Kaweah Subbasin Farmer-Rancher Meeting

APRIL 23, 2019

INTERNATIONAL AGRI-CENTER

TULARE, CALIFORNIA

Agenda

5:00–5:30 p.m. – Registration and Open House

5:30–5:50 p.m. – Welcome, SGMA Overview and Undesirable Results in the Region

5:50–6:10 p.m. – What "3 Buckets Allocation" Means to the Subbasin's Water Budget

6:10–6:30 p.m. – Projects and Management Tools Under Consideration for GSP Development

6:30–6:50 p.m. – GSP Adoption Schedule, Next Steps, and Anticipated 2020 Actions

6:50–7:30 p.m. – Panel Discussion and Q&A

Meeting Sign-In

Sign-in with your Smartphone and take a brief poll at:

www.tinyurl.com/kaweahwater

Or

Scan the QR Code:

- ✓Add your email address to receive notifications
- ✓Groups' answers to poll questions to be displayed during the meeting

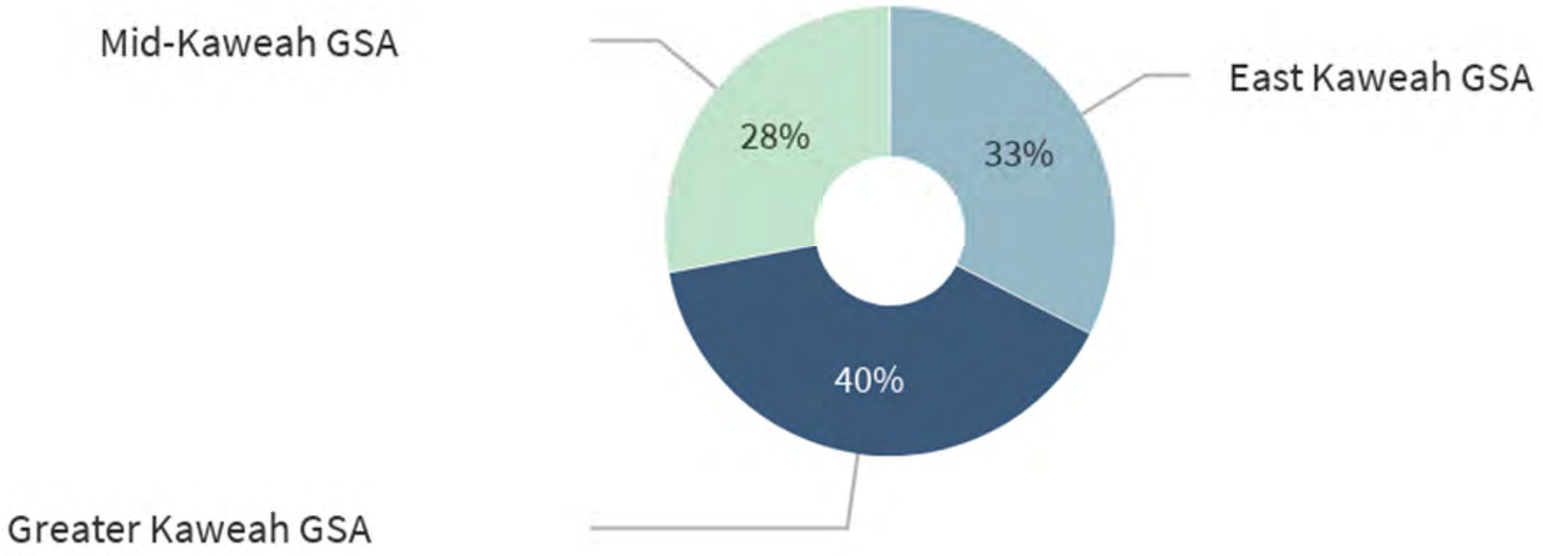
Welcome, SGMA Overview and Undesirable Results in the Region

ERIC OSTERLING, GREATER KAWEAH GSA

Poll Question:

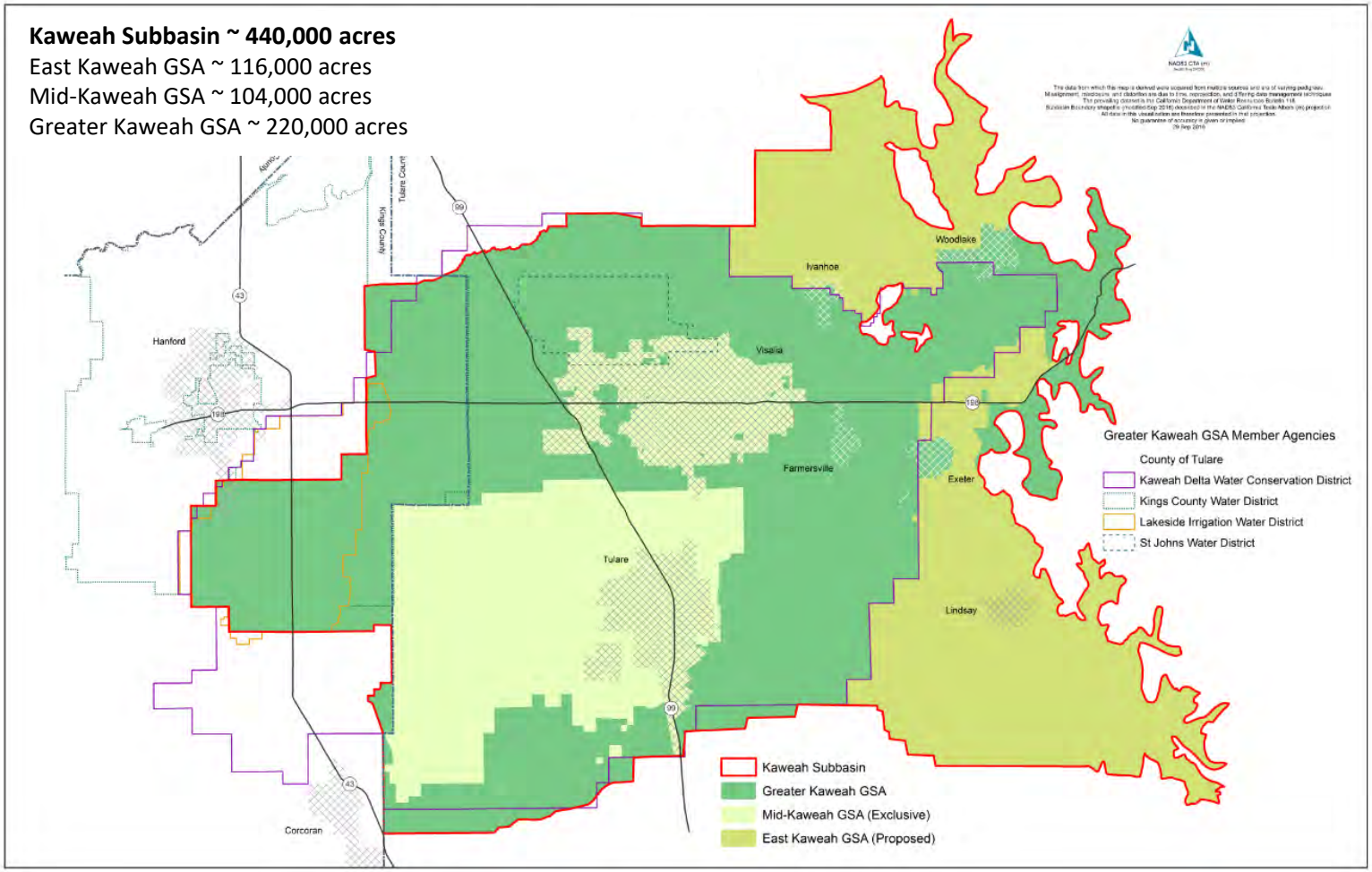
Which Kaweah Subbasin GSAs do you operate? (click all that apply)

East Kaweah GSA **A** | Greater Kaweah GSA **B** | Mid-Kaweah GSA **C** | None of the above **D**



Kaweah Subbasin GSAs and Basin Coordination

Kaweah Subbasin ~ 440,000 acres
East Kaweah GSA ~ 116,000 acres
Mid-Kaweah GSA ~ 104,000 acres
Greater Kaweah GSA ~ 220,000 acres



Kaweah Subbasin GSAs and Basin Coordination

- **East Kaweah GSA**
  - 7 member Joint Powers Agency
  - 11 member Board of Directors
  - Advisory Committee, Technical Advisory Committee
  - Provost & Pritchard consulting on technical and outreach work
- **Mid-Kaweah GSA**
  - 3 member Joint Powers Agency
  - 6 member Board of Directors
  - Advisory Committee
  - GEI/Stantec consulting on technical and outreach work
- **Greater Kaweah GSA**
  - 5 member Joint Powers Agency
  - 9 member Board of Directors
  - Rural Communities Committee, Stakeholder Committee, Technical Advisory Committee
  - GEI/Stantec consulting on technical and outreach work

Kaweah Subbasin GSAs and Basin Coordination

- **Basin Management Team Committee**
  - 9 appointed members
  - Each GSA appoints 3 management staff-level members
  - Advises on subbasin consultant work
  - Considers and makes subbasin policy recommendations

- **Each GSA is developing their own GSP**
  - Robust coordination agreement that stitches the plans together is required by the state
  - Shared GSP outline of chapters
  - Basin technical work feeds into the plans and facilitates consistency

SGMA's Goal

- Ensure sustainable management of groundwater resources (basin is operated within its sustainable yield) within 20 years, by avoiding "undesirable results" that are significant and unreasonable.
- Core Principle: Local Control

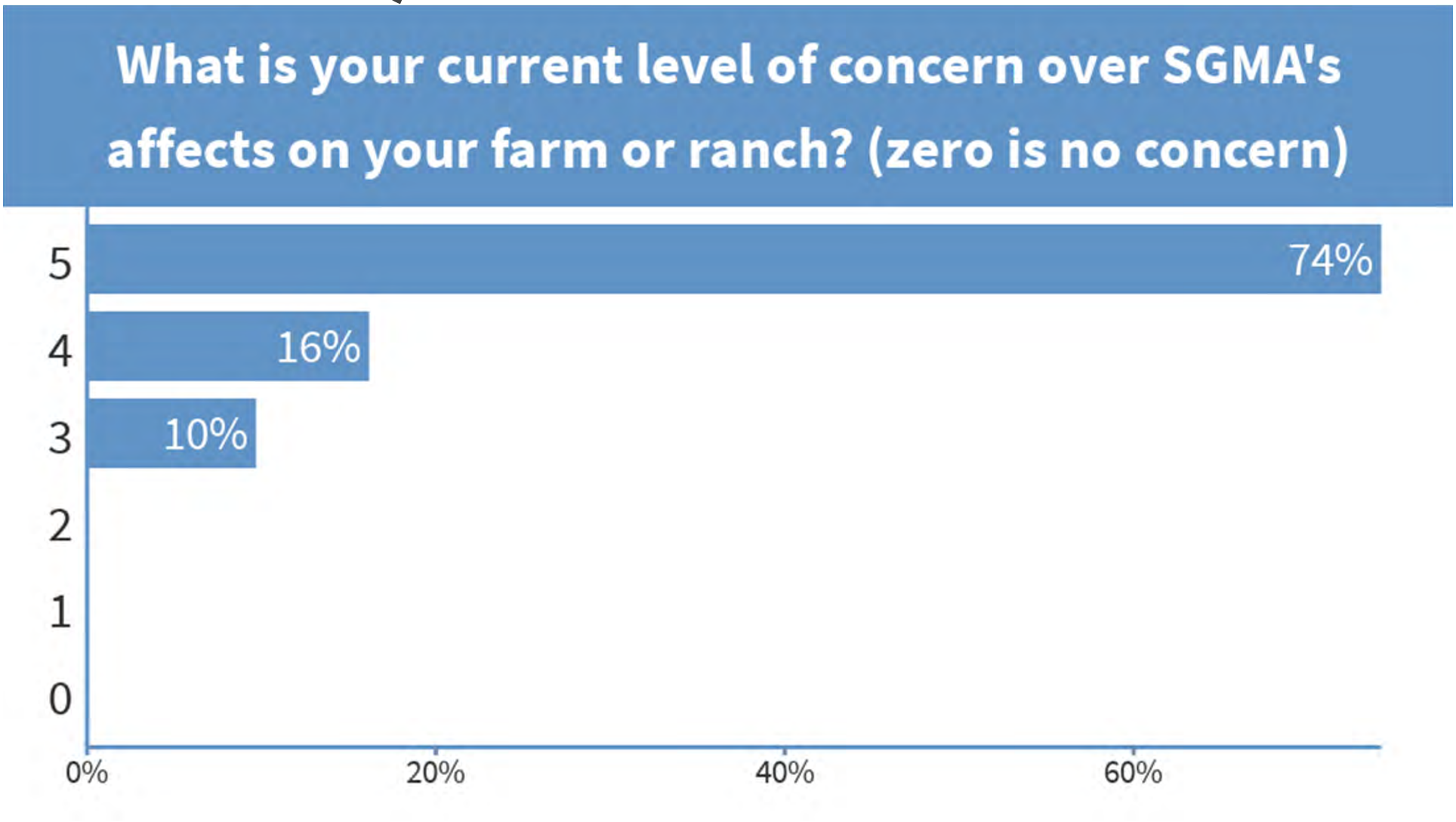
Sustainable Yield: *The maximum quantity of water that can be withdrawn annually from a groundwater supply without causing an undesirable result.*

Safe Yield: *The Maximum quantity of water that can be withdrawn from a groundwater basin at a given time without overdraft*

Undesirable Results: *One of six groundwater conditions that must be avoided in order to comply with the Sustainable Groundwater Management Act.*

Undesirable Results in the Region

Poll Question:



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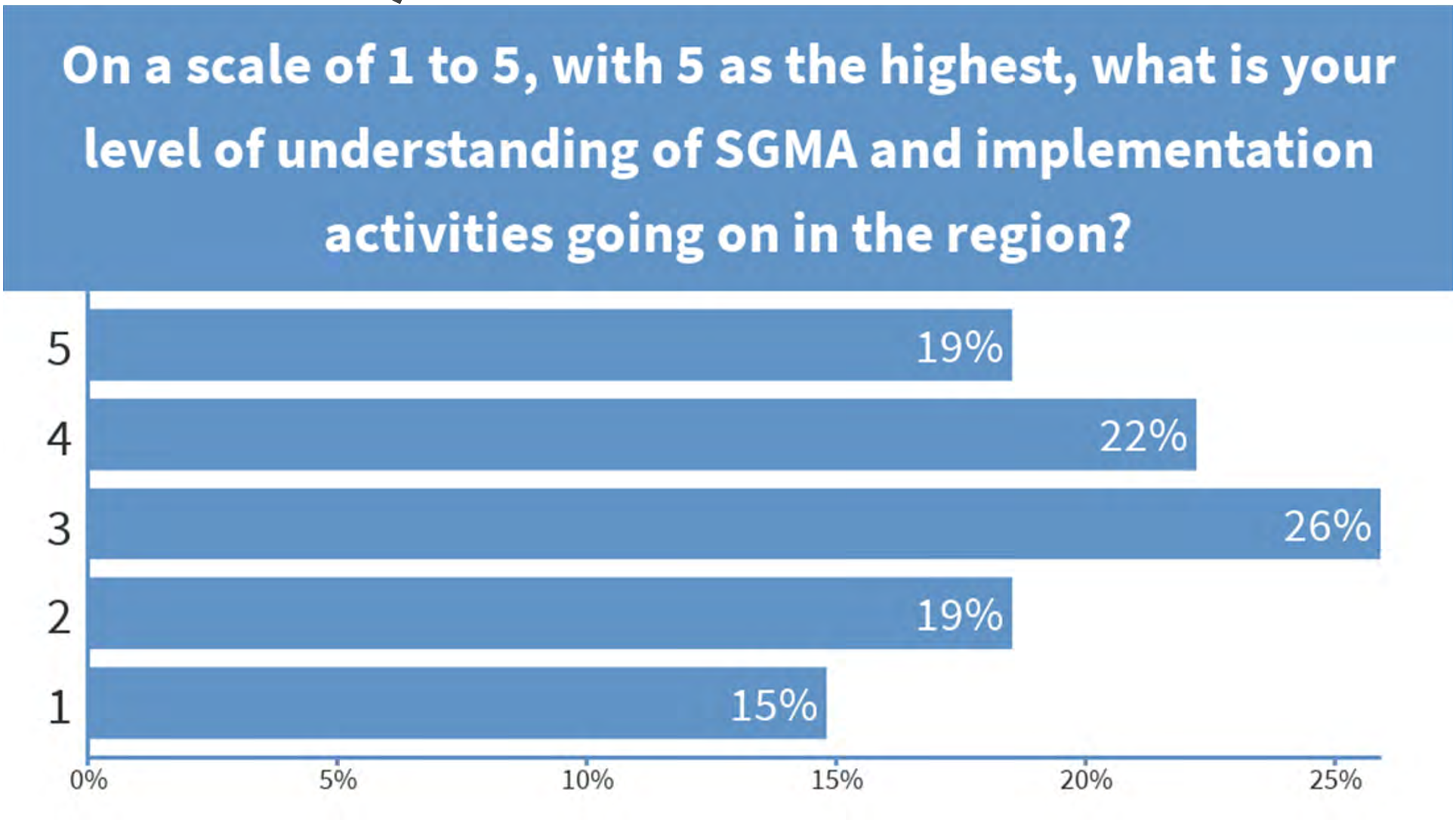
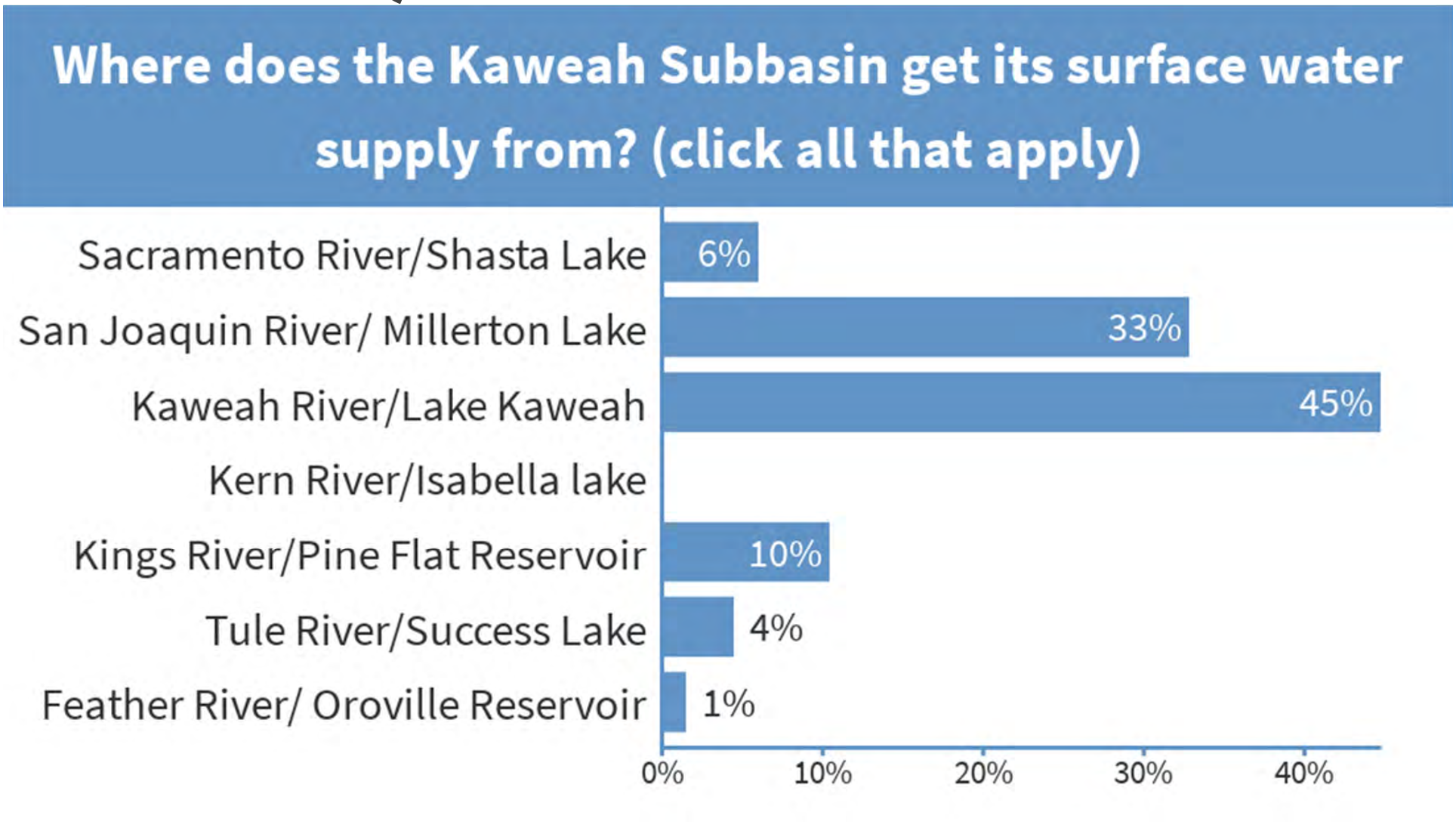


What “3 Buckets Allocation” Means to the Subbasin’s Water Budget

PAUL HENDRIX, MID-KAWEAH GSA

Poll Question:



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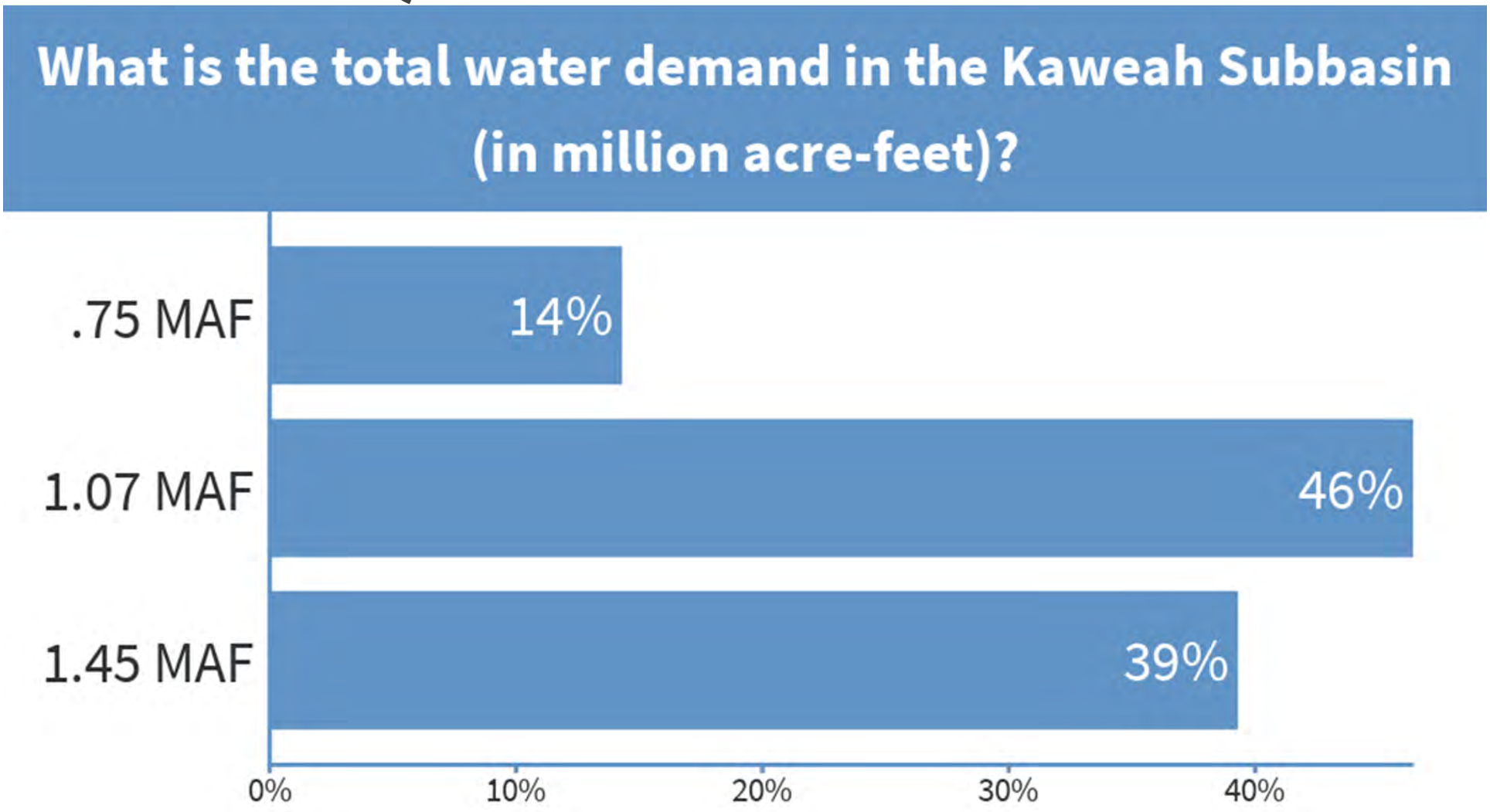

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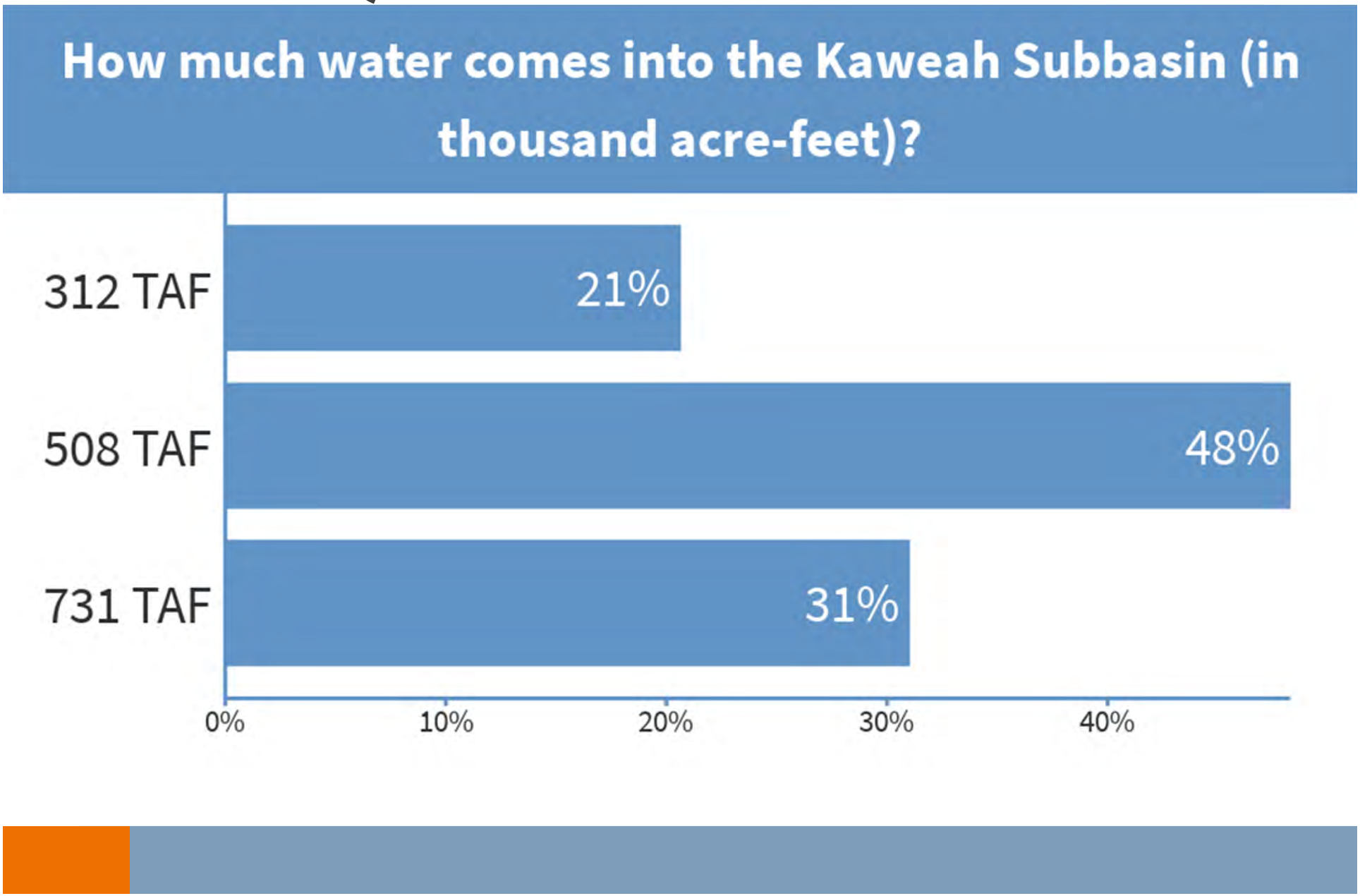
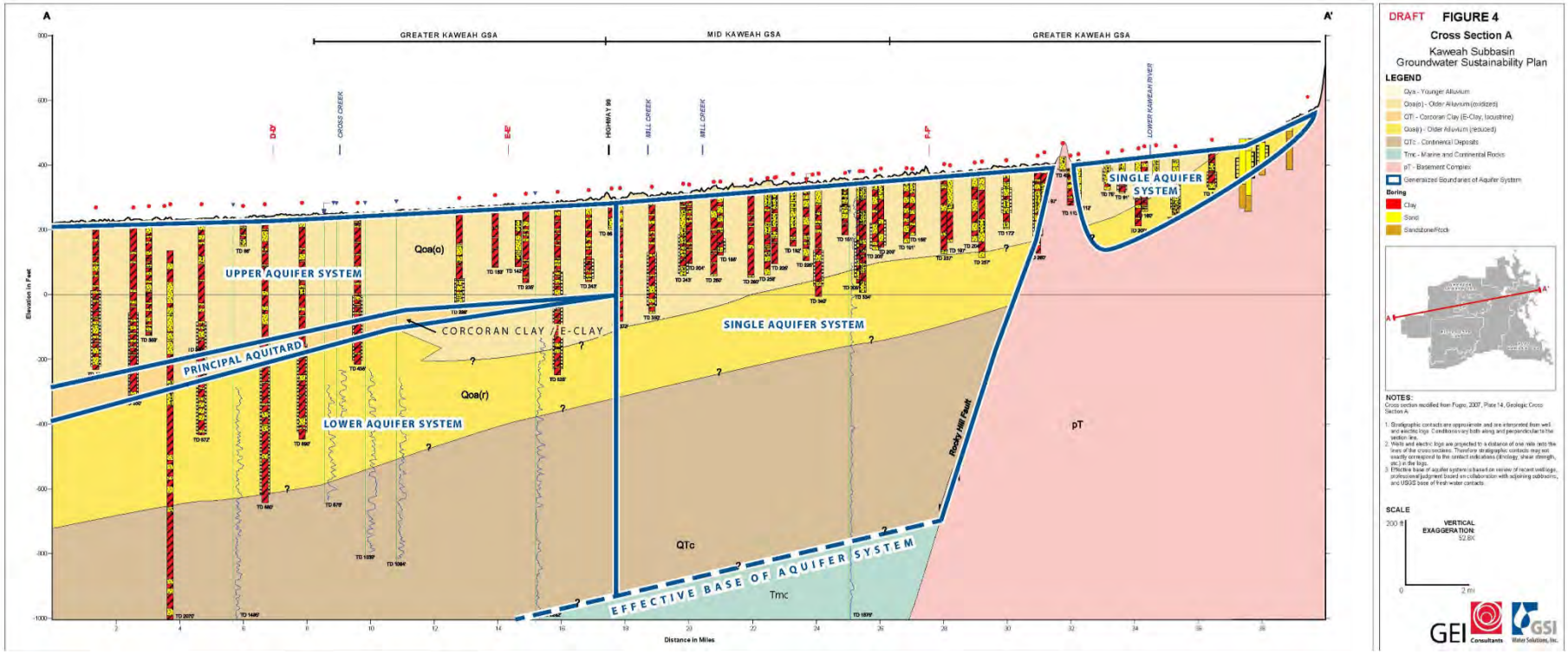


The Basin Setting, or
What Do We Know and What Don't We Know

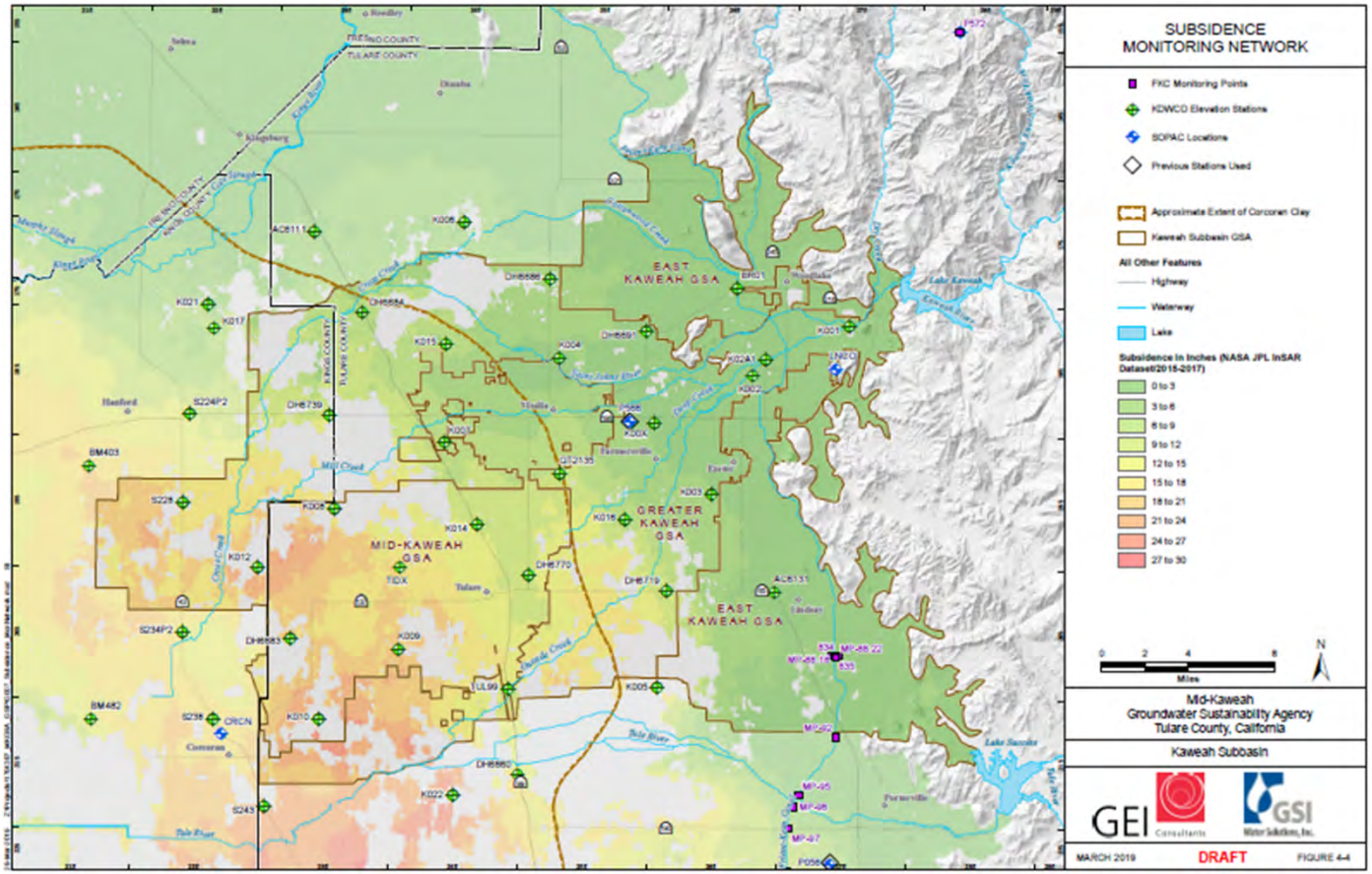
- State wants to know what we know of our groundwater
  - Geology
  - Water supplies
  - Water Use – past, present and future
  - Groundwater conditions across the region
  - Water balance (in the red or black)
  - What are the problems
- 370 page report to be affixed to each GSP

THE BOTTOM LINE: TOTAL PUMPING 798,000 AF; PUMPING TO STAY IN BALANCE 720,000 AF; 78,000 AF OF AVERAGE ANNUAL OVERDRAFT

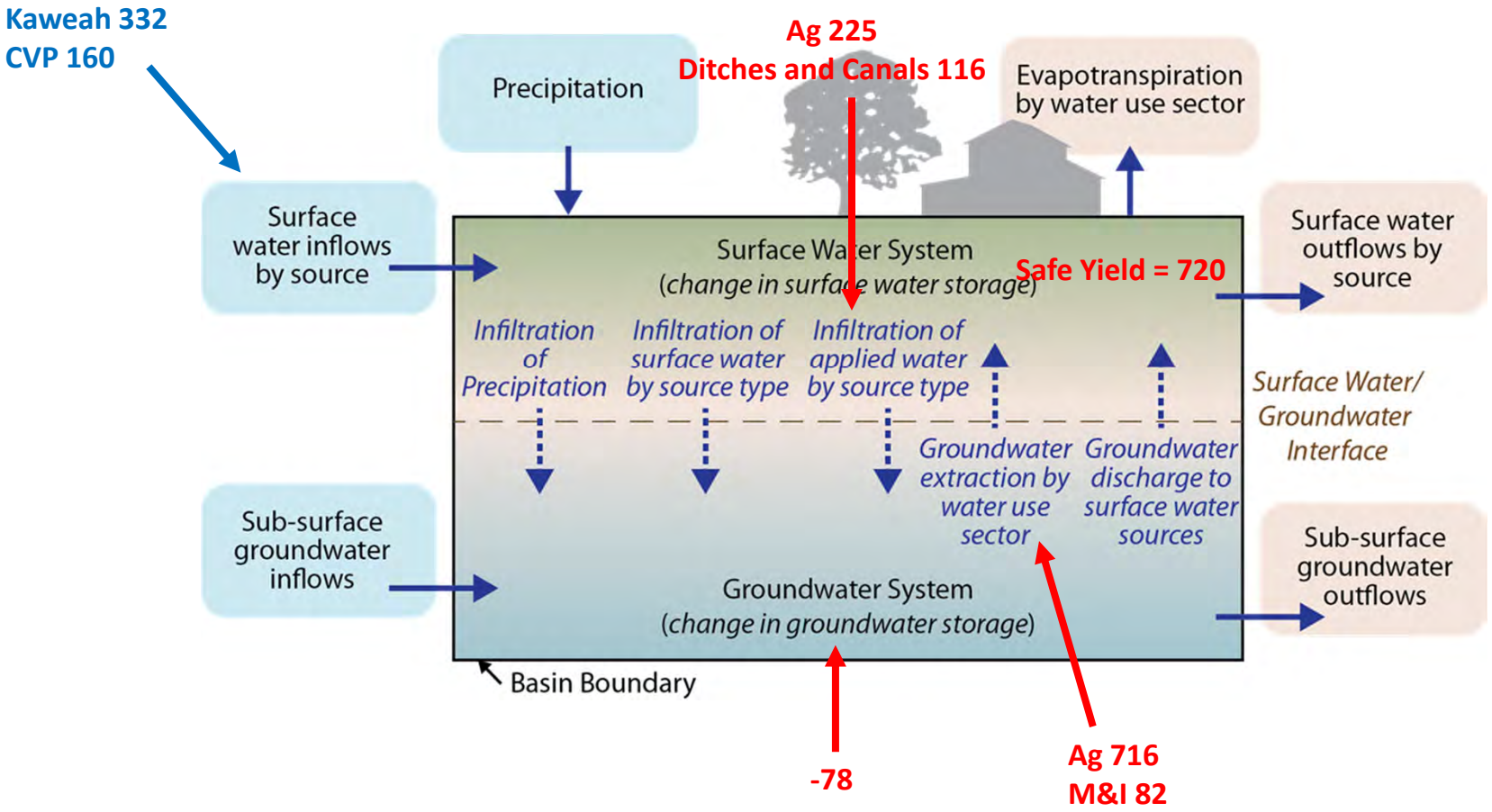
Conditions Vary – West to East



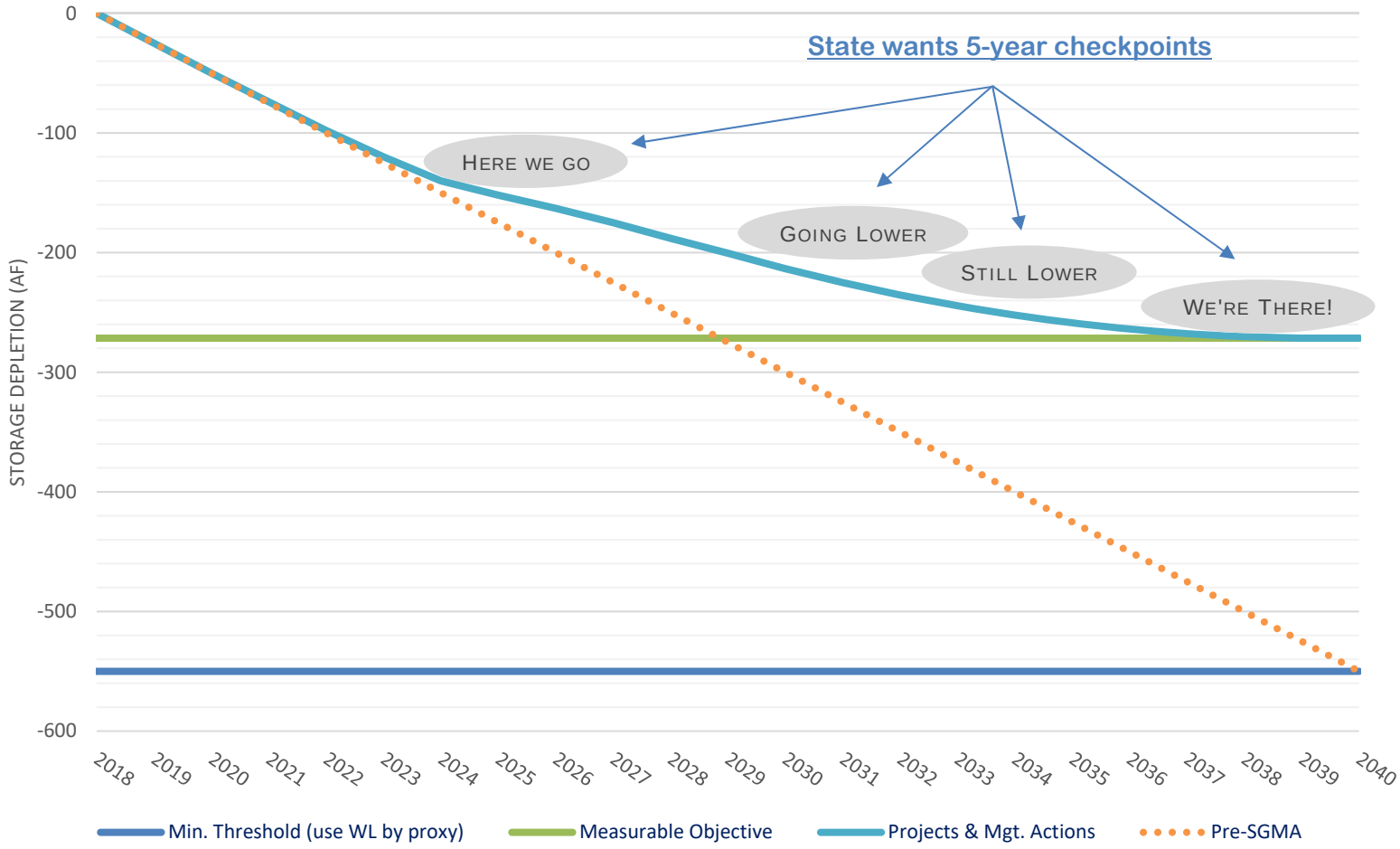
That Sinking Feeling



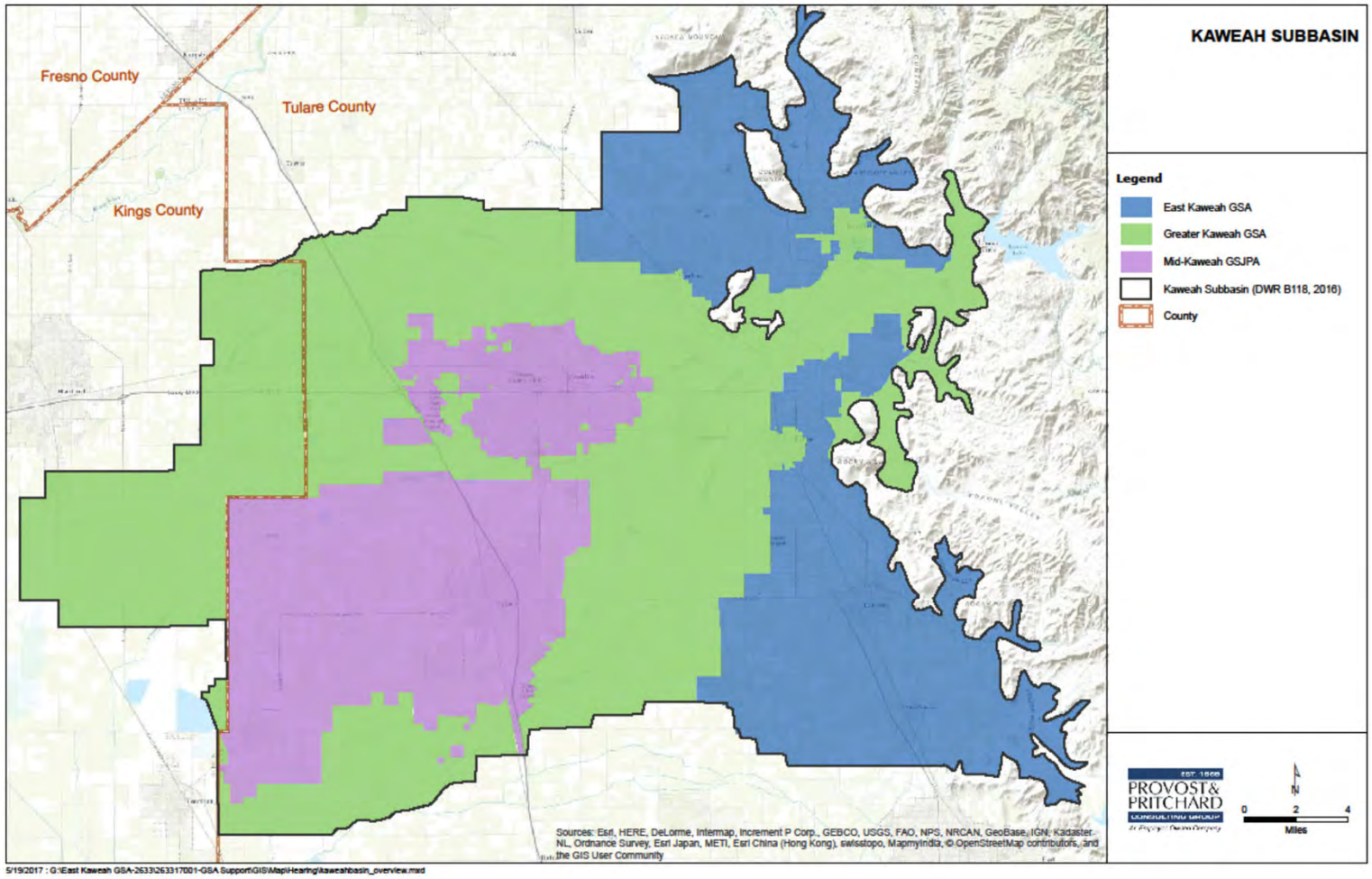
Pertinent Basin Estimations (taf per yr)



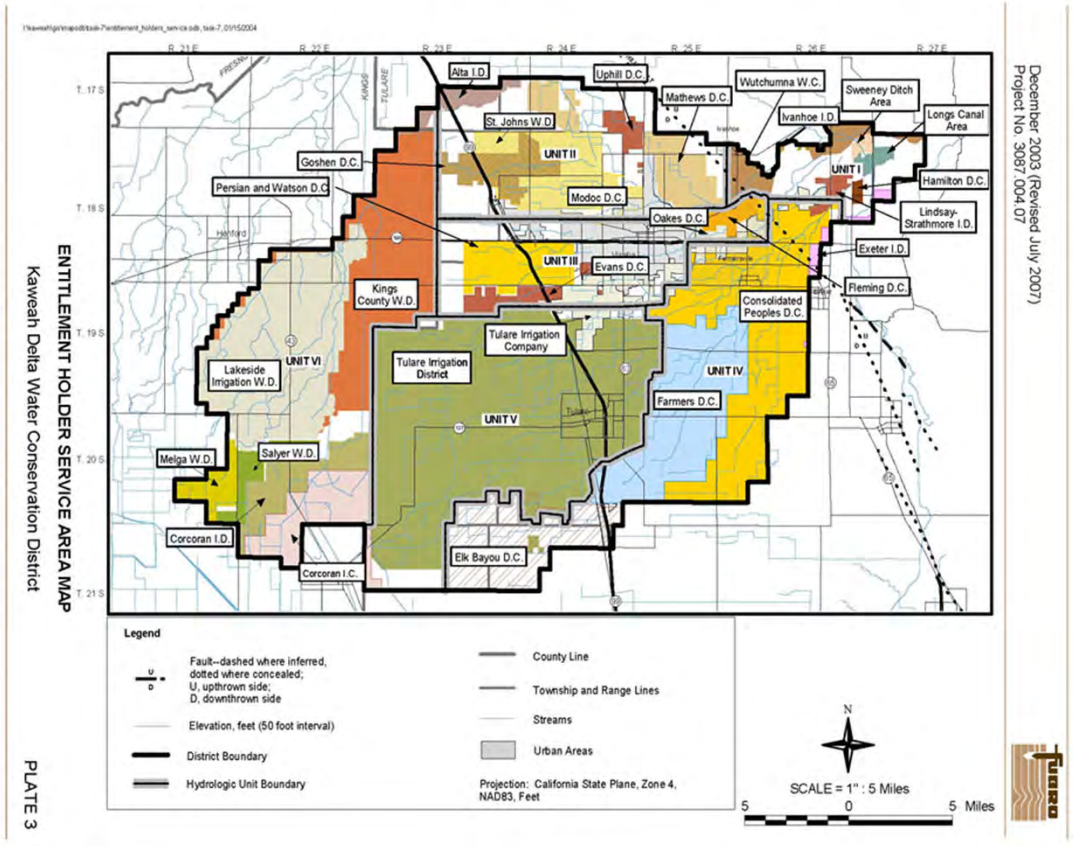
Arresting the Trend



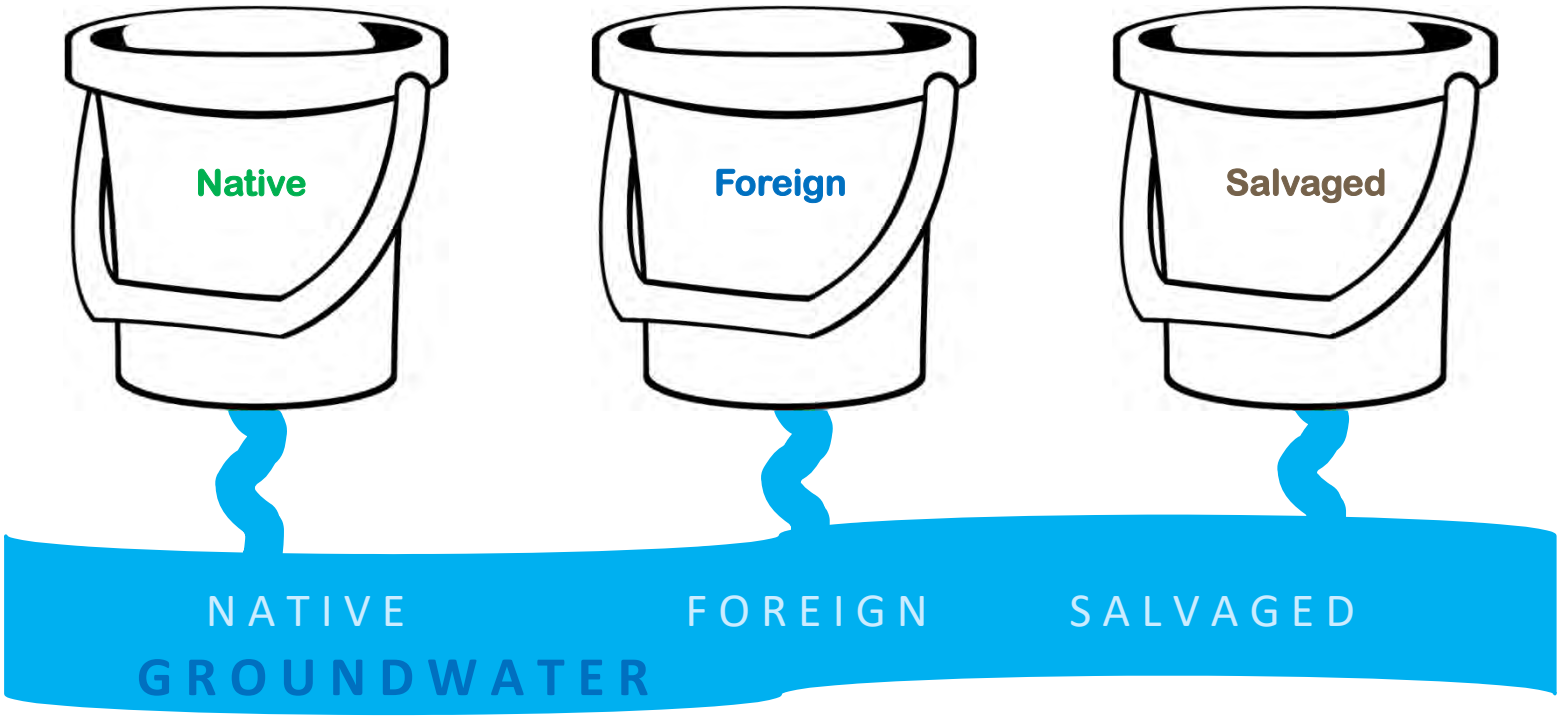
Sharing the Load



It Gets More Complicated

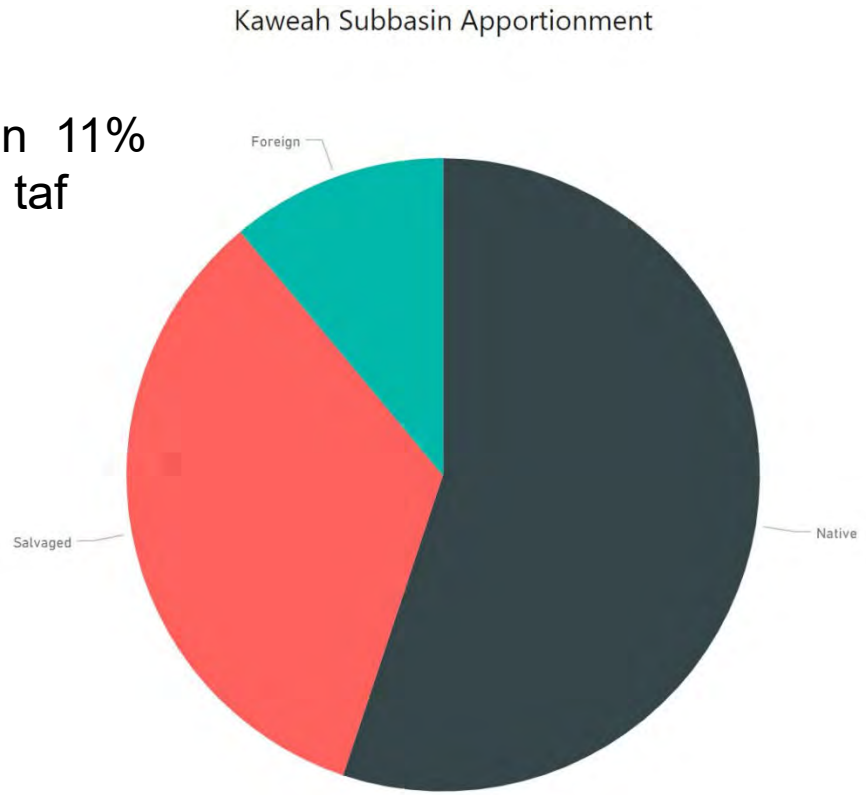


Three Buckets - Implications



Inflows into Groundwater - Slicing the Pie

Foreign 11%
73 taf



Salvaged 34%
223 taf

Native 55%
364 taf

Projects and Management Tools Under Consideration for GSP Development

AARON FUKUDA, TULARE IRRIGATION DISTRICT

Projects and Management Actions Under Consideration for GSP Development

Emergency Regulation for GSP Section 354.44

What are the projects and management actions a GSA will implement to overcome their overdraft?

PROJECTS

- Recharge Basins
- Surface Water Storage
- On-Farm Recharge
- Groundwater Injection Wells
- Surface Water Leveraged Exchanges

MANAGEMENT ACTIONS

- Extraction Measurement (Meters)
- Pumping Allocations
- Groundwater Marketing
- Ag. Water Conservation
- Data Gathering

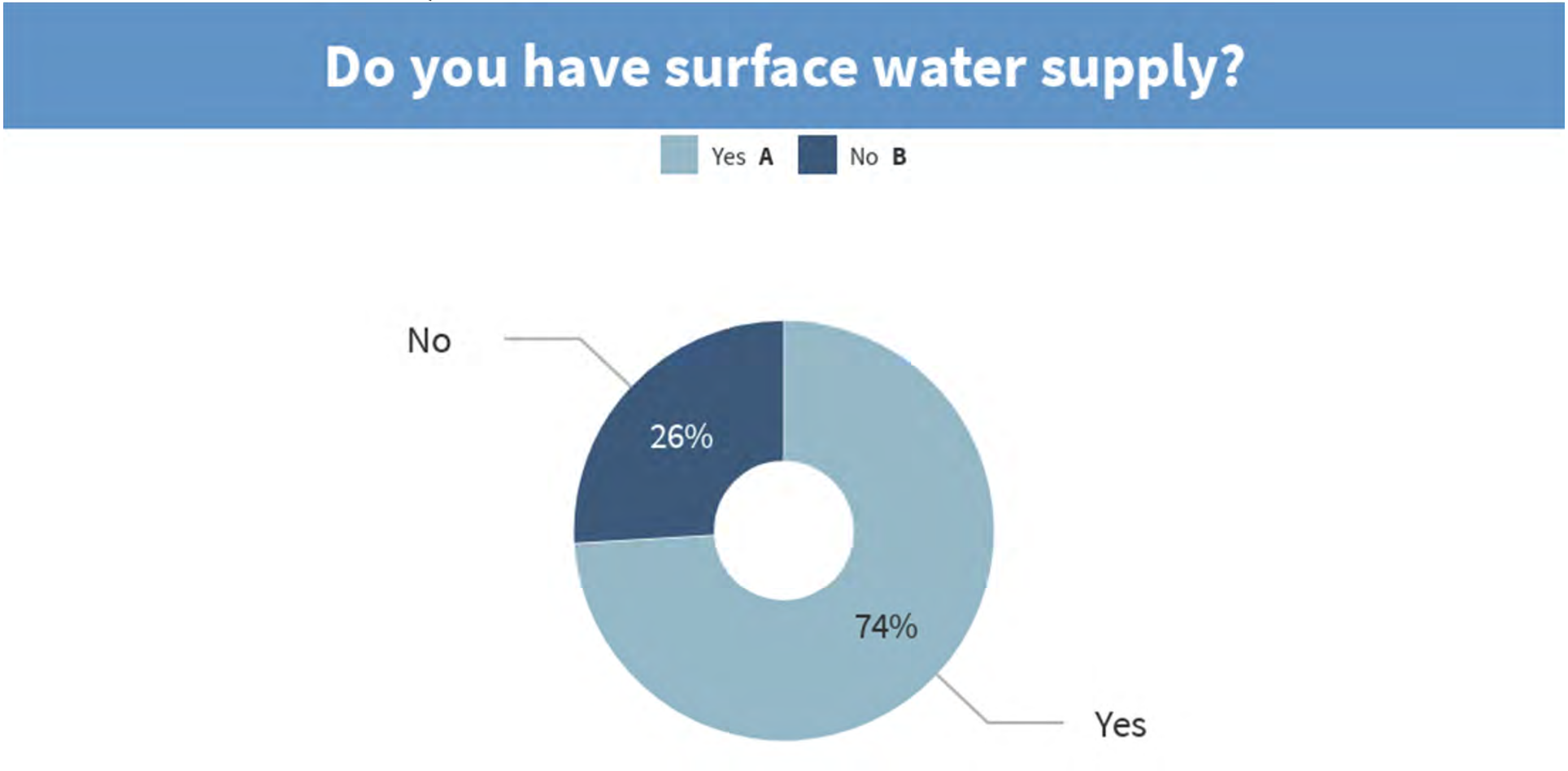
Each GSA is considering utilization of all or a portion of these projects and management actions

MKGSA Project: On-Farm Recharge

2011 – Concept
2016 – Pilot Program Initiated
2017 – Pilot Program Implemented
- On-Farm Recharge
- Reduce Rate Surface Water ($10/AF)
- Private Pond Recharge

Total Number of Participants	14
On-Farm Field Participants	6
On-Farm Pond Participants	8
On-Farm Field Acreage	650 Acres
Total Recharge	6,800 Acre-Feet[3]
On-Farm Field Recharge	2,500 Acre-Feet
On-Farm Pond Recharge	4,300 Acre-Feet

Poll Question:



MKGSA Project: On-Farm Recharge

Previous Winter Run Capacity 350 CFS

2017 On-Farm Program (Winter Run) = 650 CFS

- Intake Capacity of 900 CFS
- 250 CFS of increased recharge targeted
- On-Farm Ground achieved an average of *3.9 AF/Acre*

2017 Water Year

- 170,000 AF to Irrigation Turnouts
- 190,000 AF to Groundwater Recharge

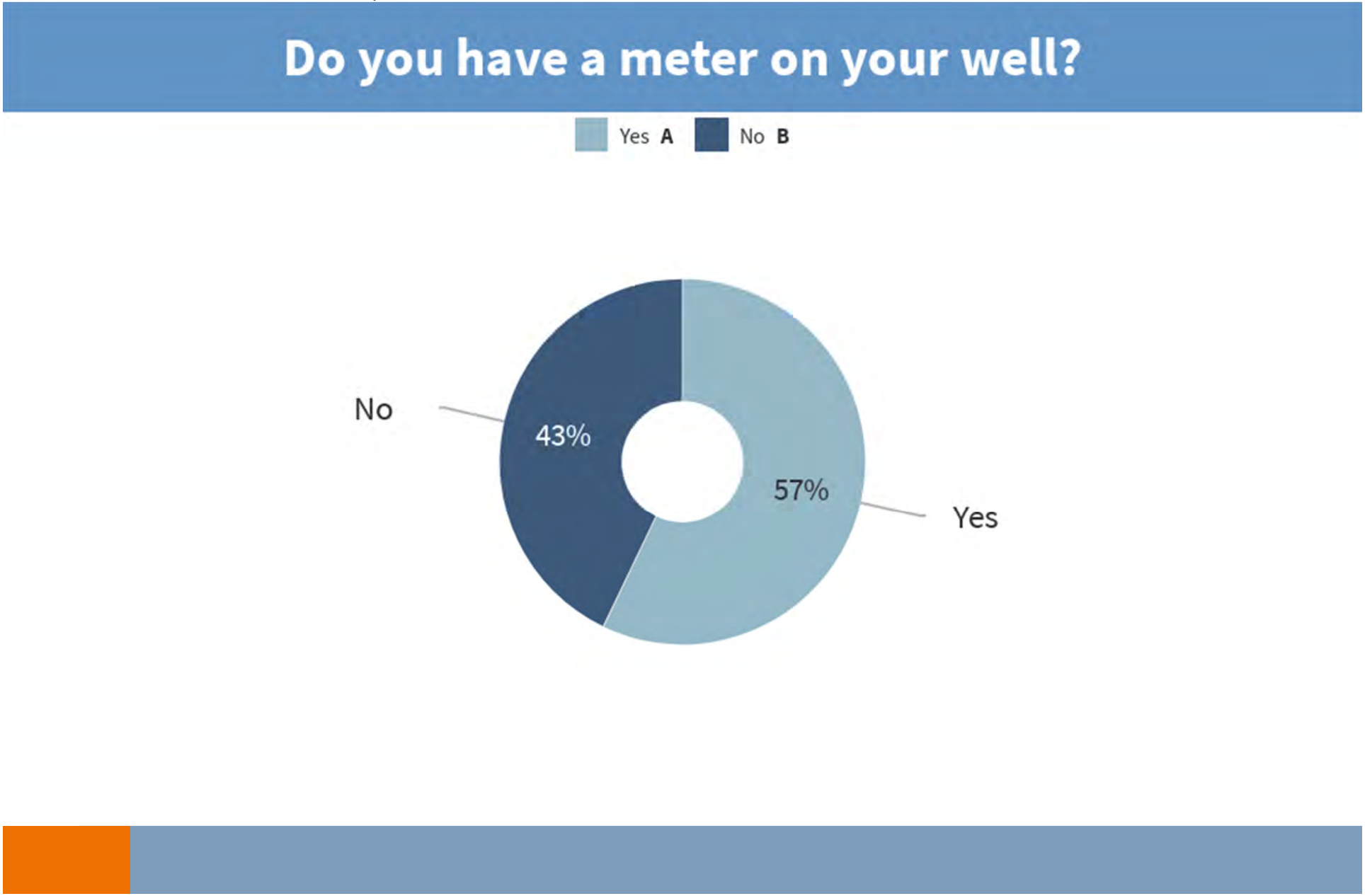
2019 On-Farm Recharge

- 725 acres on-farm ground and 7 private ponds
- Estimated Recharge = 3,500 AF

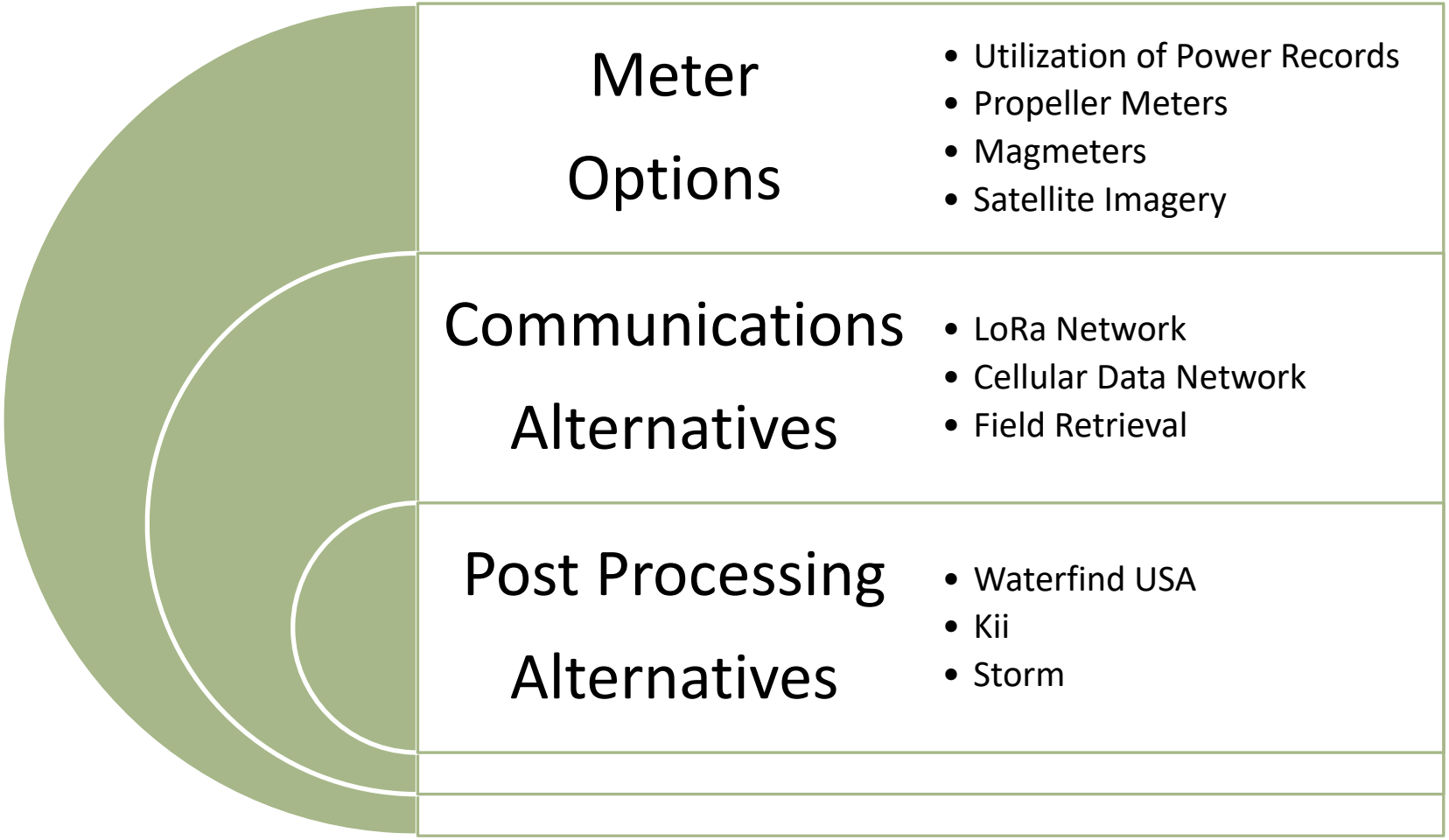
2020 On-Farm Goal

- Enroll 1,100 acres on-farm ground and 10 private ponds
- Accomplish enrollment and contracts in Fall 2019

Poll Question:



Deepwell Metering Program



Deep Well Metering Pilot Program

Phase 1 – Identify Demonstration systems for measurement of groundwater extraction

Phase 2 – Develop and present Groundwater Measurement 2019/20 Demonstration Scope of Work and Budget

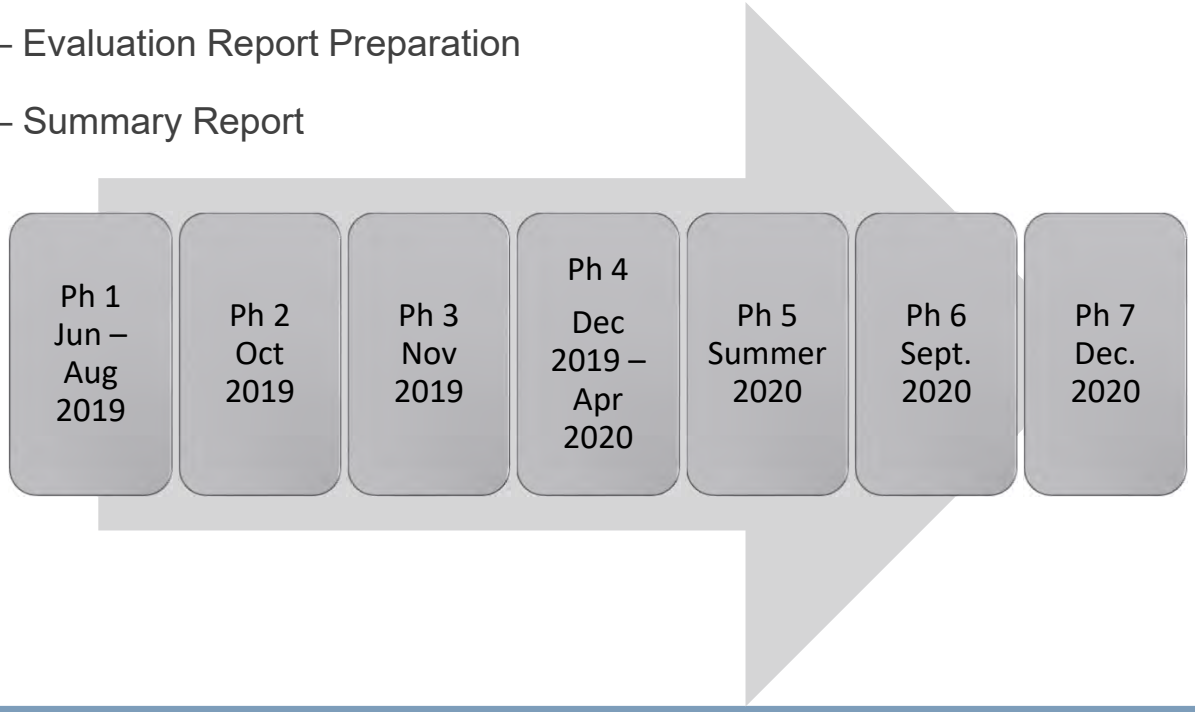
Phase 3 – Acquire demonstration units

Phase 4 – Install demonstration units on voluntary wells

Phase 5 – Irrigation Season

Phase 6 – Evaluation Report Preparation

Phase 7 – Summary Report



Groundwater Marketing

Similar to a Cap & Trade system

- A Groundwater Allocation system sets the CAP
- The Groundwater Marketing System sets the TRADE

Questions yet to be answered:

- What is the Groundwater Allocation System?
- Who would manage the Groundwater Marketing System?
- What are the ground rules for the Groundwater Marketing System?
  - What is the protocol for trading groundwater?
  - How far can you transfer a groundwater pumping credit?
  - Can you trade a pumping credit across GSA boundaries or subbasin boundaries?
  - What happens if you pump more than your transfer amount?

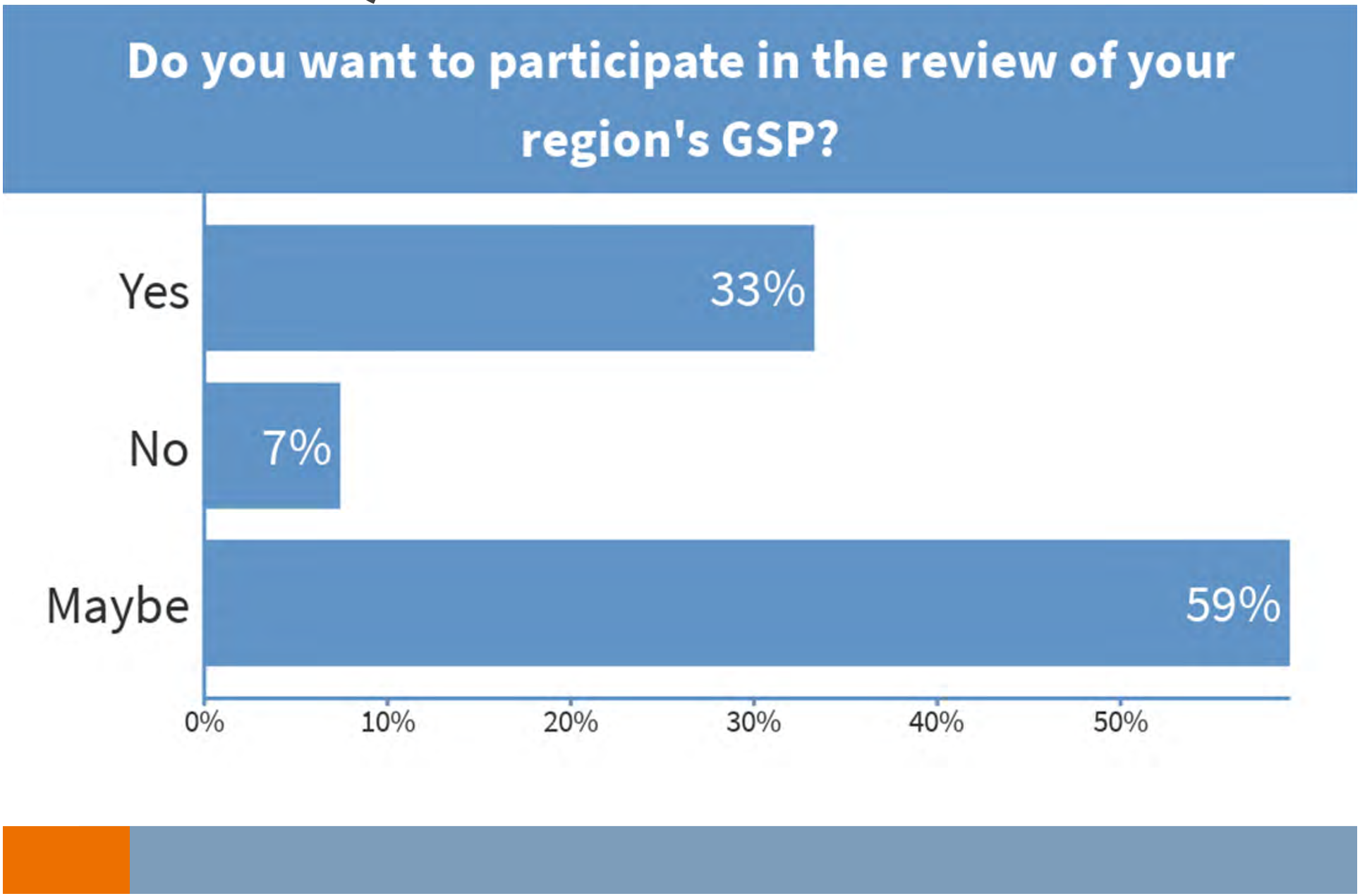
We anticipate most of the information and details needed to support a Groundwater Marketing System to be developed after 2020

- It would be a goal to have the Groundwater Allocation System and Groundwater Marketing System developed and implemented in the 2025 GSP

GSP Adoption Schedule, Next Steps, and Anticipated 2020 Actions

MIKE HAGMAN, EAST KAWEAH GSA

Poll Question:



GSP Adoption Schedule, Next Steps and Anticipated 2020 Actions

GSP Adoption Schedule & Next Steps

Public Review period begins late summer of 2019

- 90-day review period
- Public meetings will be held by the individual GSAs during this time
- Public hearing to be held at conclusion of 90-day review period

Final comments received during Public Review period will be addressed in November/December 2019

GSAs' boards of directors to adopt plan in December 2019

Final GSP submitted to DWR by January 30, 2020

GSP Adoption Schedule, Next Steps and Anticipated 2020 Actions

Anticipated 2020 Actions

The GSP will layout out actions that the GSAs need to take to accomplish sustainability by 2040.

The quest for sustainability will begin immediately following submission of GSP:

- Filling in any data gaps
- Begin putting in place monitoring networks
- Developing a revenue mechanism
- Incentive-based reductions in groundwater demand
- Observe and monitor member agency recharge or groundwater reduction actions
- Other activities relative to sound understanding and decision-making process for accomplishing sustainability with framework of the law.

Panel Discussion and Q&A

Thank You