Improving Water Supply Reliability through the Sacramento Regional Water Bank
The region has already seen success from conjunctive use.
Despite this success, we can’t ignore longer-term changes in hydrology.

In fact, SGMA compels us to take the long view.
It seems that we have plenty of conjunctive use potential.

In excess of 1.8 million AF available storage space.

Still have plenty of existing groundwater use to offset.
Conjunctive use analysis was performed for agencies overlying the groundwater basin and contiguous with each other.

Two fundamental questions
1. What we can do today by reoperating existing system?
2. What we can do over next 10 years with new facilities added to system?

Constraints Considered:
• Whether or not systems fluoridate
• Water rights/contracts
• Surface water treatment plant capacity
• Conveyance/intertie capacity
• Groundwater production capacity
• Operational issues identified by purveyors

Constraint Not Considered:
• Cost of water
Recharge Potential

- Actual (2011-13 Average):
  - Surface Water: 31%
  - Groundwater: 69%

- Potential (2011-13 Average):
  - Surface Water: 14%
  - Groundwater: 86%

Recovery Potential

- Actual (2015):
  - Surface Water: 36%
  - Groundwater: 64%

- Potential (2015):
  - Surface Water: 58%
  - Groundwater: 42%
We have conjunctive use potential, but we still lack incentive to act further.

**Opportunities**

- **Recharge Potential (Wet Year)**: 90,664 acre-feet, 63,221 acre-feet
- **Recovery Potential (Dry Year)**: 94,570 acre-feet, 57,835 acre-feet

**Barriers**

- For existing system, reoperations cost differential is in excess of $300 per acre-foot.
- For new facilities, capital costs estimated at about $288 million.
Developing a Water Bank can help incentivize expanding conjunctive use and ensure future sustainability.

- Single year transfers ("spot market") by using groundwater in place of an existing surface water right
- Storage before recovery not required
- One-time loss factor at time of transfer
- Monitoring and mitigation

- Multi-year storage ("long-term market") of Central Valley Project contract water for internal or external partners
- Storage before recovery
- Loss factor over length of storage
- Monitoring and mitigation
Following groundwater banking guidelines can help ensure success under SGMA.
A 2018 pilot proved our ability to work together and understand many of the mechanisms of a Water Bank.

60 Production Wells
20 Monitoring Wells
The 2018 pilot showed the positive results of agencies working together

<table>
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<th>Agency</th>
<th>July through September Totals in Acre-feet</th>
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<tbody>
<tr>
<td></td>
<td>Baseline Groundwater Use</td>
<td>Total Pumped</td>
<td>Transfer Credited*</td>
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<tr>
<td>City of Sacramento</td>
<td>2,426</td>
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<tr>
<td>SSWD</td>
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<td>FOWD</td>
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<td>1,989</td>
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<td>Totals</td>
<td>7,024</td>
<td>17,981</td>
<td>10,080</td>
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</table>

*Includes 8% streamflow depletion
The path to the Water Bank and its expansion

Finish planning to become fully operational

- 2022
- ~ $2 million

Build additional facilities to expand on operations

- ~2030
- ~$288 million
- Expansion scalable as funds available
A Water Bank can start small and grow substantially through time.

Sources of recharge:

- Municipal in-lieu
- Municipal direct
- Recycled in-lieu
- Flood-MAR
- Agricultural in-lieu

North American Subbasin

South American Subbasin

Urban Core