



**KINGS RIVER**  
**WATER QUALITY COALITION**

# **NITRATE CONTROL PROGRAM AND EARLY ACTION PLAN**

## **WELCOME**

**Charlotte Gallock and Debra Dunn**

# WEBINAR AGENDA

- **SESSION 1: Introduction**
- **SESSION 2: Nitrate Control Program Overview**
- **SESSION 3: Kings Water Alliance**
- **SESSION 4: Early Action Plan & Safe Drinking Water**
- **SESSION 5: Staying Engaged With the Process**
- **Q&A**



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# **SESSION 1**

## **INTRODUCTION**

**Charlotte Gallock and Debra Dunn**

# INTRODUCTIONS

## ■ Kings Water Alliance

- Charlotte Gallock, KRCD
- Debra Dunn, KRCD

## ■ External Affairs

- Cristel Tufenkjian, KRCD
- Rebecca Quist, KRCD

## ■ Support

- Jose Soto, KRCD
- Vincent Sambrano, KRWQC
- Barbara Dalgish, LSCE

## ■ Technical Team\Presenter

- Vicki Kretsinger Grabert, LSCE
- Richard Meyerhoff, GEI





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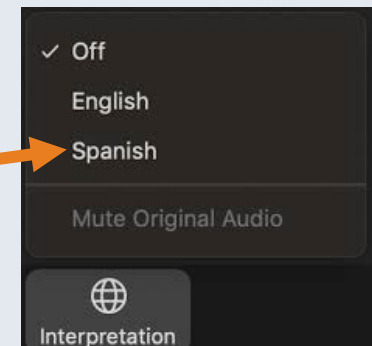
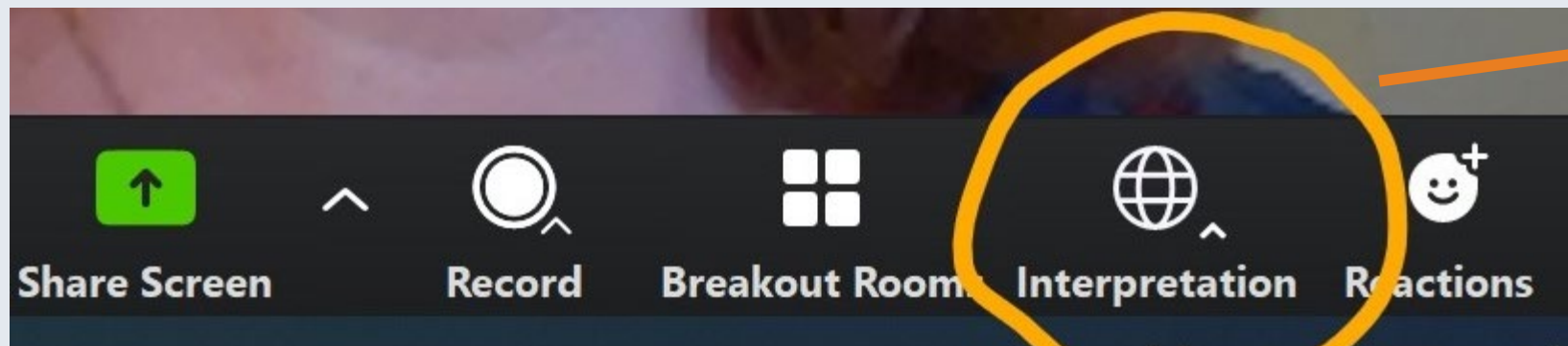
# ZOOM WEBINAR DETAILS

Rebecca Quist

# SPANISH TRANSLATION/TRADUCCIÓN ESPAÑOLA

To listen to the presentation in Spanish, click the globe icon at the bottom of your screen and select Spanish.

Para escuchar la presentación en español, haga clic en el ícono del globo terráqueo en la parte inferior de la pantalla y seleccione Español.



# ZOOM WEBINAR DETAILS

- **Video and audio is OFF for participants**
- **Questions & Answers**
  - **Use the Q&A to type a question**
- **Technical difficulties**
  - **Use the Chat feature for Zoom technical assistance**
- **Poll questions**

## POLL QUESTION

**Respond to the pop-up poll on your screen.  
Results will be shared soon!**

# NITRATES IN GROUNDWATER AND MANAGEMENT ZONES: AN INTRODUCTION



<https://vimeo.com/322155619>



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# **SESSION 2**

## **NITRATE CONTROL PROGRAM OVERVIEW**

**Vicki Kretsinger Grabert,  
LUHDORFF & SCALMANINI,  
CONSULTING ENGINEERS**

## SESSION 2 TOPICS

- Why do we care about Nitrate?
- What is the new Nitrate Control Program?
- Who needs to be involved?
- Where is drinking water affected?

# WHY DO WE CARE ABOUT NITRATE?

## ■ What is Nitrate?

- Contaminant that can make drinking water unsafe for drinking when above a certain level
- You can not see, smell, or taste nitrate in water
- You can not boil nitrate out of water
- Chemical found in most fertilizers, manure, and septic tanks
- Rain or irrigation water can carry nitrate down through the soil and into groundwater

## ■ When is Nitrate Unsafe?

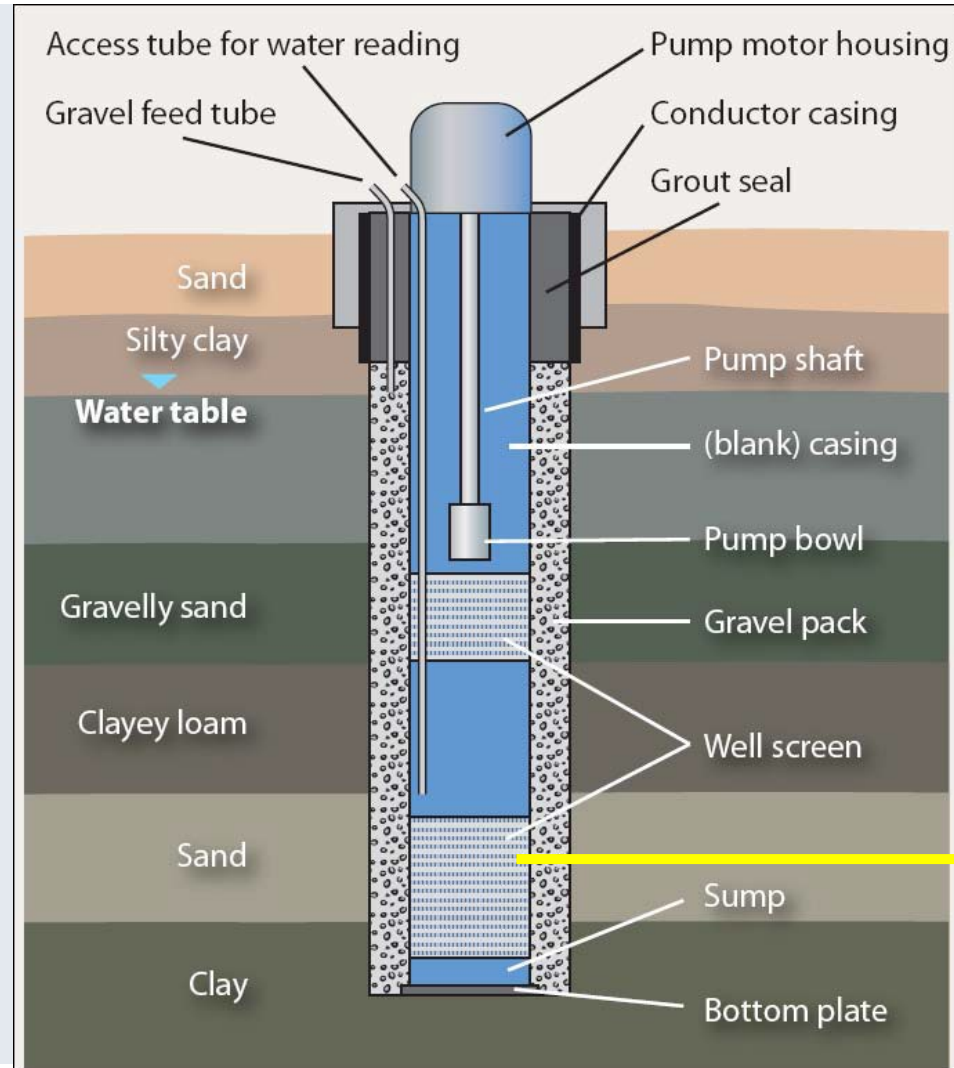
- Government set a legal limit on the amount of nitrate in water used for drinking
- Drinking water limit is 10 milligrams per liter nitrate as nitrogen (US EPA and California state regulatory requirement)





# WHY DO WE CARE ABOUT NITRATE?

- How does Nitrate get into your well water?
  - Groundwater is produced from water-bearing deposits beneath the land surface
  - All wells need to have good integrity and be protected from land surface activities
  - Proper well construction helps reduce contaminants from being introduced at the land surface



Typical Well Structure

Well Screen



# WHY DO WE CARE ABOUT NITRATE?

Drinking water obtained from groundwater that enters our homes through a private domestic well may require action if impacted by Nitrate.

## ■ Public Supply Wells

- Public Supply Wells are tested regularly
- Public Supply Wells can have treatment to make sure the water is safe for drinking before it reaches homes



VS.

## ■ Private Domestic Wells

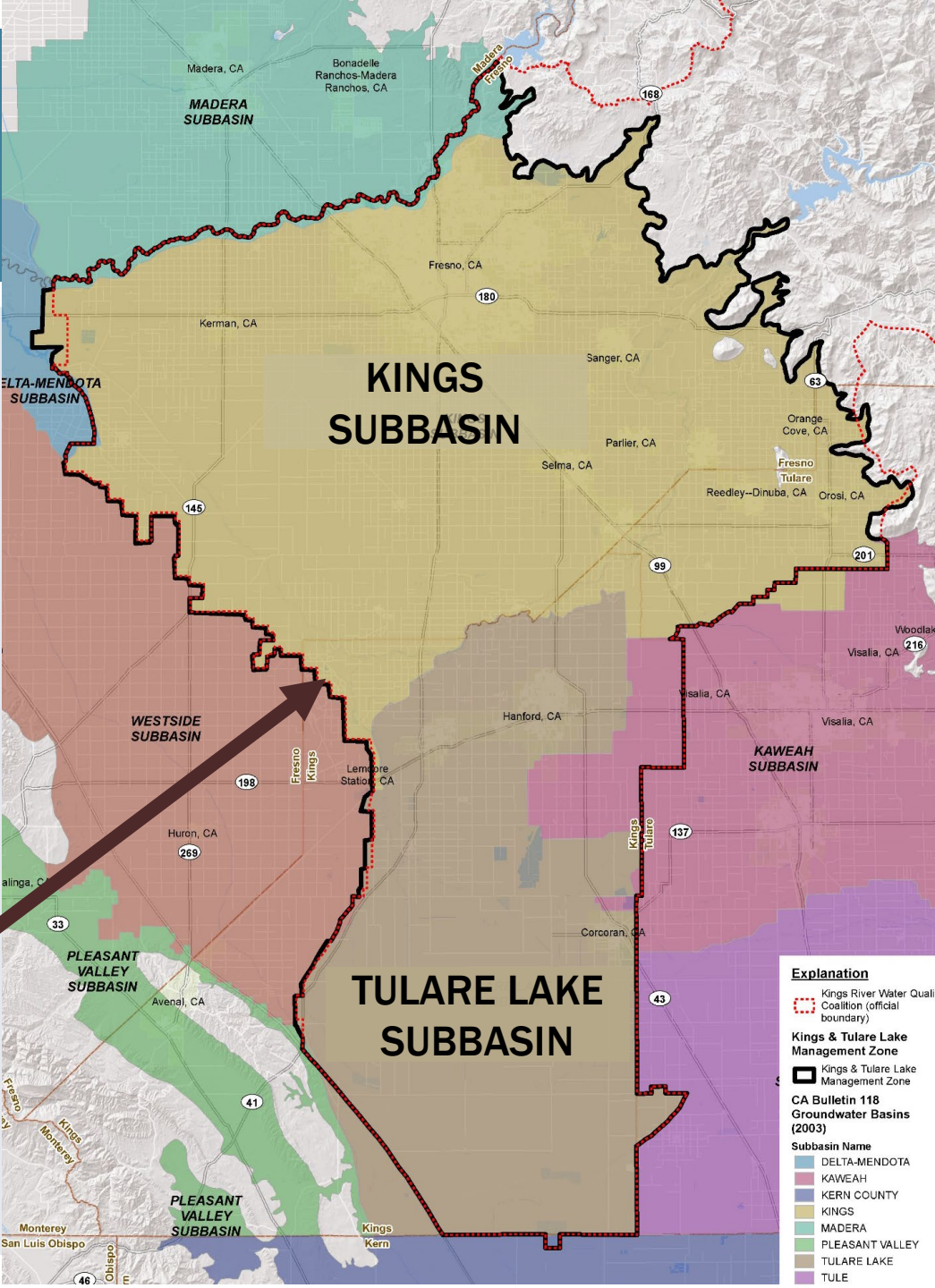
- The well owner must test the water to determine if it is impacted by Nitrate
- If impacted, the well owner should take action to address the Nitrate before water is used for drinking



# WHAT IS THE NEW NITRATE CONTROL PROGRAM?

- A new regulation that will help resolve problems with Nitrate in our area. We have three goals:
    1. Provide safe drinking water supplies
    2. Reduce Nitrate impacts to water supplies
    3. Restore groundwater quality, where reasonable, feasible, and practicable
  - First step: Stakeholders formed the **Kings Water Alliance**
- <https://www.cvsalinity.org/nitrate-control-program.html>

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# WHAT IS THE NEW NITRATE CONTROL PROGRAM?

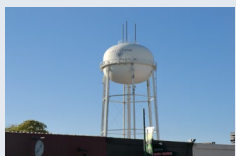
## Benefits and Results of Participating in the Kings/Tulare Lake Management Zone



- Brings safe drinking water to your community, where needed
- We work together and share the cost of Nitrate management
- We identify solutions tailored to the Kings/Tulare Lake area:
  - Dealing with Nitrate problems locally
  - Using local knowledge to lower Nitrate levels
  - Supporting a vision that realistically manages Nitrate for the local economy and communities



# WHO NEEDS TO BE INVOLVED?



- **Growers** permitted under the Central Valley Irrigated Lands Regulatory Program “General Order”
- **Dairies, feedlots, and poultry farms** that operate under a “General Order” from the State to discharge
- **Wastewater treatment operators, food processors, wineries, and other facilities** that have a permit from the State to discharge Nitrate
- **Other parties** interested in the quality and management of water in the Kings/Tulare Lake area, incl. Groundwater Sustainability Agencies, water utilities, county and community government offices, non-governmental organizations, etc.
- **You – the public!**

# WHERE IS DRINKING WATER AFFECTED?

## ■ Initial Assessment of Groundwater Conditions

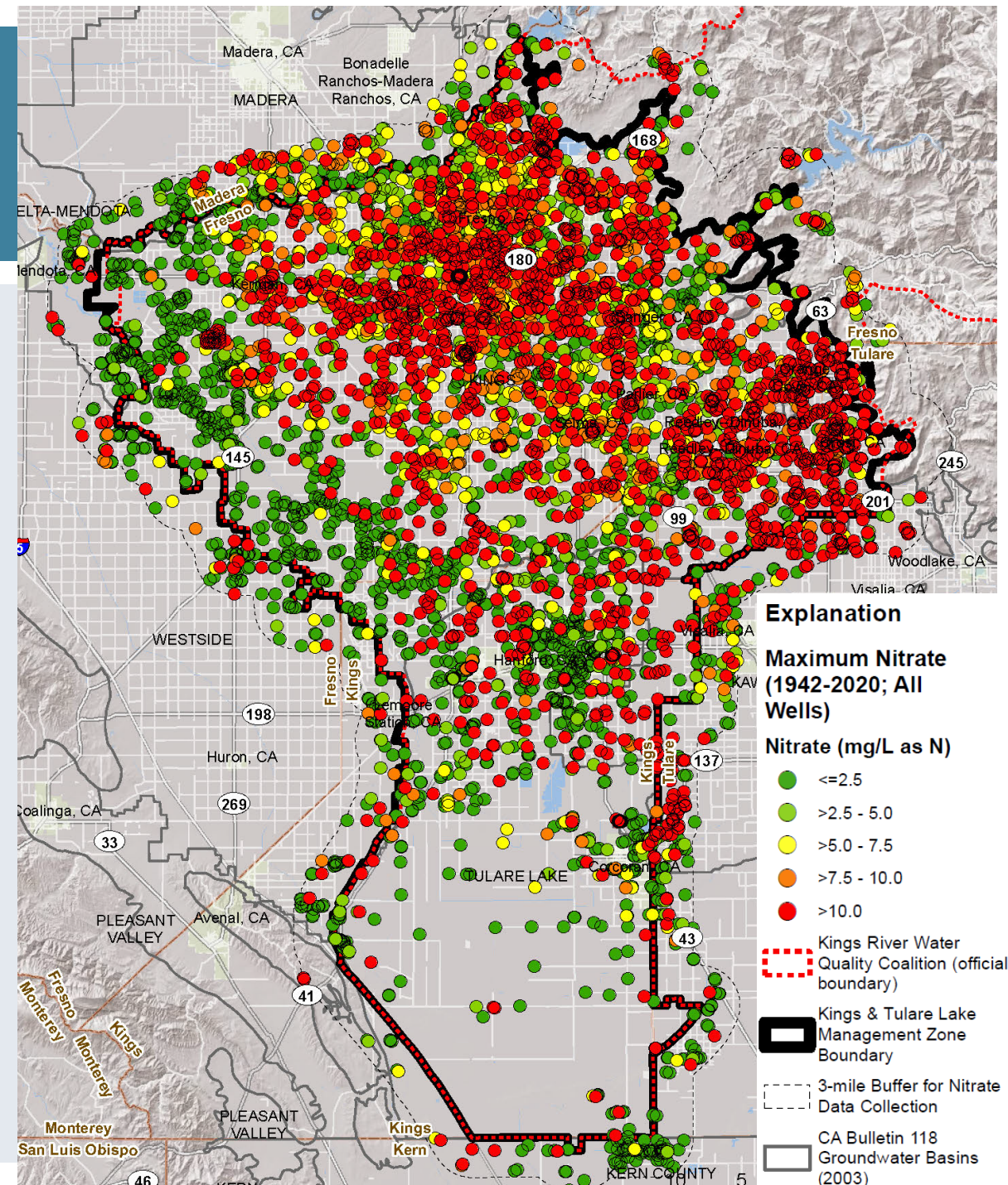
- Groundwater quality (Nitrate) data compilation
  - Public and non-public data
- Focus on Upper Zone of Groundwater
  - Typical domestic well depths

Source of Nitrate Data	Upper Zone	Lower Zone	Unknown Depth	Total
Irrigated Lands (Geotracker)	62	49	524	<b>635</b>
State Division of Drinking Water	179	613	377	<b>1,169</b>
Dept. of Water Resources (DWR)	2	8	1,121	<b>1,131</b>
Regulated Facilities (Geotracker)	234	5	51	<b>290</b>
Fresno County	668	7	2	<b>677</b>
State Groundwater Ambient Monitoring & Assessment (GAMA)	39	0	0	<b>39</b>
University of CA Davis (CASTING)	1,290	749	902	<b>2,941</b>
US Geological Survey (USGS)	278	155	167	<b>600</b>
<b>Total Number of Wells</b>	<b>2,752</b>	<b>1,586</b>	<b>3,144</b>	<b>7,482</b>



# WHERE IS DRINKING WATER AFFECTED?

- The Kings/Tulare Lake Management Zone is working to identify areas affected by Nitrate
  - Locating areas where unsafe levels of Nitrate are in drinking water
  - Locating domestic wells in areas with unsafe Nitrate levels
  - Identifying existing water systems that treat for Nitrate



## POLL QUESTION

**Respond to the pop-up poll on your screen.  
Results will be shared soon!**





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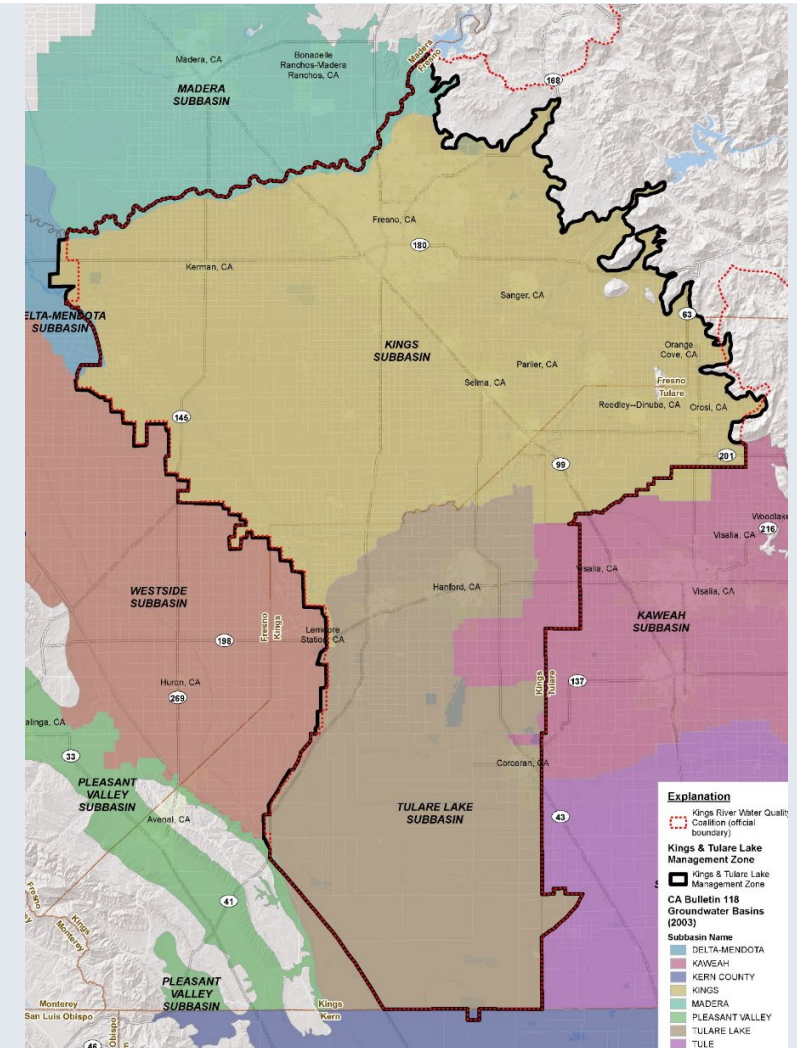
# **SESSION 3**

## **KINGS WATER ALLIANCE**

**Charlotte Gallock and Debra Dunn**

# KINGS WATER ALLIANCE

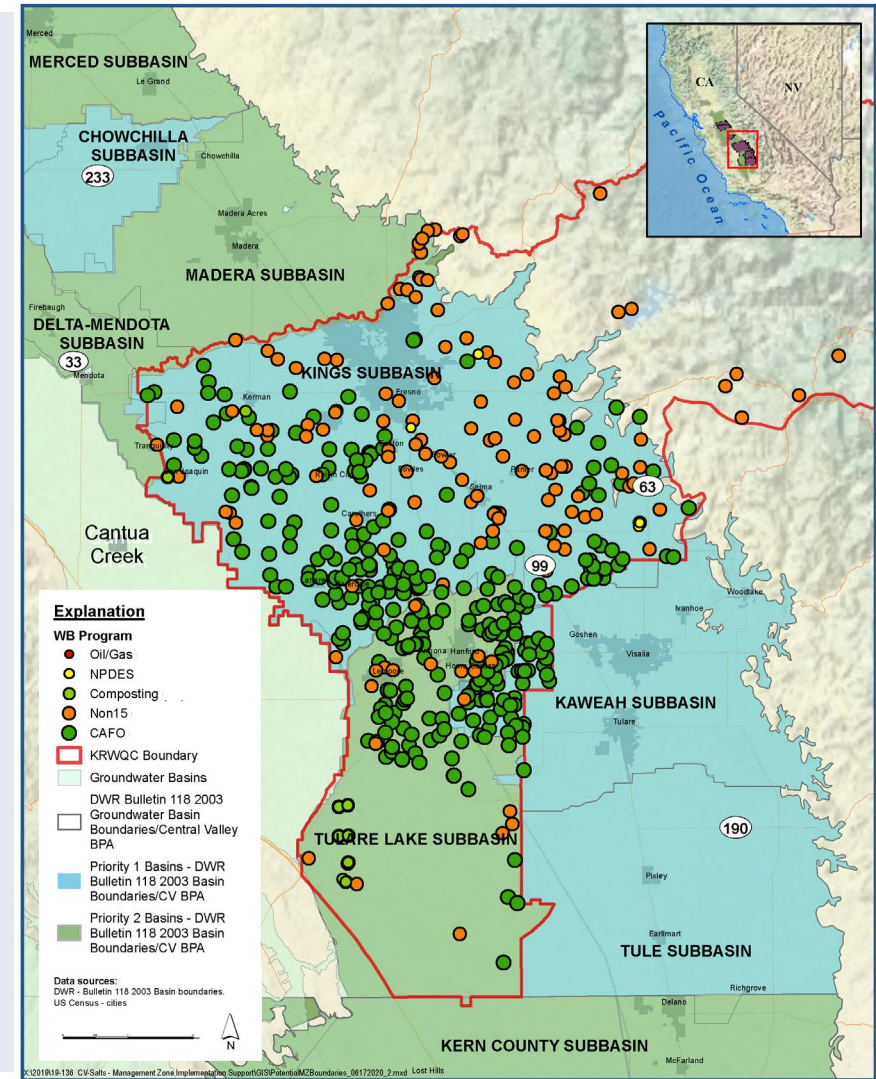
- **Kings Water Alliance (KWA)**
  - **Role of the Kings River Water Quality Coalition**
    - Lead/Manage Efforts
    - Outreach/Communications
    - Coordination/Collaboration
      - Stakeholders/Interested Parties
      - Dischargers
      - Technical
      - Communities/Residents



# KINGS WATER ALLIANCE

## Dischargers\Participation

Dischargers (633)	Total	MZ Participation
<b>Permittees permitted under General Order (479)</b>		
Irrigated Agriculture (~4,000 members\~765,000 irrigated acres)	1	1
Dairy	286	270
Confined Bovine	91	86
Poultry	101	50
<b>Permittees with Individual Waste Discharge Requirements (154)</b>		
Wastewater Treatment Facilities	59	3
Food Processors	55	3
Industrial/Manufacturing	17	1
Wineries	10	5
Composting Facilities	9	0
Other Animal Facilities	4	0



# KINGS WATER ALLIANCE

- **Kings Water Alliance (KWA)**
  - **Nonprofit Public Benefit Corporation**
  - **Board of Directors: 7 Seats**
    - **3 Kings River Water Quality Coalition (KRWQC)**
      - **Irrigated Agriculture**
    - **2 Central Valley Dairy Representative Monitoring Program (CVDRMP)**
      - **Dairy and Confined Bovine Operations**
    - **1 Poultry**
    - **1 Wine**



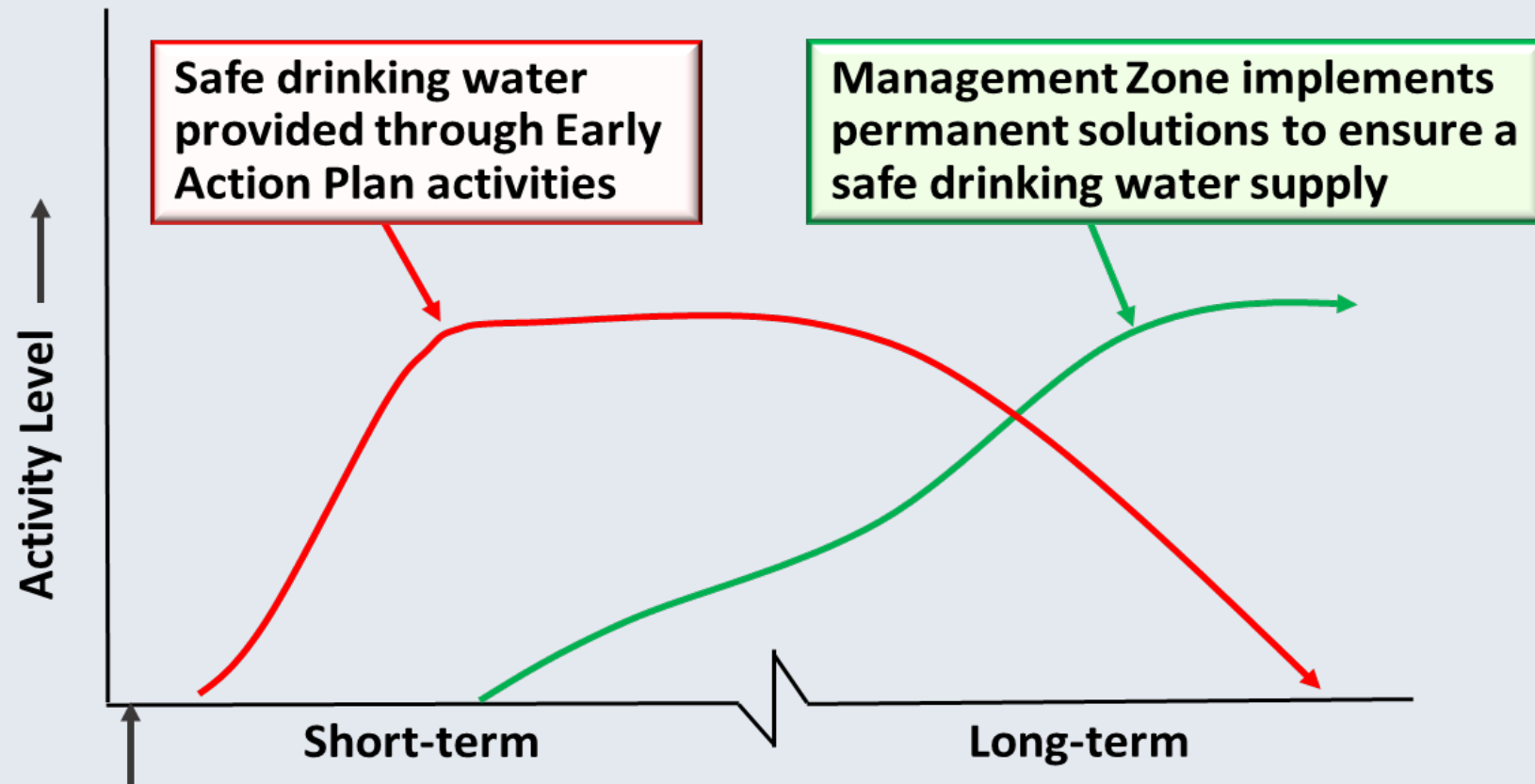
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# **SESSION 4**

## **EARLY ACTION PLAN AND SAFE DRINKING WATER**

**Richard Meyerhoff,  
GEI CONSULTANTS**

# ROLE OF EARLY ACTION PLAN IN MANAGEMENT ZONE EFFORTS TO PROVIDE SAFE DRINKING WATER



Kings Water Alliance formerly proposes to establish Management Zone



# EARLY ACTION PLAN

- The Management Zone is required to implement short- and long-term solutions to ensure residents in the area have access to safe drinking water
- Early Action Plan
  - Is the means by which the Management Zone will identify implement short-term solutions
  - Identifies the specific activities to be implemented in the short-term to ensure access to safe drinking water for those who are dependent on groundwater from a well that has nitrate that exceeds a safe level



## POLL QUESTION

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# KEY EARLY ACTION PLAN ELEMENTS



# TEMPORARY REPLACEMENT WATER OPTIONS

- Centralized Replacement Water
  - Water Fill Stations
- Alternative Replacement Water Options (where appropriate)
  - Bottled-water Delivery
  - Point-of-Use Treatment System



# WATER FILL STATIONS

- Prefabricated vending machine or kiosk that dispenses drinking water
- Source of water to the station is a municipal water supply that is compliant with drinking water regulations
- Water is provided at no cost to the user
- No additional treatment applied to the water served at the fill station, e.g., it is not filtered
- Water containers must be 5-gallons or less in size
- User may bring as many empty containers to fill as desired

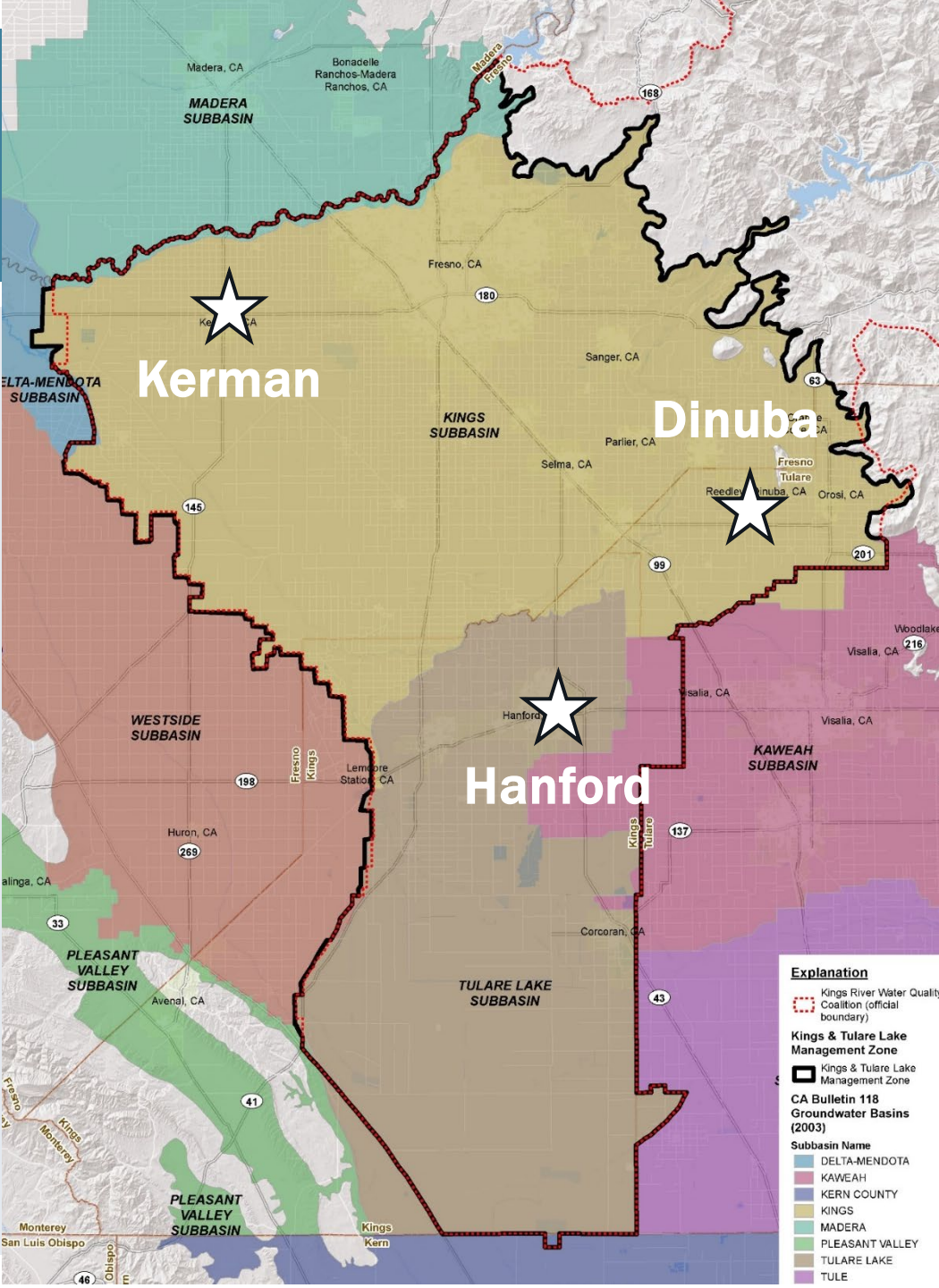




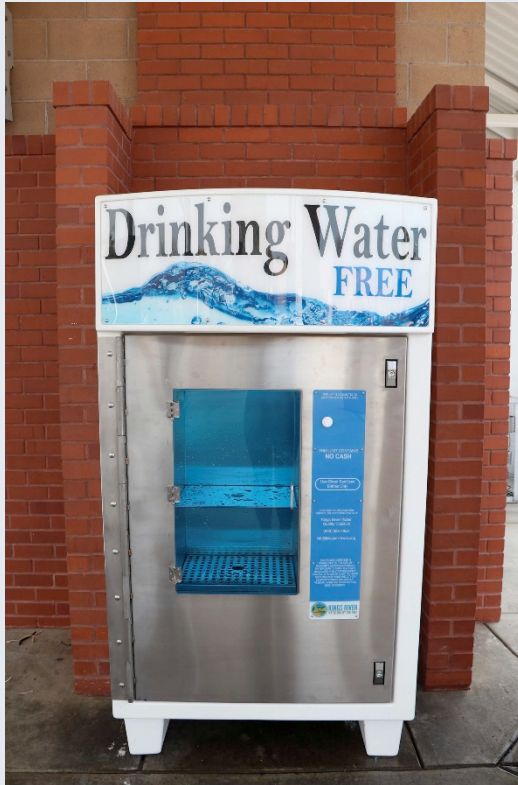
## EXISTING FILL STATIONS

- Two water fill stations are already operational in the Management Zone area in Hanford and Kerman
  - Fill station in development in Dinuba
  - Additional fill stations could be established in other areas within the Management Zone through implementation of the Early Action Plan
- See <https://kingsriverwqc.org/fillstation/> for specific locations of operational fill stations

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# OPERATIONAL WATER FILL STATIONS



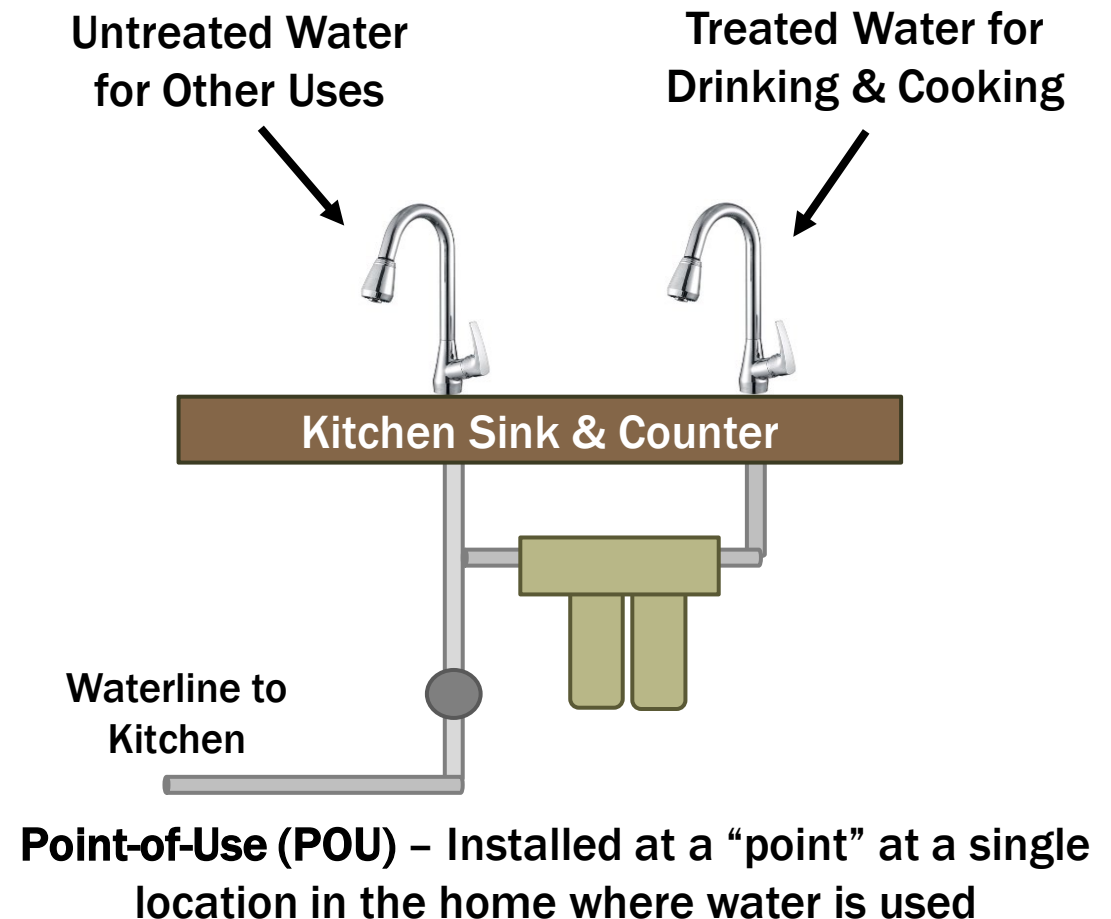
**Hanford Fill Station**



**Kerman Fill Station**

# ALTERNATIVE WATER DELIVERY OPTIONS

- Early Action Plan may include an alternative water delivery program for residents that are unable to obtain safe drinking water from a fill station
- Two common examples of alternative water deliver programs include:
  - Bottled water delivery to residence
  - Point-of-Use (POU) - Treats water at specific location in the home prior to use, e.g., kitchen faucet



# ALTERNATIVE WATER DELIVERY CONSIDERATIONS

- **Bottled-water Delivery**
  - Qualified residents may apply to receive bottled water
  - Vendor delivers water to a resident on a regular schedule
  - Resident must work with the vendor to coordinate receipt of full bottles and pick-up of empty bottles
- **POU System Requires:**
  - Evaluation and installation of the appropriate system at the residence
  - Regular maintenance to function properly
  - Long-term coordination with vendor to conduct regular maintenance



# ALTERNATIVE WATER DELIVERY: RESIDENTIAL WELL TEST

- Participation in an alternative water delivery option, e.g., bottled-water delivery, may require having information showing that your well is impacted by high nitrate
- If the resident does not have nitrate data for their well, then the Management Zone will sample the well for nitrate at no cost to the resident
  - Results from well test will be shared with the resident
  - There may be opportunities to have your well tested for other constituents



# EARLY ACTION PLAN: HOW CAN YOU HELP?

- **Provide well data**
  - Do you own a domestic well? Do you know the nitrate level in your well water?
- **Provide input to the Management Zone**
  - Participate in development of Early Action Plan during community meetings
  - Review and comment on Management Zone Documents as they develop
- **Tell your neighbors about the Project**
- **Sign-up to receive program updates at:**  
[www.kingsriverwqc.org/drinkingwater](http://www.kingsriverwqc.org/drinkingwater)



## POLL QUESTION

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# **SESSION 5**

## **WRAP UP: STAYING ENGAGED WITH THE PROCESS**

**Charlotte Gallock and Debra Dunn**

# STAYING INVOLVED

- **What Outreach Activities are Planned in the Coming Months?**
  - Community Outreach meeting: January 28, 2021
    - Upcoming meetings are an opportunity to voice your opinion
  - Review and comment on Early Action Plan ideas to provide safe drinking water during their development
  - Continue to collaborate during Early Action Plan implementation, which will begin in the Spring 2021



# EMAIL SIGN-UP

**Sign up for the Early Action Plan email list**  
**[www.kingsriverwqc.org/drinkingwater](http://www.kingsriverwqc.org/drinkingwater)**

- **Future webinar information**
- **Early Action Plan review & input**
- **Fastest & easiest way to stay engaged**



Sign up to receive email updates

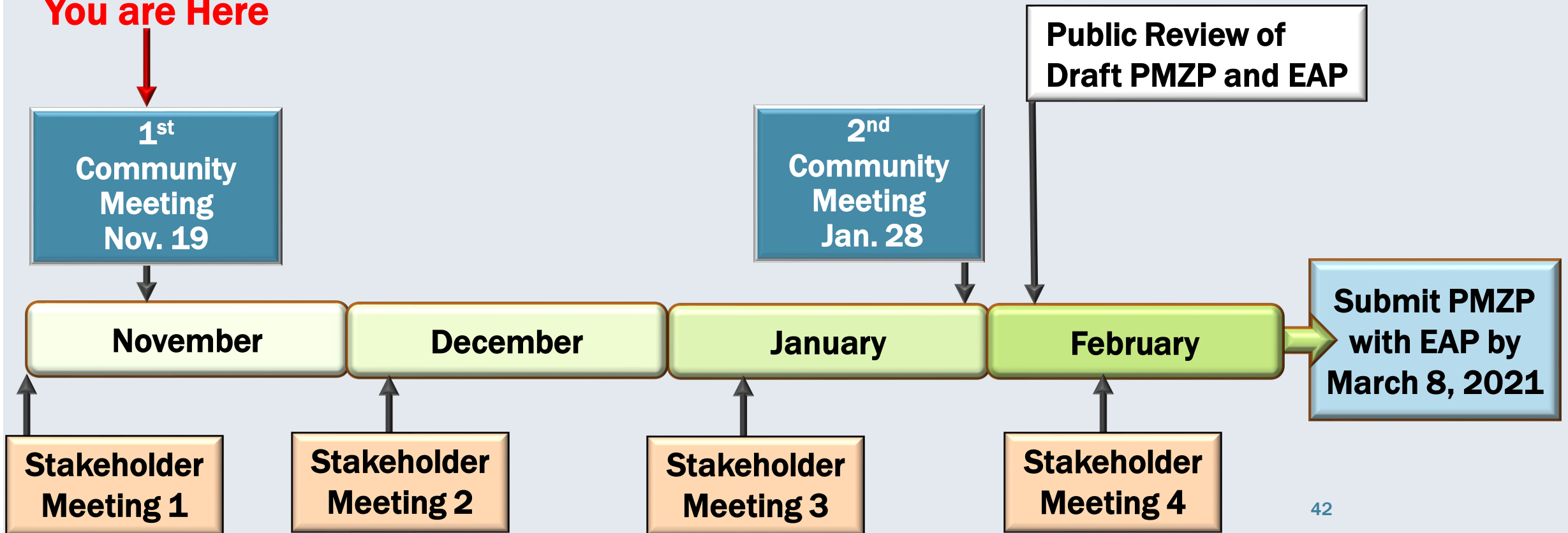
Sign up [HERE](#) to stay in the know on the development and implementation of drinking water solutions. Be the first to hear about upcoming activities and opportunities to provide input.

Sign Up

# WHAT IS OUR SCHEDULE?

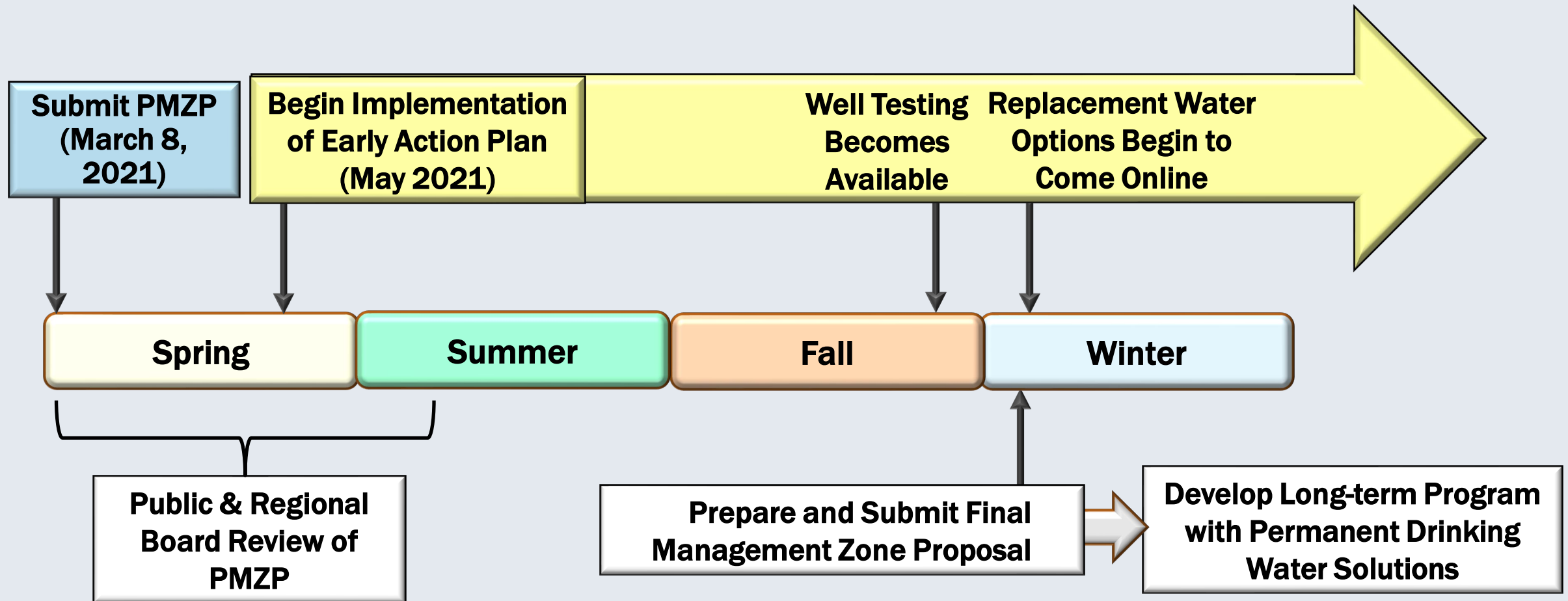
- Preliminary Management Zone Proposal (PMZP) with Early Action Plan (EAP) is due to the Central Valley Water Board by March 8, 2021

**You are Here**



# WHAT IS OUR SCHEDULE?

- Estimated 2021 schedule for the Kings/Tulare Lake Management Zone



# HOW CAN I GET MORE INFORMATION?

## ■ Nitrate Control Program

- <https://www.cvsalinity.org/nitrate-control-program>

## ■ Kings Water Alliance

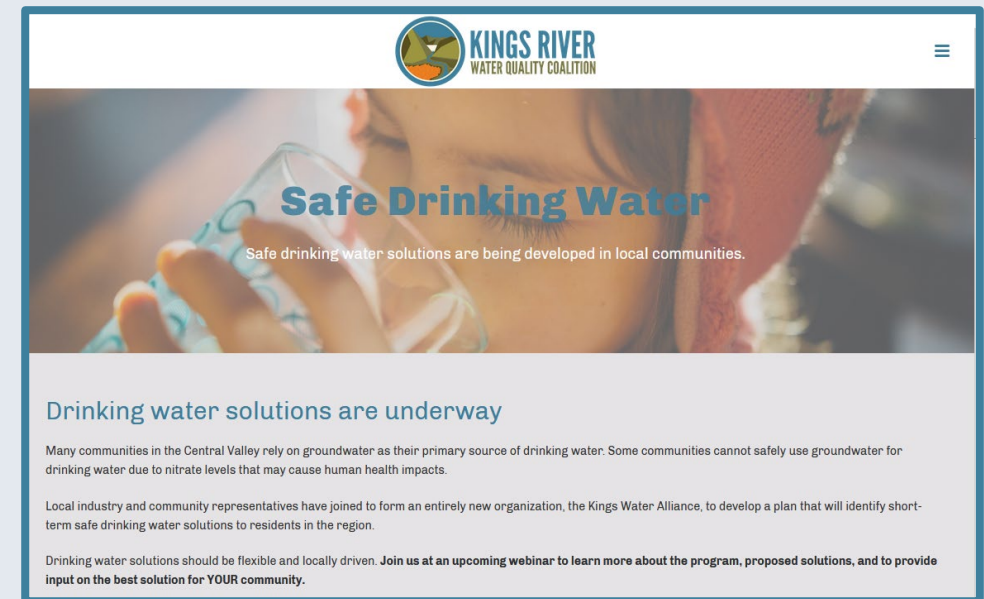
- Phone: (559) 549-6747
- Website: [www.kingsriverwqc.org/drinkingwater](http://www.kingsriverwqc.org/drinkingwater)

## ■ Kings River Water Quality Coalition

- PO Box 8259, Fresno, CA 93747
- Phone: (559) 365-7958
- Fax: (559) 237-5560
- Email: [info@kingsriverwqc.org](mailto:info@kingsriverwqc.org)
- Website: [www.kingsriverwqc.org/](http://www.kingsriverwqc.org/)

## ■ Contacts

- Debra Dunn [ddunn@krcd.org](mailto:ddunn@krcd.org)
- Charlotte Gallock [cgallock@krcd.org](mailto:cgallock@krcd.org)







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## QUESTIONS AND ANSWERS

- If you have a question, either:
  - Click on the “Raise Your Hand” icon to be recognized; once recognized, please unmute yourself and ask your question
  - Click on the “Q&A” icon and type your question for our team to read and address