



WATER FORWARD
INTEGRATED WATER RESOURCE PLAN

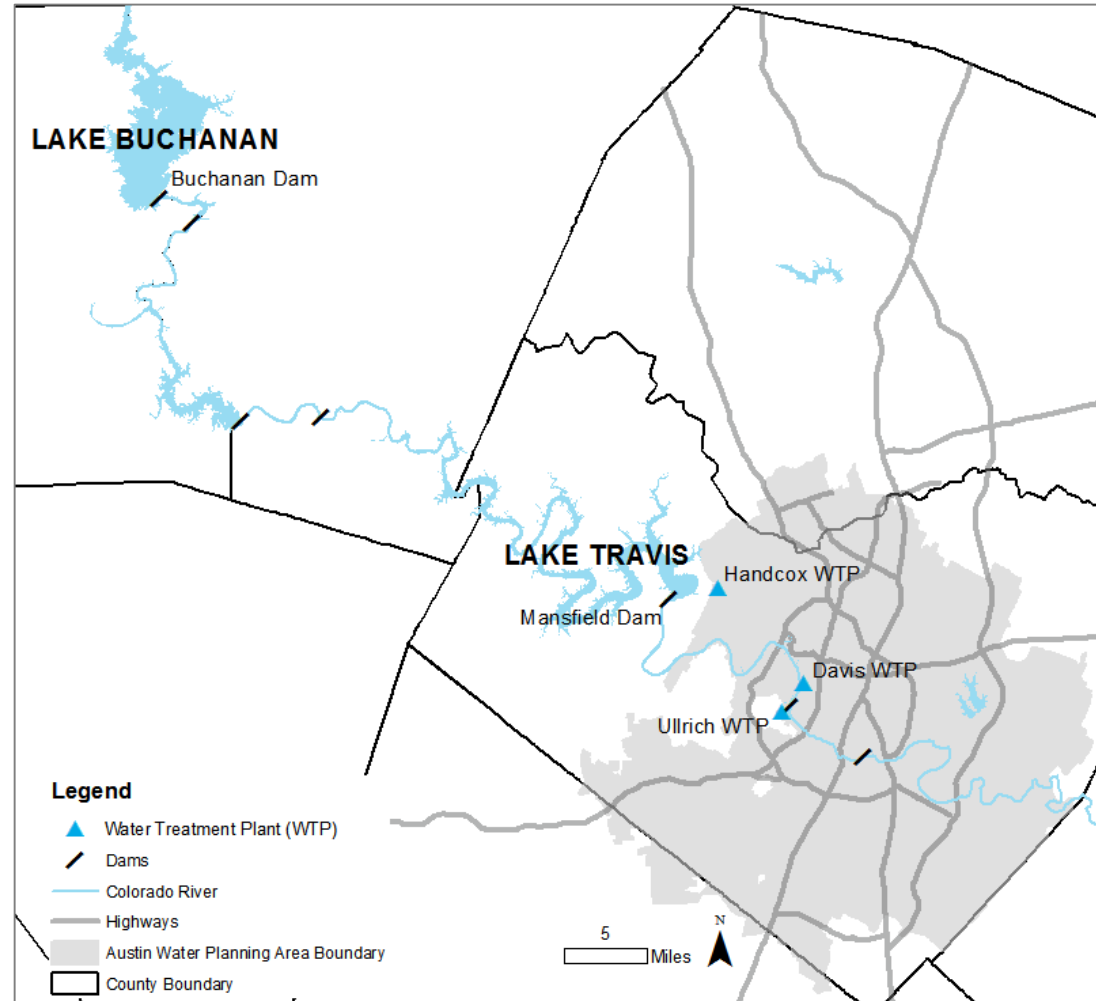
Central Texas Water Conservation Symposium

January 31, 2019



Austin's Water Supply

- Colorado River and Highland Lakes
- Combination of state-granted water rights & long-term firm contract with Lower Colorado River Authority (325,000 acre-feet per year)

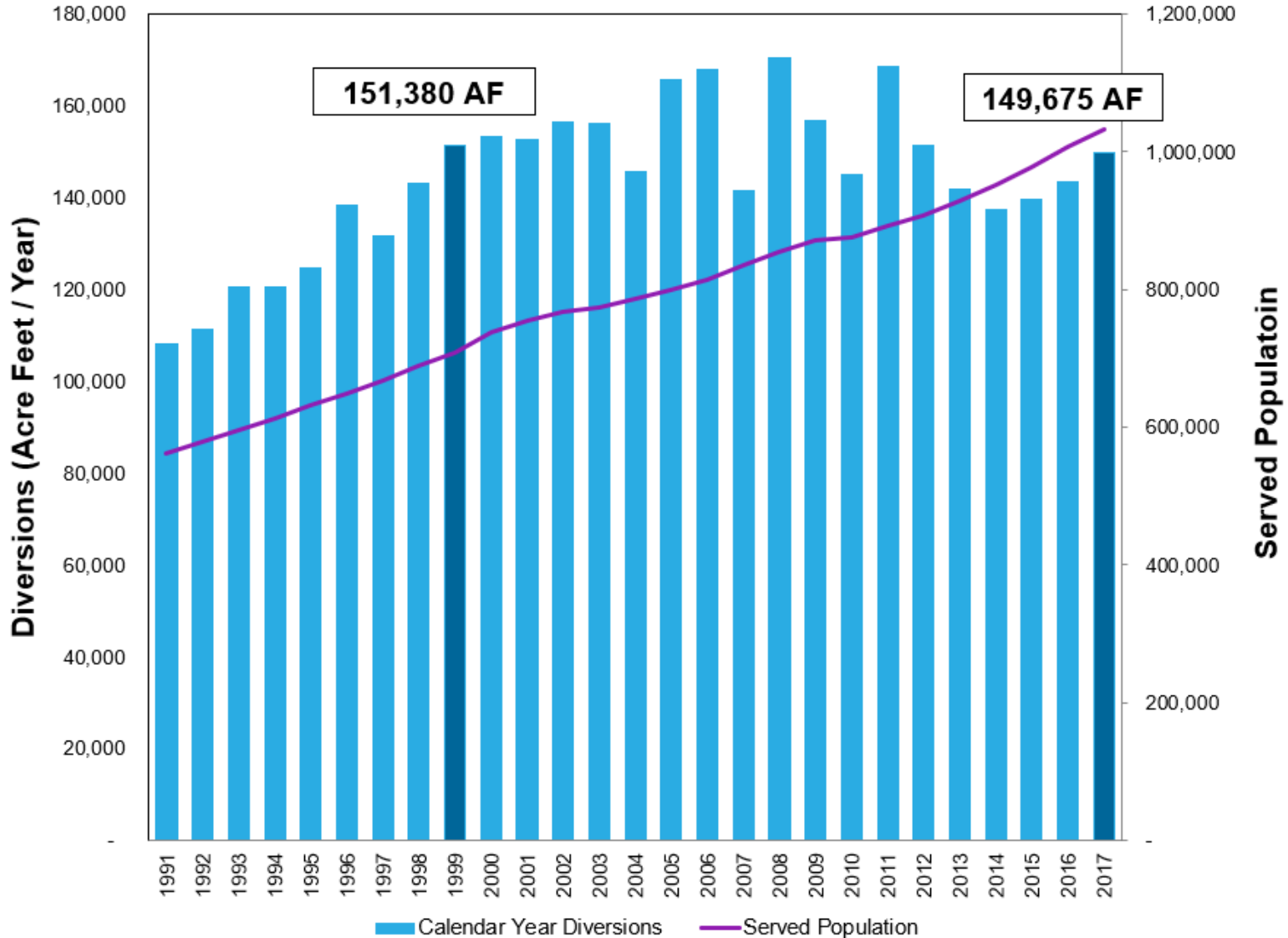


Historic 2008-2016 Drought

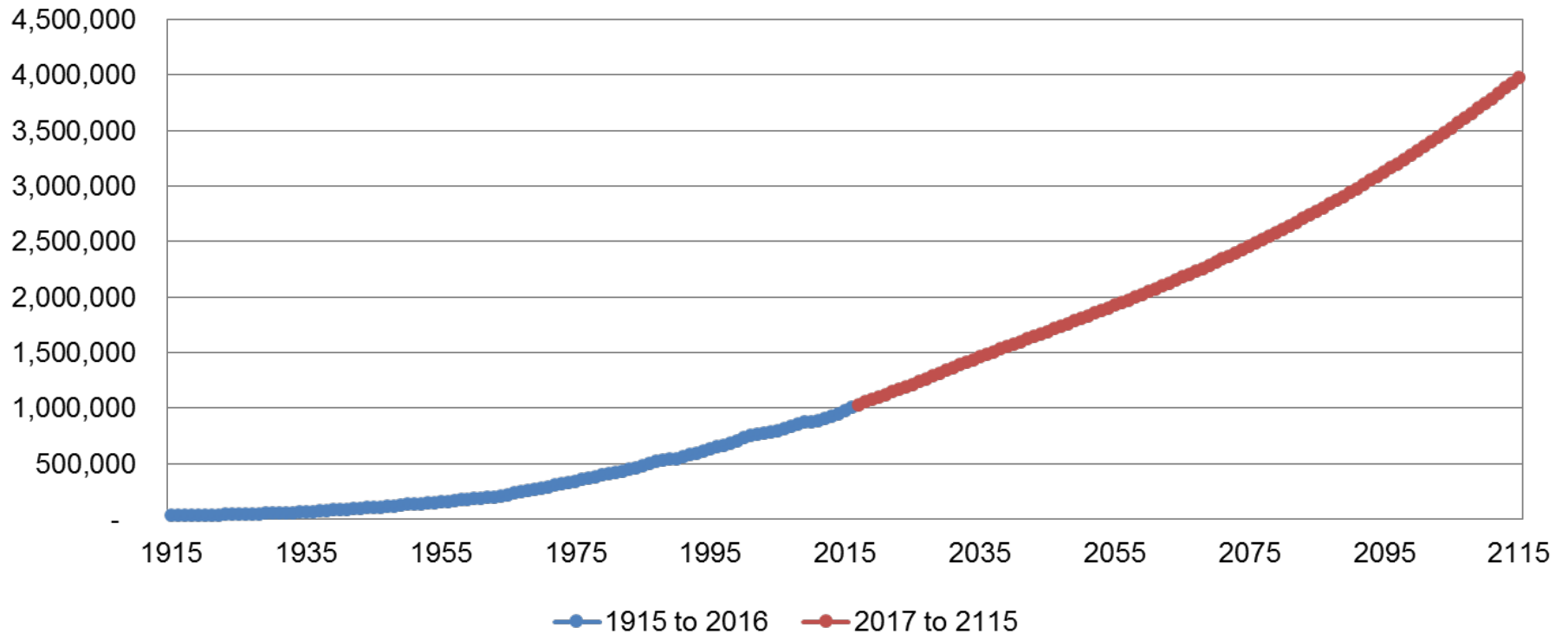


Lake Travis, July 2011 and June 2016

Austin Municipal River Diversions



Austin Water Served Population



12 Lowest Annual Inflows on Record

Rank	Year	Annual Total in Acre-Feet
1	2011	127,802
2	2014	207,642
3	2013	215,138
4	2008	284,462
5	2006	285,229
6	1963	392,589
7	2012	393,163
8	2017	429,959
9	1983	433,312
10	1999	448,162
11	2009	499,732
12	1950	501,926

Top 5 all-time lowest reservoir inflows have occurred since 2006

9 of the 12 lowest inflow years have all occurred since 1999

Water Forward Development

- Recommendation from 2014 Task Force
- Council Appointed Task Force convened in May 2015
- Austin Water began work to develop scope and begin preliminary analysis
- By July 2016, consultant team procured included CDM Smith, Dr. Katherine Hayhoe (climate scientist), and Dr. Richard Hoffpauir (hydrologist)



Guiding Principles for Plan Development

Protect

- Core Colorado River Supplies
- Public Health
- Environment

Focus On

- Reliability
- Conservation
- Local Resources
- Feasibility

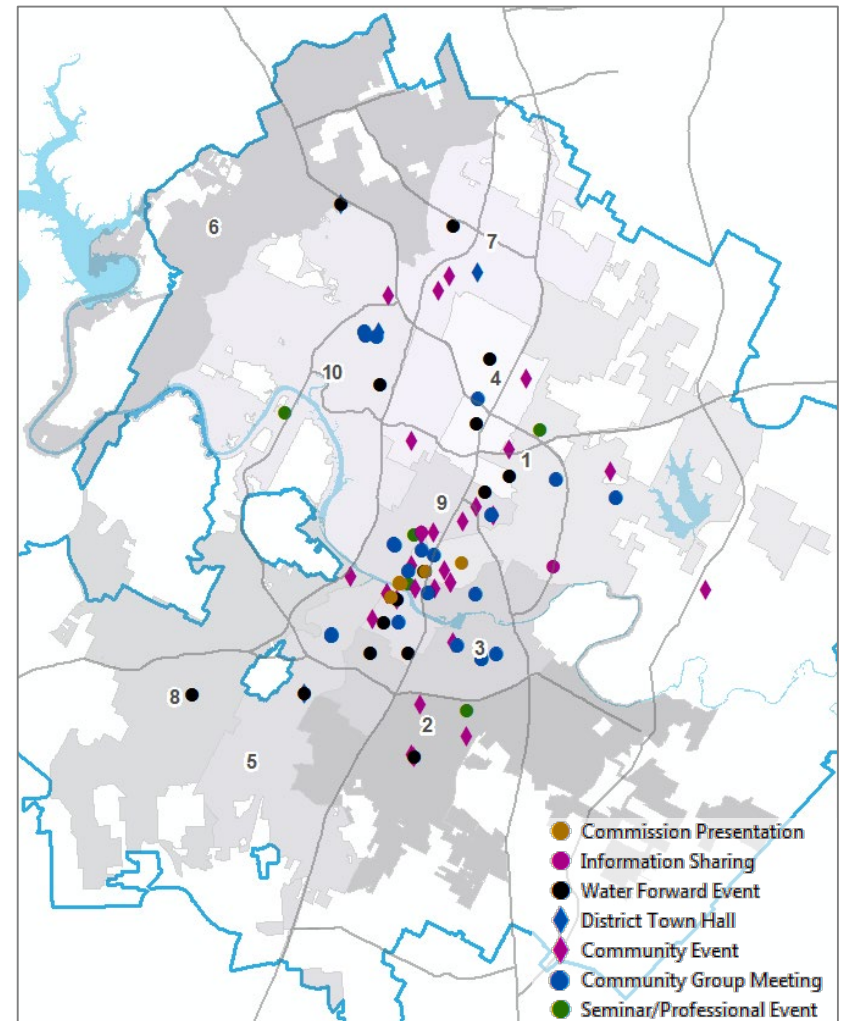
Align With

- Community Values
- Imagine Austin
- Regional Coordination

Public Outreach Goals

- Identify community values to reflect in plan
- Seek input from stakeholders which reflect the diversity of Austin's population
- Inform and educate the community throughout the process

Map of over 90 public outreach events attended by Water Forward project team



Alignment with Community Values



Water Forward Portfolio Evaluation

Max Conservation

Max Reliability

Max Implementation

Max Local Control

Max Cost-Effectiveness



★ Hybrid 1

Hybrid 2

Hybrid 1 Benefits

- Strong conservation and reuse
- Climate and drought resilience through storage strategies
- Emphasis on local sources
- Complements existing investments

Water Forward Strategies

Demand Management

Implement Advanced Metering Infrastructure (AMI)

Enhance distribution system water loss control

Provide customer water use benchmarking information and implement water budgets

Transform to regionally appropriate landscapes

Expand irrigation efficiency incentives

Water Supply

Store water for drought via Aquifer Storage and Recovery and a new Off Channel Reservoir

Bring on additional supplies via Brackish Groundwater Desalination

Expand the Centralized Reclaimed Water System

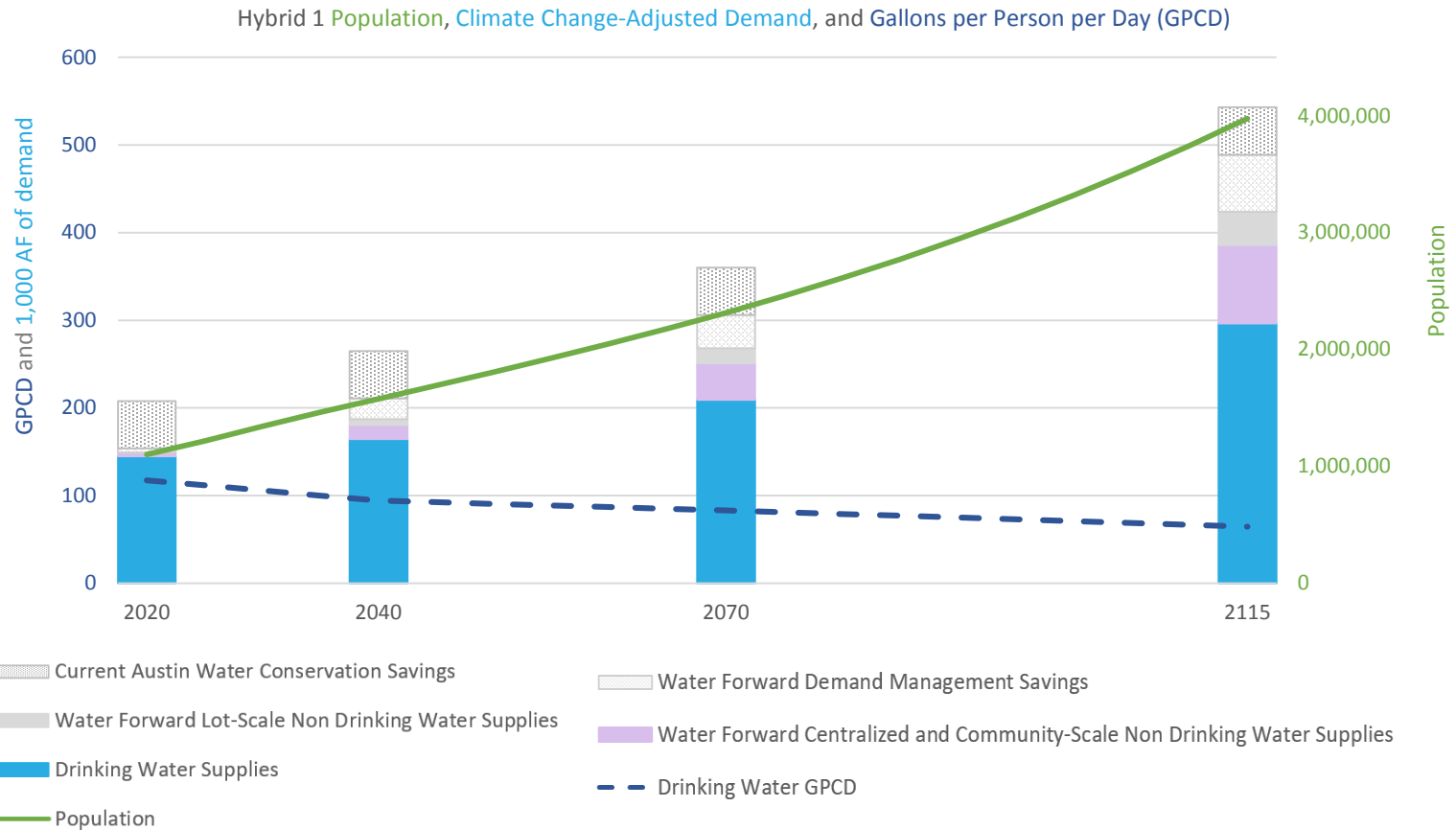
Use Indirect Potable Reuse as a deep drought strategy

Capture local inflows to Lady Bird Lake

Use on-site and neighborhood scale alternative water sources for non-potable end uses
Rainwater, Stormwater, Wastewater, Graywater, and AC Condensate

Decentralized

Future Demands with Implemented Strategies



The Next 5 Years

Major Water Forward Implementation Actions in the Next 5 Years

Ordinances

(new or changes to existing)

- Develop alternative water ordinance for new larger commercial and multifamily development
- Develop dual plumbing ordinance for new larger commercial and multifamily development
- Expand current reclaimed water system connection requirements
- Develop ordinance to require submittal of water use information for new development
- Monitor existing ordinances related to air conditioning condensate reuse and cooling tower and steam boiler efficiency

Incentives

- Expand alternative water incentive program
- Expand landscape incentive program
- Expand irrigation efficiency incentive program

Projects and Programs

- Study and begin design, construction, and testing of an Aquifer Storage and Recovery pilot
- Implement Advanced Metering Infrastructure
- Enhance utility water loss reduction program
- Expand the centralized reclaimed water system
- Explore opportunities for community-scale decentralized reclaimed water systems
- Refinement of Indirect Potable Reuse emergency strategy
- Refinement of Capture Lady Bird Lake Inflows strategy
- Begin preliminary analyses to support five-year Water Forward plan update

Continued public outreach and engagement, including quarterly meetings of the Water Forward Task Force

Estimated Cost Summary

Estimated Planning-Level Cost Summary for Water Forward Recommended Strategies through 2040

	Est. Capital Cost (Million Dollars)	Est. O&M Cost (Million Dollars)	2040 Yield (Acre Feet per Year)
Current Utility Strategic Initiatives in the Capital Plan	\$613.6	\$105.8	25,210
New Utility Strategies	\$429.1	\$102.7	87,670
Developer/Program Participant-Owned Strategies	\$274.1	\$198.9	7,630

Next Steps

- Plan approved for adoption by City Council on Nov. 29th
- Near term activities will include development of codes and ordinances and incentive programs, including but not limited to:
 - Dual Plumbing
 - Alternative Water Use
 - Landscape Transformation
 - Irrigation Efficiency
- Aquifer Storage and Recovery Pilot





Questions?