



Long-Term Water Supply Review

April 16, 2021

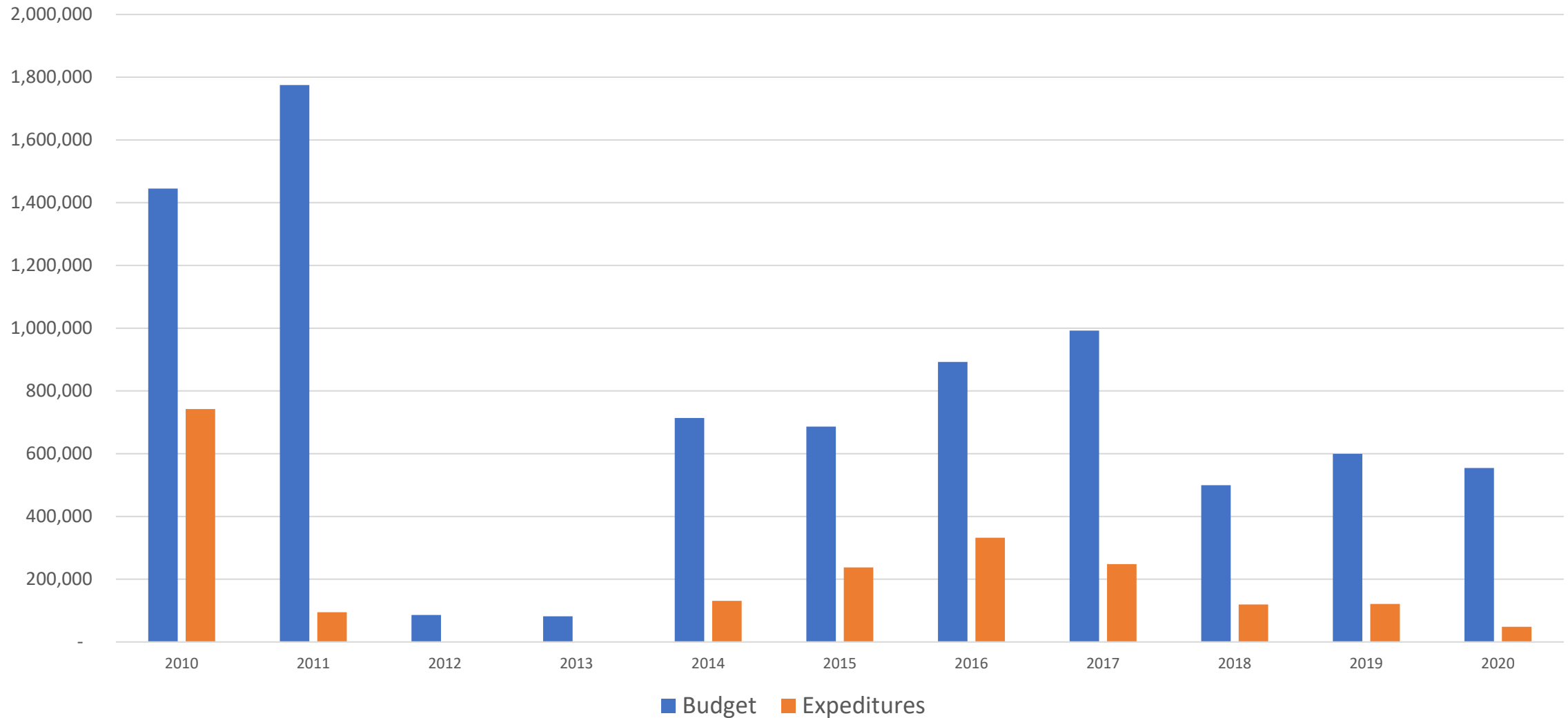


Overview

- Review of Water Efficiency Program
- Best in Class Programs
- Supplemental Supplies
- Other System Opportunities

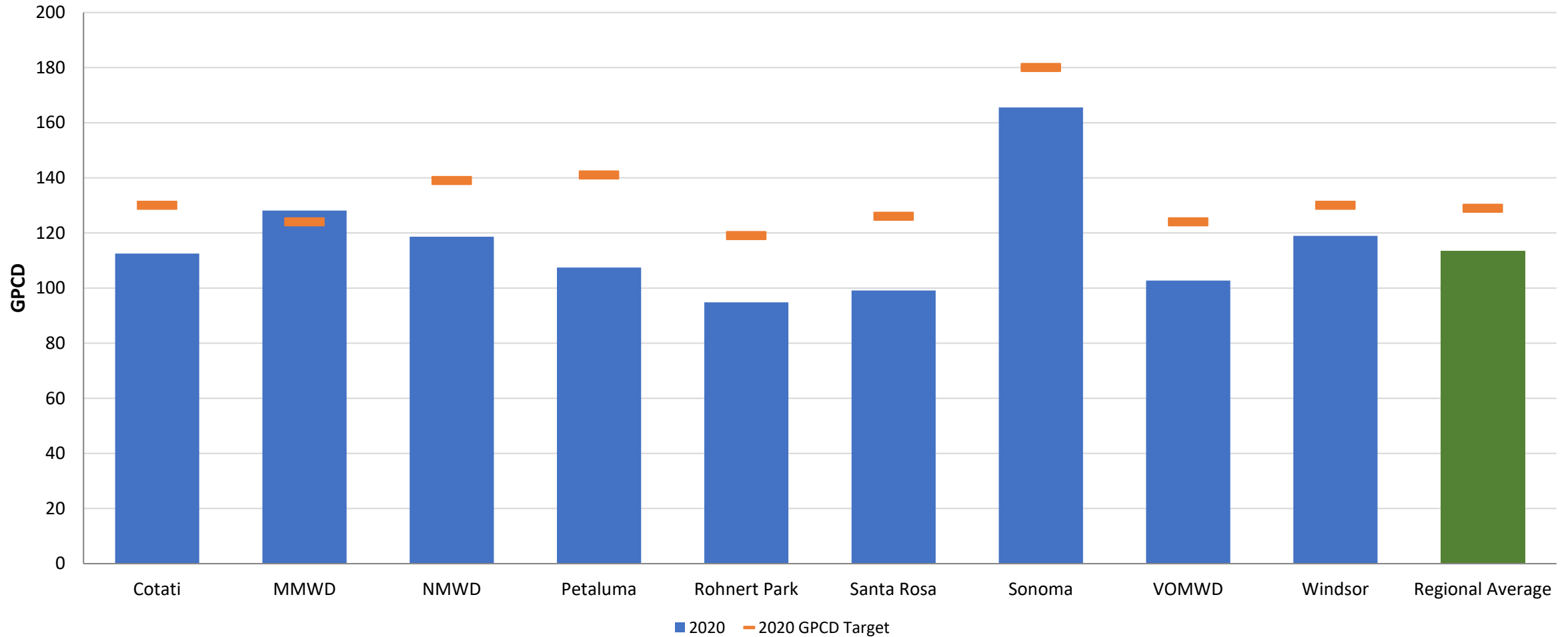
Review of Water Efficiency Program

Historic Water Efficiency Incentive Funding



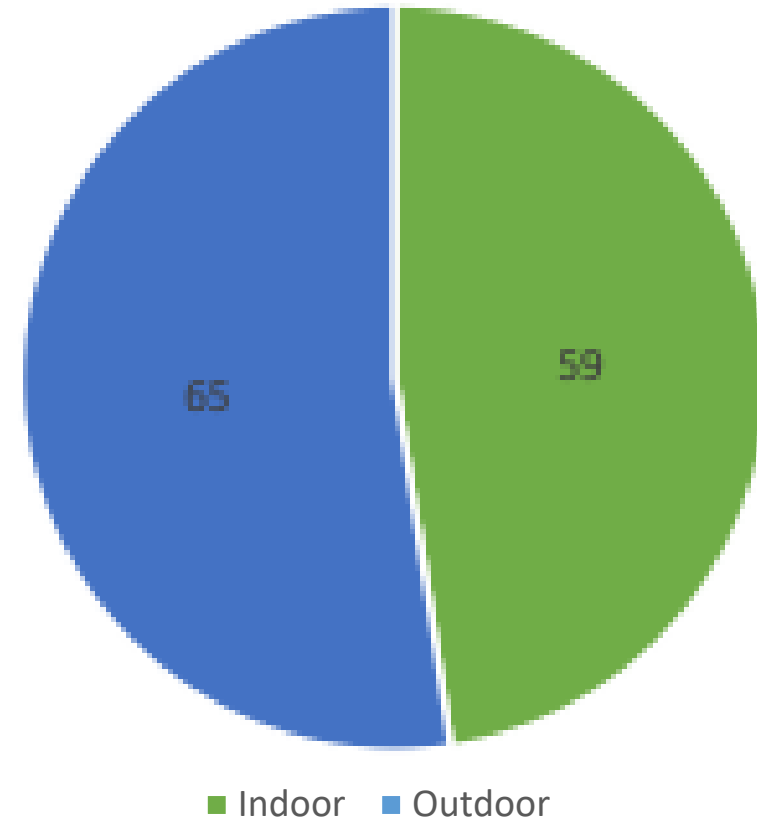
Gallons per Capita per Day (GPCD)

2020 Gallons per Capita per Day and 20 x 2020 Goals



Residential Gallons per Capita per Day

- Winter low: 59gpcd
Indoor Use
- Summer average:
124gpcd Indoor and
Outdoor



Current Incentive Programs

- Irrigation Controller Programs
 - Rachio Controller \$100 Point of Purchase discount (Customer cost \$70)
 - \$100 Rebate for EPA approved devices
- Turf Replacement Programs
 - \$1/sqft Rebate
 - Free delivery of sheet mulching materials: compost, cardboard, mulch, irrigation kit
- Laundry to Landscape Graywater Kit
 - \$100 Point of Purchase discount (Customer cost \$80)
- Rain Barrel & Cistern Rebate
 - \$0.50/gal up to \$1,000
- Clothes Washer Rebate
 - \$100 rebate

Best in Class Programs

Drought Response Programs

- **Landscape Survival Tools Rebate** (Austin Water) \$1,965/acft
 - \$50 for at least 2 cubic yards (54 cubic feet) of compost
 - \$40 for at least 2 cubic yards (54 cubic feet) of mulch
- **30 Lawns in 30 Days** (Sonoma Water) \$1,946/acft
 - Drought pilot: Customers volunteered to have lawns sheet mulched and irrigation capped, free of charge
- **Turf Replacement Rebate** (Southern Nevada WA) \$2,715/acft
 - \$3/sqft Prohibits converted areas from being replanted via easements
- **Water Efficiency Target** (Santa Clarita Valley Water)
 - Use aerial landscape measurements to provide customers with target water use
 - Compare target to actual water use then assign status:
 - Efficient -> Inefficient -> Wasteful -> Excessive

Drought Response Programs

- **Car Wash Coupons** (Southern Nevada Water Authority)
 - \$2 off basic washes; some have larger amounts for other premium services.
- **Pressure Regulating Valve Rebate** (Austin Water) \$196/acft
 - Up to \$150 rebate to reduce pressure for sites over 80 psi
- **Leak-free Sacramento** (City of Sacramento) \$695/acft
 - Contractor repairs leaks/makes water-efficient upgrades in eligible, low-income homes
 - Covers repairs/installation of efficient fixtures indoors and out
- **Flume Flowmeter Rebate** (San Antonio Water Systems) \$429/acft
 - \$115 Point of Purchase discount (Customer cost \$50)
- **Toilet Rebate** (North Marin Water District) \$431/acft
 - UHET (1.1gpf or less) \$150 rebate (Proposed \$200 Drought Special)

Landscape Design Programs

- **Landscape Design Assistance Program (MODOC) \$272/acft**
 - 1-on-1 onsite landscape design consultation
 - Recommended plant palette
 - Irrigation plan and materials list
- **NatureScape (Moulton Niguel WD) \$2,218/acft**
 - Attend a Workshop
 - Pre-Qualifying Assessment
 - Landscape Consultation and Design (50% rebate)
 - Turf Removal Rebate(\$2/sqft)
 - Post-Installation site visit and education on the long term maintenance, care and upkeep of plants

Irrigation Improvements

- **Irrigation Upgrade Rebate (Austin Water) \$867/acft**
 - Rebate for costs to improve existing irrigation system water efficiency
 - Up to \$150 total rebate per property
- **Spray to Drip Program (MWDOC) \$1,629/acft**
 - Rebate for converting overhead spray to drip irrigation
- **Rotating Sprinkler Nozzle Rebates (Moulton Niguel WD) \$760/acft**
 - \$2/sprinkler nozzle
- **Parks Programs (Valley Water) \$3,372/acft**
 - Coordinate with local parks and schools to develop site specific measures to increase efficiency of irrigation
 - Up to \$10,000 rebate per property

Drought Proof Water Sources

- **Graywater Programs** (Valley Water) \$913/acft
 - Laundry to Landscape Installation Assistance
 - Develop Model Sites
 - Marin Water: Residential Graywater Initiative
- **Rainwater Programs** (Valley Water) \$126/acft
 - Rain Barrel/Cistern Incentives of \$1.00/gal
 - Develop Model Sites
- **Guidelines for Alternate Water Sources: Indoor and Outdoor Non-Potable Uses** (LA County)
 - decentralized, alternate water supplies - indoor and outdoor non-potable water regulations streamlined for rainwater, graywater, stormwater, blackwater use for all customers

Outreach



Denver Water

System Enhancements

- Install full-scale, systemwide AMI (\$20M)



Future Potential Program Offerings

Sample Packaged Programs

Current Program	Program A	Program B	Program c
Clothes Washers Rebates	Current Program Offerings	Program A Offerings	Program B Offerings
Smart Controller Rebates	High Efficiency Toilets	Rotating Sprinkler Nozzles	\$3/sqft Turf Rebate
Laundry to Landscape Graywater Systems	Leak Repair Contractor Service	Spray to Drip Conversion	
Rain barrels/ Cistern Incentives	Direct Install Sheet Mulch Program	\$2/sqft plus design assistance (Naturescape)	
Flume Program	Landscape Design Assistance	Irrigation Upgrade Program	
\$1/sqft Turf Rebate	Landscape Survival Program		
Sheet Mulch Delivery	Parks Program		
	\$2/sqft Turf Rebate		

Water Efficiency Scenarios

Investment Levels	Savings (AFY)	Investment per year	Investment over 10 years
Current Program	846 AFY	\$250K	\$2.5M
Program A + AMI	1,252 AFY	\$3 M	\$30.7M
Program B + AMI	1,318 AFY	\$3.2M	\$32.2M
Program C + AMI	1,502 AFY	\$3.7M	\$36.9M

Supplemental Supply

Maximizing Existing Supplemental Supply

- Rehabilitation of Kastania Pump Station (\$1 - 1.5M) Capital
- \$1,600 per AF
- Less availability in dry years



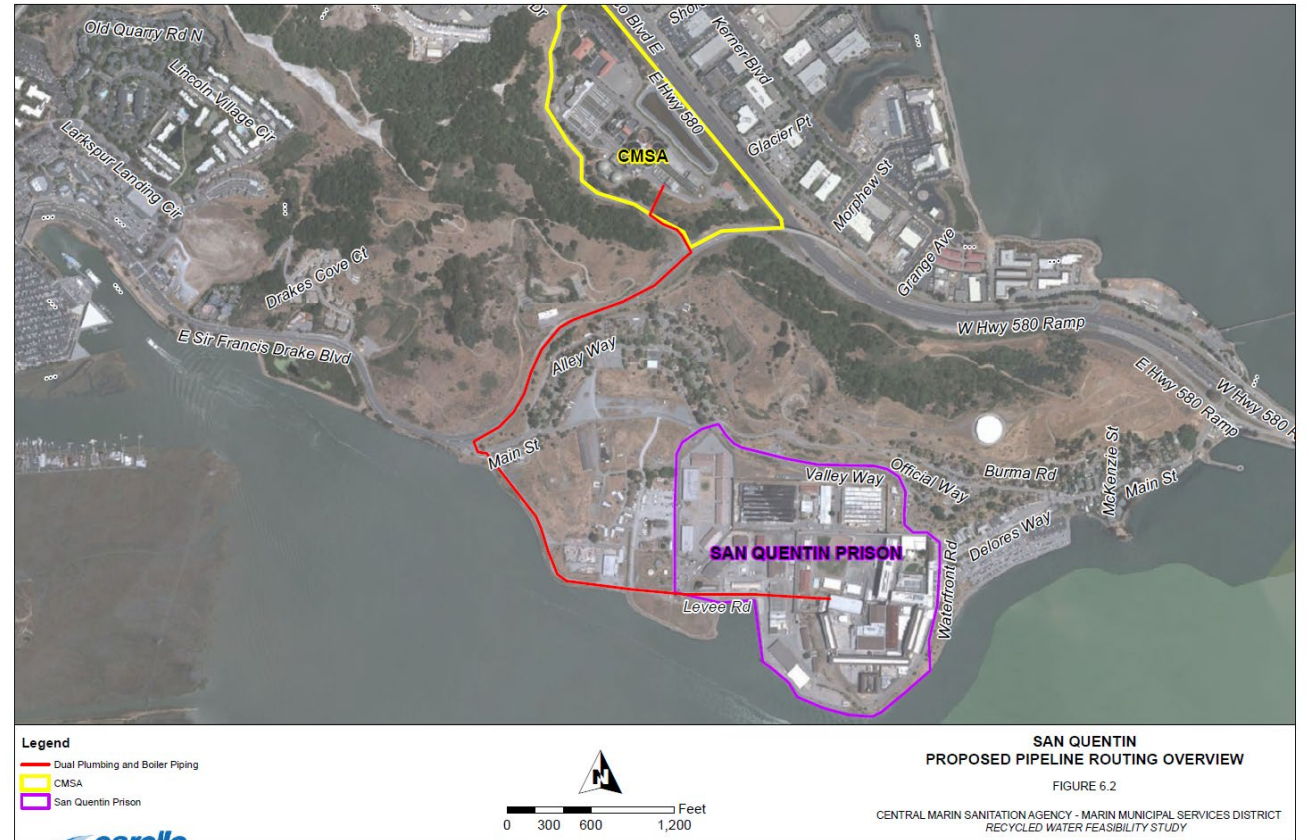
Kastania Pump Station, Kastania Rd, Petaluma

Regional Groundwater Conjunctive Use

- Regional partnership with Sonoma Water/retailers
- Store supplemental supplies in normal or wet years
- Draw from groundwater basin in dry years
- 2,500 AFY / \$1,600 per AF

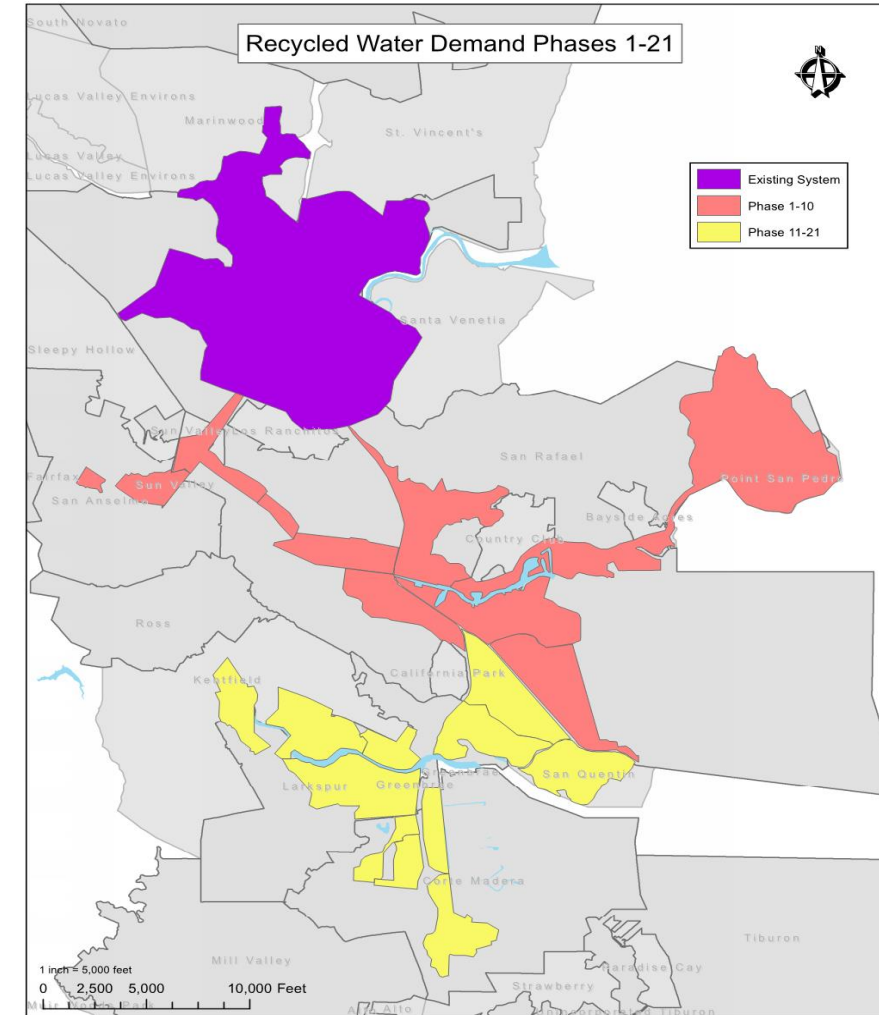
Recycled Water Opportunities

- Project-based Expansions
 - San Quentin
 - Capital \$9.2M / 150 AFY
 - \$4,440 per AF
 - Circle Road
 - Capital \$1.8M / 8.3 AFY
 - \$13,150 per AF
 - Gap Golf Course Ext
 - Capital \$25.3M / 166 AFY
 - \$9,390 per AF



Recycled Water: Phased System Expansions

- Phases 1-10: Central San Rafael, San Anselmo, Peacock Gap
 - Capital \$46M / 346 AFY
 - \$8,600 per AF
- Phases 11-21: Larkspur, Greenbrae, Corte Madera
 - Capital \$44M / 602 AFY
 - \$5,000 per AF



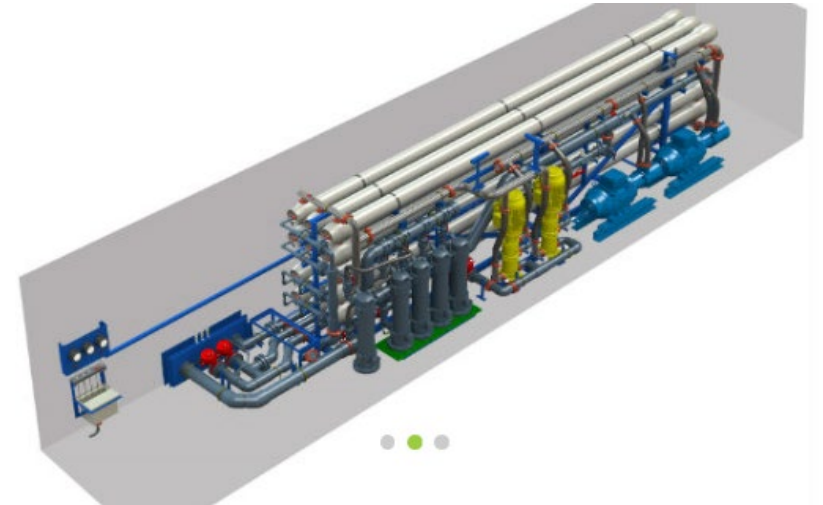
Water Transfers

- Infrastructure investments
 - ~ \$15-20M Capital
- Wheeling & Water rights
- 10-MGD / \$2,000 per AF
- 10,000 AFY



Desalination

- Bay Area Regional Plant – 20-MGD / \$240M
- MMWD Desal Plant
 - 5-MGD / \$125M / \$2,800 to \$4,200 per AF
 - 10-MGD / \$175M / \$2,200 to \$3,300 per AF
- Temporary Emergency Desal Plant
 - Shore based – 2-MGD to 5-MGD
 - Barge based units 5-MGD

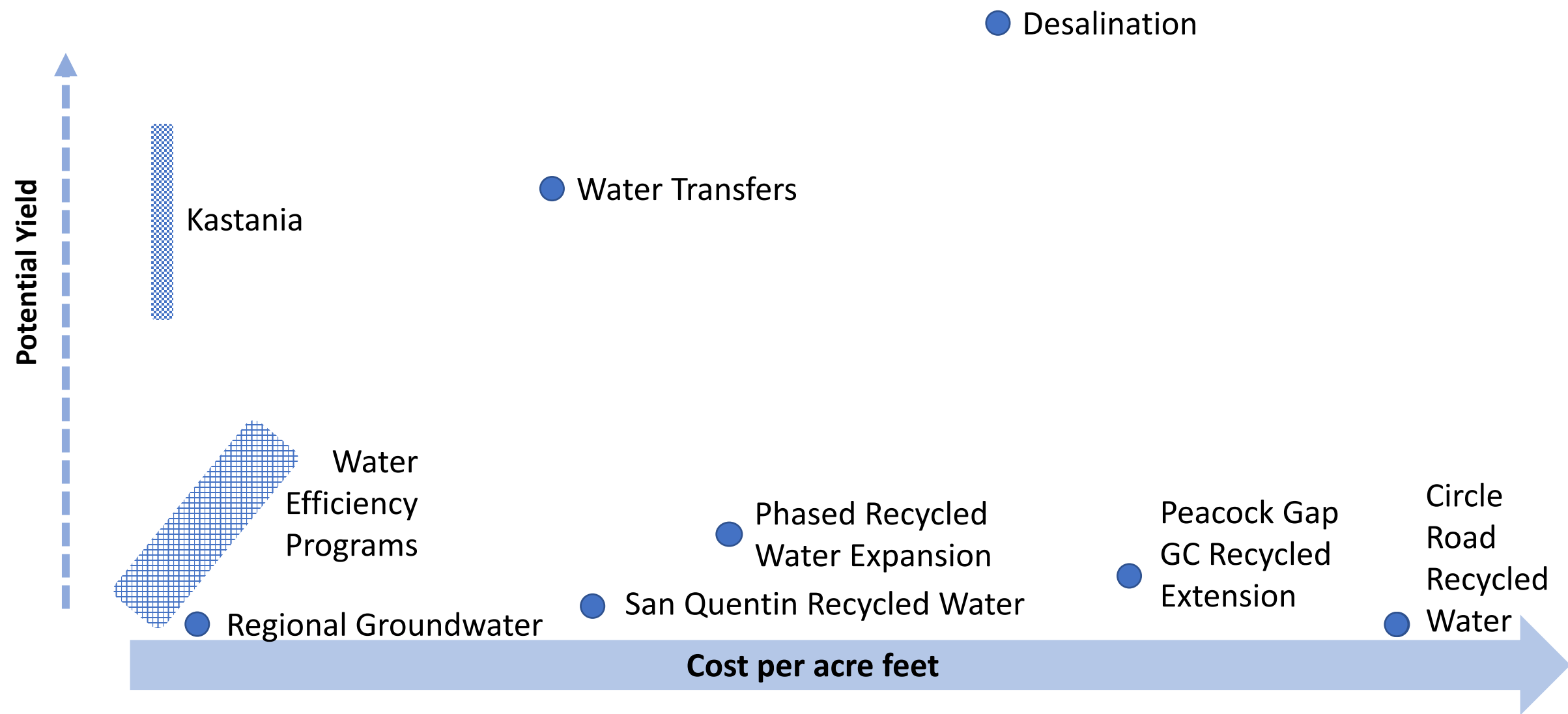


Other System Opportunities

System Leak Detection

- Technology
- Pipe Replacement
- Improved metering

Summary



Next Steps

- Integrate water efficiency portfolio into 10-year Financial Plan analysis and workshops