

# Small Farms and Groundwater Markets: Challenges and Opportunities

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# Small-scale, socially disadvantaged farmers in Fresno County

- Farmers markets, roadside stands, restaurants, other direct markets, and wholesale
- Supply produce to extended family, local grocery stores, and urban disadvantaged communities



Luffa, winter melon, eggplant, daikon, bok choy, taro, lemongrass, sugarcane, and many other specialty Asian crops

SJV Region	Farms < \$100,00 in sales	Socially disadvantaged operators	Socially disadvantaged and < \$100,00
Merced, Stanislaus, San Joaquin	6,682	2,972	2,167
Fresno, Tulare	4,918	4,798	3,518

“Socially disadvantaged” includes African American, Native Indian, Hispanic, and Asian American farmers under the Farmer Equity Act of 2017 (AB-1348)

# Diverse polycultures selling to local markets



Jacob Roberson



Up to 100 crops and varieties rotated through 3-4 seasons on 0.5 – 60 acres

# How small farms can lose out in groundwater markets

- Higher transaction costs to participate
- Possibility of exclusion from trades within existing networks
  - e.g. groups of farmers selling to same buyer
- Lack flexibility of larger farms and owners of multiple parcels
- Shallower wells, more vulnerable to local decreases in GW levels
- High risks for tenant farmers
  - Price of water compared to amount of yearly lease
  - Length of lease and security of land tenure
  - Following programs and incentives also have this risk

## **The structure of SGMA allocations will have a large effect:**

- Across the board reductions vs. considering different types of farms
  - Can define based on acreage, historical water use, types of crops, etc.
- Small farms often not involved in decision-making
- Avoid models in which small farms must purchase water to remain viable

# Supporting Access and Participation

- Funding for outreach, education, and technical assistance
  - Bilingual support
  - Installing meters or other equipment
  - Online access
- A nonprofit organization could manage groundwater trades for groups of farmers



**Welcome**

**User Name: \***

**Password: \***

**Logon**

**Welcome to the FCGMA Online Web Site!**

If you have an existing account with the FCGMA (for example you receive Semi-Annual Groundwater Extraction Statements (SAES) in the mail, or are the registered well owner with the FCGMA) and want to log in to this website for the first time, please contact either Kathy Jones at (805) 645-1372 or Kathleen Riedel at (805) 654-2954 (between 8AM and 5PM, Monday through Friday) to obtain your Username and Password. For more information about navigating the Site, please see the FCGMA Online Owner-Operator User Guide posted at <http://fcgma.org>.

Thank you!

# Transparency and Stakeholder Engagement

- **Allow public access to data**
  - Not just available to those trading groundwater in the market
  - Enable third-party analysis of effects of water trading decisions
- **Broad stakeholder engagement and input**
  - Partnerships needed to engage farmers with cultural and language barriers and limited resources
- **Frequently evaluate undesirable and unintended consequences**
  - Adapt rules to avoid these

# Best practices from the Fox Canyon model that could help protect small farms:

- **Neutral third-party administration**
- **Anonymous users and trades**
- **Adaptive management:**
  - Start small, with a pilot in a narrowly defined area
  - Frequently re-evaluate benefits and unintended consequences
  - Stakeholder participation is essential
  - Avoid rapid deployment of technological platforms

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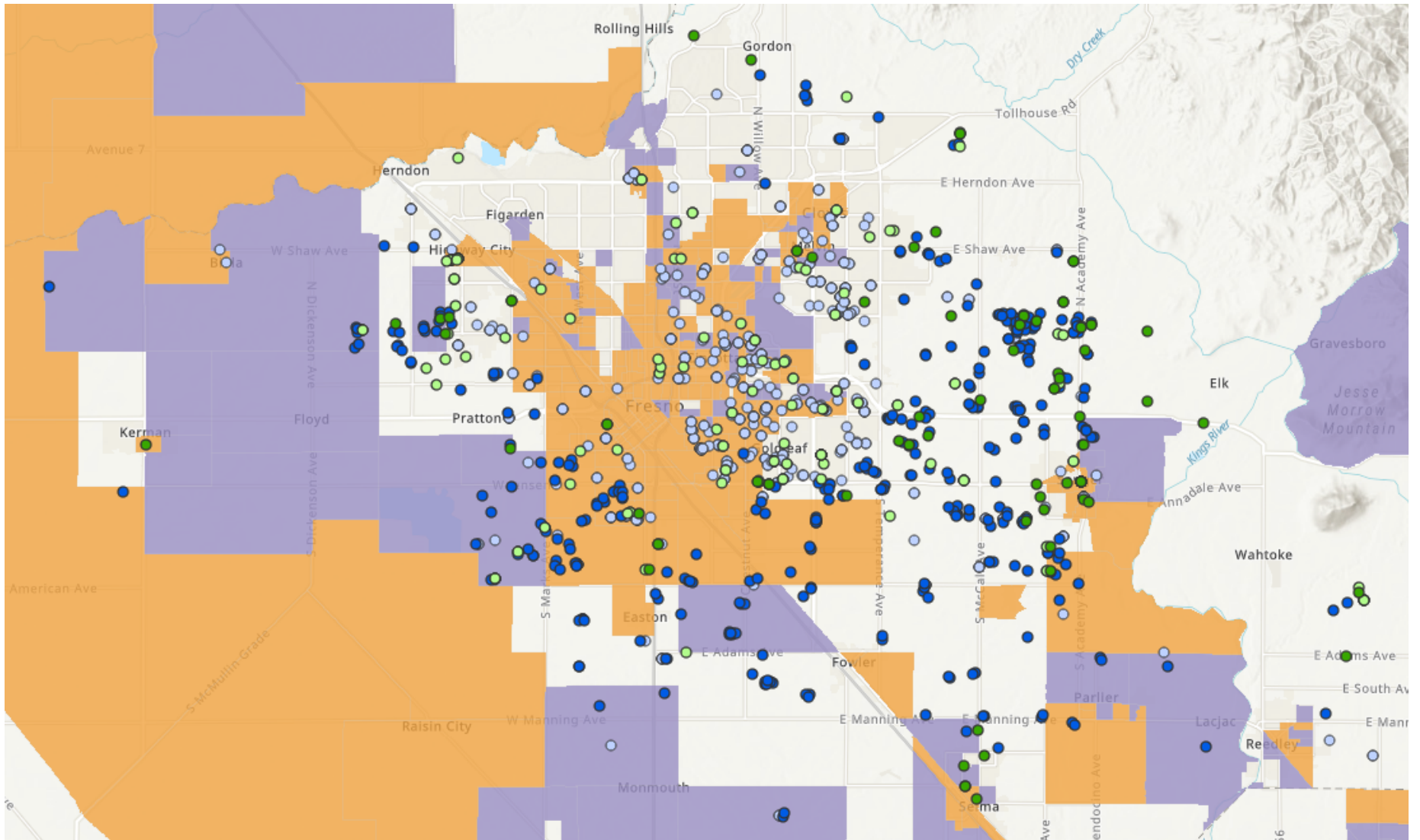
## **Limits on trading:**

- Limit trading to ag-to-ag only
  - Only include urban areas if model is already working for ag
- Limit to within GSA or sub-basin
- Limit direction of trading
  - e.g. east to west
- Define special management areas based on hydrology, locations of shallow wells, etc.

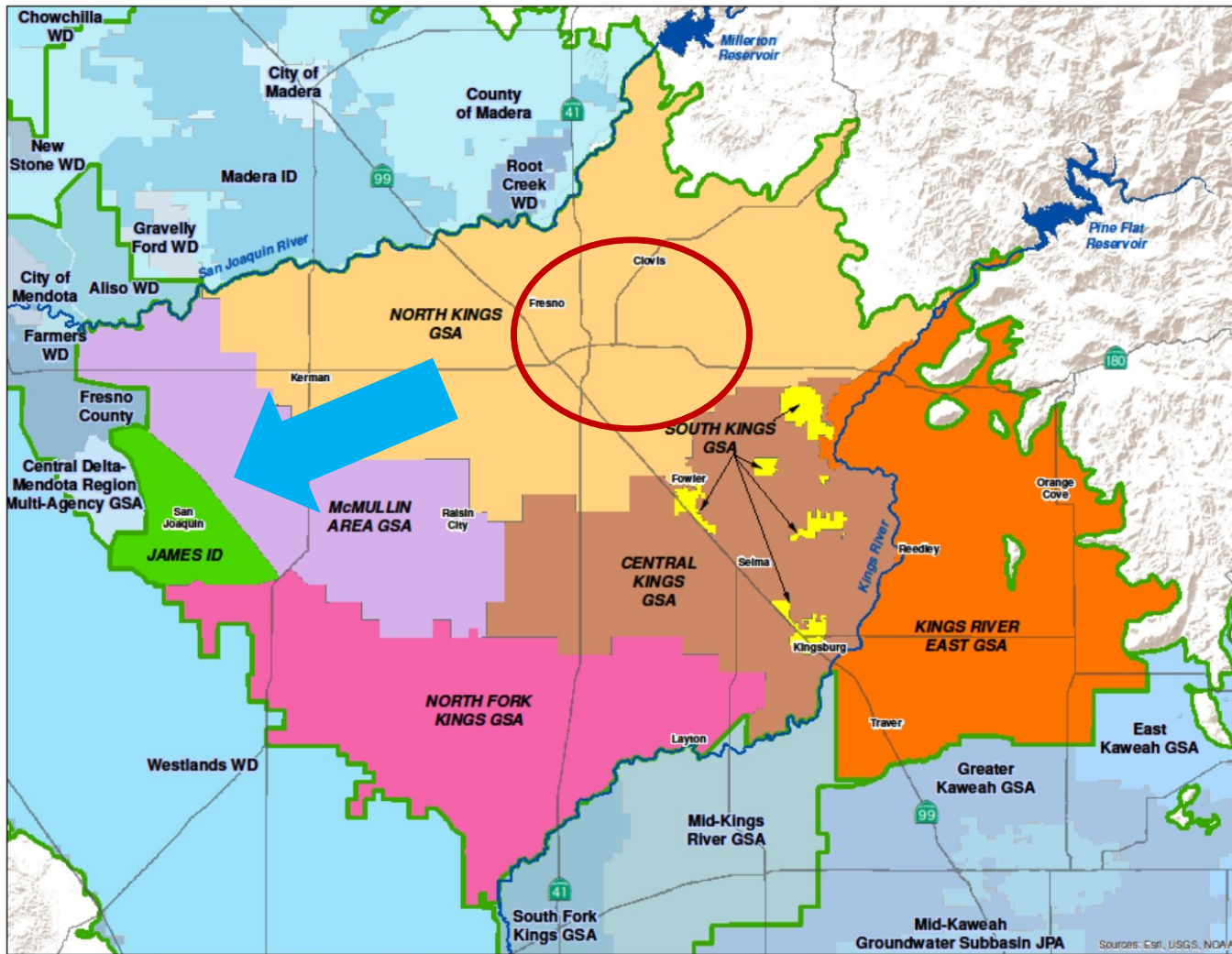


# Southeast Asian Farmers in Fresno County

	% in DAC or SDAC	
	Certified Producers	Pesticide Permits
Mailing Address	53.9	53.5
Farm Location	41.1	36.9



# East to west flows in the Kings Subbasin



Before GSP implementation:

45,800 AF flow from NKGSA to McMullin

Source: North Kings GSA

# Creating exceptions in allocation models:

- Identify vulnerable populations and low-risk characteristics
- Define exception criteria to be as specific as possible to these groundwater users
- Evaluate effects of an exception on groundwater management
- Classify as “de minimis” or develop an alternate allocation model

**A well-defined exception with multiple criteria is harder to take advantage of**

## **Multiple criteria to avoid larger pumpers taking advantage of exception:**

- Size of farm
  - USDA definition of small farm: \$350,000 or lower annual sales
  - Can also define size based on local characteristics
- Type of crop or diversified system
- Defined special management area
- Markets:
  - direct markets, farmers markets, local markets, etc.
- Socially disadvantaged farmers

# Exceptions for small farms: Examples

## Alternate reporting for the Irrigated Lands Regulatory Program (ILRP)

- Annual reporting of nitrogen application
- Low-input farms on limited budgets
- Vegetables on drip irrigation not a high risk for leaching nitrates



Kings River Water Quality Coalition:

- Average member parcel with Asian specialty crops or mixed vegetables: 19.2 acres
- Acreage of small-scale mixed vegetables  $\sim$  0.3% of total KRWQC service area

**“The limited proportion and irregular spatial distribution of the member parcels, combined with the knowledge that an unknown fraction of the nitrogen applied is consumed, supports the conclusion of the minimal impacts on the basin overall.”**

# Exceptions for small farms: Examples

## Alternate reporting for the Irrigated Lands Regulatory Program (ILRP)

- **Diversified socially disadvantaged growers, defined by the Farmer Equity Act of 2017, with:**
  - a maximum total acreage of 45 acres,
  - gross annual sales of less than \$350,000, and
  - crop diversity greater than 0.5 crops per acre (one crop for every two acres)

**OR:**

- **Growers with:**
  - a maximum total acreage of 20 acres, and
  - crop diversity greater than 0.5 crops per acre (one crop for every two acres)
  - For example, small growers with multiple crops that sell their crops primarily at farmers' markets



# Exceptions for small farms: Examples

## Food Safety Modernization Act (FSMA)

Farms that are a lower risk for food safety outbreaks:

- Smaller scale of consumption, easily traceable, local sales



### Exempt:

- “Rarely consumed raw” crops
- Farms < \$25,000 in annual sales
- Produce processed with a kill step

### Qualified Exempt:

- Farms < \$500,000 in annual sales
- Majority of produce sold direct to consumer or retail within 275 miles of the farm

# Example of SGMA allocations to protect small farms in groundwater markets:

- Criteria:

- Farms under 45 acres
- Mixed vegetables or diversified farms including vegetables
- Over 50% of sales direct to consumers
- Over 50% of sales within 275 miles
- Within special management area (e.g. GSA or part of GSA)

- Allocations:

- Consider “de minimis”
- Develop alternate rate for allocations with less severe cuts

- Trading:

- Limit trading outside of GSA or special management area
- Limit direction of trading



Valerie Shelton

# Protecting small farms in groundwater markets:

## **Market design:**

- Neutral third-party administrator
- Anonymous users
- Start small and evaluate frequently
  - Adaptive management
  - Transparency of data
- Stakeholder participation
- Restrictions on trading
  - Special management areas
  - Limit trading to ag-to-ag only

## **SGMA allocations by GSAs:**

- Define exceptions for vulnerable communities
- Structure allocations to protect these groundwater users

## **Assistance:**

- Fund third-party organizations to facilitate market access
  - Technical assistance
  - Outreach and education
  - Managing groundwater trades for groups of small farms