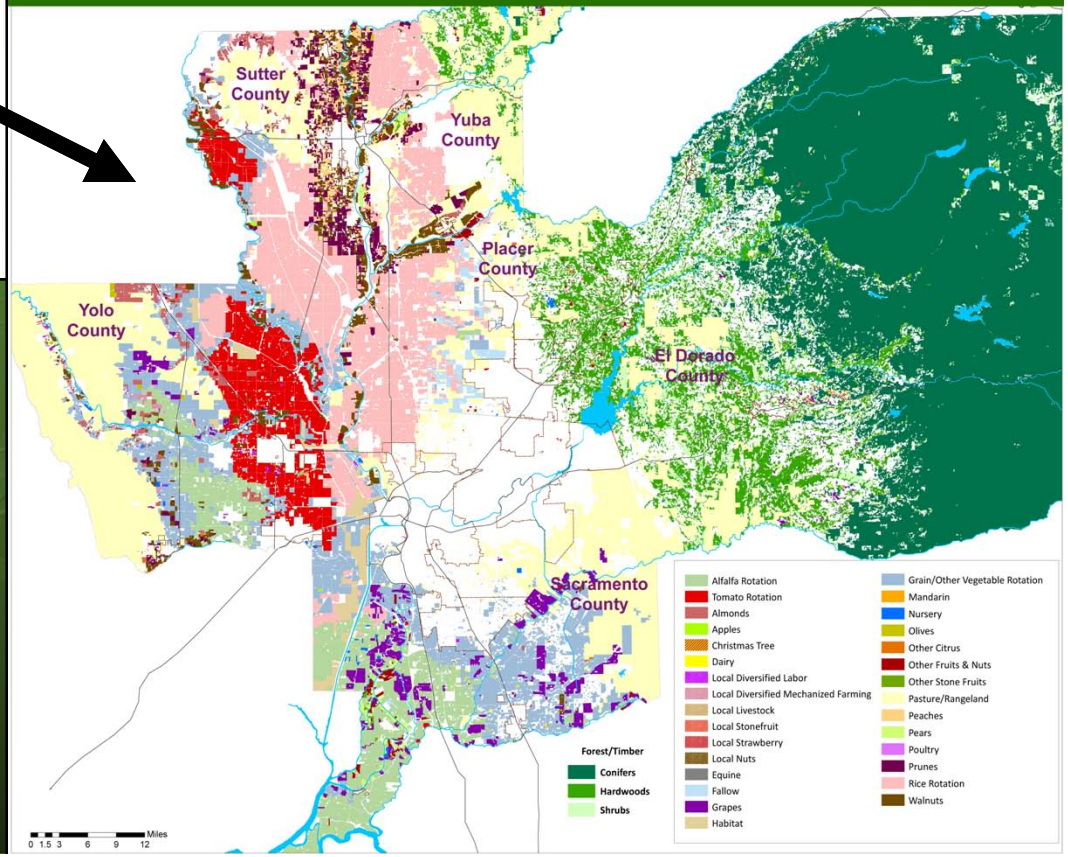
- Ag Agencies
  - Ag Comm, CDFA, DOC
- Ag Associations
  - Farm Bureau, Growers
  - AFT, CAFF, FarmLink
- Land Trusts
- Univ. of CA
  - Coop Ext, AIC, SAREP
- RCDs and NRCS
- Public Health/Food Access

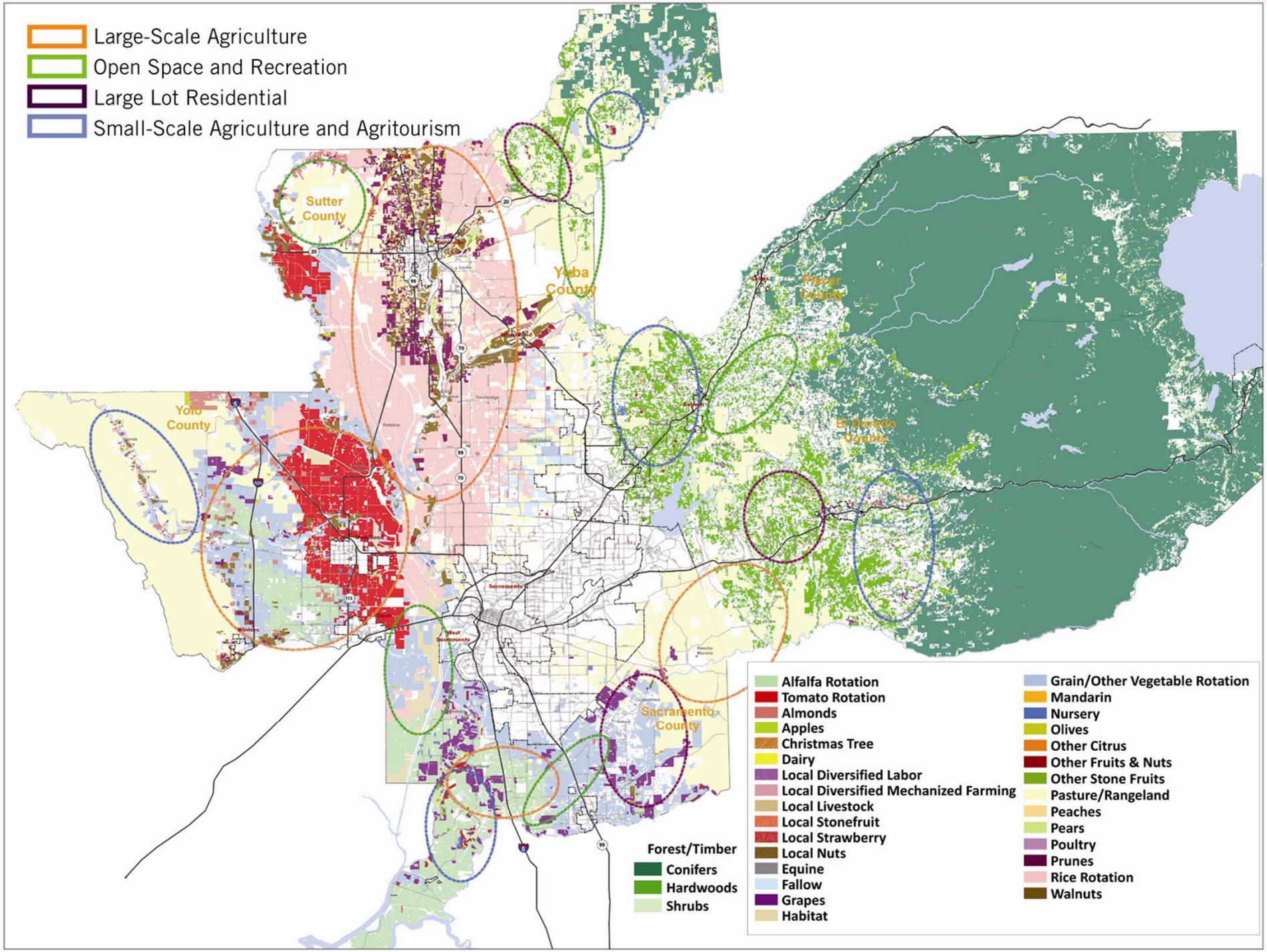
Agricultural Commodities





Farmland and Forestry

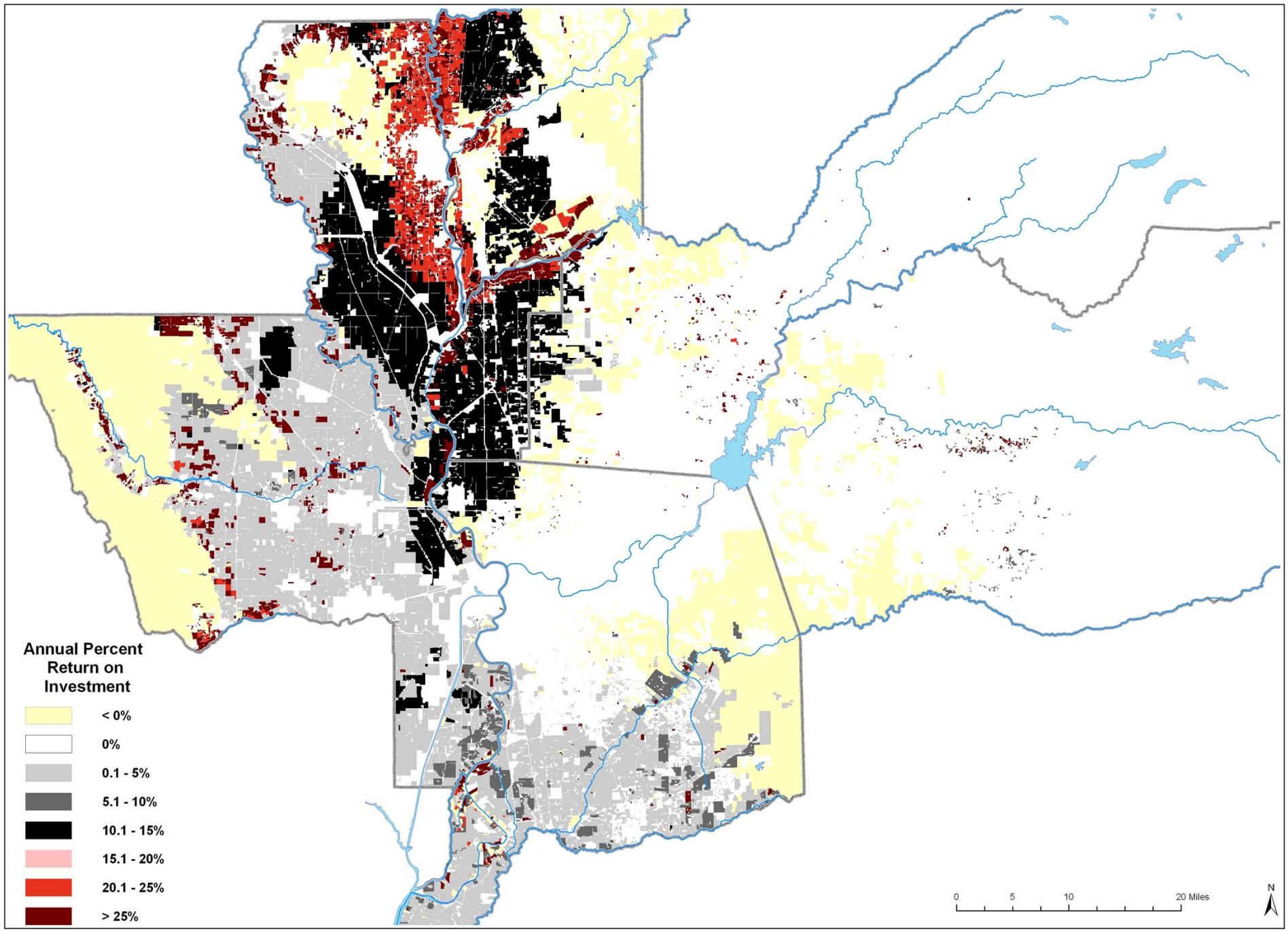



Large-Scale Agriculture
Open Space and Recreation
Large Lot Residential
Small-Scale Agriculture and Agritourism
Sutter County
Yuba County
Placer County
Yolo County
El Dorado County
Sacramento County
Forest/Timber
Conifers
Hardwoods
Shrubs
Alfalfa Rotation
Tomato Rotation
Almonds
Apples
Christmas Tree
Dairy
Local Diversified Labor
Local Diversified Mechanized Farming
Local Livestock
Local Stonefruit
Local Strawberry
Local Nuts
Equine
Fallow
Grapes
Habitat
Grain/Other Vegetable Rotation
Mandarin
Nursery
Olives
Other Citrus
Other Fruits & Nuts
Other Stone Fruits
Pasture/Rangeland
Peaches
Pears
Poultry
Prunes
Rice Rotation
Walnuts

Cost and Return Conventional Almond Production

Sacramento Region

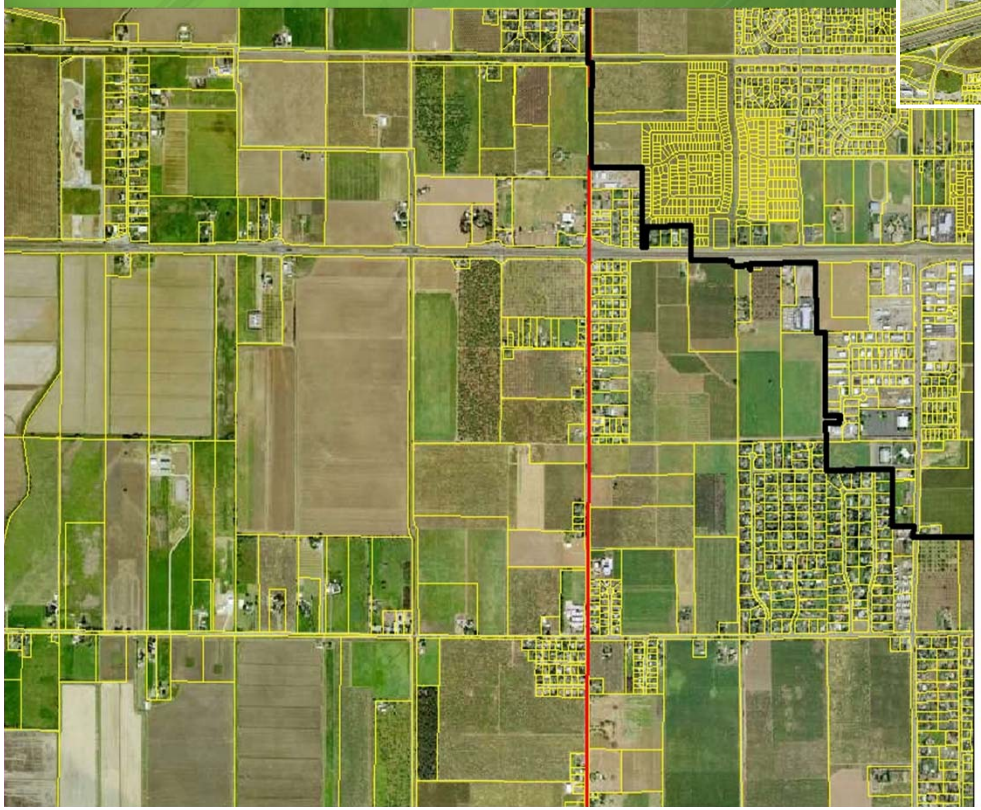
Cost category	Input	Quantity	Unit/acre	Price	Cost
Chemical	Roundup	3.00	pt	$ 8.40	$ 25.20
Chemical	Surflan	3.00	pt	$ 16.96	$ 50.88
Chemical	Goal 2XL	3.00	pt	$ 13.50	$ 40.50
Chemical	Rodent Bait	1.00	lb	$ 4.50	$ 4.50
Chemical	Rovral	1.00	lb	$ 25.00	$ 25.00
Chemical	Abound	14.00	floz	$ 2.78	$ 38.92
Chemical	Ziram	8.00	lb	$ 2.80	$ 22.40
Chemical	Dipel	2.00	lb	$ 15.63	$ 31.26
Chemical	Lorsban	4.00	pint	$ 4.00	$ 16.00
Chemical	Omite	7.50	lb	$ 8.23	$ 61.73
Chemical	Vanguard	5.00	oz	$ 4.09	$ 20.45
Contract	Consultant	1.00	acre	$ 25.00	$ 25.00
Contract	Hives	2.50	hive	$ 140.00	$ 350.00
Contract	Leaf Analysis	1.00	acre	$ 2.00	$ 2.00
Contract Labor	Shake Nuts	2.00	hour	$ 80.00	$ 160.00
Contract Labor	Sweep	2.00	hour	$ 55.00	$ 110.00
Contract Labor	Pick up, haul, hull and shell	2200.00	lb	$ 0.11	$ 242.00
Fertilizer	UN-32	220.00	lb	$ 0.29	$ 63.80
Fertilizer	Zinc Sulfate	30.00	lb	$ 0.50	$ 15.00
Fertilizer	Potassium Sulfate	500.00	lb	$ 0.23	$ 115.00
Irrigation	Water	36.00	acin	$ 2.67	$ 96.12
Fuel	Gasoline	11.15	gallons	$ 3.98	$ 44.38
Fuel	Diesel	11.88	gallons	$ 3.84	$ 45.62
Labor	Labor (machine)	11.56	machine hrs	$ 15.00	$ 173.40
Labor	Labor (nonmachine)	11.72	hrs	$ 12.00	$ 140.64
Total Operating Cost/Acre					$ 1,919.79


Annual Percent Return on Investment
< 0%
0%
0.1 - 5%
5.1 - 10%
10.1 - 15%
15.1 - 20%
20.1 - 25%
> 25%
0
5
10
20 Miles
N

1. Land Use

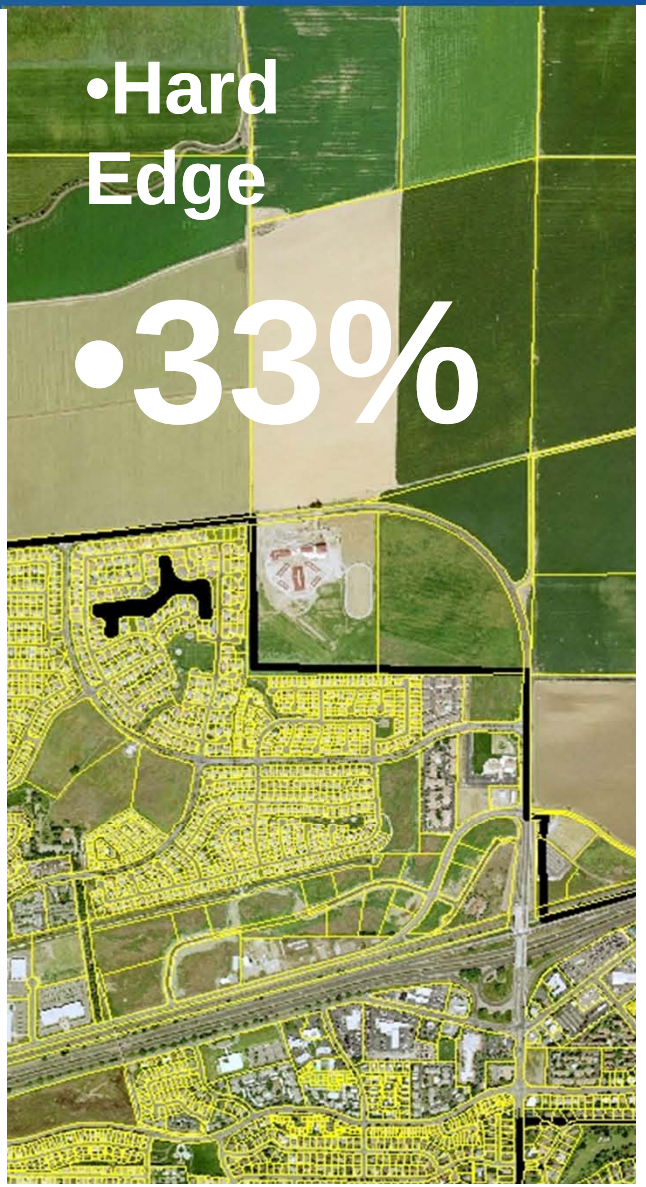
Hard Edge

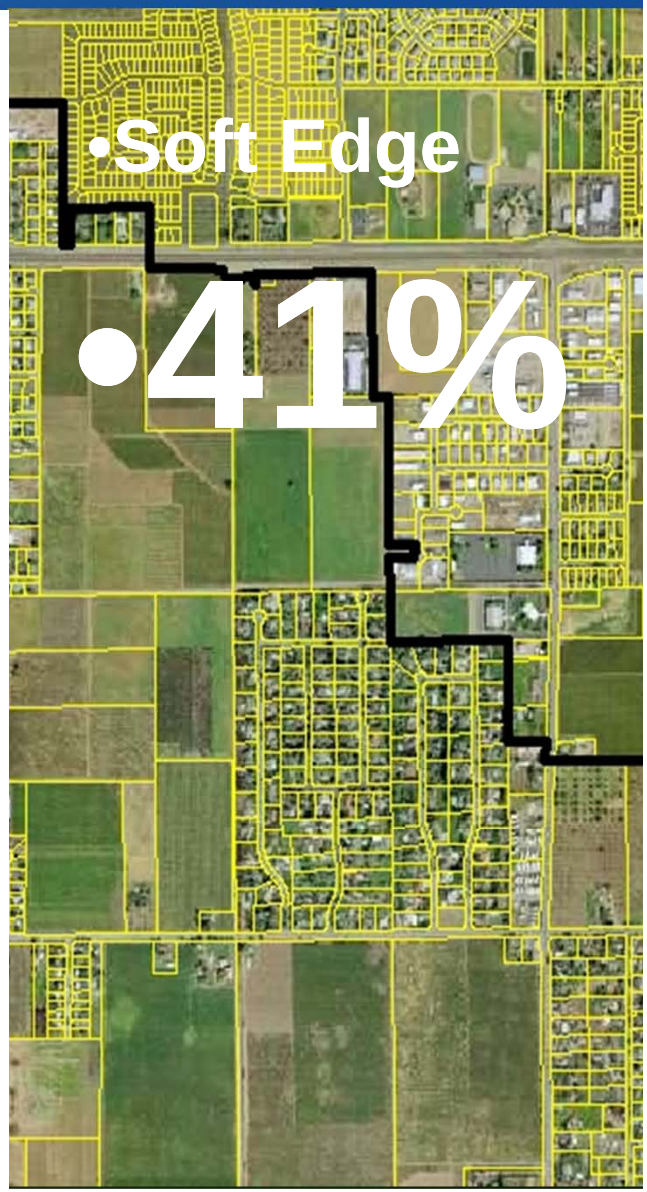
Soft Edge



Rural Communities

Rural-Urban Interface:
Percent likelihood of fallowing at…





Reducing Conflict

Rural

Urban

Innovations at the Edge and Beyond

Infill & Redevelopment

SACRAMENTO REGION Blueprint TRANSPORTATION + LAND USE PLAN

Rural-Urban Edge

SACRAMENTO REGION RURAL-URBAN CONNECTIONS STRATEGY

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

Supporting Ag Viability Beyond the Edge

- City-County Agreements
- Voter Initiatives
- Supportive Zoning
- Open Space Plans
- Easements, TDRs, etc.

1. Land Use

- Habitat Conservation
- Carbon Sequestration
- Groundwater Recharge
- Flood Control
- Easements
- Stewarship

Habitat Opportunities on Agriculture Lands

Rice:
10 species including Swainson's hawk, burrowing owl, peregrine falcon

Row Crops:
7 species including Swainson's hawk, burrowing owl, loggerhead shrike

Irrigated Pasture:
10 species including Swainson's hawk, burrowing owl, peregrine, falcon

Source: Sierra Club, Mother Lode Chapter

Alfalfa:
9 species including Swainson's hawk, burrowing owl, ferruginous hawk

Orchards:
3 species including Cooper's hawk, yellow warbler

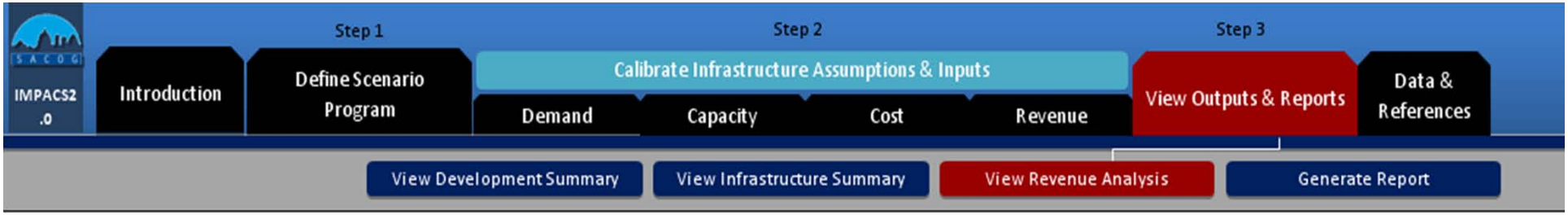
Grazing, no vernal pools:
16 species including Swainson's hawk, burrowing owl

Grazing, with vernal pools:
16 species including fairy shrimp, tadpole shrimp

Rural Communities Fiscal Model

Fiscal Impacts Model

- **Purpose:** Help small rural communities make growth decisions that are fiscally sustainable
- **Challenges:**
  - Growth of any kind sometimes looks like economic progress
  - Needed infrastructure investments to fix existing problems sometimes contribute to this problem
- **Example:** Better balanced land uses more fiscally viable than housing subdivision



Simple Payback Analysis

Total Public Sector Costs	$811,830
Public Sector Annual O&M Costs	$115,498
Annual Revenue (Taxes etc.)	$144,785
Annual Net Revenue	$29,287

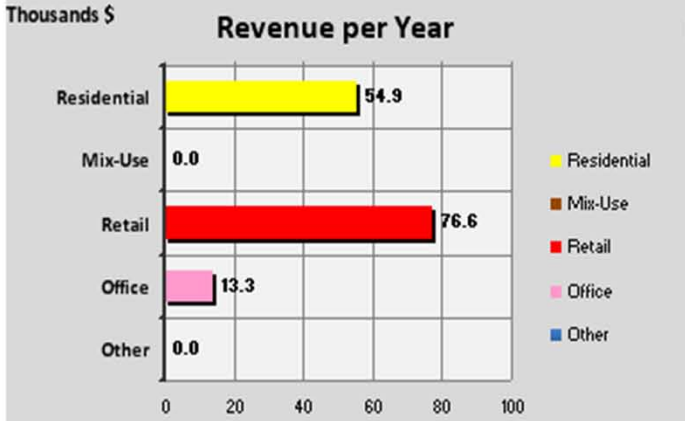
Actual Simple Payback:	27.7	yrs
Desired Simple Payback (yrs	20	
Gap per ERU (desired payba	$110	per year

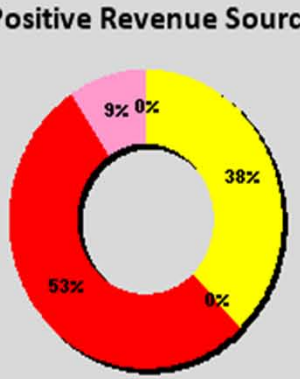
Bond Analysis

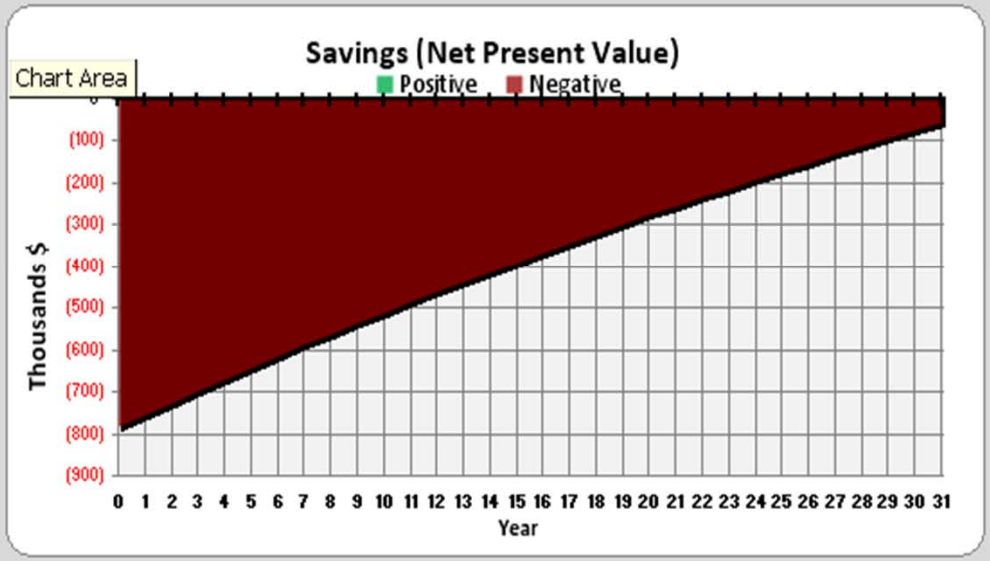
Maturity period (yrs	20	
Coupon Rate	5.0%	
Annual Coupon Payments	$40,591	
Total Additional Funds:	-$11,305	
Bond Gap per ERU:	$31	

Life Cycle Cost Analysis

Discount Rate	5.0%
Analysis Time Period (yrs)	20
Maintenance Escalation rate	0.0%
Net Present Value (NPV) savings (20 yrs)	-$277,203







2. Infrastructure

Transportation

- Commerce
- Safety

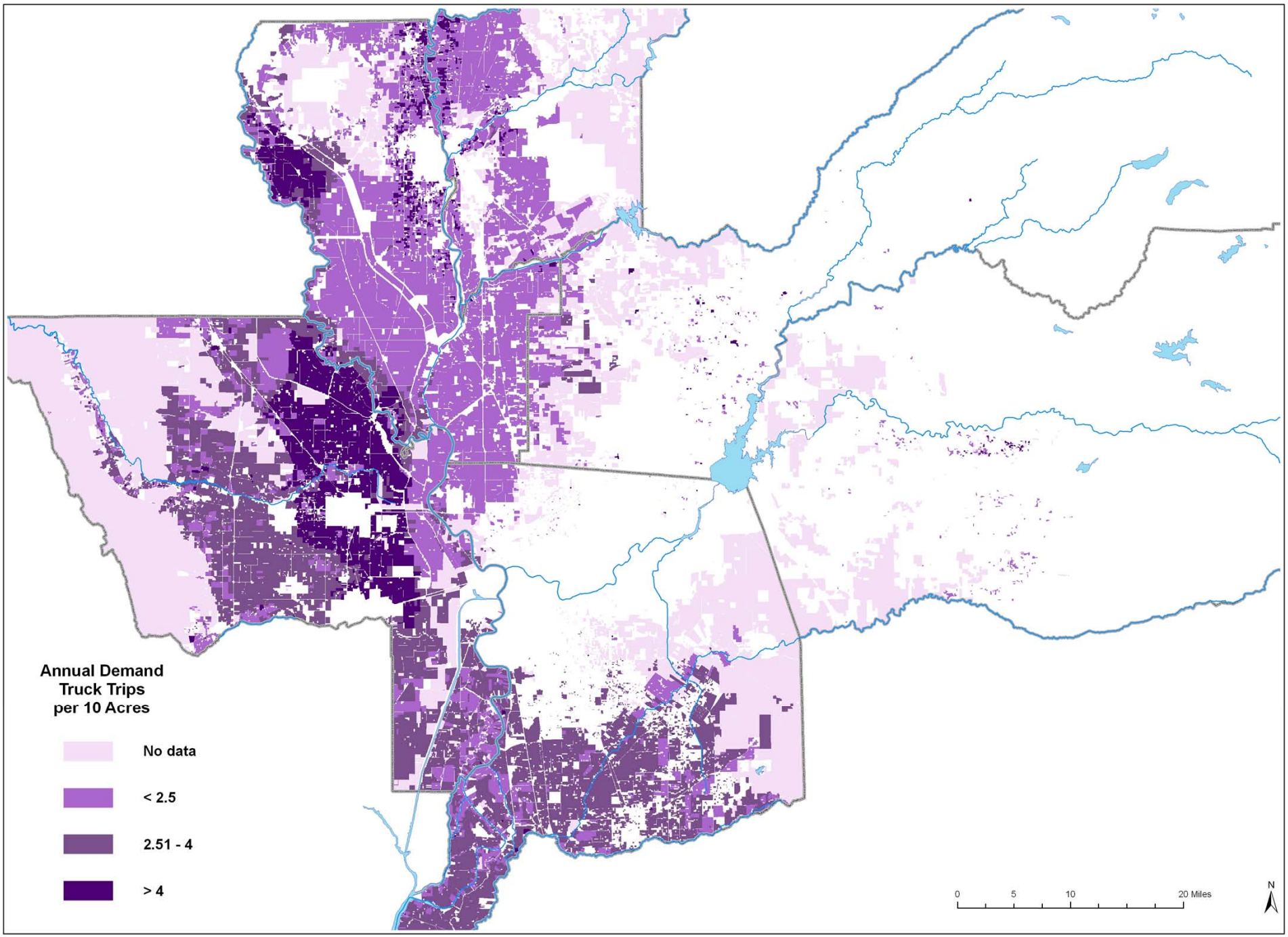
Transportation Issues

- Urban and rural residential traffic
- 41% of fatal accidents on rural roads
- Processing and distribution facilities consolidated outside the region
  - Food truck out, food trucked in
- Over 16,000 farm workers in Sacramento region
- 72% farm workers lack adequate transportation
- Road maintenance backlog

System Maintenance

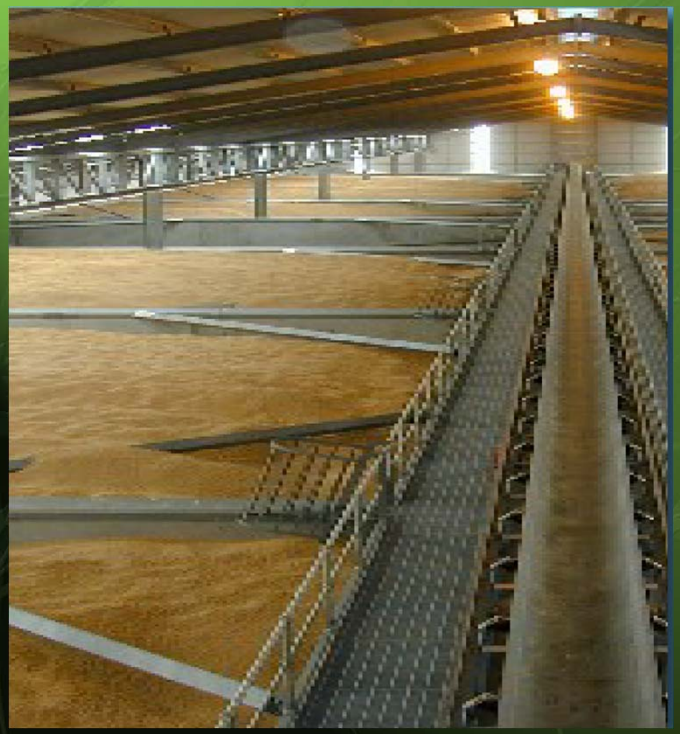
Rural Areas have a small percentage of the region's population but must maintain a disproportionate number of the region's road miles.

	Road Miles	Population	Road Miles/Person	Percent Road Miles	Percent Population
Urban	8,777	1,781,419	0.0049	52%	87%
Rural	8,258	275,824	0.0299	48%	13%
Total	17,035	2,057,243	0.0083		

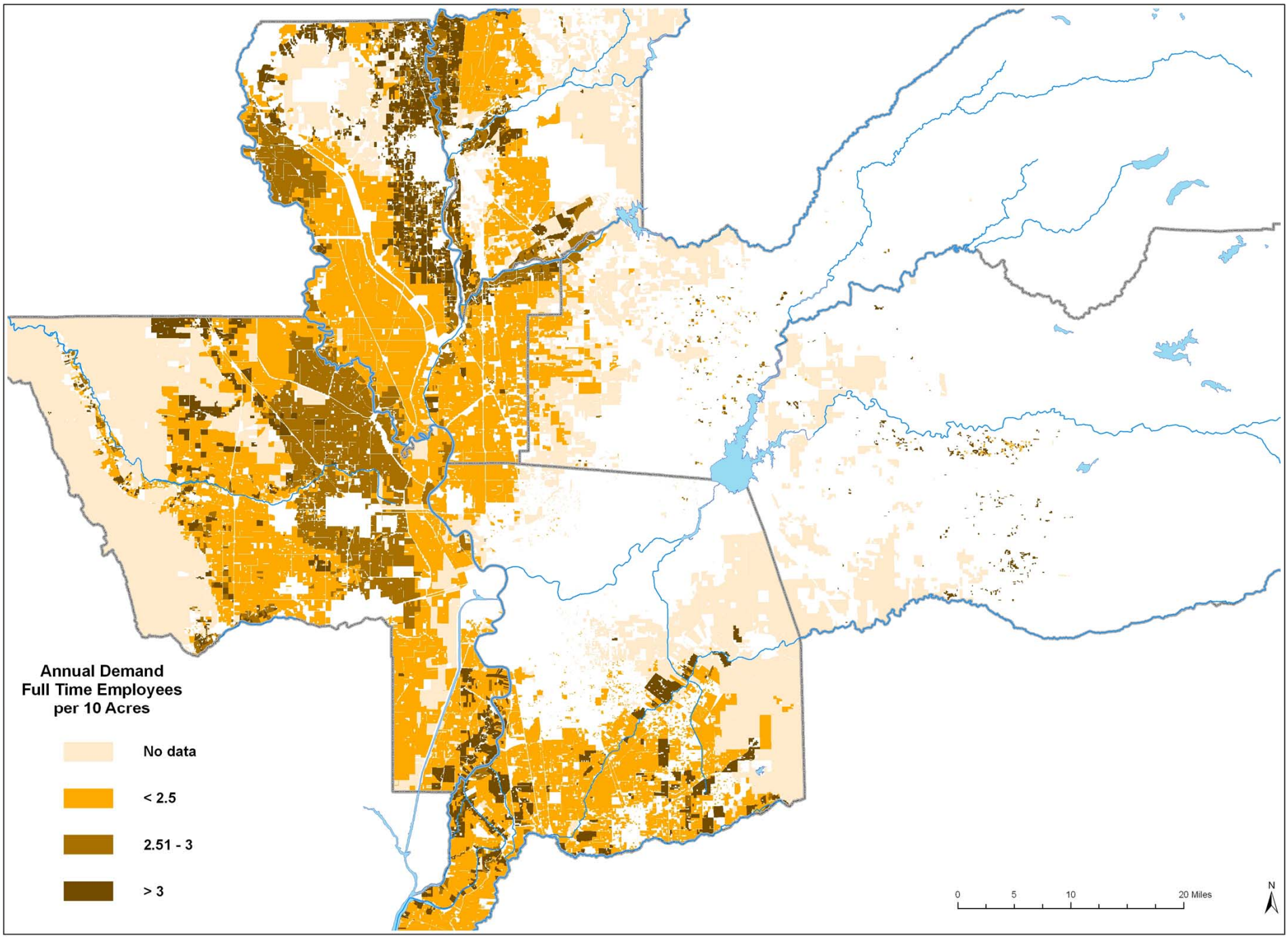

Annual Demand
Truck Trips
per 10 Acres
No data
< 2.5
2.51 - 4
> 4
0
5
10
20 Miles
N

2. Infrastructure

Distribution & Processing



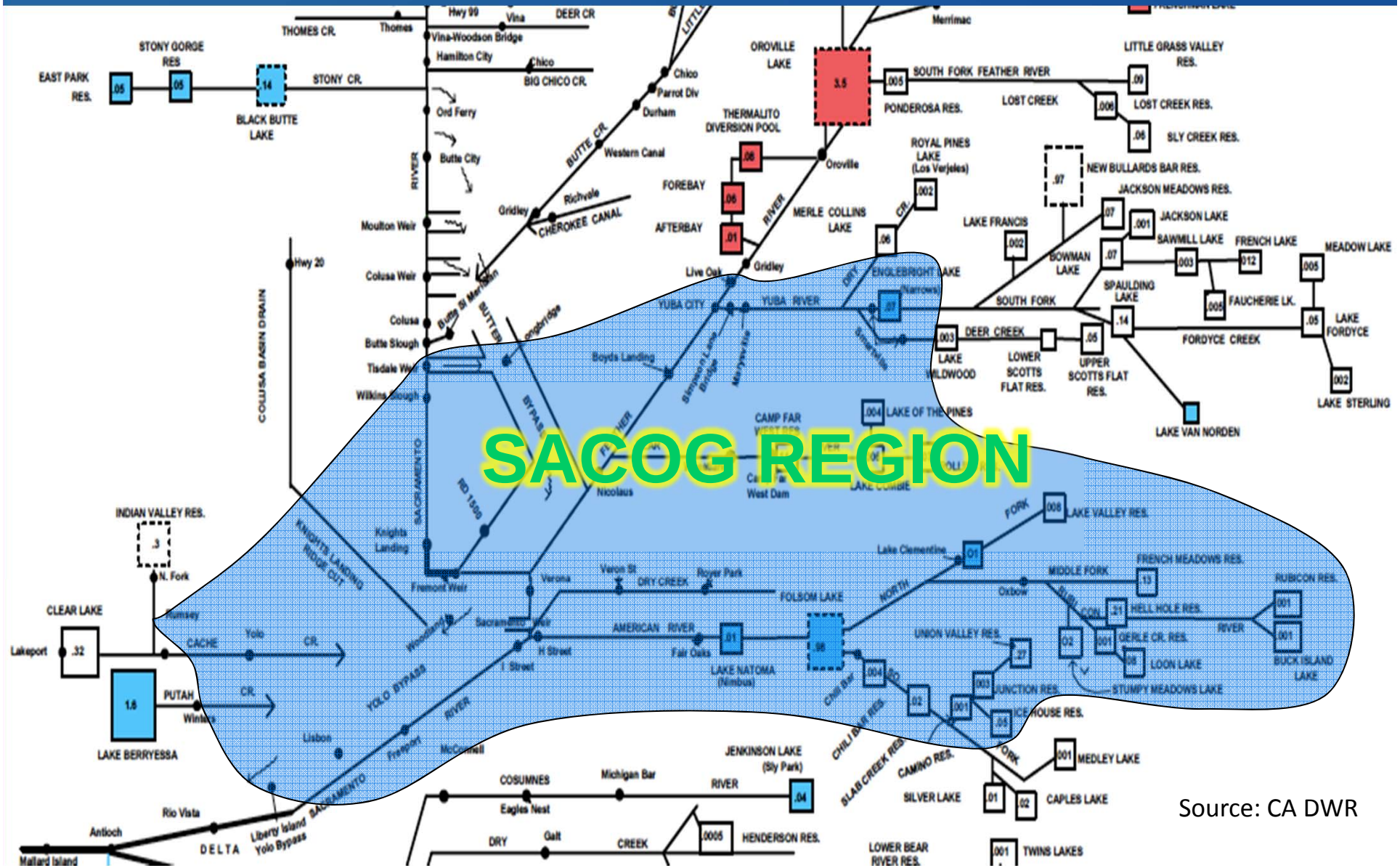
Labor


Annual Demand
Full Time Employees
per 10 Acres
No data
< 2.5
2.51 - 3
> 3
0
5
10
20 Miles
N

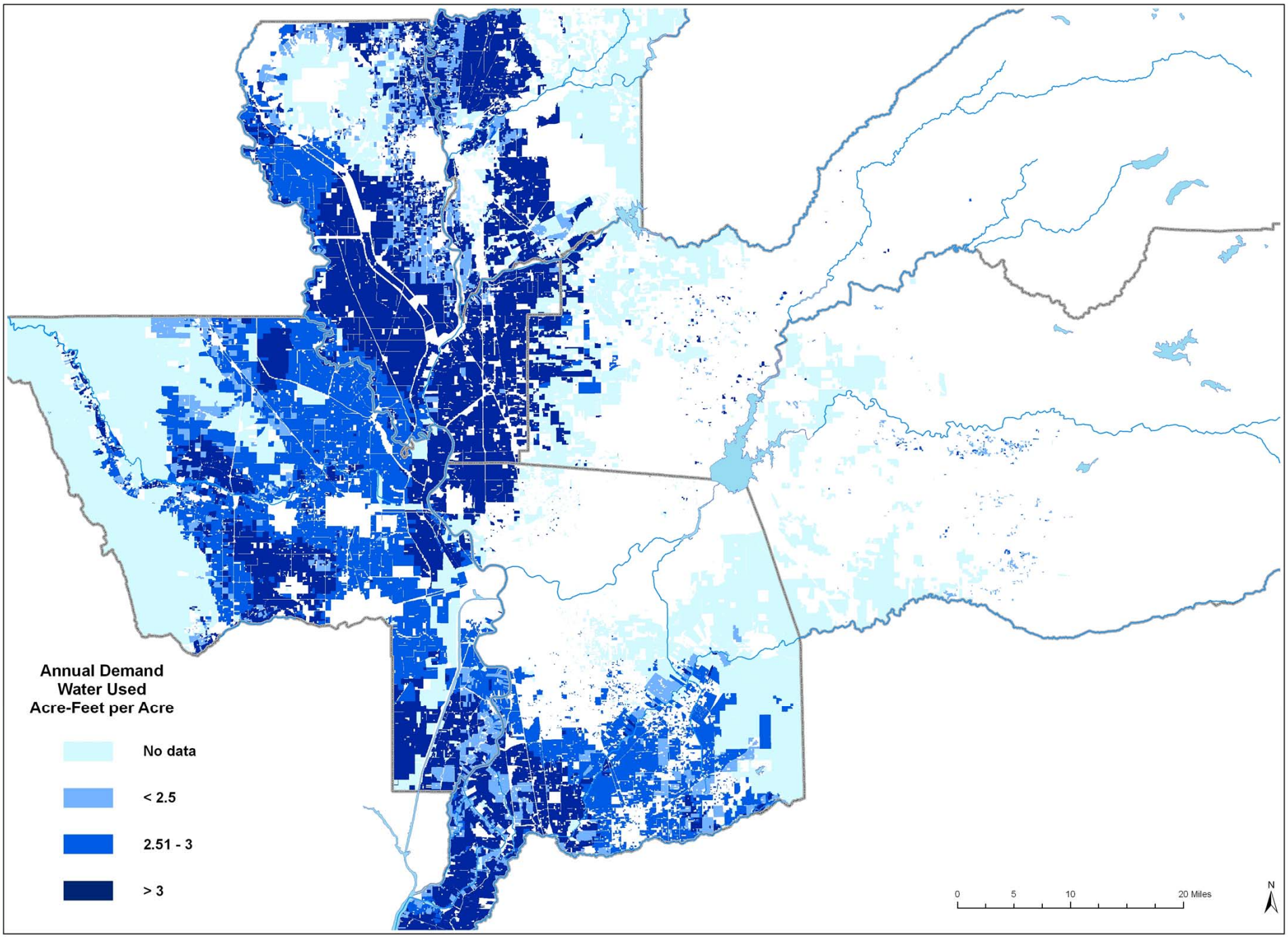
2. Infrastructure

Water Resources

Surface Water System



Source: CA DWR

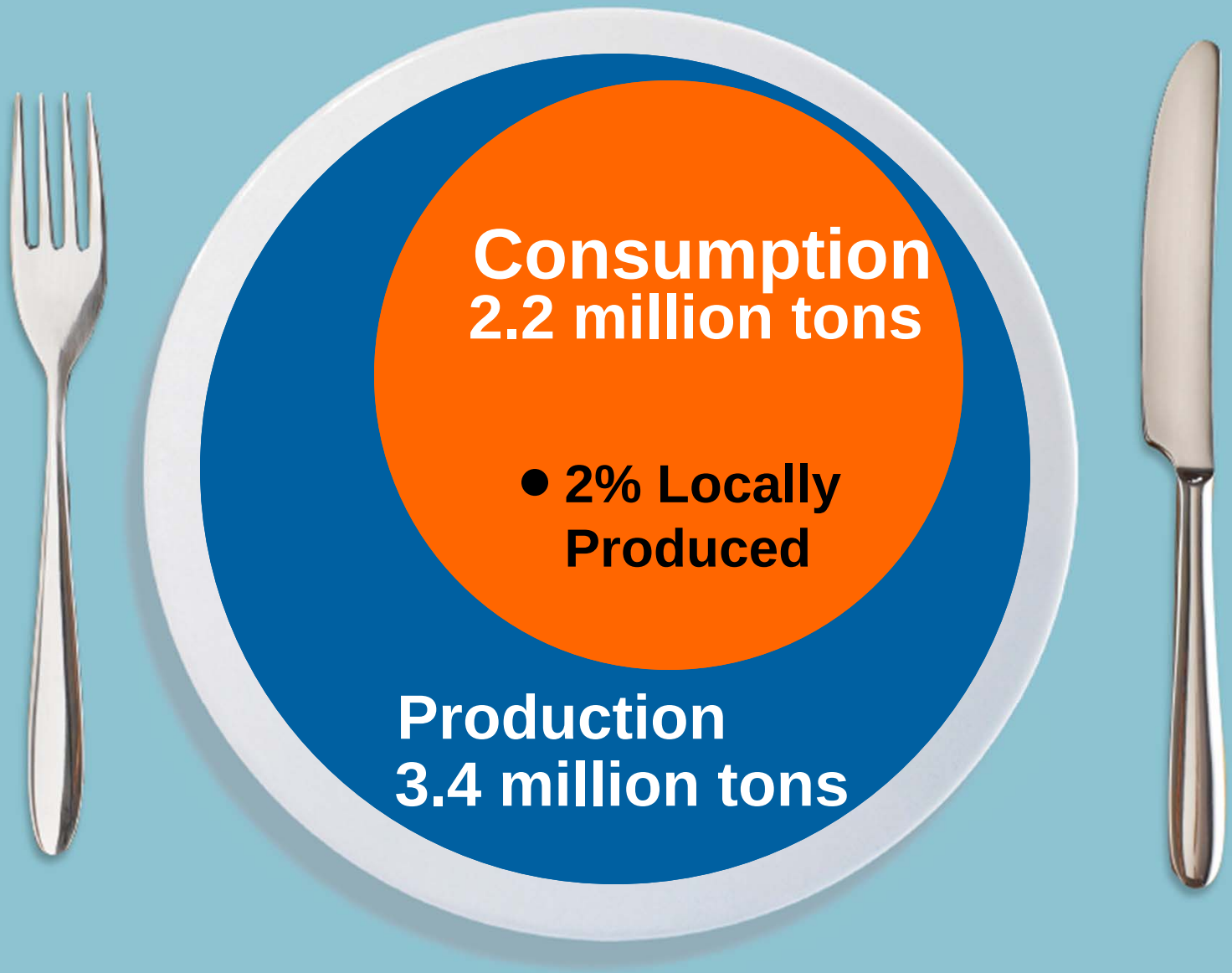

Annual Demand
Water Used
Acre-Feet per Acre
No data
< 2.5
2.51 - 3
> 3
0
5
10
20 Miles
N

3. Economic Opportunities

Local Markets & Agritourism

Understanding the Local Food Economy

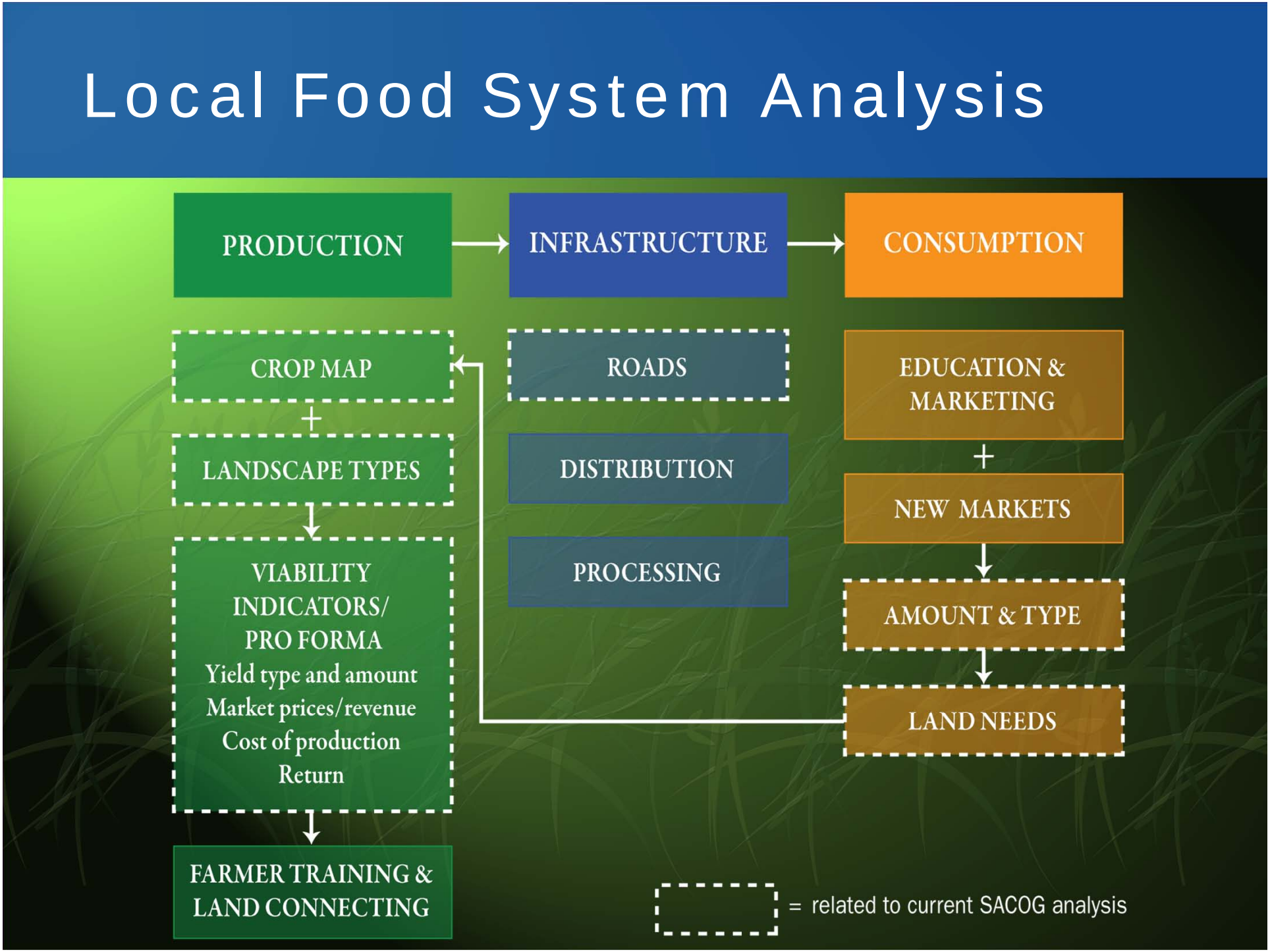
Production and Consumption



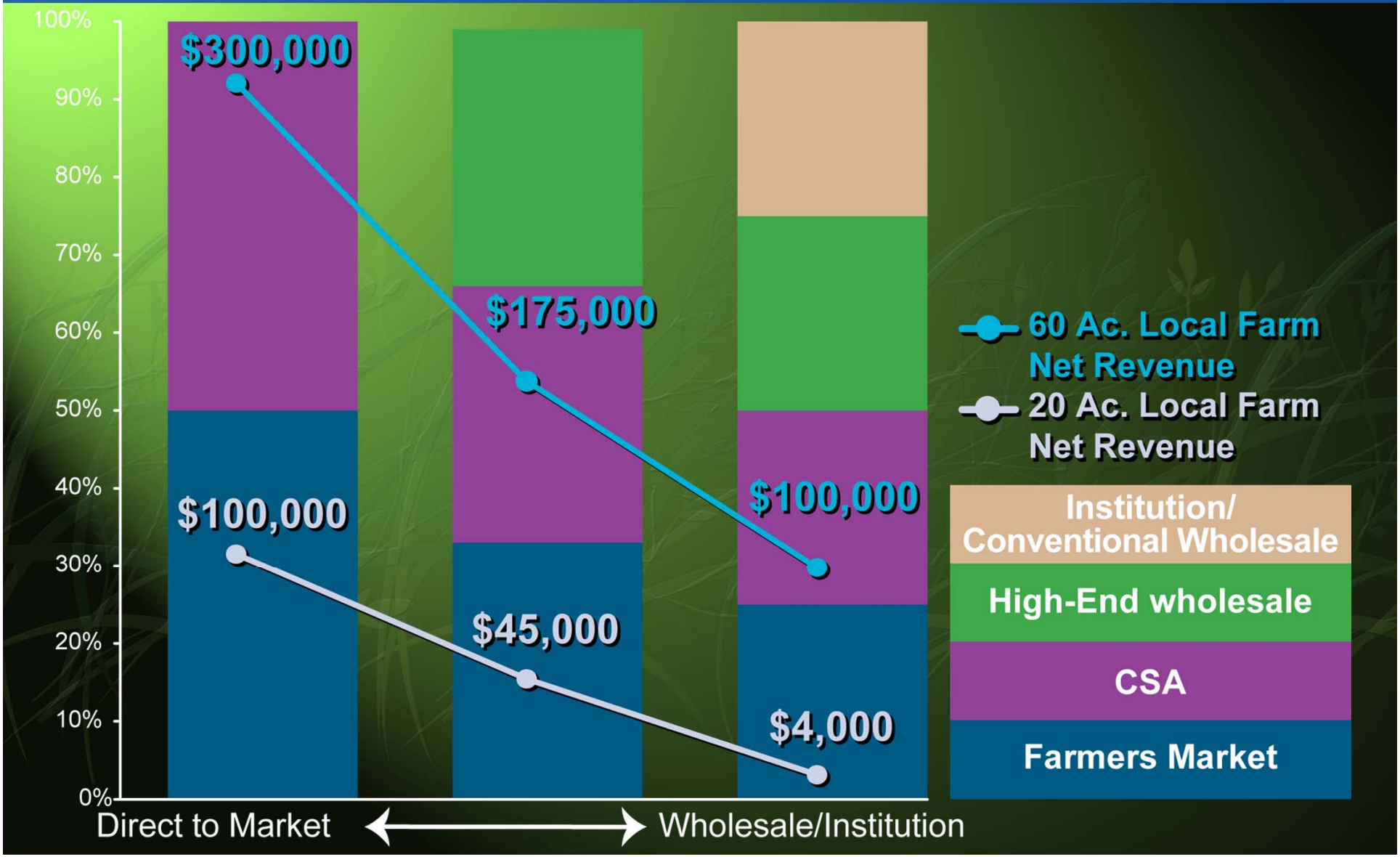
Local Food System

- **Purpose:** Estimate supply and infrastructure needs to meet consumer demand for locally grown food
- Changing diets
- Expanded direct markets
- New wholesale and institutional markets
- Retail and value-added markets

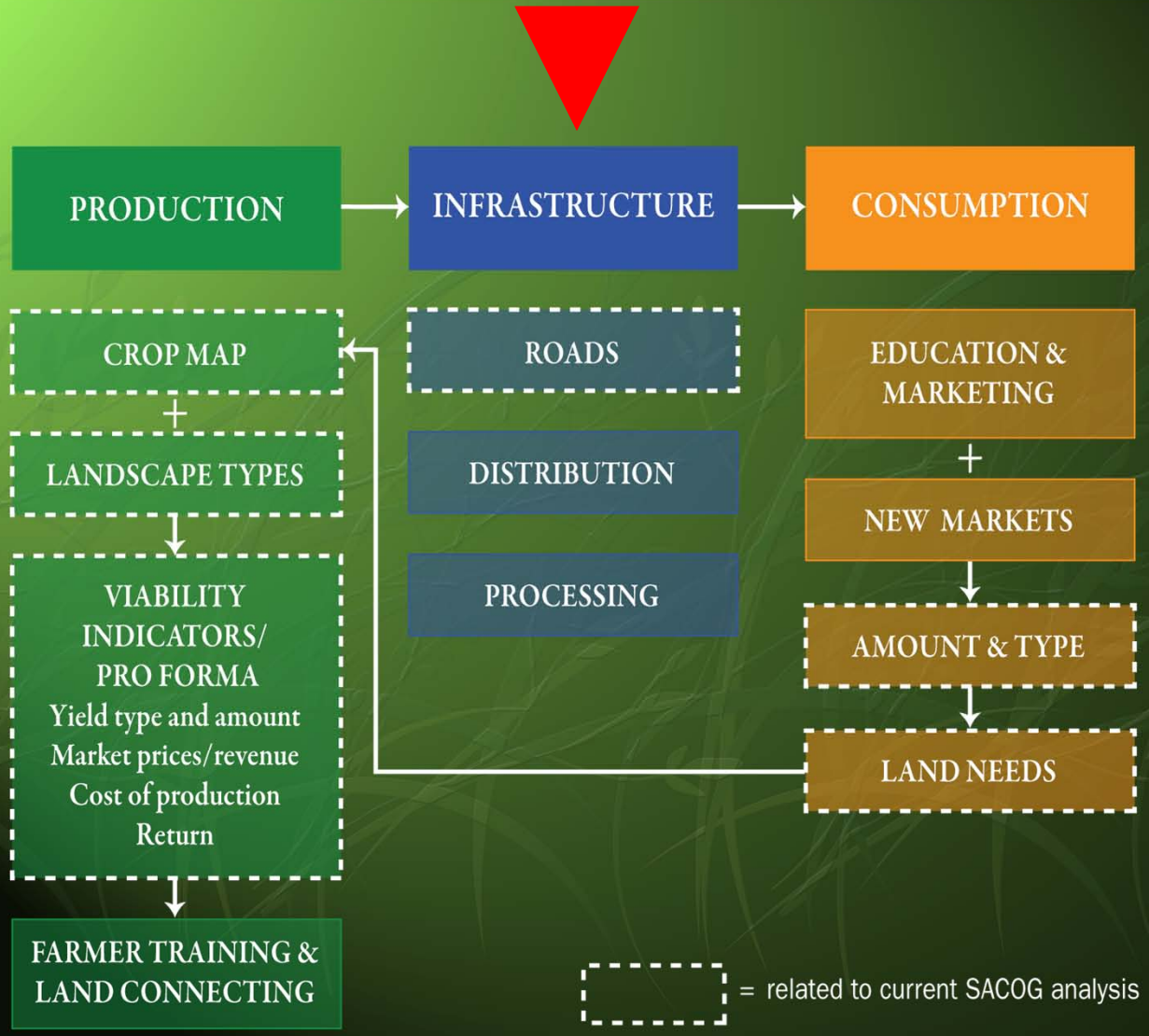
Local Food System Analysis



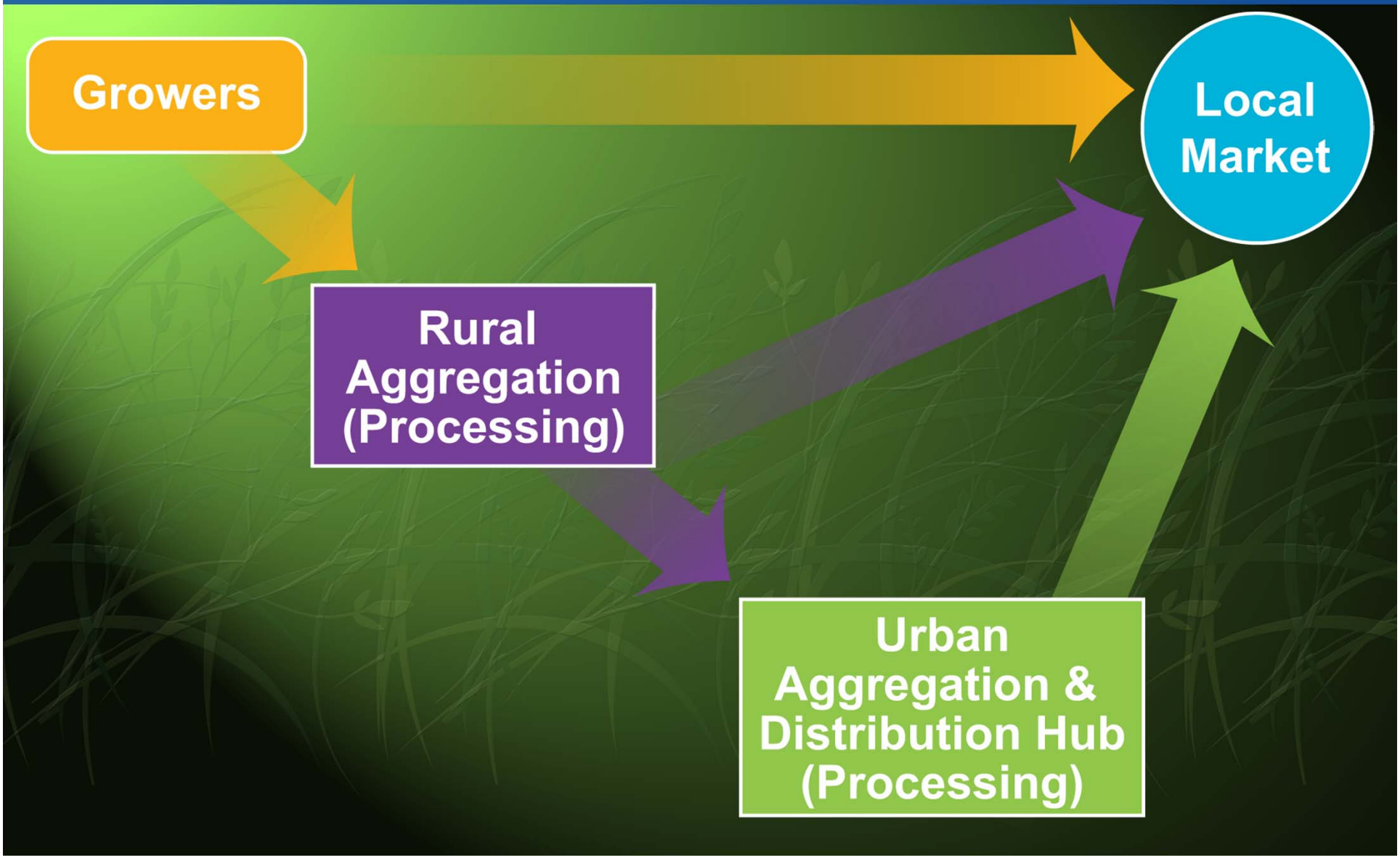
Markets and Revenue



Local Food System Analysis



Local Food System



Local Distribution

- Aggregate local produce
- Volume for larger customers
- Use existing distributors to get local food to market
- Marketing and labeling as “local”
- Shared facilities

Food Hub Research

ILLINOIS PACKING HOUSE FINANCIAL DATA AND ACREAGE SENSITIVITY ANALYSIS

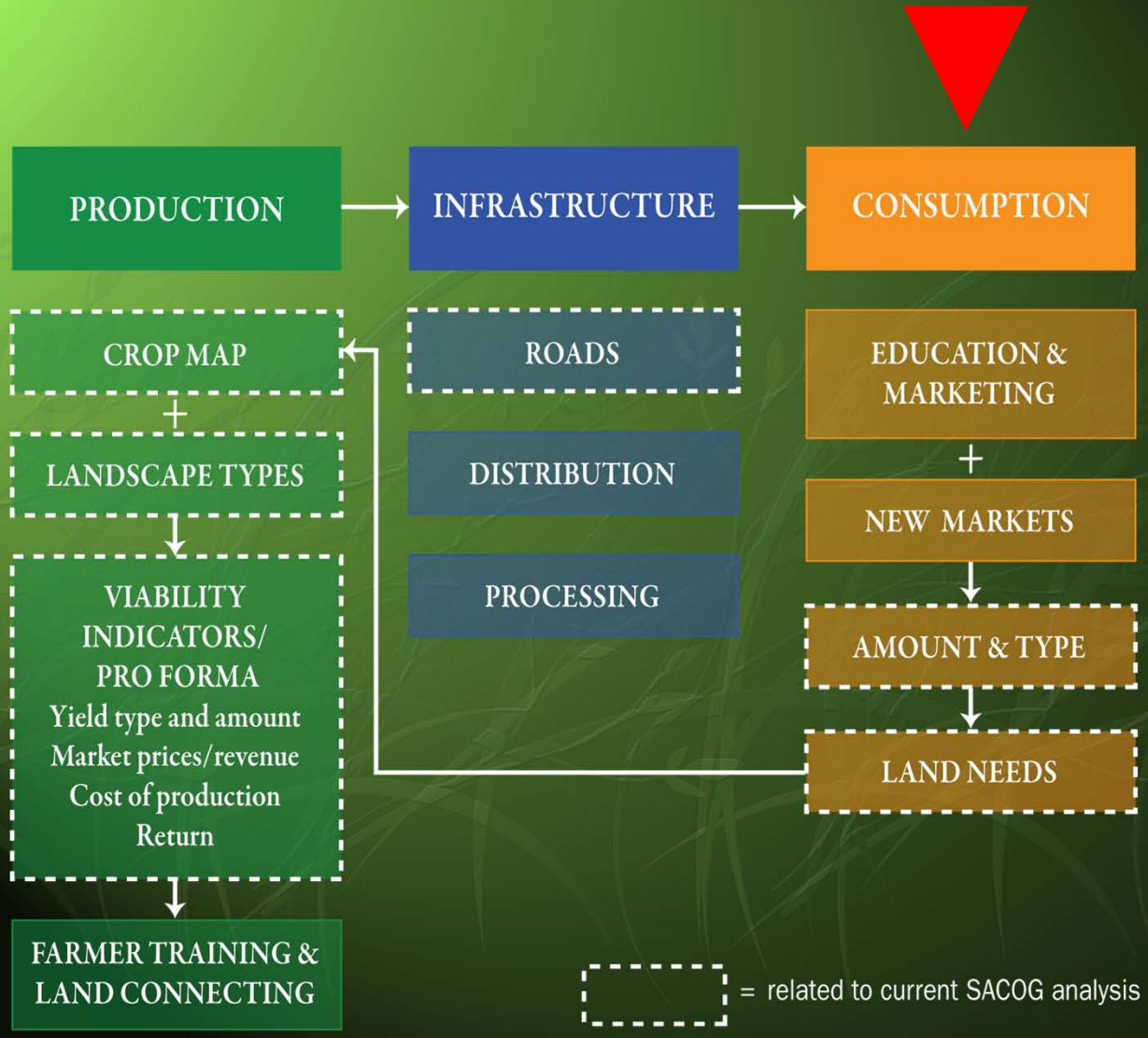
Acres	Net Revenue	Gross Margin	SG&A	Operating Income	Operating Margin	Net Income	Seasonal Utilization	Annual Utilization
500	$1,767,136	12.1%	20.2%	($143,350)	-8.1%	($320,527)	13.4%	4.4%
1000	$3,534,272	12.1%	10.1%	$69,760	2.0%	($107,417)	26.8%	8.8%
1260	$4,453,183	12.1%	8.0%	$180,577	4.1%	$2,210	33.7%	11.1%
2500	$8,835,680	12.1%	5.5%	$583,668	6.6%	$263,889	66.9%	22.1%
3500	$12,369,952	12.1%	5.3%	$839,135	6.8%	$429,612	93.7%	30.9%
10500	$37,109,856	12.1%	5.0%	$2,619,505	7.1%	$1,584,375	281.0%	92.6%

Source: Ready to Grow: A Plan for Increasing Illinois Fruit and Vegetable Crop Production

Local Processing

- Diversify products
- Serve customers that need processed food
- Commercial kitchens
- Repurpose existing processing
- Mobile processing
- Shared facilities

Local Food System Analysis

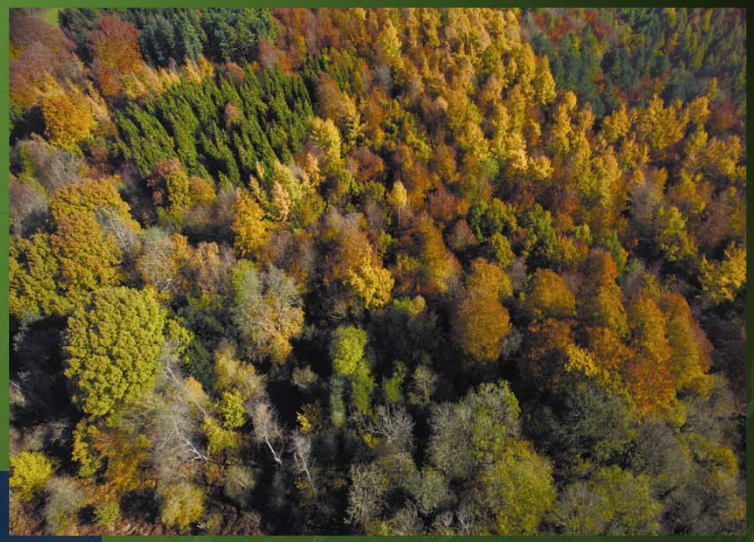


Farmland Needs for Local Food

- Diet based on USDA recommendations
- Production based on local diversified small farm system

3. Economic Opportunities

Energy & Carbon Markets

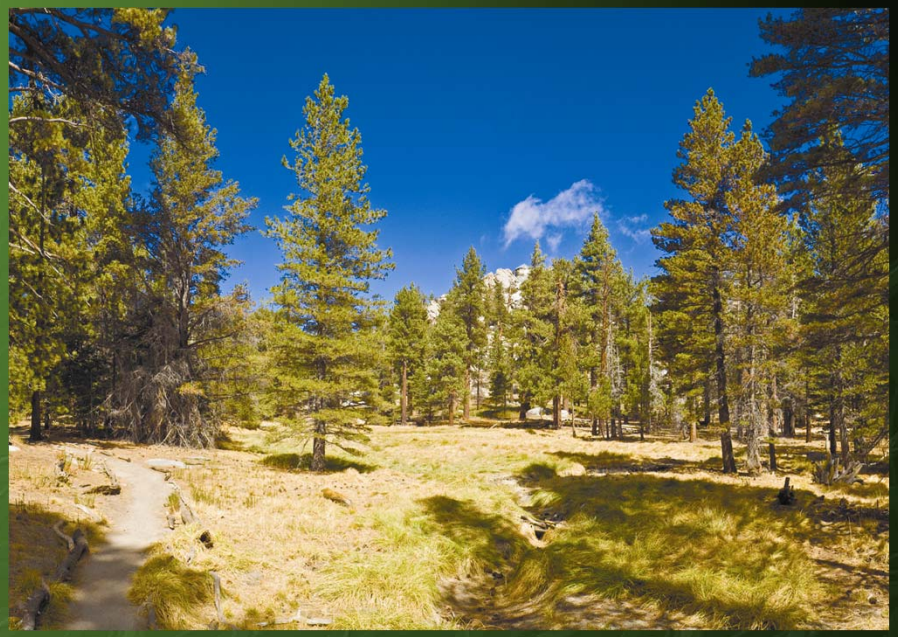


3. Economic Opportunities

Recreation

4. Forest Management

- Fire
- Water
- Habitat
- Econ. Opportunities



5. Regulations

- Conflicting Regulations
- Permit Streamlining

PLACE^{3}S RUCS Module: Return On Investment Analysis

Purpose: Understand agricultural viability by using "what if" scenarios:

- Market changes
- Cropping patterns
- Farm practices
- Planning that supports agriculture

Example: Changing alfalfa rotation to dried plums improved economic return

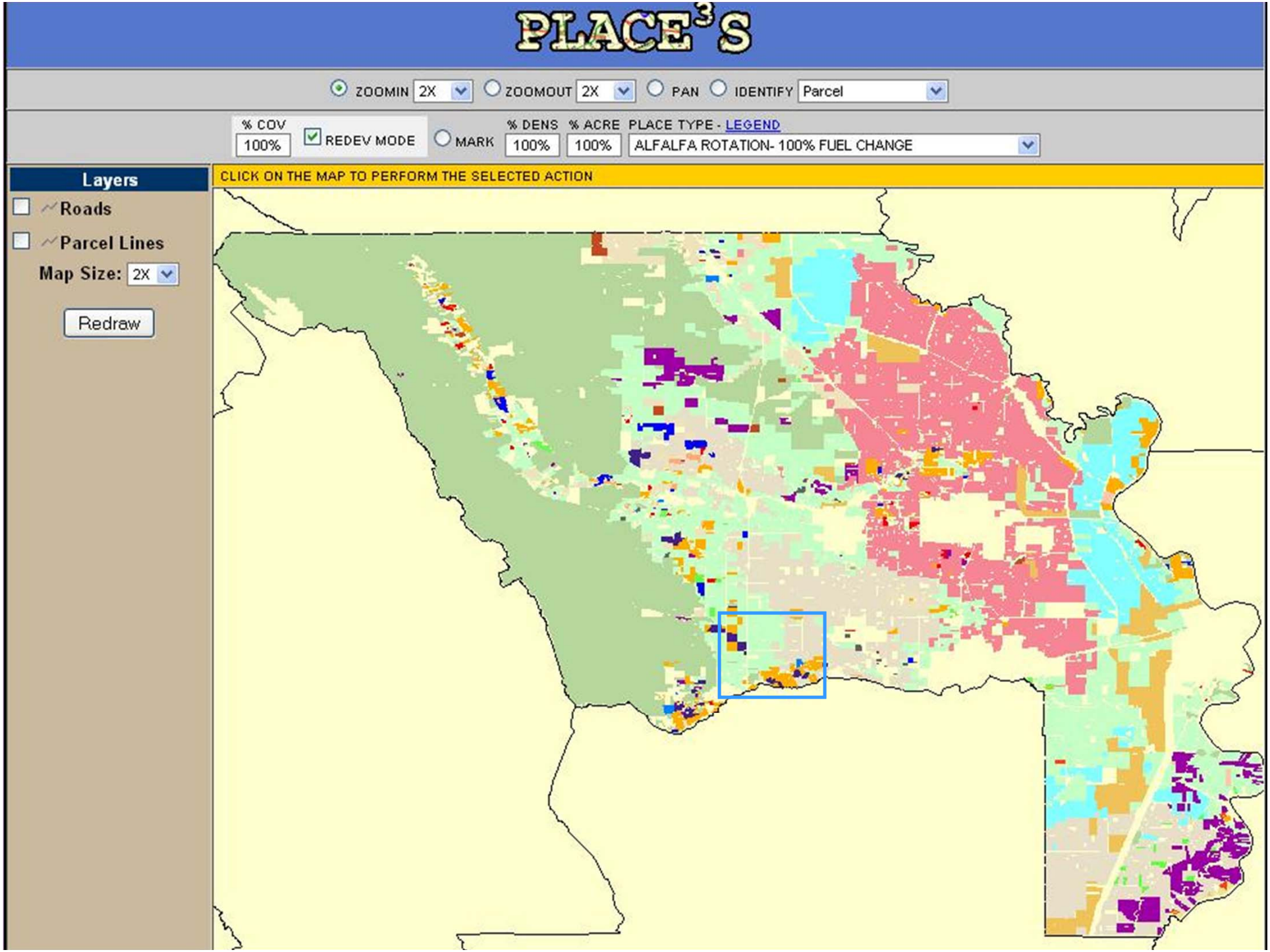
PLACE^{3}S Model Design

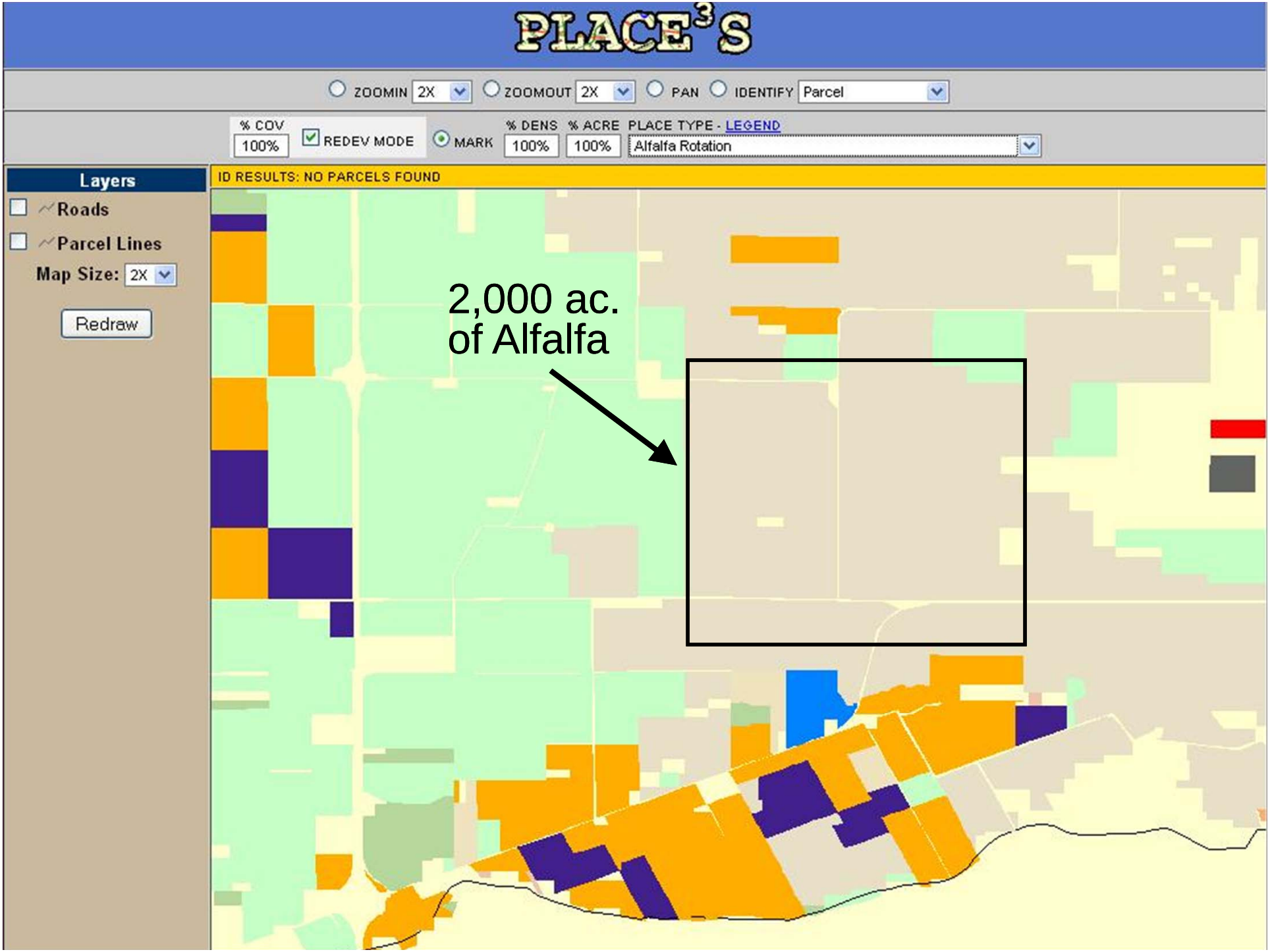
Model Inputs

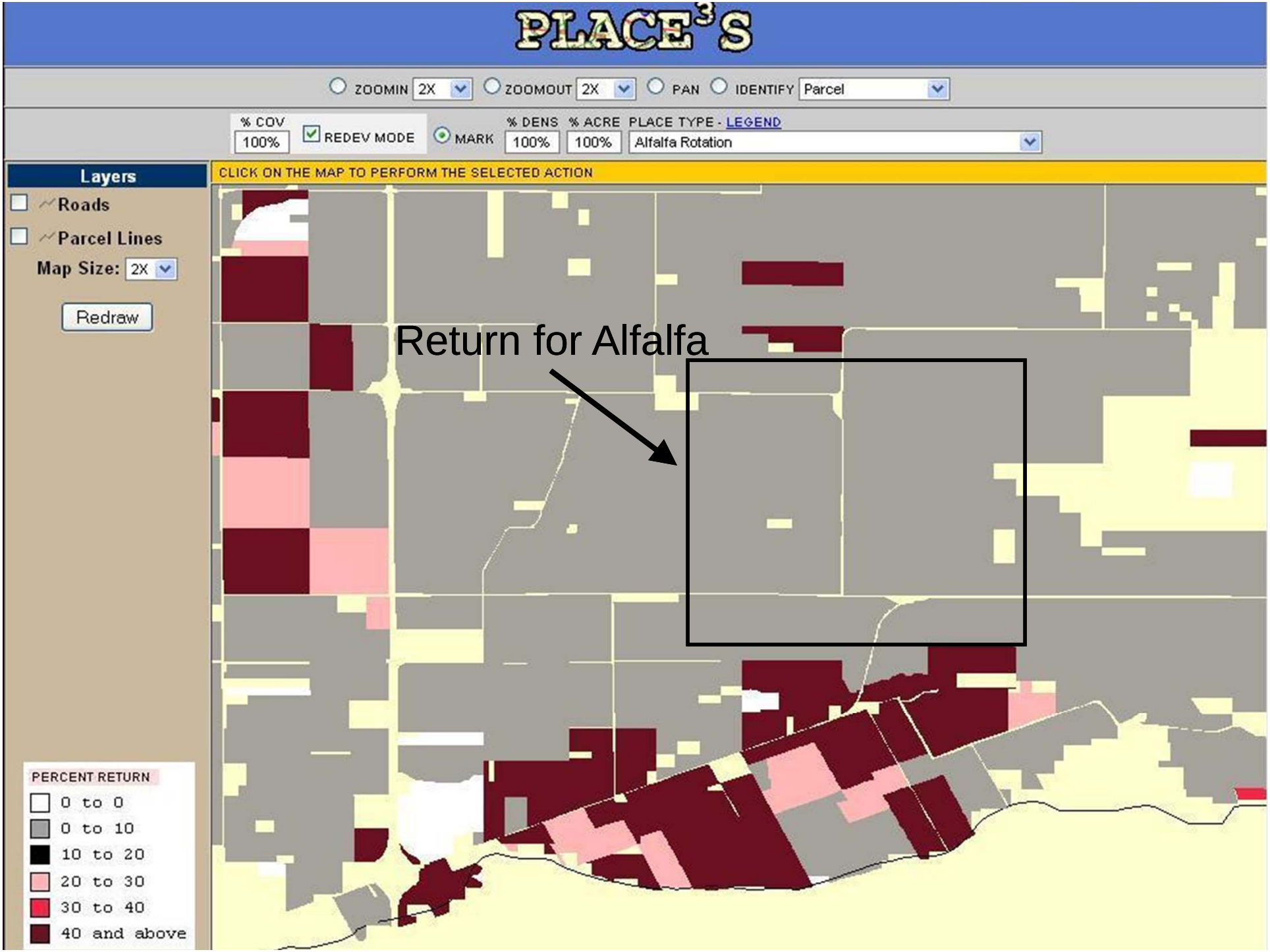
- Current or future crops
- Costs (labor, fuel, fertilizer, etc.)
- Crop yield and price
- Other factors (e.g., habitat, easement value)

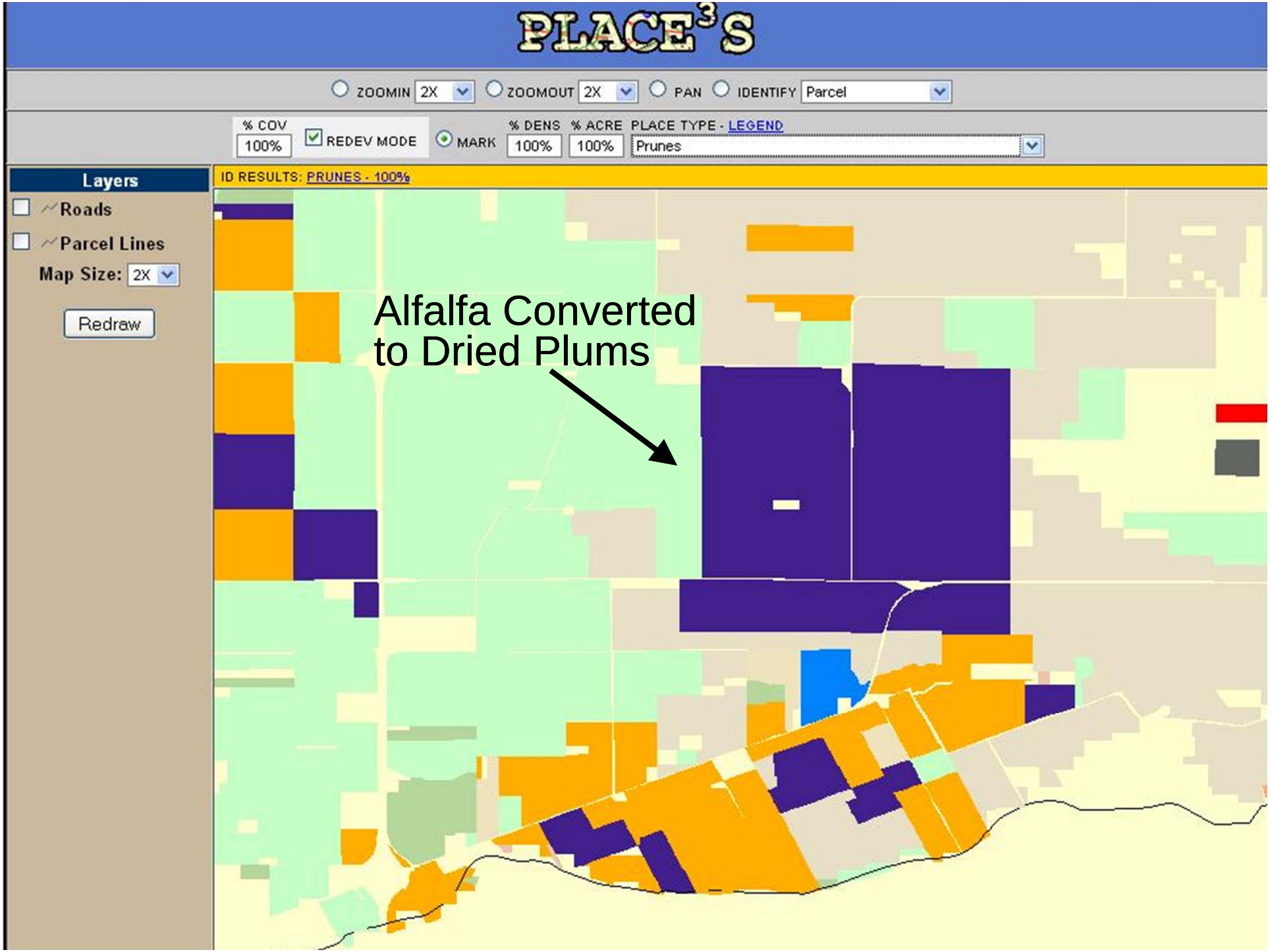
Model Outputs

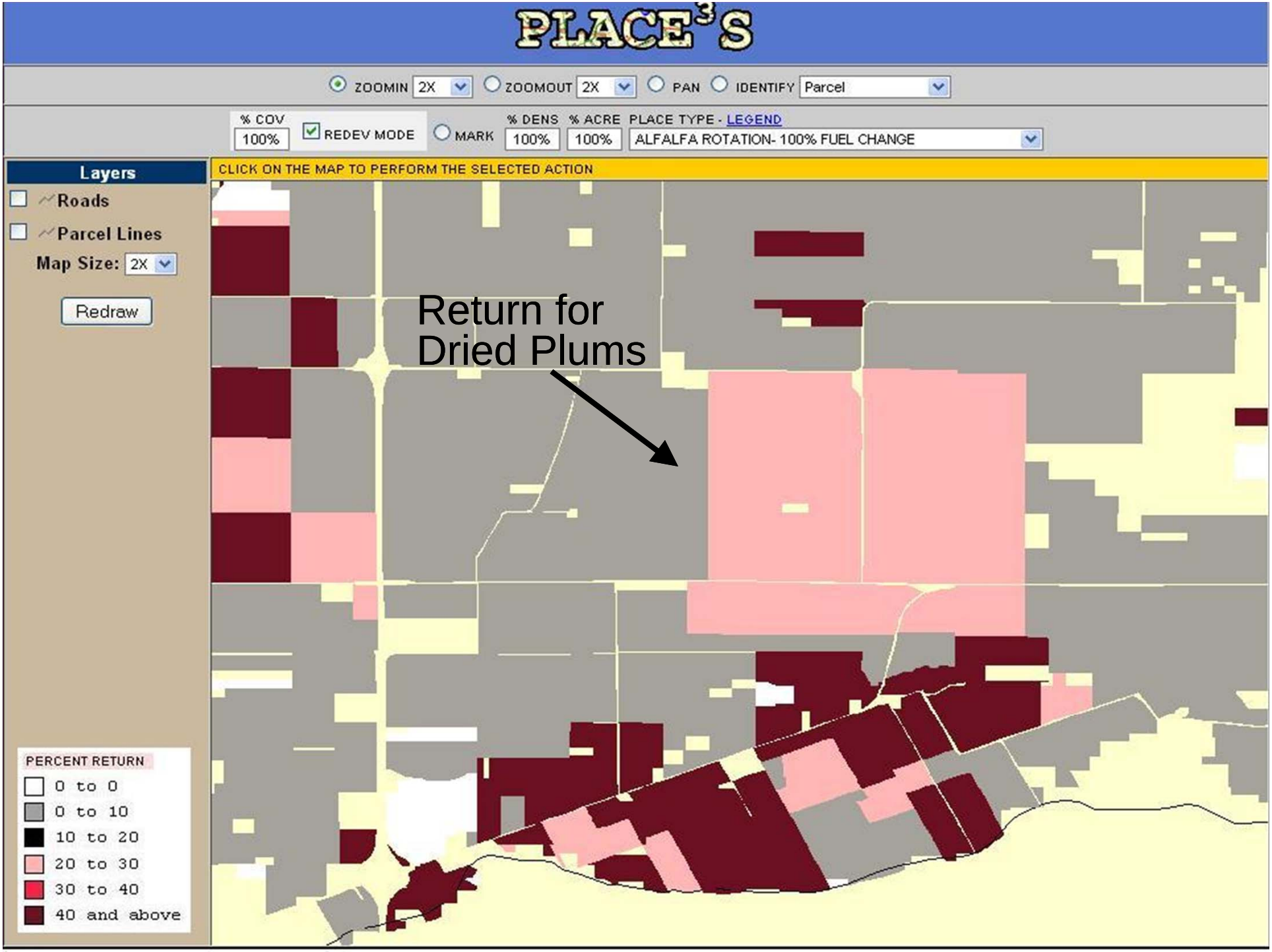
- Crop value
- Demand for inputs (water, seed, trucking, etc.)
- Profit (Revenue – Cost)


PLACE3S
ZOOMIN 2X
ZOOMOUT 2X
PAN
IDENTIFY Parcel
% COV 100%
REDEV MODE
MARK
% DENS 100%
% ACRE 100%
PLACE TYPE - LEGEND
ALFALFA ROTATION- 100% FUEL CHANGE
Layers
Roads
Parcel Lines
Map Size: 2X
Redraw
CLICK ON THE MAP TO PERFORM THE SELECTED ACTION


PLACE³S
ZOOMIN 2X
ZOOMOUT 2X
PAN
IDENTIFY Parcel
% COV 100%
REDEV MODE
MARK
% DENS 100%
% ACRE 100%
PLACE TYPE - LEGEND
Alfalfa Rotation
Layers
Roads
Parcel Lines
Map Size: 2X
Redraw
ID RESULTS: NO PARCELS FOUND
2,000 ac.
of Alfalfa


PLACE³S
ZOOMIN 2X
ZOOMOUT 2X
PAN
IDENTIFY Parcel
% COV 100%
REDEV MODE
MARK
% DENS 100%
% ACRE 100%
PLACE TYPE - LEGEND
Alfalfa Rotation
Layers
Roads
Parcel Lines
Map Size: 2X
Redraw
CLICK ON THE MAP TO PERFORM THE SELECTED ACTION
Return for Alfalfa
PERCENT RETURN
0 to 0
0 to 10
10 to 20
20 to 30
30 to 40
40 and above


PLACE³S
ZOOMIN 2X
ZOOMOUT 2X
PAN
IDENTIFY Parcel
% COV 100%
REDEV MODE
MARK
% DENS 100%
% ACRE 100%
PLACE TYPE - LEGEND
Prunes
Layers
Roads
Parcel Lines
Map Size: 2X
Redraw
ID RESULTS: PRUNES - 100%
Alfalfa Converted
to Dried Plums


PLACE³S
ZOOMIN 2X
ZOOMOUT 2X
PAN
IDENTIFY Parcel
% COV 100%
REDEV MODE
MARK
% DENS 100%
% ACRE 100%
PLACE TYPE - LEGEND
ALFALFA ROTATION- 100% FUEL CHANGE
Layers
Roads
Parcel Lines
Map Size: 2X
Redraw
CLICK ON THE MAP TO PERFORM THE SELECTED ACTION
Return for Dried Plums
PERCENT RETURN
0 to 0
0 to 10
10 to 20
20 to 30
30 to 40
40 and above

MAIN MENU | CHANGE PASSWORD | LOGOUT

PLACE^{3}S

COMPARE SCENARIOS - RESULTS

CURRENT PROJECT	PROJECT TYPE	LEAD ORGANIZATION	STUDY AREA
RUCS YOLO DAVID	NEIGHBORHOOD	SACOG	CUSTOM STUDY SHAPEFILE

CURRENT SCENARIO : *ALFALFA TO DRIED PLUMS*

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	259,715	555,346.0	$600,156,047	$506,819,215	$93,336,832	18.4%	662,613	1,989.2	99,939
ALFALFA TO DRIED PLUMS	261,653	555,344.7	$608,653,171	$513,458,345	$95,194,826	18.5%	663,557	2,025.4	99,689

JOB DIVERSITY CHART | HOUSING DIVERSITY CHART

LOGGED IN AS SHABAZIAN

CONTACT SITE HELPDESK

Less Than 0.5% of County Ag Land:

Value: + $8M

Return: + $2M

Water: + 1,000 ac-ft

Labor: + 35 workers

Trucks: - 250 trips

Forecasting Model: Factors affecting viability

Variables affecting crops:

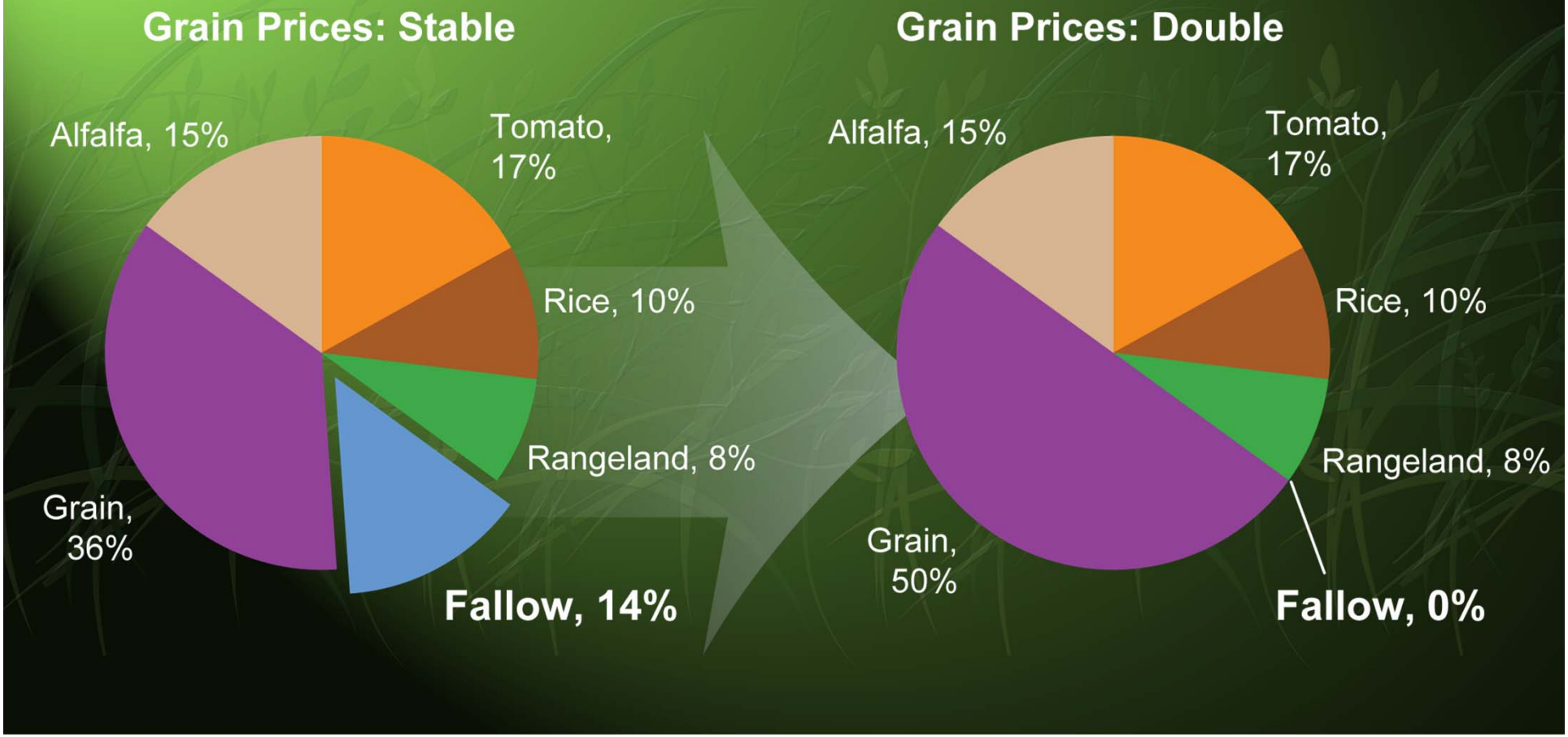
- Chemicals
- Equipment
- Fertilizer
- Fuel
- Irrigation
- Labor
- Seed
- Commodity Prices

Forecasting Model: Scenario Examples

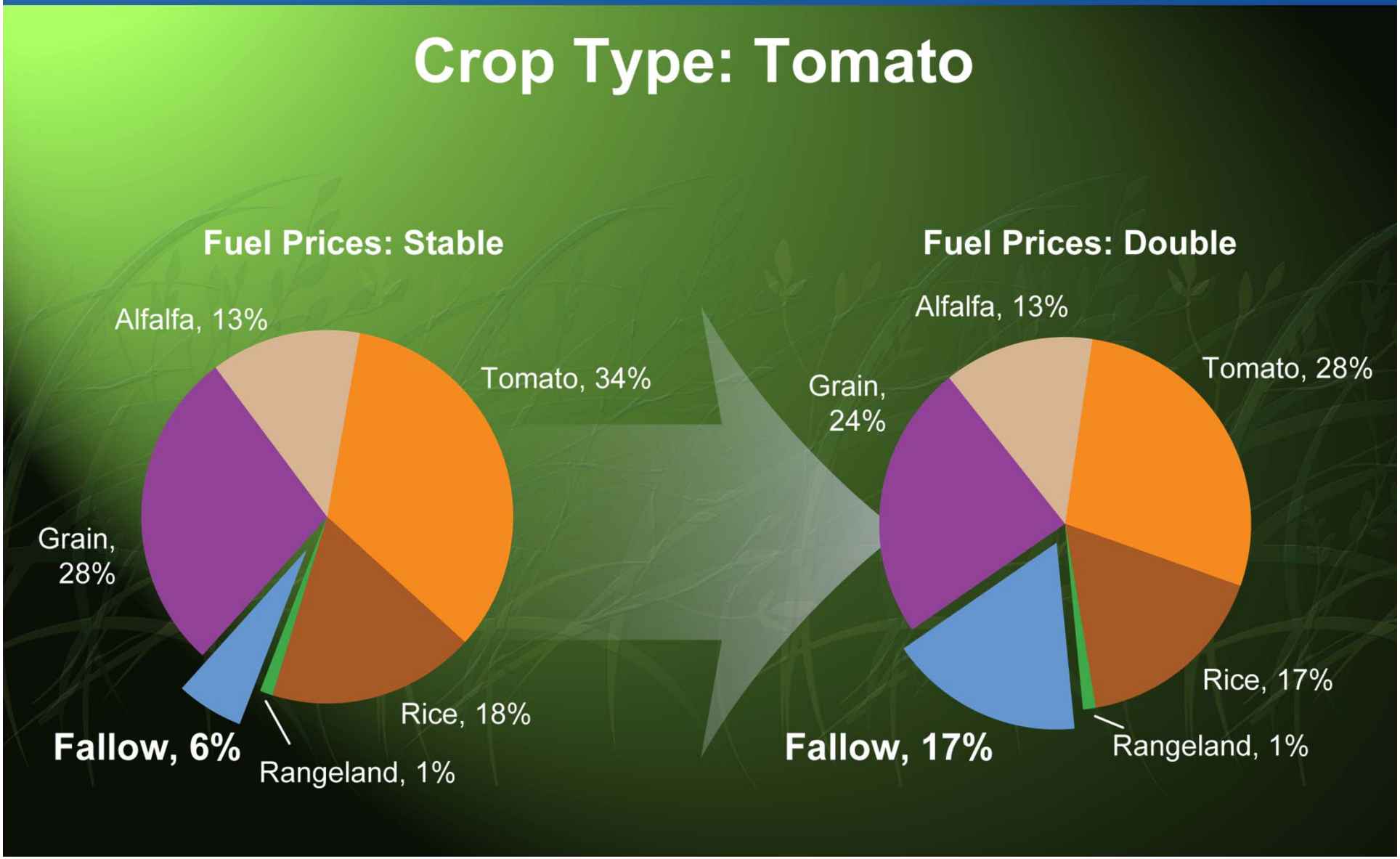
- Russian drought and fire reduce wheat harvest
  → *Grain prices increase*
- Oil resources become more scarce
  → *Fuel, chemical and fertilizer prices increase*
- Construction industry heats up again
  → *Labor prices increase*
- Drought persists
  → *Surface water decrease, Irrigation costs increase*

Forecasting Model: Scenario Examples

Crop Type: Grain



Forecasting Model: Scenario Examples



SACRAMENTO REGION

RURAL – URBAN
CONNECTIONS STRATEGY

www.sacog.org/rucs