Groundwater Management in California: Challenges and Opportunities

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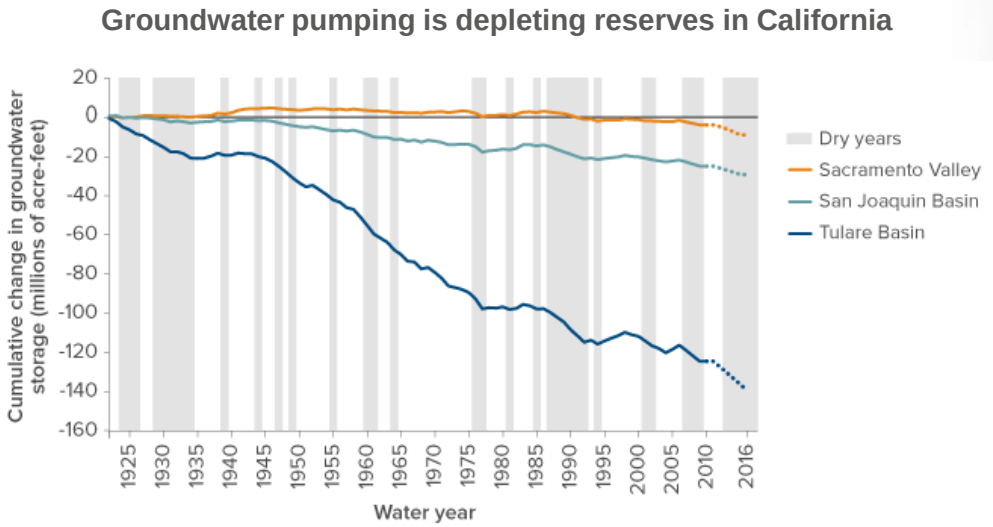
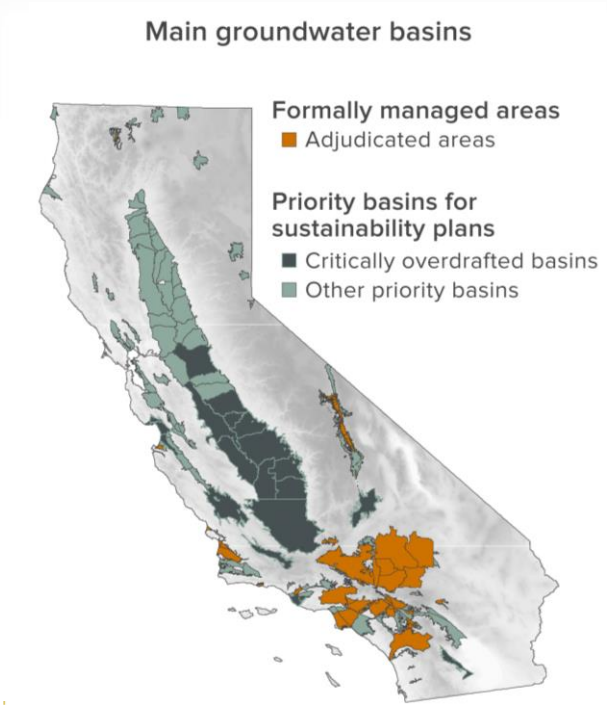
Groundwater is a vital component of California's water supply, but is overused in some parts of the state

- On average, underground aquifers provide nearly 40% of the water used in California's
- Oversight of groundwater use has been minimal
- Consequences are dry wells, sinking lands, reduced supplies for droughts



The state's 2014 Sustainable Groundwater Management Act aims to bring groundwater basins into balance



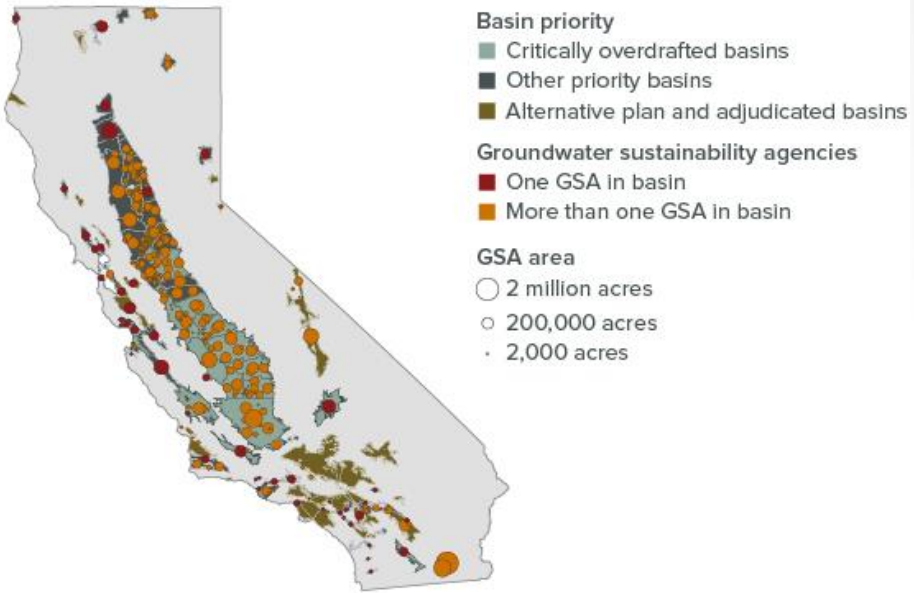
- SGMA directs local agencies to plan for groundwater sustainability, avoiding 6 undesirable results

- Most basins must adopt plans by 2020, achieve sustainability by 2040
- Impacts will vary across the region
- Adjudicated basins only need to report annually

New institutional framework poses challenges, yet might drive management innovations

- 265 local Groundwater Sustainability Agencies have been formed
- SGMA will lead to comprehensive monitoring and accounting, and to a holistic vision of water management
- Most promising approaches are those that increase flexibility, provide incentives and leverage multiple benefits

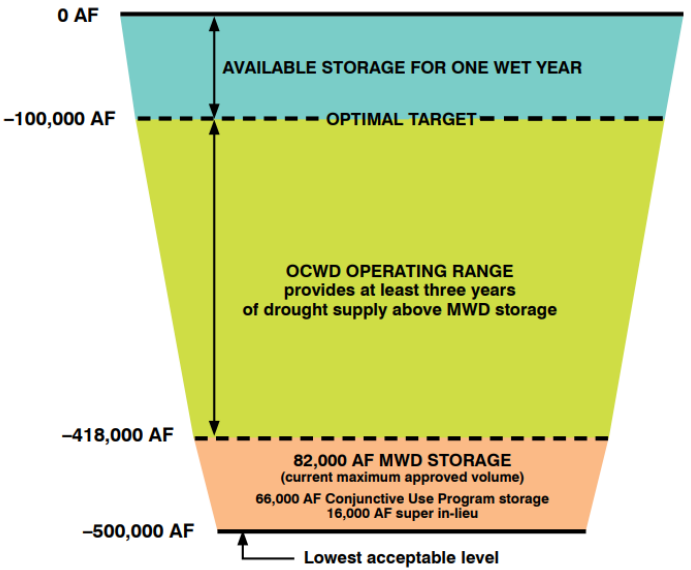
Groundwater Sustainability Agencies formed in California



Success examples from adjudicated basins can help guide the transition

- Specialized local agencies in urbanized areas—notably Orange County Water District and Santa Clara Valley Water District—regulate groundwater through incentives:
  - Pricing mechanisms
  - Manage recharge programs with proceeds
  - Collaborative and transparent management processes
- A portfolio approach, accounting for all potential supply and demand options, reduces vulnerability

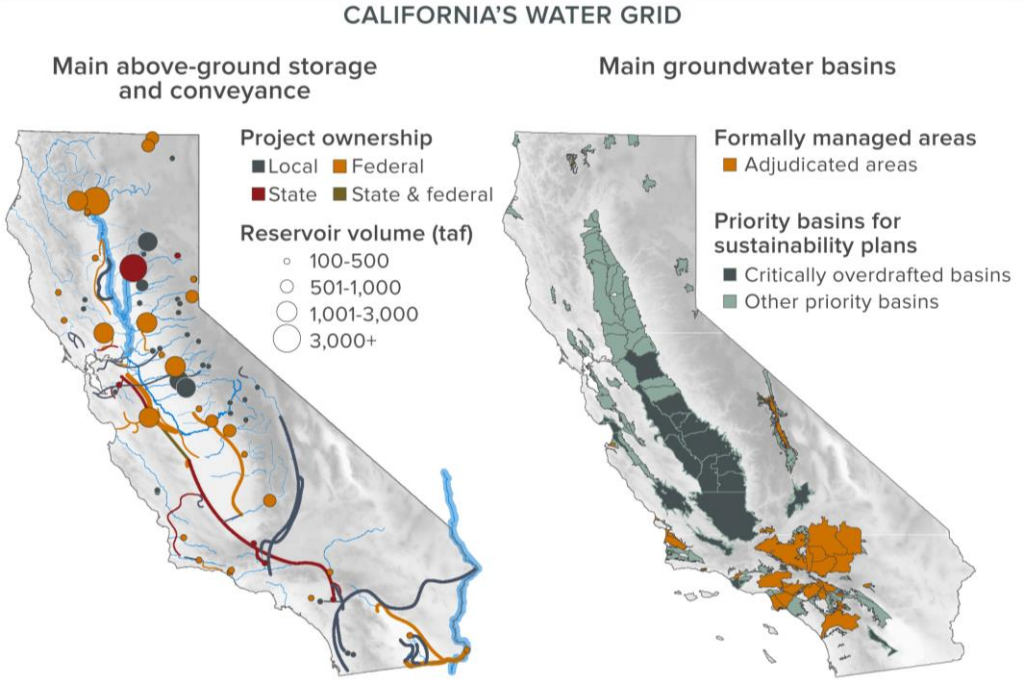
Strategic basin operating levels and optimal target



Source: Orange County Water District Management Plan, 2015

Managing California's water grid will lower the costs of bringing basins into balance

- Most California water supply and use is a part of a connected network of surface storage, conveyance and groundwater facilities
- Solutions to groundwater sustainability issues should, where appropriate, incorporate the "grid"
- Re-operating the system to increase recharge and water trading is key



Notes on the use of these slides

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Thank you for your interest in this work.