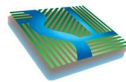


Oakdale Irrigation District Water Budget Update for Years 2020 to 2022

*March 5, 2024
Board of Directors Presentation*



DAVIDS
ENGINEERING, INC

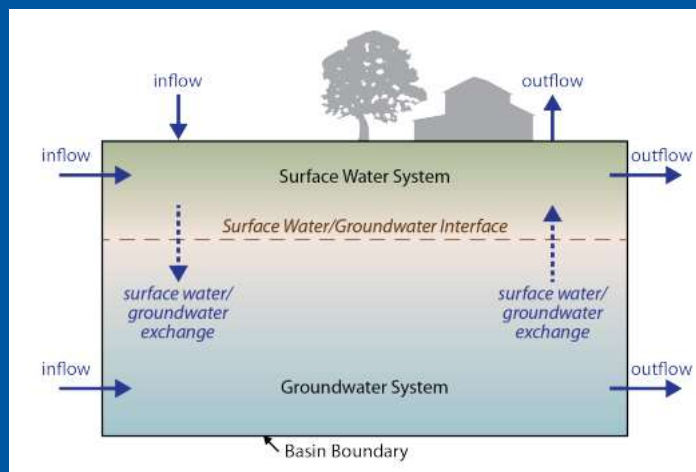
Serving Stewards of
Western Water Since 1993

Agenda

- Water Budget Background
- OID Water Budget
- Overall Water Budget Results
- Individual Flow Path Review
- Questions and Discussion

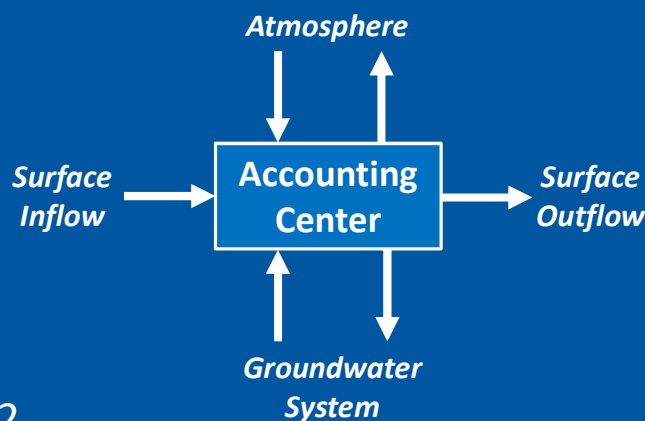
Water Budget Background: What is a Water Budget?

- A complete accounting of all water flowing into and out of a defined area (e.g. the district) over a specified period (months or years)
- $\text{Inflow} - \text{Outflow} \pm \text{Change in Storage} = 0$
- Just like your checking account:
 $\text{Deposits} - \text{Withdrawals} \pm \text{Change in Balance} = 0$



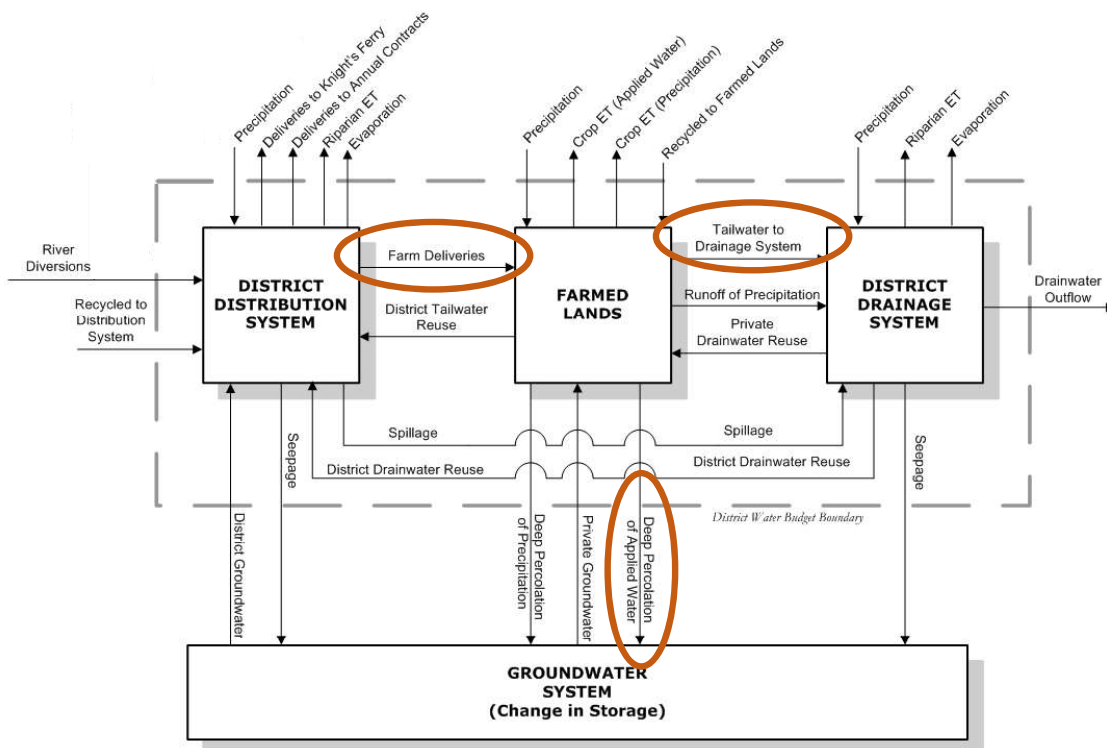
OLD Water Budget Background

- Divided into North and South zones
- Four accounting centers
 - Overall “boundary” balance
 - Distribution system
 - Farmed lands
 - Drainage system
- Computed monthly for years 2005 to 2022
 - Update adds 2020 to 2022
 - Emphasis on irrigation season with annual accounting to quantify recharge



OID Water Budget Schematic

- Every flow path is quantified
- Closure terms:
 - Farm deliveries
 - Deep percolation of applied water
 - Tailwater to drainage system



2020-2022 Water Budget Update

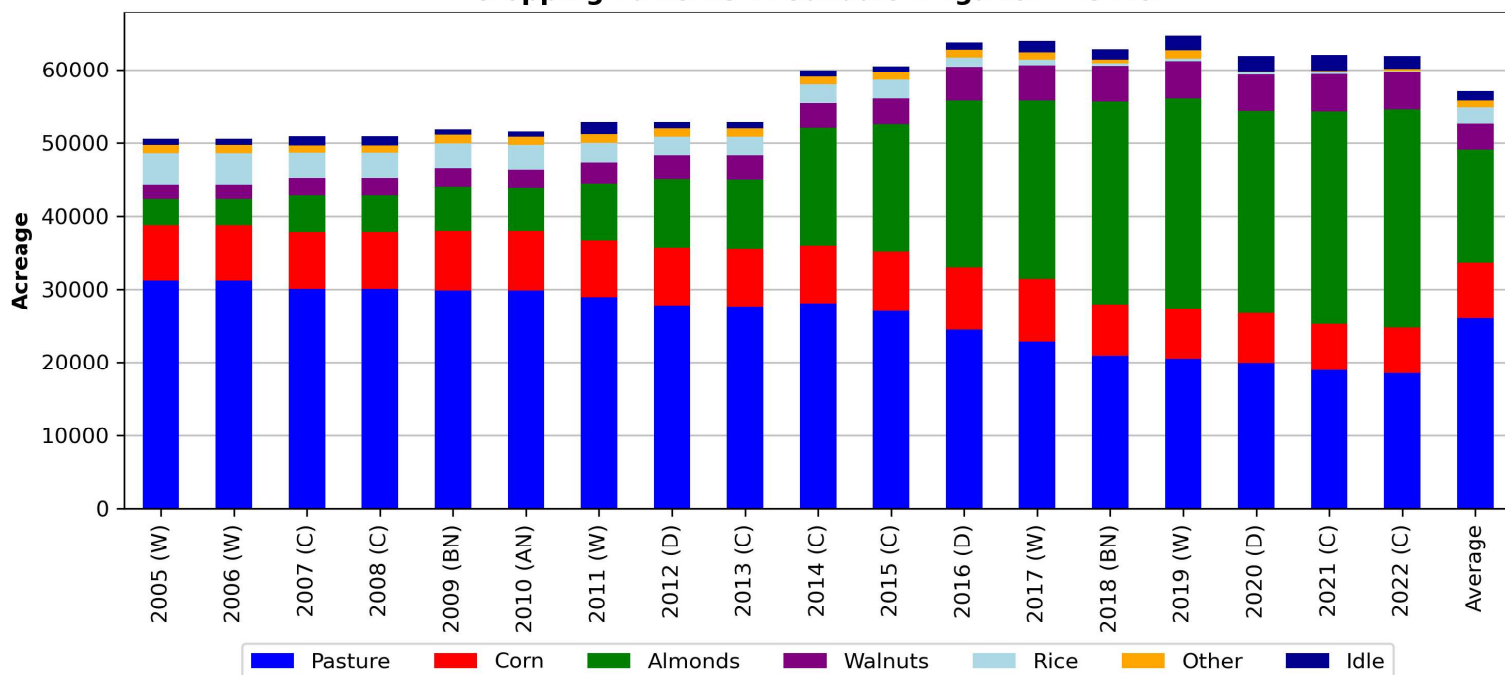
Slide 5



Serving Stewards of Western Water Since 1993

March 5, 2024

Cropping Patterns in Oakdale Irrigation District



Note: Land Use Reduced by 7.5% (to account for assessed vs. irrigated acreage, based on analysis of Landsat satellite data)

2020-2022 Water Budget Update

Slide 6

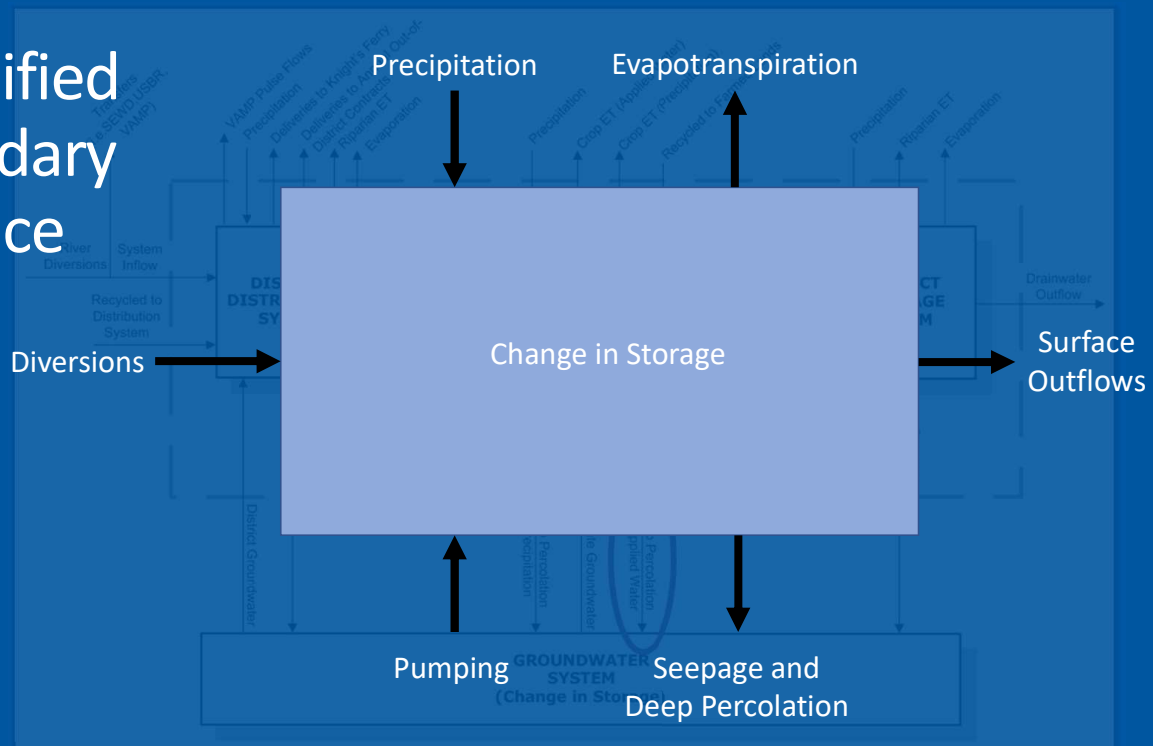


Serving Stewards of Western Water Since 1993

March 5, 2024

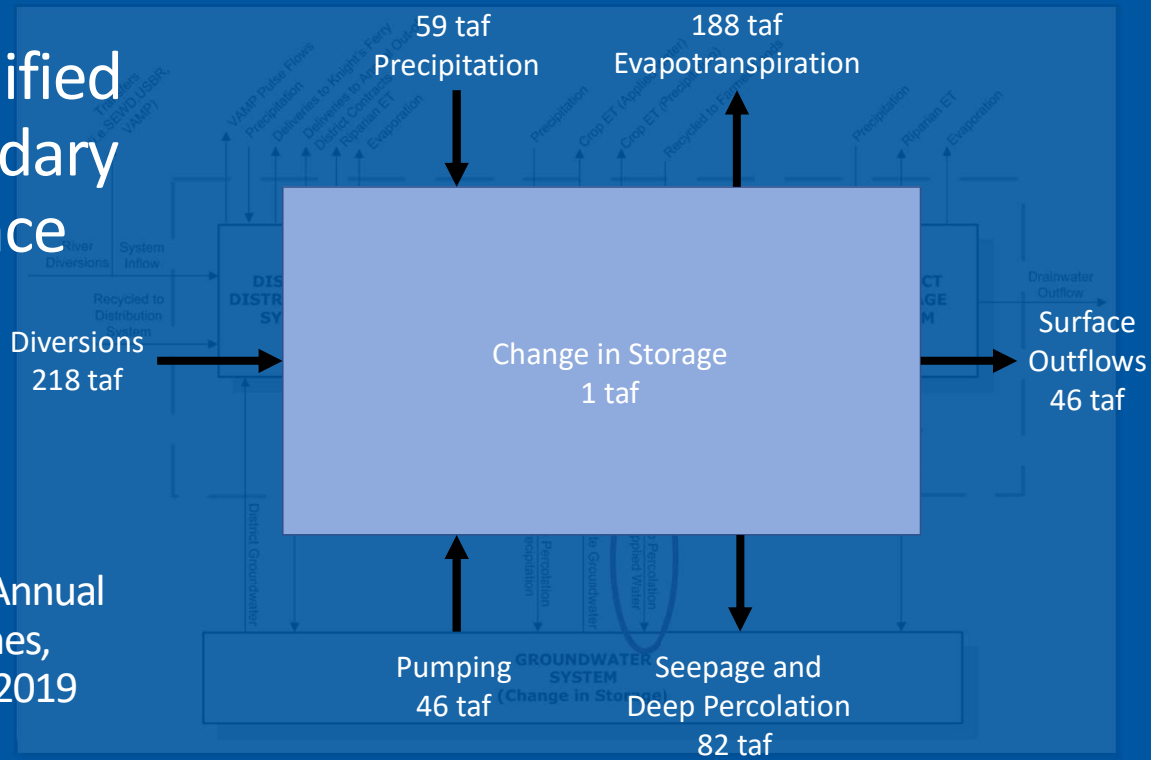
Overall Water Budget Results

Simplified Boundary Balance



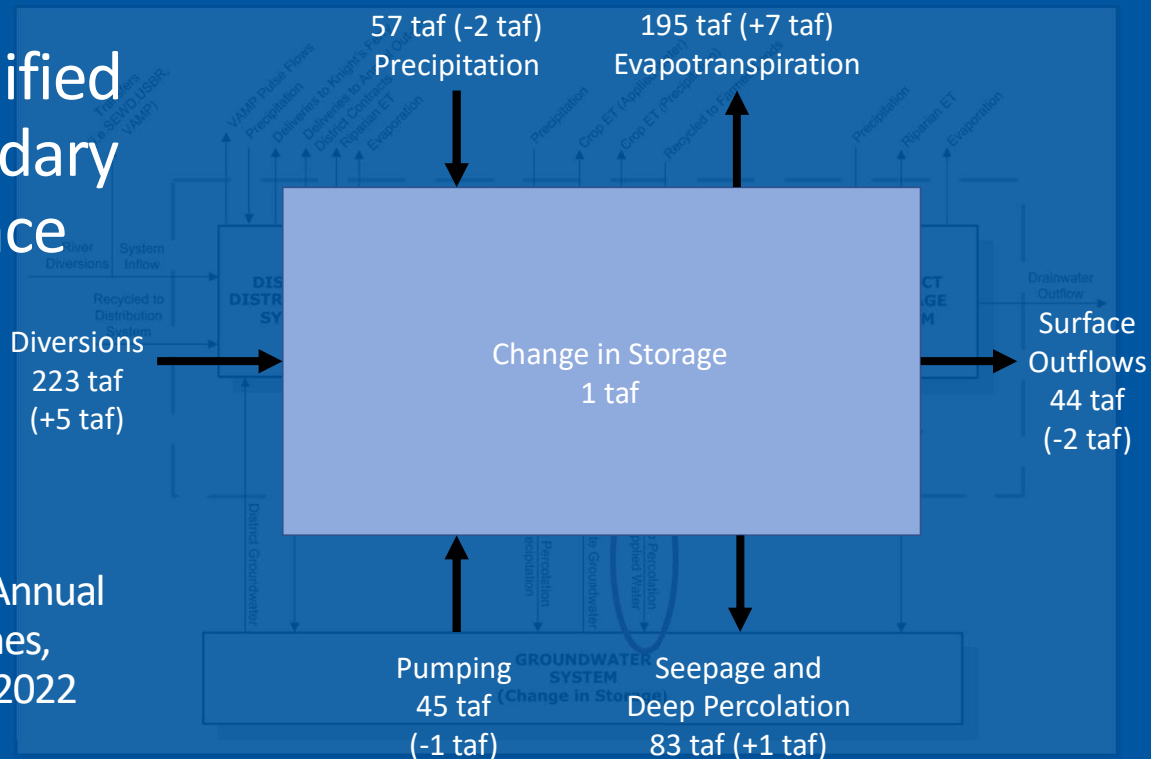
Simplified Boundary Balance

Average Annual Volumes, 2005 – 2019

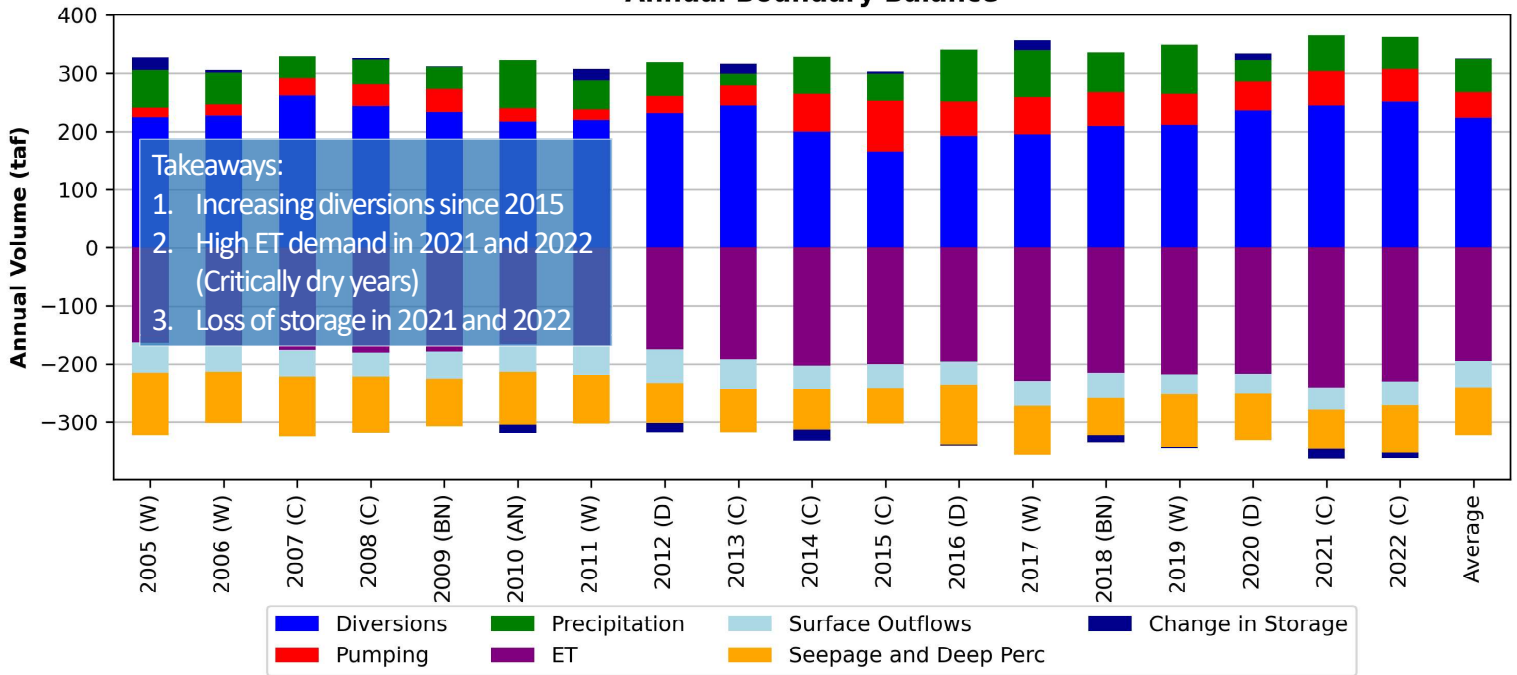


Simplified Boundary Balance

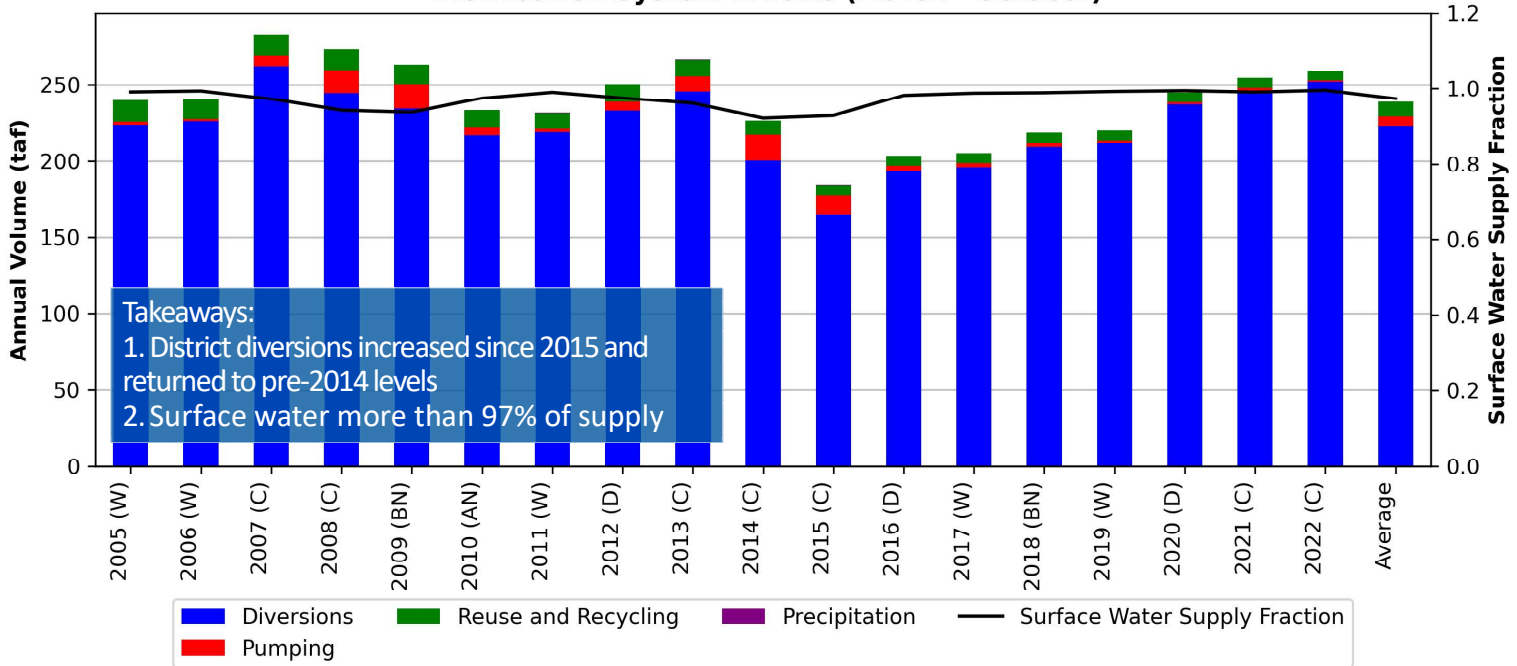
Average Annual Volumes, 2005 – 2022



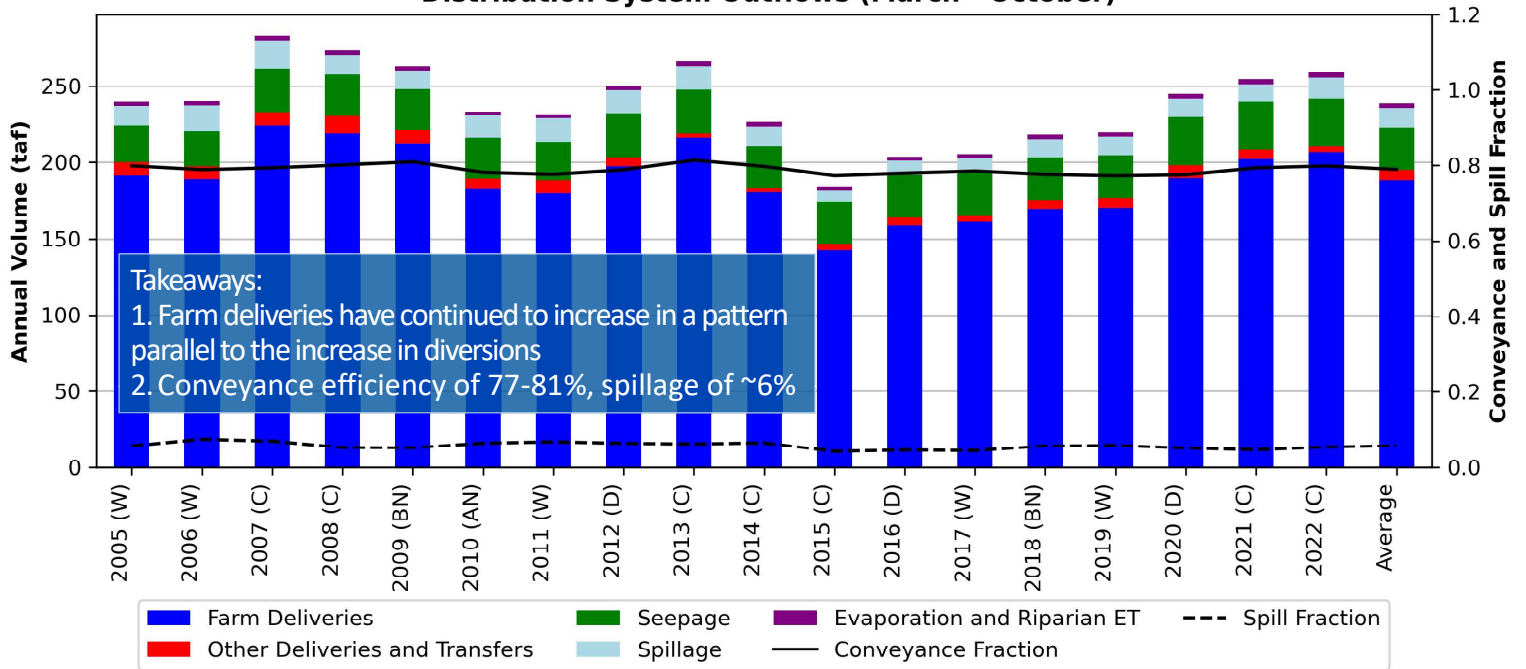
Annual Boundary Balance



Distribution System Inflows (March - October)

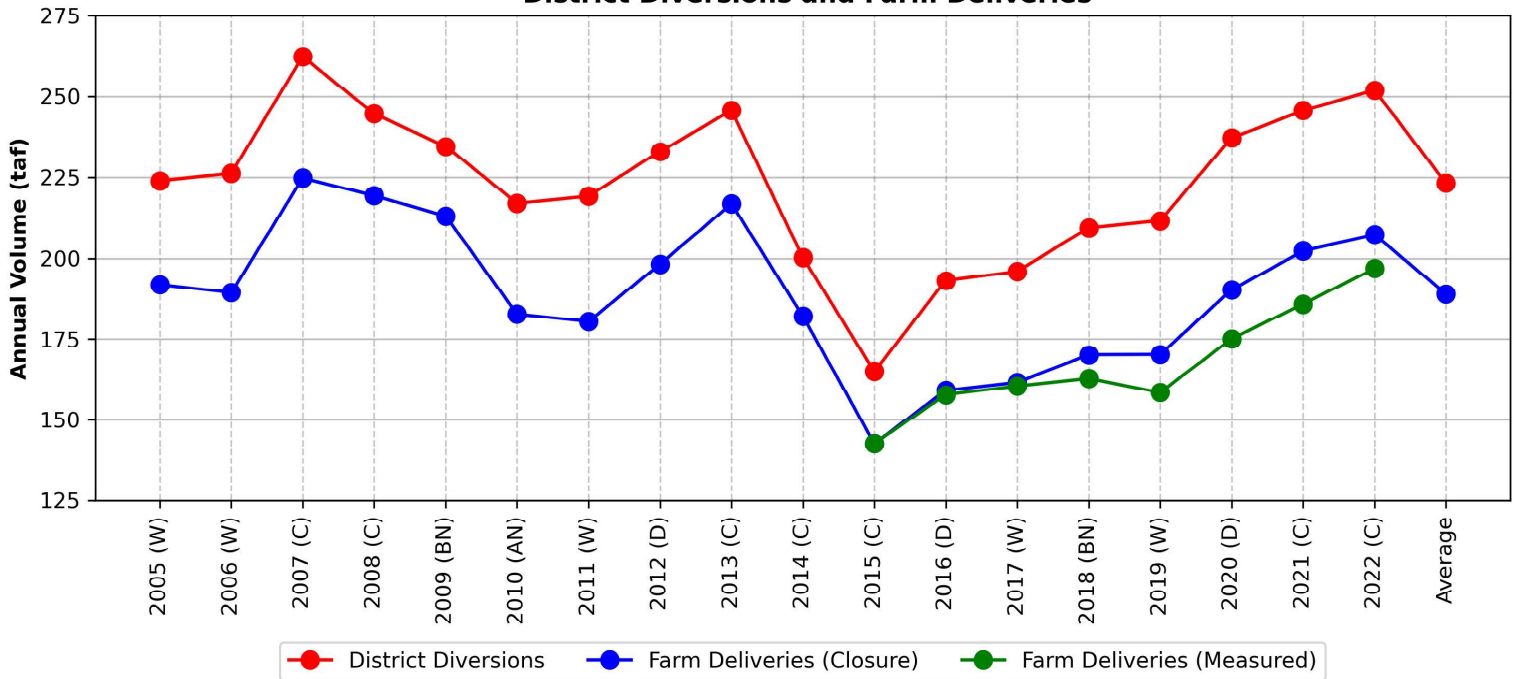


Distribution System Outflows (March - October)

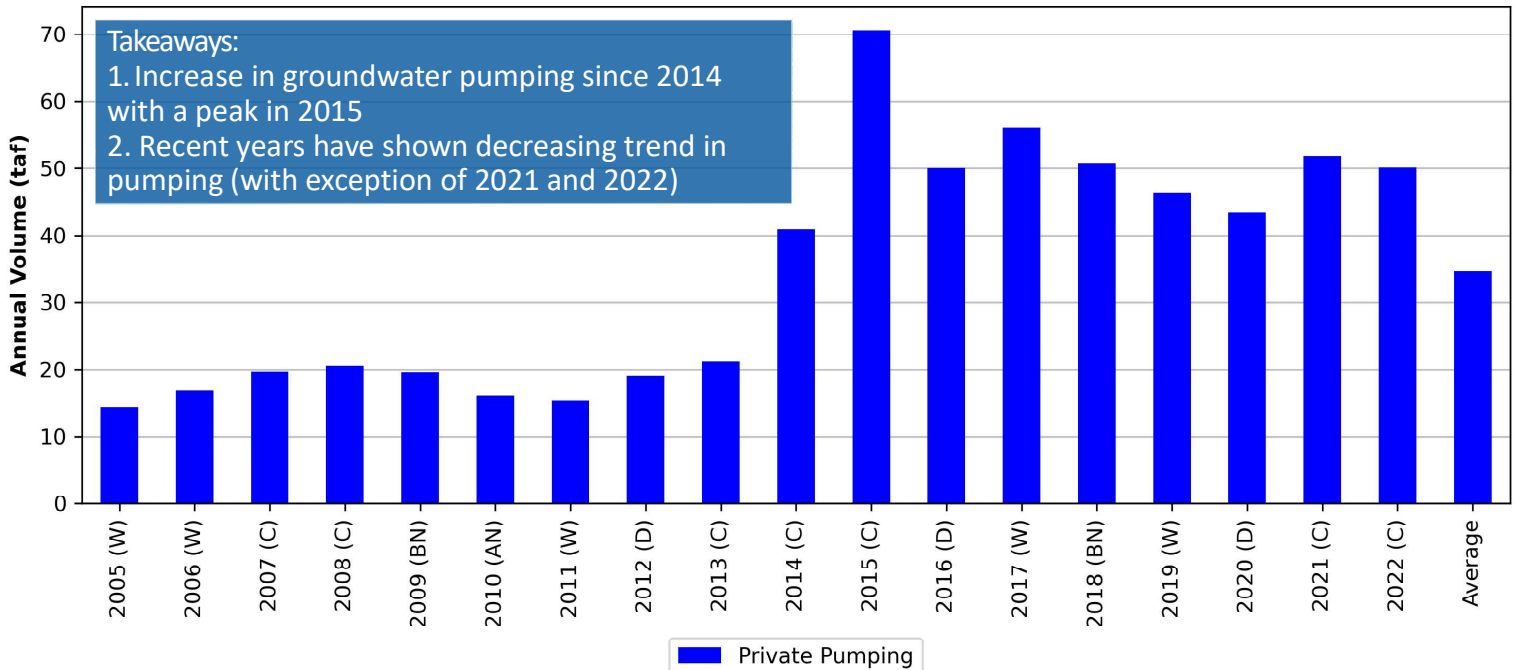


Individual Flow Paths

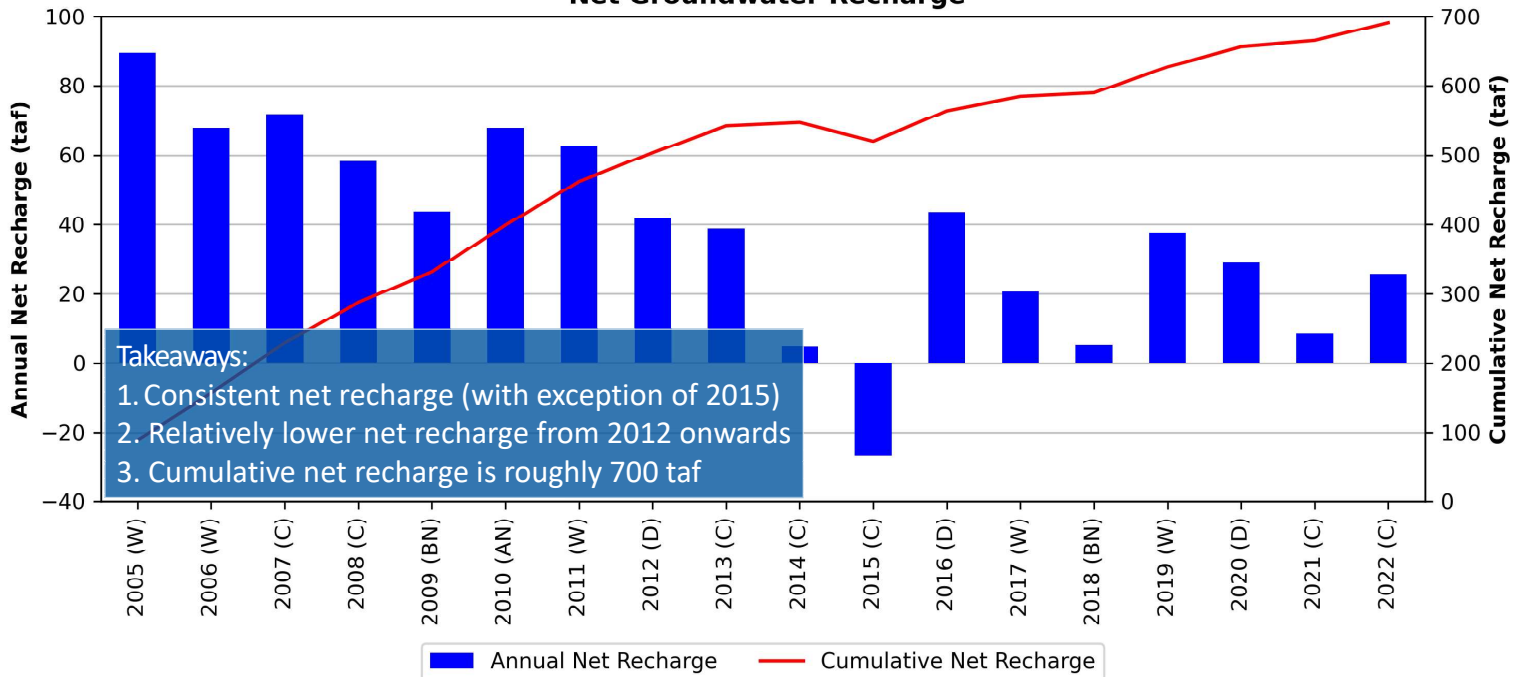
District Diversions and Farm Deliveries



Private Groundwater Pumping



Net Groundwater Recharge



Thanks! Questions and Discussion