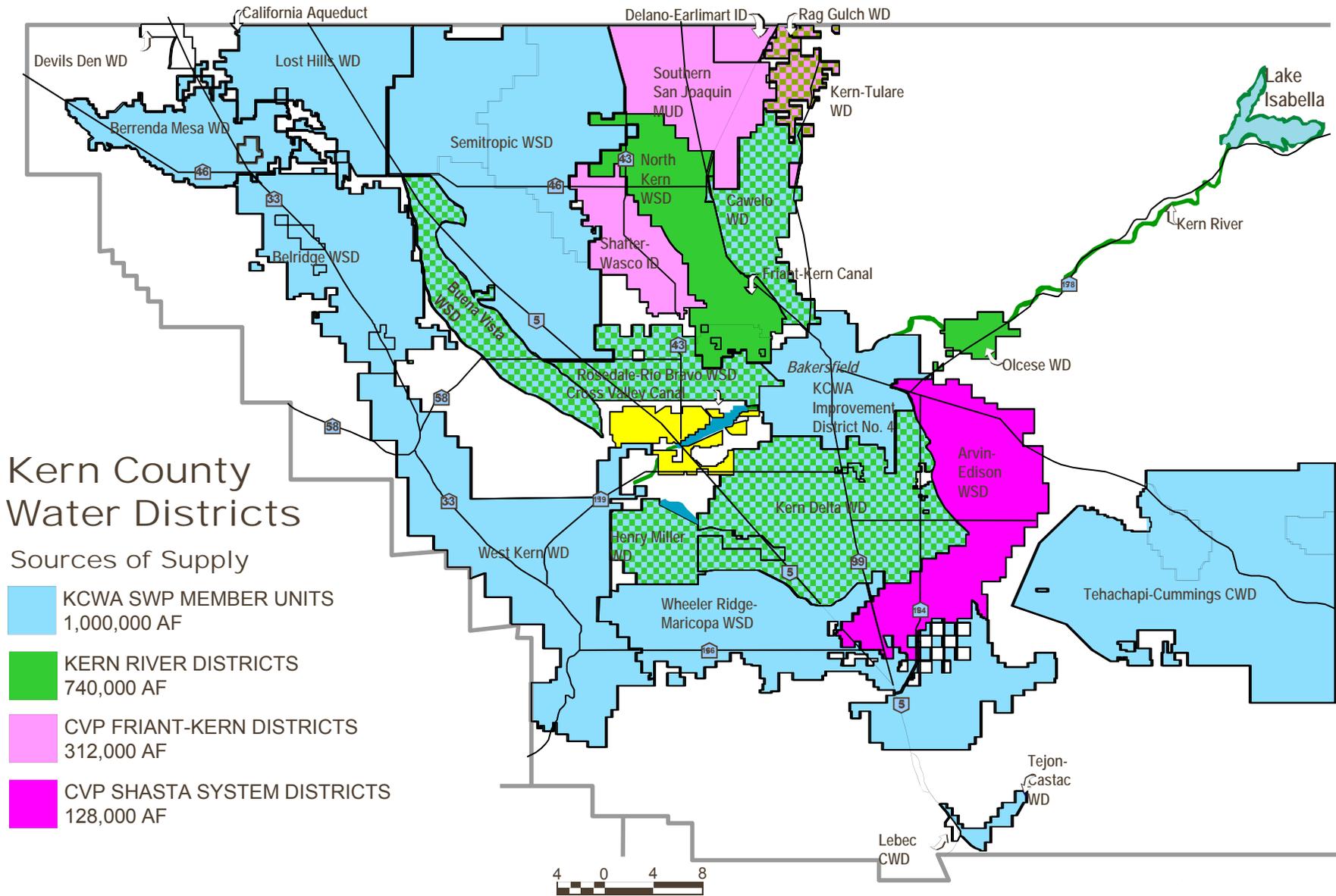


# **Kern County & Groundwater Banking/Storage Projects**

**A Discussion of POTENTIAL**

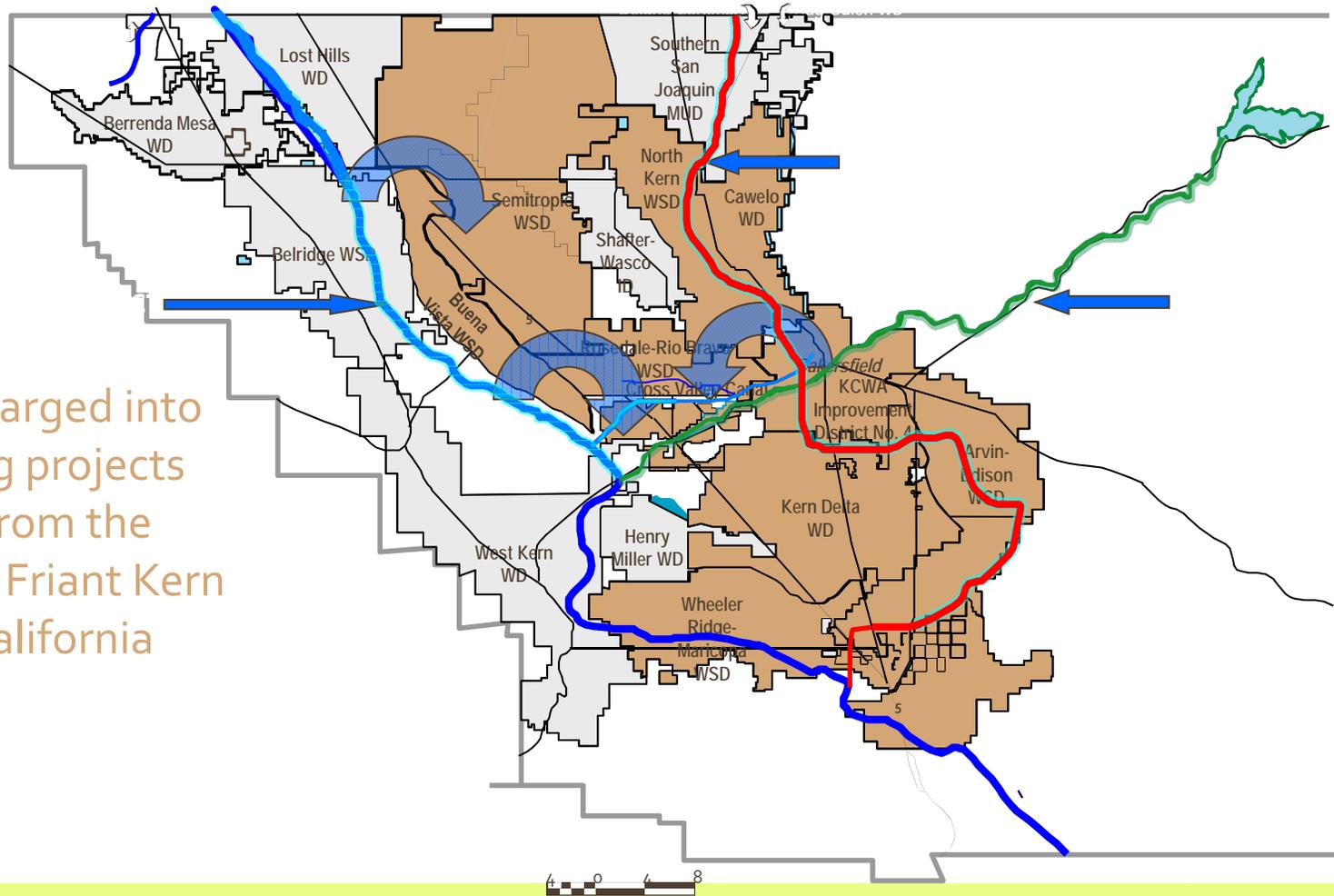




**Total "Contracted" Supply = 2.2 MAF**

# Kern County Water Agency

## *Recharge Water Sources and Facilities*



Water recharged into the banking projects can come from the Kern River, Friant Kern Canal, or California Aqueduct.

# Kern County & Groundwater Banking

## **Kern County Water Management**

- Water short region
- Progressive water management
  - Significant groundwater banking projects
  - Local & state wide benefits

## **Why Groundwater Banking in Kern?**

- Multiple Water Supplies
  - Access to high-flow supplies
- Favorable Geology
- Inexpensive
  - compared to development of new surface supplies
- Infrastructure
- Mitigation of surface supply shortages (increased reliability)



## Kern County & Groundwater Banking

# Kern Groundwater Banking/Storage Models

- Water Supply Centric
    - 2:1 Programs - Emphasis on Water Supply
    - Infrastructure provided by Banker
  - Revenue/Infrastructure Centric
    - Fees – Investment in Infrastructure
- Both generate water supply benefits to basin



## Groundwater Storage – Discussion of Potential

# Quick comparison of RRB Groundwater Project vs. Storage in Isabella Reservoir

- RRB Pond Acreage – 1,600 acres
- Estimated Isabella Reservoir Acreage – 11,000 acres
- RRB annual recharge capacity – 300,000 acre-feet (AF)
- Isabella Reservoir Capacity – 365,000 AF

## Groundwater Storage – Discussion of Potential

# Quick comparison of RRB Groundwater Project vs. Storage in Isabella Reservoir

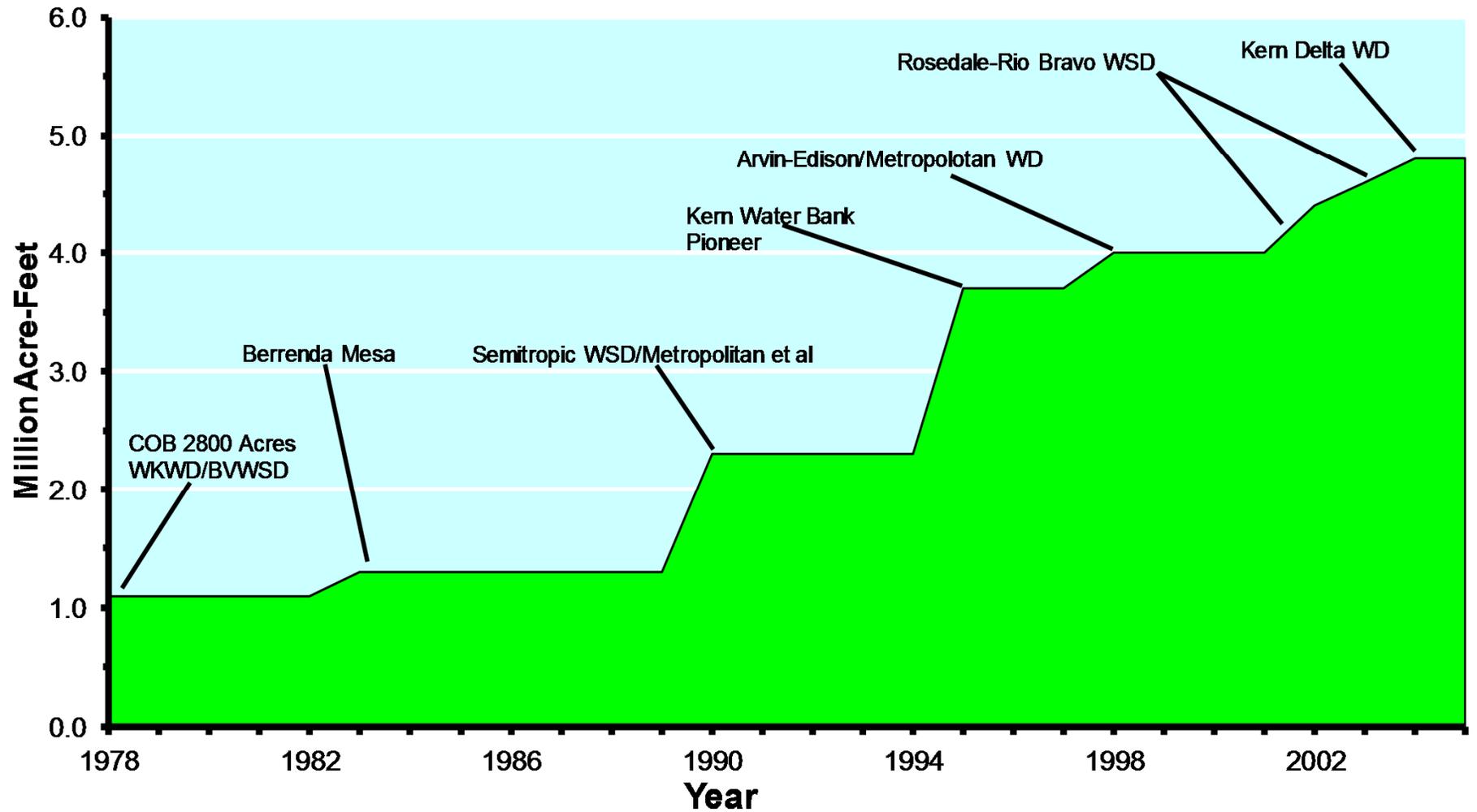
- RRB Annual Storage Losses - 0 AF
- Isabella Reservoir Storage Losses – 38,000 AF
  
- RRB Groundwater Storage Capacity – 1.5MAF
- Isabella Storage Capacity – 365,000 AF
  
- RRB cost analysis favors groundwater recharge/storage

## Groundwater Storage – Discussion of Potential

# Quick comparison of RRB Groundwater Project vs. Storage in Isabella Reservoir

- RRB groundwater recharge basins are farmed when not in service.
  - KWB & others provide habitat
- Isabella Reservoir provides recreational activities (boating/fishing etc.)

# Kern County's Groundwater Storage Capacity Developed for Groundwater Banking



## Groundwater Storage – Discussion of Potential

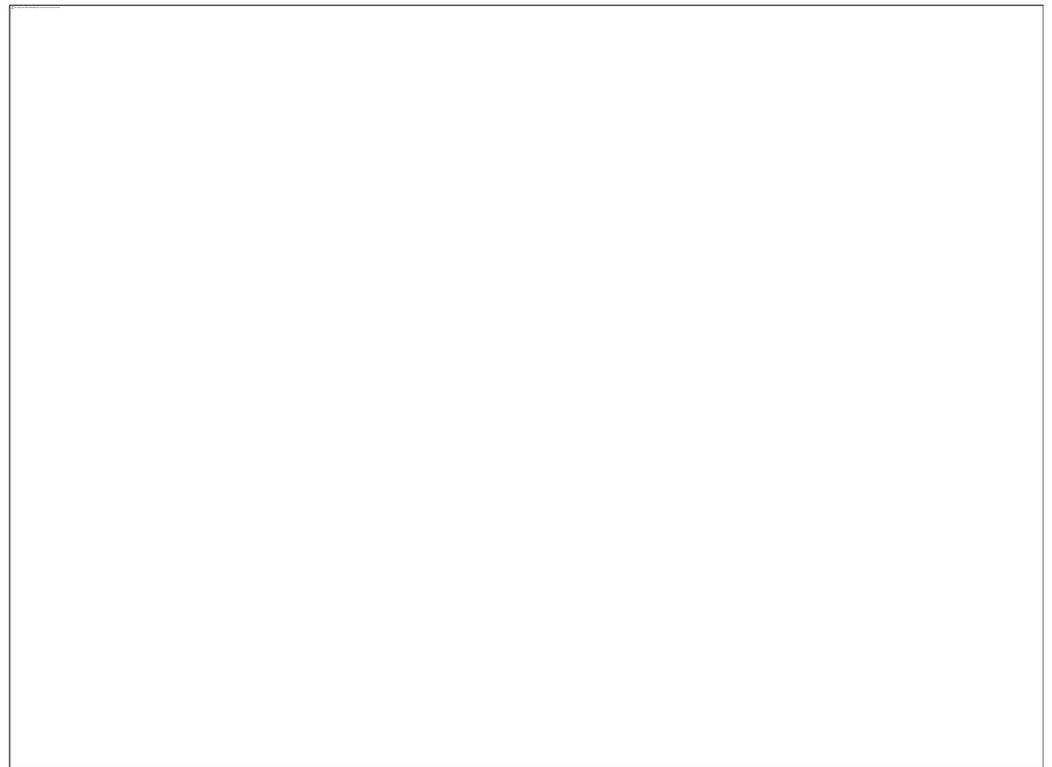
# Should groundwater storage become part of California's water infrastructure investment?

- 1989/90 State Groundwater Storage Concept
  - Kern Fan Element
- State vs. Local Control
  - Kern Water Bank
- New Dynamics:
  - Sustainable Groundwater Management Act ("SGMA")
  - Reductions in SWP & other surface supplies

## Groundwater Storage – Discussion of Potential

# Should groundwater storage become part of California's water infrastructure investment?

- The Central Valley has done an excellent job in creating groundwater storage space.



## Groundwater Storage – Discussion of Potential

# Should groundwater storage become part of California's water infrastructure investment?

- California water policy/management should maximize the use of surface and groundwater resources
- Surface reservoirs are checking accounts
- Groundwater storage are savings accounts

Both are needed for address water supply variability



# Groundwater Storage – Discussion of Potential

## The question of public benefit

- **Groundwater storage projects have been proven to enhance water supply reliability**
  - Any improvement in water supply reliability will have a public benefit
- **Groundwater storage projects can be more cost effective and environmentally friendly than surface storage alternatives.**
  - Any water supply project that minimizes cost and environmental impacts while maximizing supply reliability will have a public benefit.

Groundwater storage projects



# Groundwater Storage – Discussion of Potential

## Final Thoughts

- Surface and groundwater resources should be managed conjunctively.
- Neither surface or groundwater storage will improve supply reliability unless conveyance constraints are addressed
- The aquifer is waiting.....

