

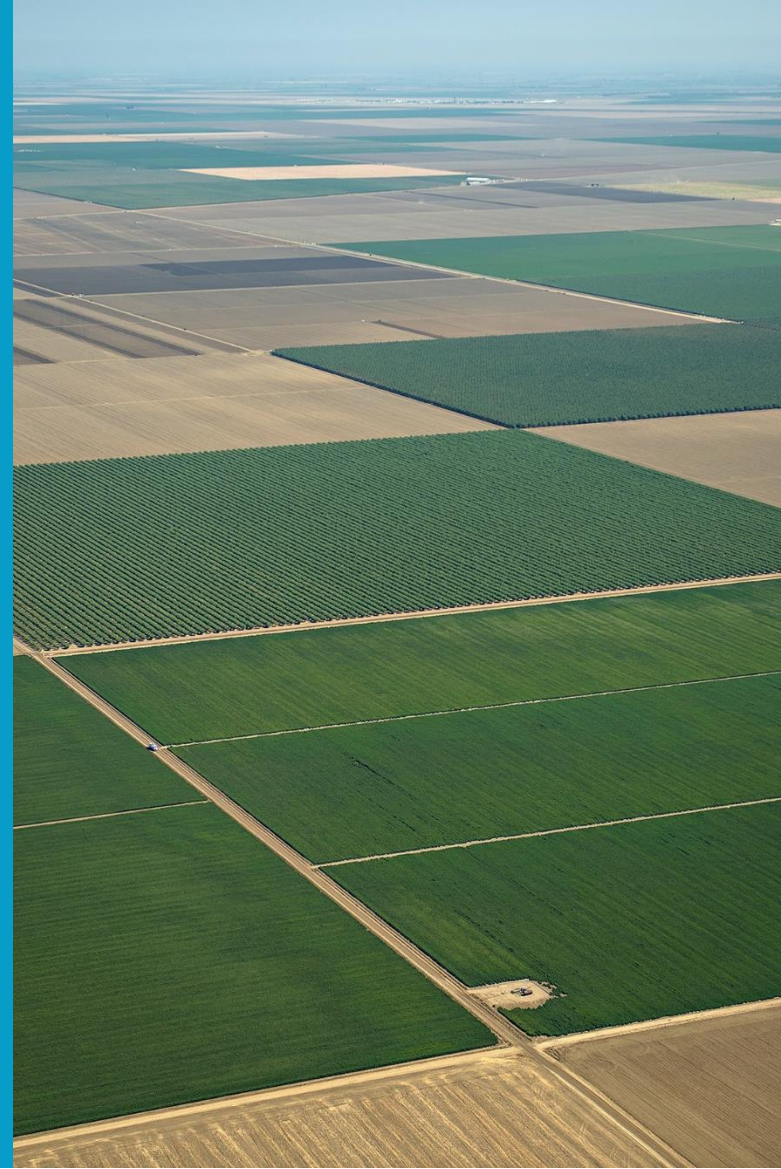


Westlands Water District

**Water Education  
Foundation  
Central Valley Tour**  
March 15, 2018

***California Water Issues  
Affecting the Central Valley***

Providing a water supply to over 600,000 acres of agricultural land in Western Fresno and Kings Counties to produce over 60 different crops that contribute more than \$1 Billion in Ag revenue to the State of California.



# Westlands Water District

Our District averages 15 miles wide by 70 miles long of prime agricultural land through the Central Valley.

700 family farms with the average size of 875 acres.

Annual CVP Allocation of 1,150,000 AF



# CALIFORNIA IS A DOMINANT PRODUCER OF FRESH FRUITS AND PRODUCE IN THE US

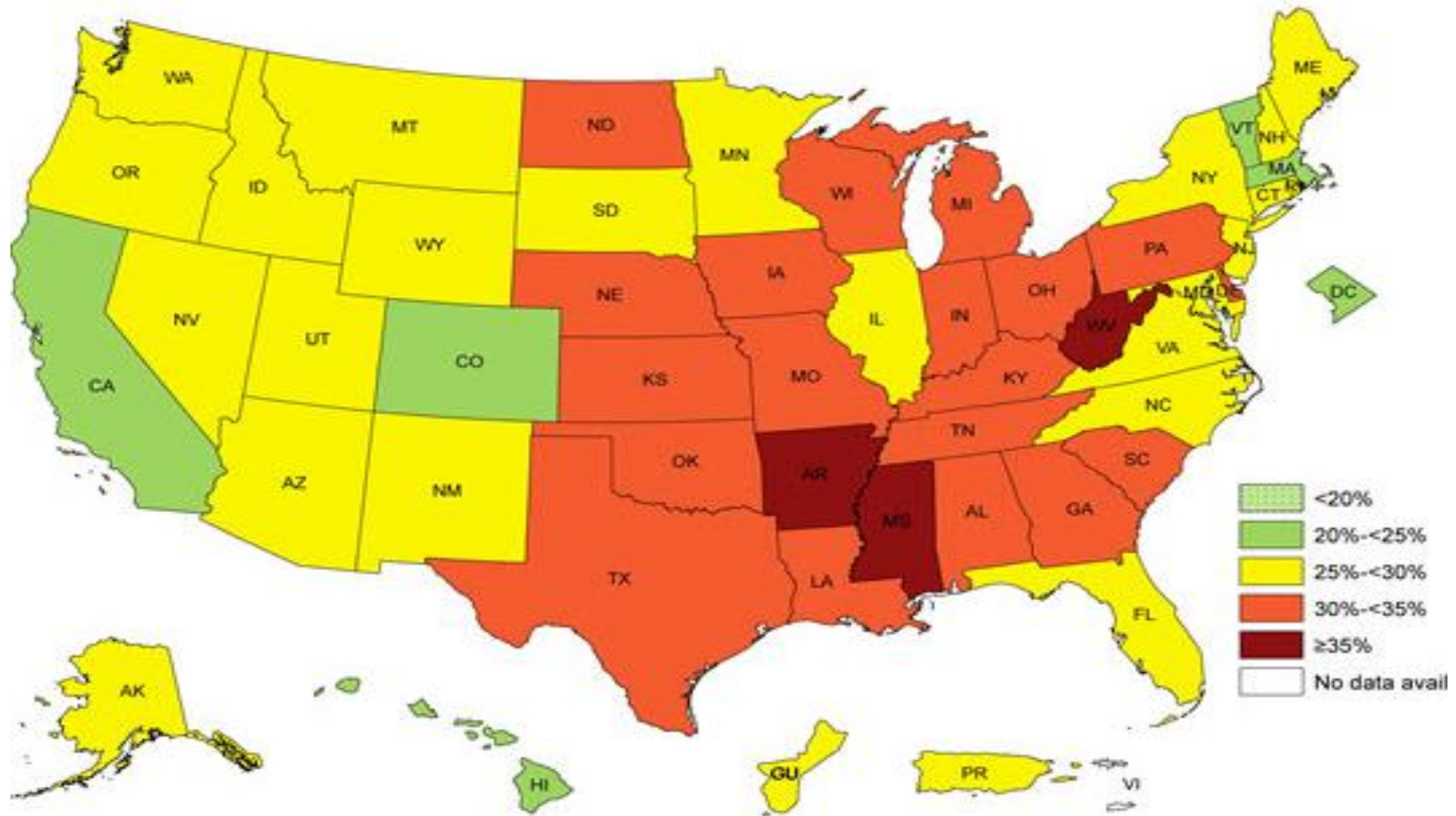
## Crops Where California Accounts for Dominant Share of US Production

Share of Total US Production	Crop
95% – 100%	Almonds, Artichoke, Broccoli, Celery, Dates, Figs, Garlic, Kiwifruit, Olives, Pistachios, Plums, Prunes, Processed Strawberries, Processing Tomatoes, Walnuts
85% – 95%	Nectarines, Lemons, Fresh Strawberries, Cauliflower, Apricots, Leaf Lettuce
65% - 85%	Avocados, Fresh Carrots, Tangerines & Mandarins, Honeydew Melons, Peaches, Head Lettuce, Romaine Lettuce, Fresh Spinach, Chile Peppers, Raspberries
45% - 65%	Cantaloupe, Bell Peppers, Asparagus
20% - 45%	Onions, Fresh Tomatoes, Fresh Cabbage, Pears, Fresh Market Corn

SOURCE: California Department of Food and Agriculture, US Department of Agriculture.

# OBESITY IS ON THE RISE: FRESH FRUITS AND VEGETABLES ARE KEY TO SLOWING GROWTH

Self-reported Obesity Rates, By State, 2014



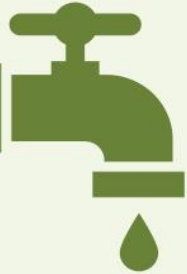
SOURCE: US Centers for Disease Control and Prevention.

# Gauging Water Supply

- **RESERVOIR STORAGE LEVELS**
- **HYDROLOGIC CONDITIONS**
  - Rainfall and snowpack
- **WATER RIGHTS PRIORITIES**
- **WATER QUALITY REQUIREMENTS**
- **ENDANGERED SPECIES PROTECTIONS**
- **CONTRACTUAL OBLIGATIONS**
  - Westlands



# Water Supply Uncertainty



## RECENT HISTORY OF REGULATORY CONSTRAINTS ON WATER ALLOCATIONS

Percentage of South-of-Delta CVP Water Allocation to Agriculture



<https://www.usbr.gov/mp/cvp-water/docs/cvp-water-deliveries.pdf>

# WATER SUPPLY 2018 – 2019

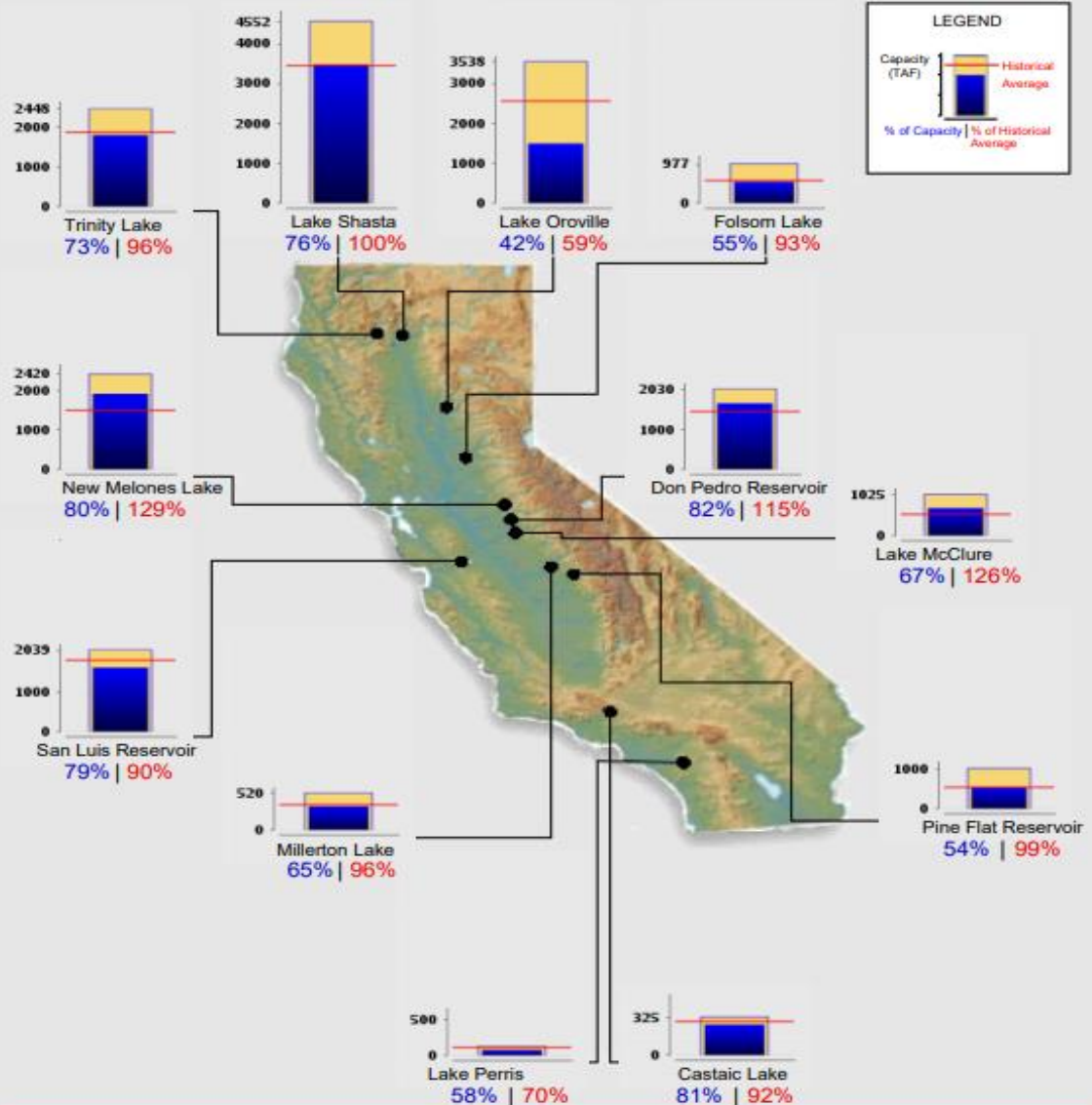
STATE WATER  
PROJECT  
CONTRACTORS  
South of the Delta –  
20% - 2018

CENTRAL VALLEY  
PROJECT  
CONTRACTORS  
South of the Delta –  
20% - 2018



Ending At Midnight - March 12, 2018

## CURRENT RESERVOIR CONDITIONS



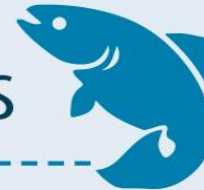


# Major Water Projects



# Delta Stressors

## STRESSORS ON NATIVE FISH POPULATIONS

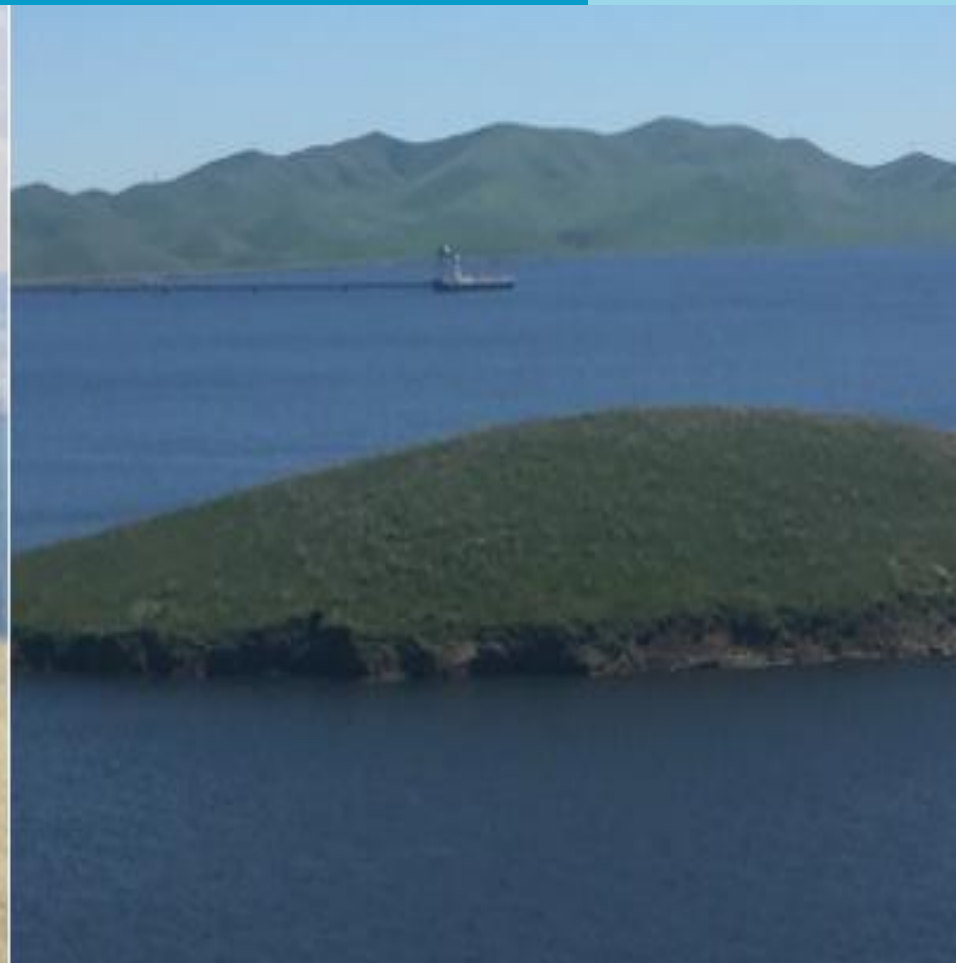


Experts agree that there are numerous stressors that can lead to adverse effects on native fish populations. These include:

- CONTAMINANTS
- ALTERED NUTRIENT LOADS
- CHANGES IN FOOD AVAILABILITY AND QUALITY
- INTRODUCED FISHES
- IMPEDIMENTS TO PASSAGE, CHANGES IN OCEAN CONDITIONS, FISHING, AND HATCHERIES
- DISEASES
- CLIMATE CHANGE
- LOSS OF HABITAT
- ECOSYSTEM WATER QUALITY
- NON-NATIVE SPECIES
- HATCHERIES AND HARVEST MANAGEMENT

“5 Other Stressors.” National Research Council. 2010. A Scientific Assessment of Alternatives for Reducing Water Management Effects on Threatened and Endangered Fishes in California’s Bay-Delta. Washington, DC: The National Academies Press. doi: 10.17226/12881.

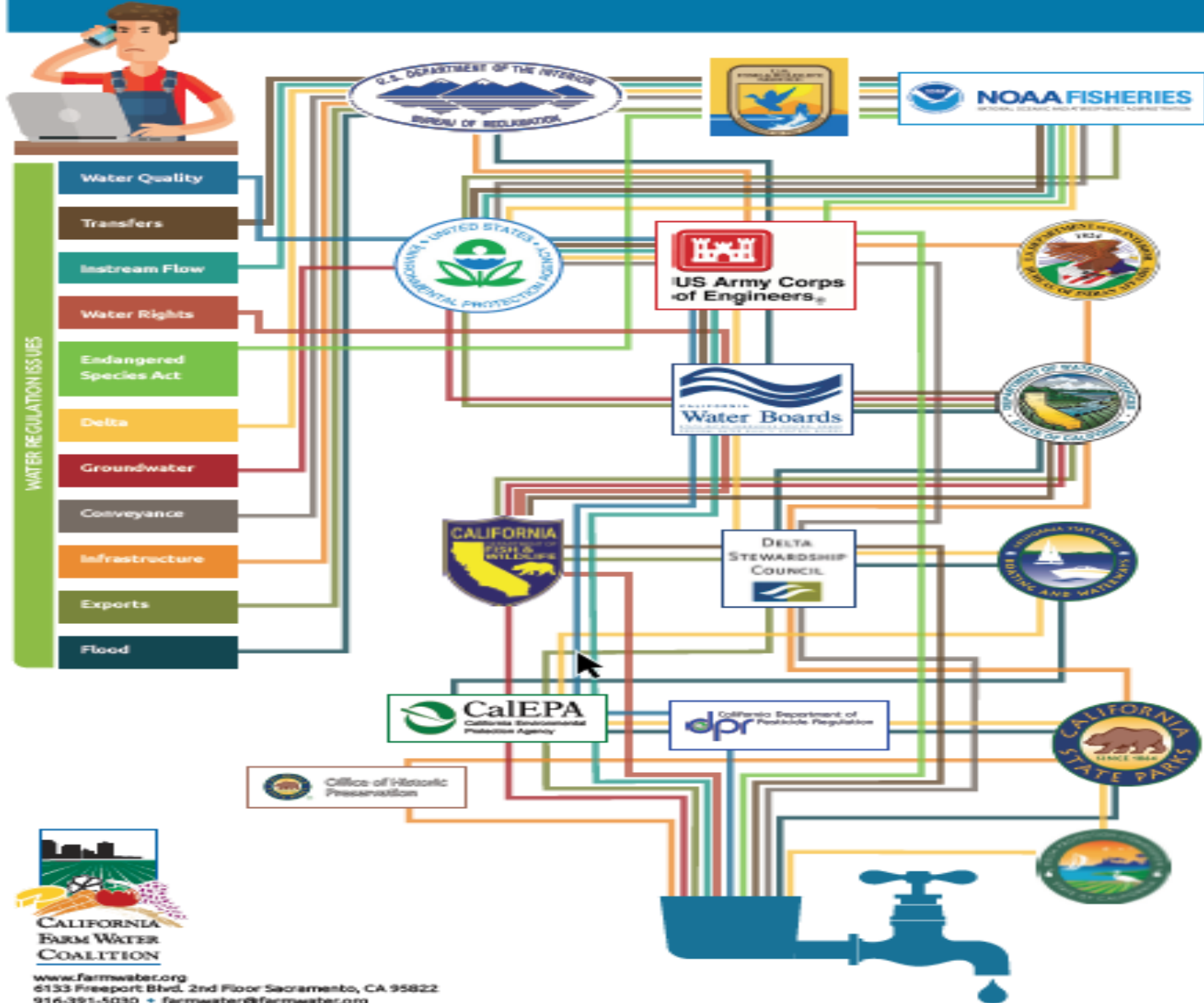
# San Luis Reservoir – 2016 vs. 2017



# REGULATORY MAZE

## California's Broken Water System

Water supply operations in California require exhaustive navigation of a maze of bureaucracies. Water users face a disorienting network of more than 15 federal, state and regional agencies that control the water we all depend on.



# WATER SUPPLY COPING STRATEGIES

- Use of Wells
  - Huge cost outlay for drilling
- Carrying water forward from one year to the next
- Purchasing water in the open market
- Fallowing acreage



# Farmland Transitioned to Solar

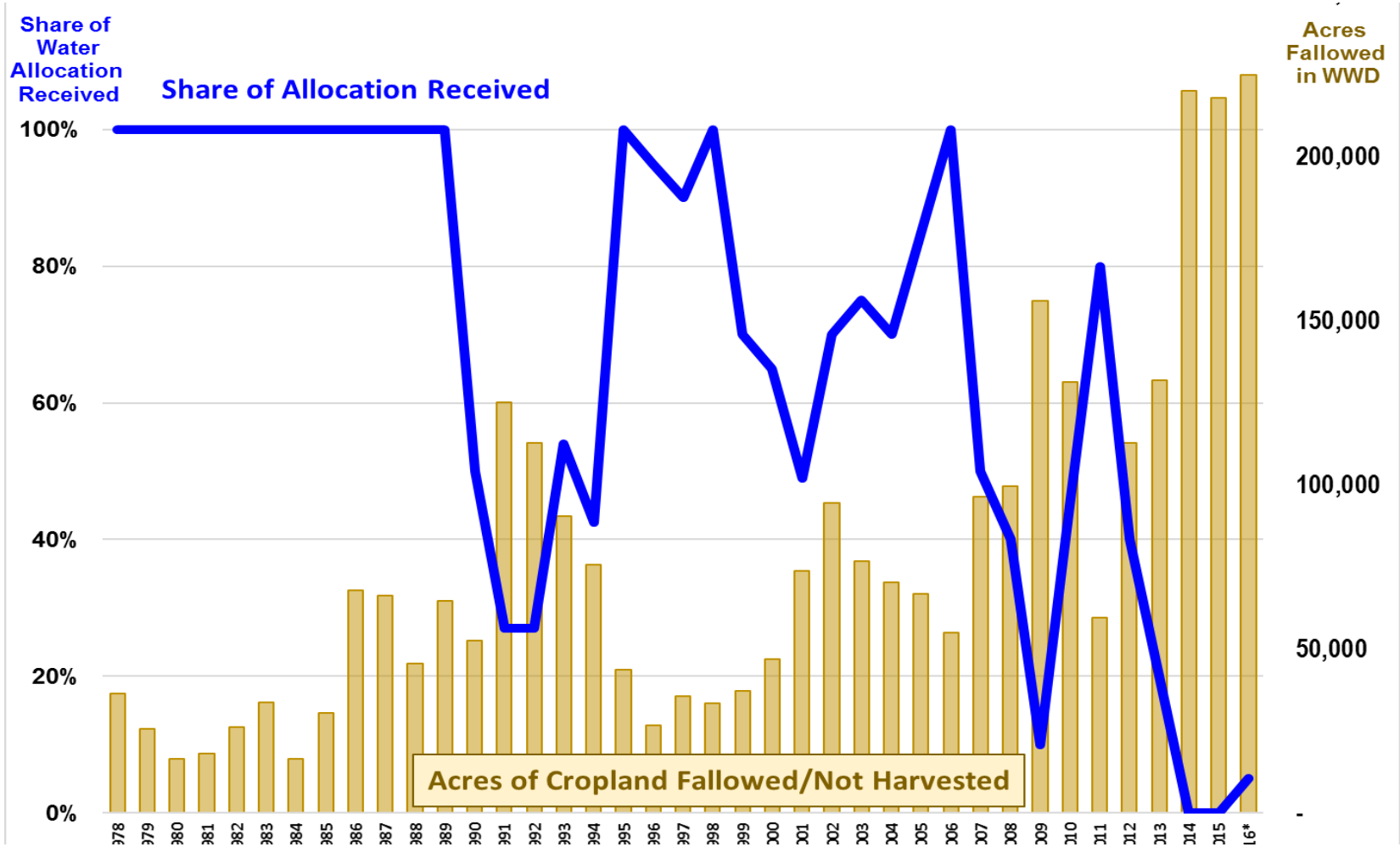


# NEWEST COPING STRATEGY

## Orchard Removal

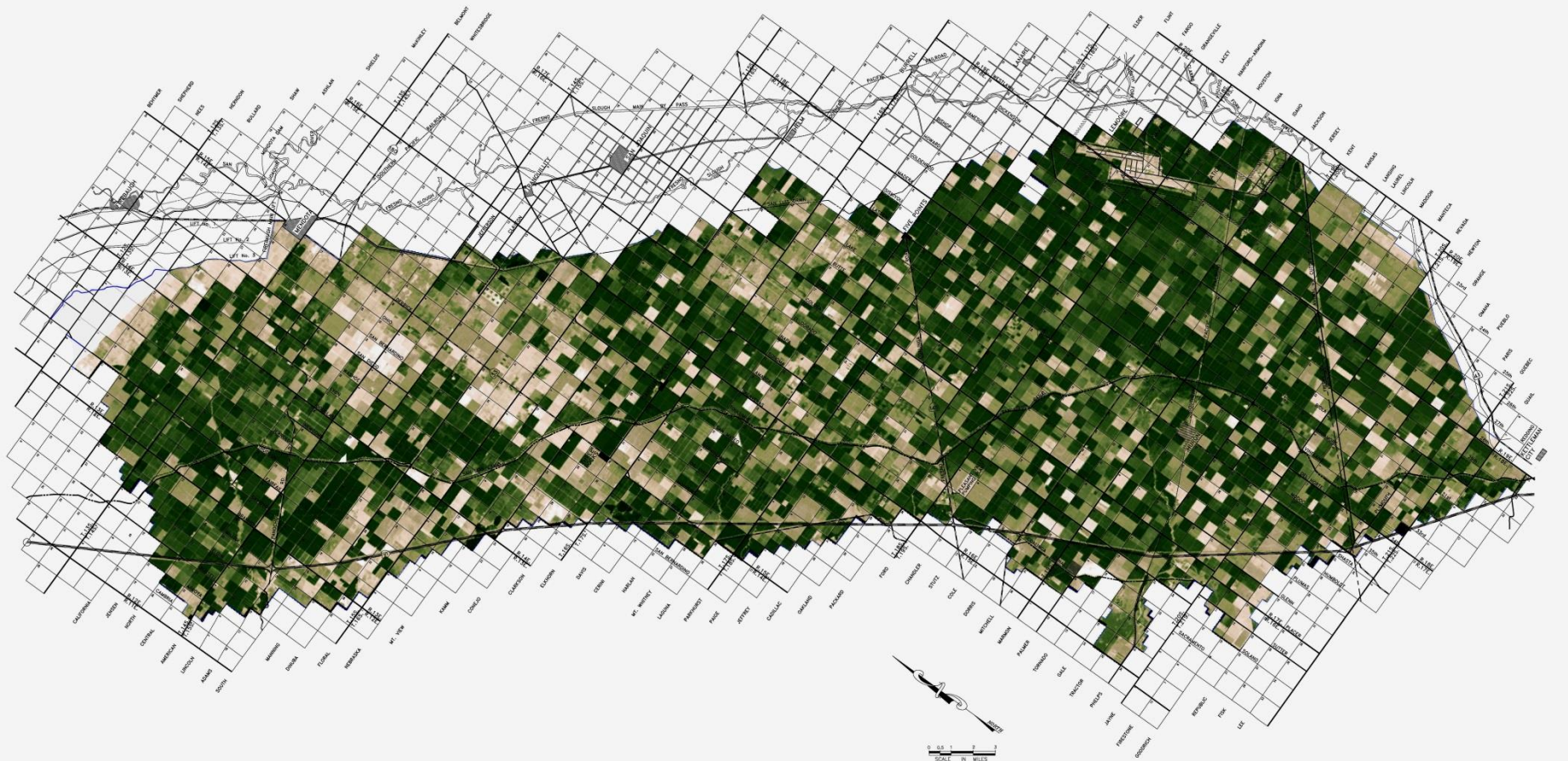


# EVEN THEN, THE NUMBER OF ACRES FALLOWED DIRECTLY MIRRORS THE AVAILABILITY OF SURFACE WATER

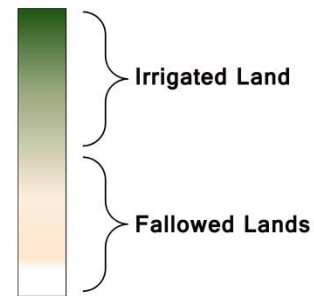


SOURCE: District data.





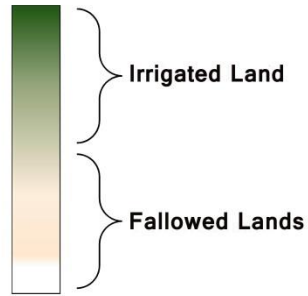
Satellite Image: July  
**2006**



	2006
Allocation	100%
Irrigable Acres	559,744
Farmed Acres	485,652
Fallowed Acres	56,924



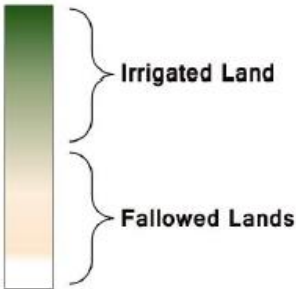
Satellite Image: July  
**2016**



	2016
Allocation	5%
Irrigable Acres	567,569
Farmed Acres	361,352
Fallowed Acres	175,901



Satellite Image: July  
**2017**



	2017
Allocation	100%
Irrigable Acres	563,600
Farmed Acres	370,000 est
Fallowed Acres	163,600 est

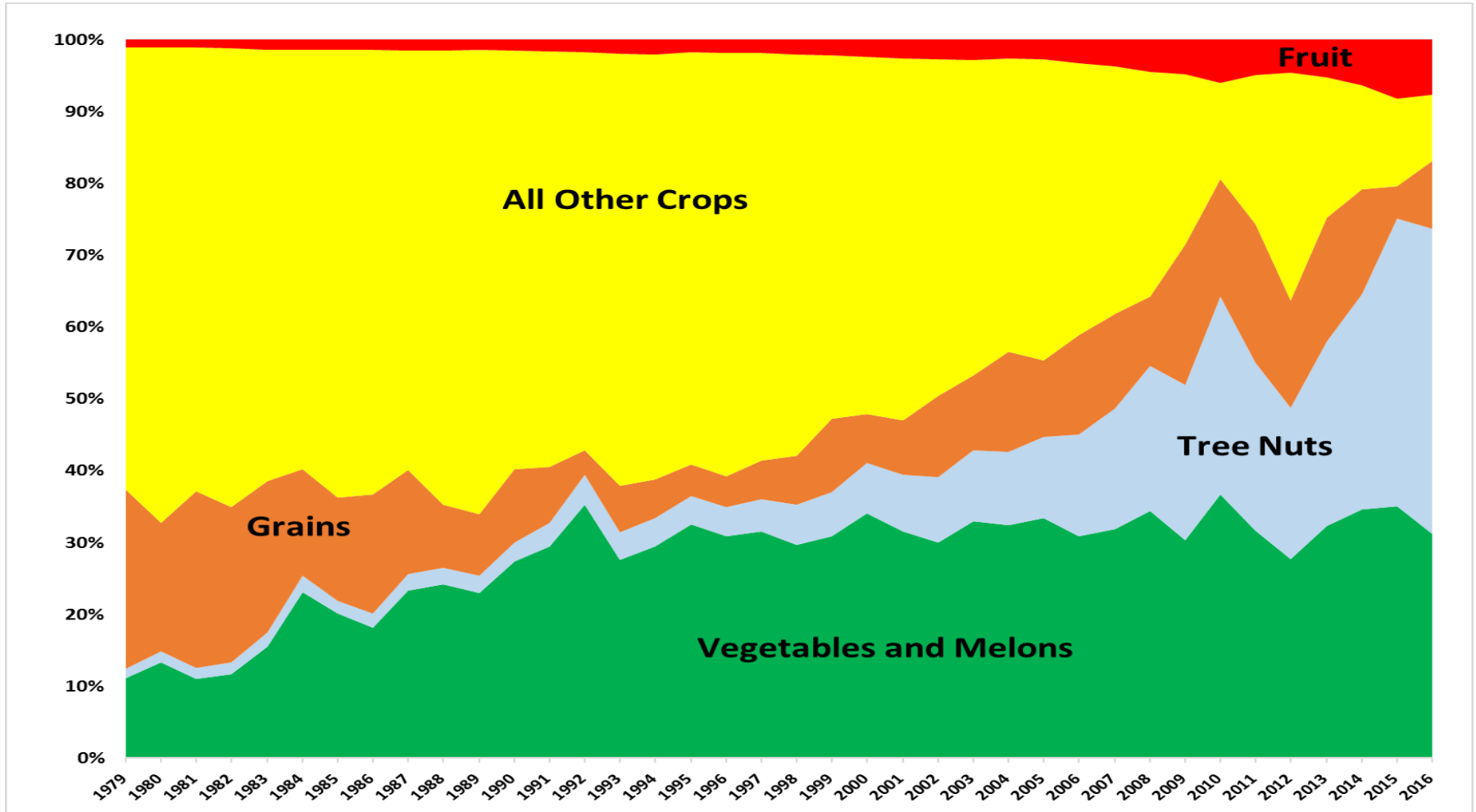
# IRRIGATION INVESTMENT

## Westlands Water District On-Farm Irrigation Systems

<u>Type of System</u>	<i>Percent of Land Irrigated</i>						
	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>	<u>2014</u>
<i>Surface</i>							
<i>Furrow</i>	60	38	34	28	20	8	4
<i>Border Strip</i>	3	5	2	2	3	3	1
<i>Combination Sprinkler/Furrow</i>	15	38	43	44	34	11	2
<i>Pressurized</i>							
<i>Sprinkler</i>	21	16	15	13	10	11	6
<i>Drip/Trickle</i>	<u>1</u>	<u>3</u>	<u>6</u>	<u>13</u>	<u>33</u>	<u>67</u>	<u>87</u>
	100	100	100	100	100	100	100

- Westlands Growers continue to invest in irrigation systems. More than 90% of the District uses drip or micro-sprinkler irrigation with 83% efficiency.

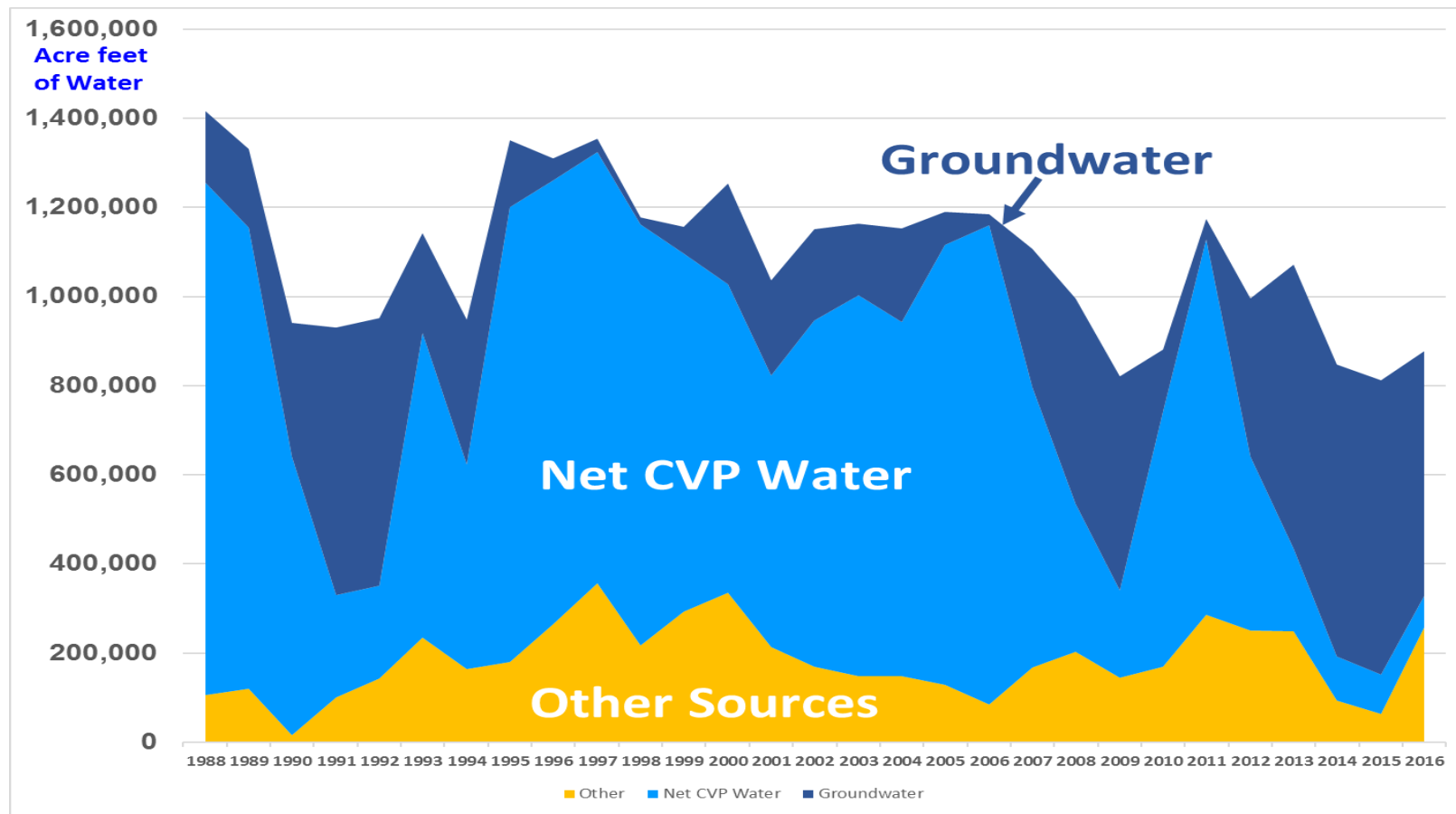
# IN RESPONSE TO THE SHIFTING WATER SUPPLY, PRODUCTION HAS SHIFTED TO MORE PERMANENT CROPS



SOURCE: District data.

# LOW WATER DELIVERIES HAVE RESULTED IN MORE GROUNDWATER USAGE

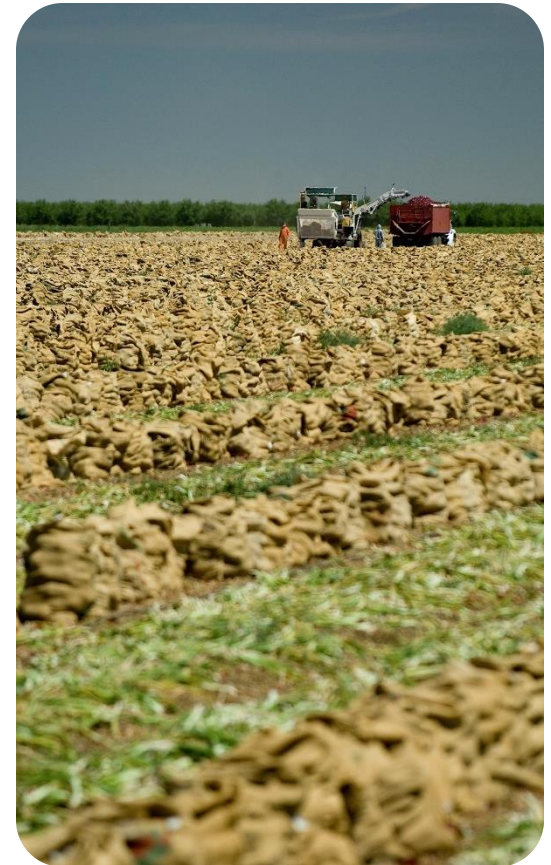
## Westlands Water Resources By Source 1988 - 2016



SOURCE: District data.

# Regulatory Impacts

- Sustainable Groundwater Management Act (SGMA)
- Irrigated Lands Regulatory Program (ILRP)



# Legislative Efforts

## Short-Term Fix – WIIN Act

- Drought Relief for CA and The West
- Upholds the ESA
- Expediates Water Storage and Delivery
- Provides Regulatory Flexibility to capture more water in existing reservoirs

Ex: December 2016 - January 2017

Water Supply Benefits = 166,000 AF

## Long-Term Fix

- H.R. 23 – Valadao's Legislation





# UNDERSTANDING THE ECONOMIC IMPACT OF THE WESTLANDS WATER DISTRICT

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- The Economic Context

## The Economic Impact of Westlands Growers

- What This Means to Regional, State and National Policy

# AGRICULTURE IS THE PRIMARY ECONOMIC DRIVER

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1 in 8

Fresno County jobs  
is on farm



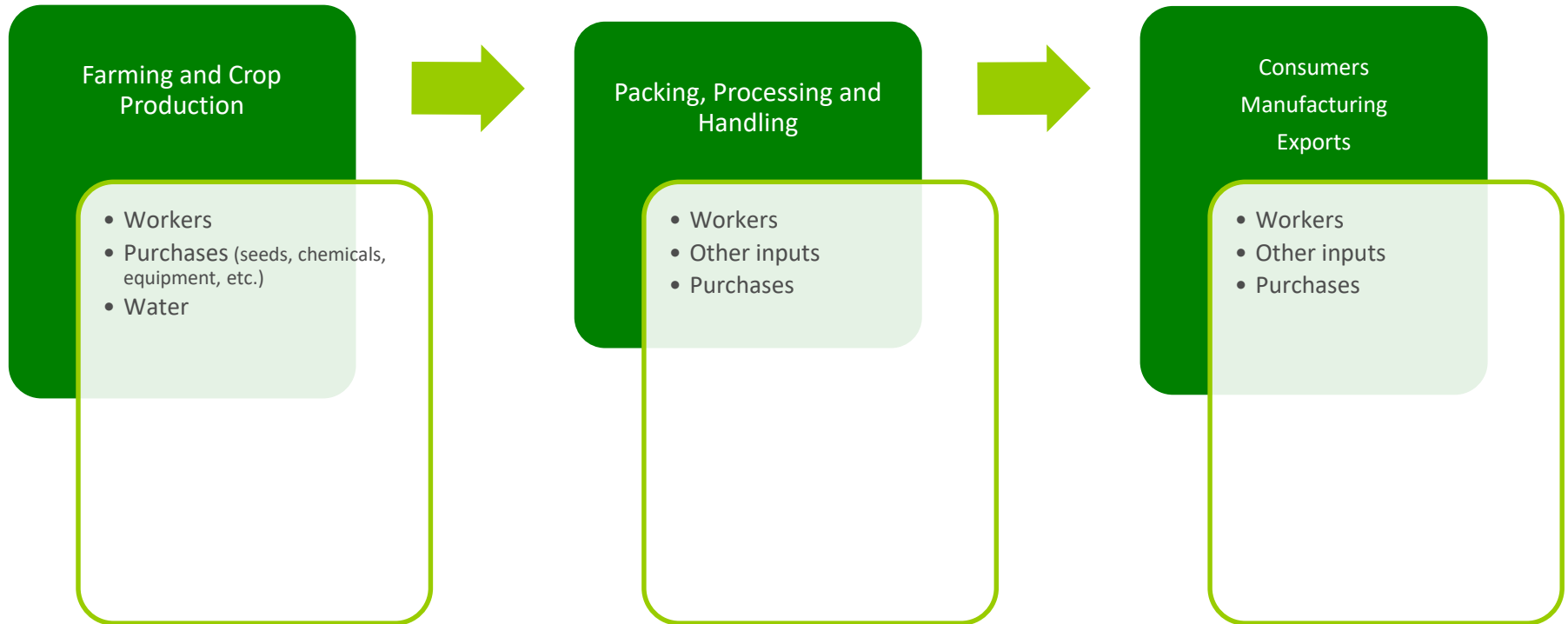
1 in 6

Kings County jobs  
is on farm

## Support sectors account for even more jobs

- Auto, equipment, seed, chemicals
- Processing
- Resident income supports much of the rest of the economy

# ECONOMIC IMPACTS ARE COMPLICATED



# IMPLICATIONS OF LOWER PRODUCTION OF CROPS IN WESTLANDS WATER DISTRICT

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- Exacerbates public health problems
- Increased reliance on imports
  - National security
  - Food safety
  - Environmental issues
  - Labor standards

# Thank you!

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# QUESTIONS & ANSWERS

