Land Use and Water Supply: Looking Ahead the Next 20 Years

Santa Margarita Groundwater Agency
January 12, 2019

Today's Presentation

- Linking land use and water supply, and some tools used for long-term land use and water supply planning,
- Current trends in urban water use – How much does growth matter?
- Explore population trends/projections
- New California water efficiency laws for setting urban water use targets

Why is This Topic Important?

1. Santa Margarita Groundwater Agency is getting ready to prepare a Groundwater Sustainability Plan (GSP), covering a 20-year horizon
2. GSP must include a summary of general plans and other land use plans governing the basin.
3. GSP must describe how implementation of land use plans may change water demands or ability to achieve sustainability.

Linking Land Use and Water Supply

It should be pretty simple:

Link the decision to plan and build with an available and reliable supply.

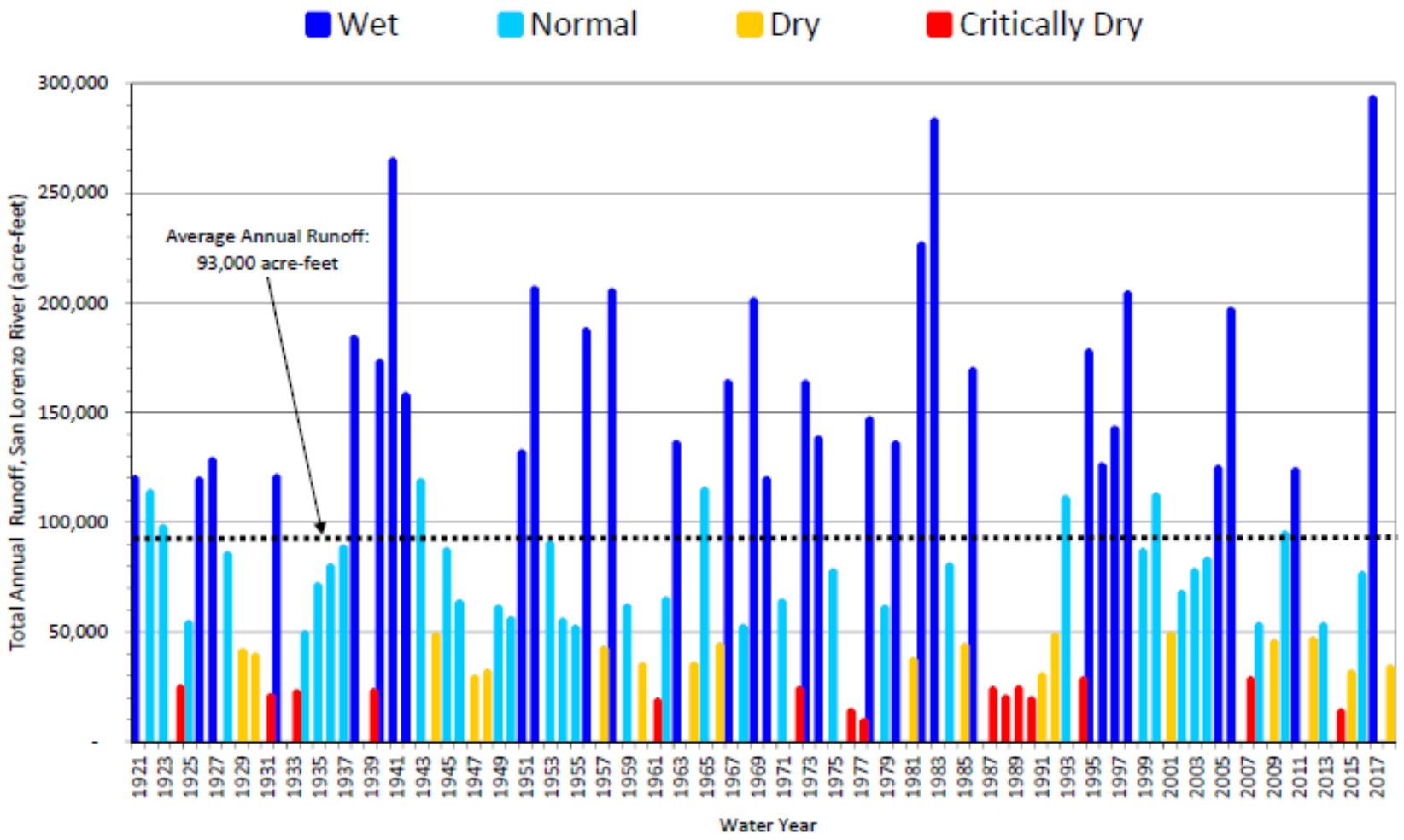
Linking Land Use and Water Supply

It is actually more complicated:

It involves addressing:

- the variations in water availability & delivery,
- possible impacts to existing water users and customers, and
- adapting to ever-changing land use visions of a community

Water Supply Variability



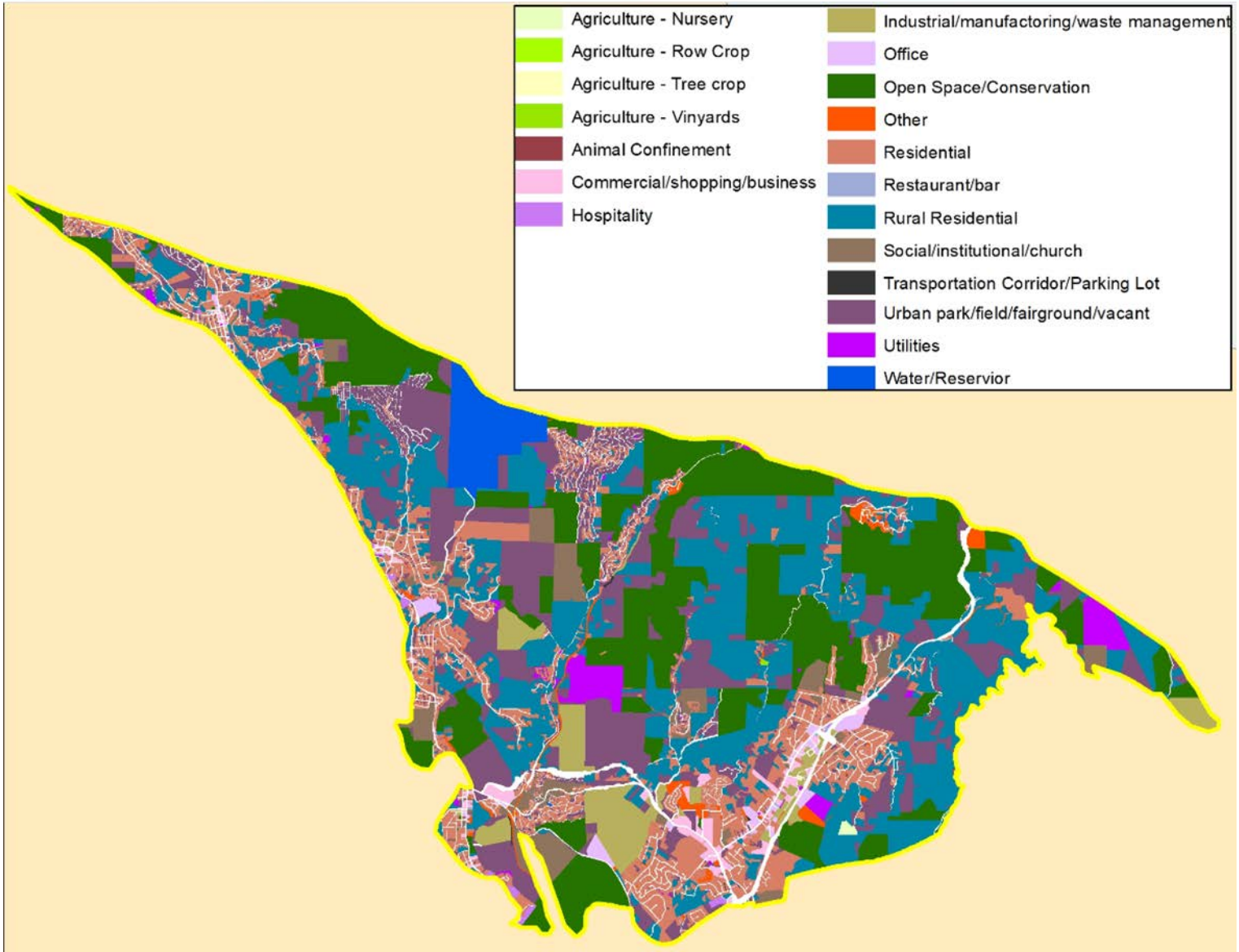
Tools for Long-Term Land Use Planning

City of Scotts Valley & County of Santa Cruz:

- General Plans (both dating from 1990s)
- Specific Plans
- Housing “Elements”
- Zoning Ordinances/Development Standards
- CA Environmental Law
- County: Growth mgmt. system, urban service line

Tools regulate the type, location, and intensity of development, which can shape the need for water

Current Land Use Patterns



Current Land Use Patterns

County Assessor Use Code	Acreage	Percent of Basin
Residential	2,930	14%
Rural residential	5,754	27%
Open space/conservation	5,045	24%
Urban park/field/vacant	4,297	20%
All other	3,119	15%
Total	21,145	100%

Tools for Water Supply Planning

San Lorenzo Valley and Scotts Valley Water Districts have a different set of tools:

- Urban Water Management Plans
- Water Supply Assessments/Verifications
- Integrated Regional Water Plans
- Sustainable Groundwater Management Act (2014)

Planning is complicated by large number of agencies and body of laws, policies, and regulations to allocate, manage, and protect water resources.

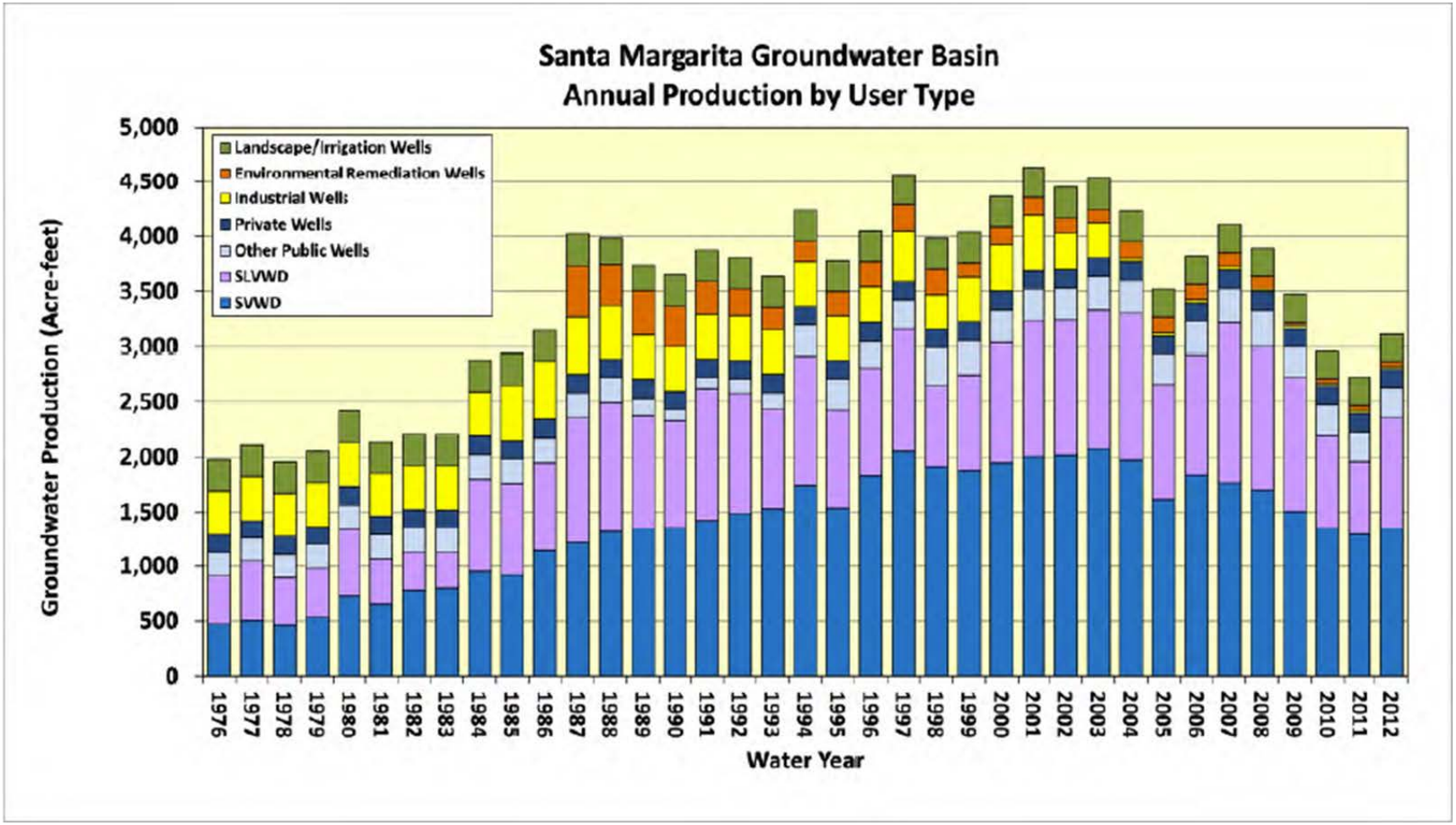
Challenges Linking Land & Water

- Tools (CEQA, WSAs) not well-suited
- Despite General Plans and housing elements, timing and type of new development is uncertain
- Other factors at play (economy, income, employment, technology)
- Change!

Opportunities for Improved Coordination

- ✓ Formation of the Santa Margarita Groundwater Agency JPA
- ✓ Working together & involving all stakeholders
- ✓ Conducting education & outreach
- ✓ Developing the plan
- ✓ Doing all the right things to achieve Basin Management Goals

Current Trends in Water Use

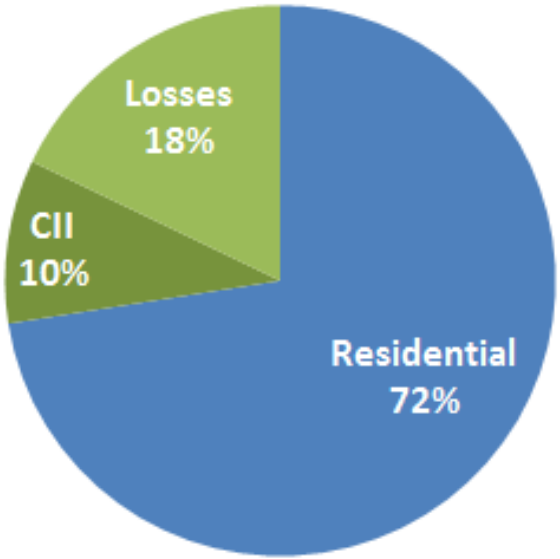


Reasons Why Urban Water Use Has Been Falling

- Change in community makeup
- Loss of industry
- Remediation winding down
- Efficiency and conservation programs, e.g. 20% by 2020
- Economic recession
- Drought (weather/climate)
- Price effects
- Recycled water
- Increased awareness

Composition of Water Use - 2015

San Lorenzo Valley Water District

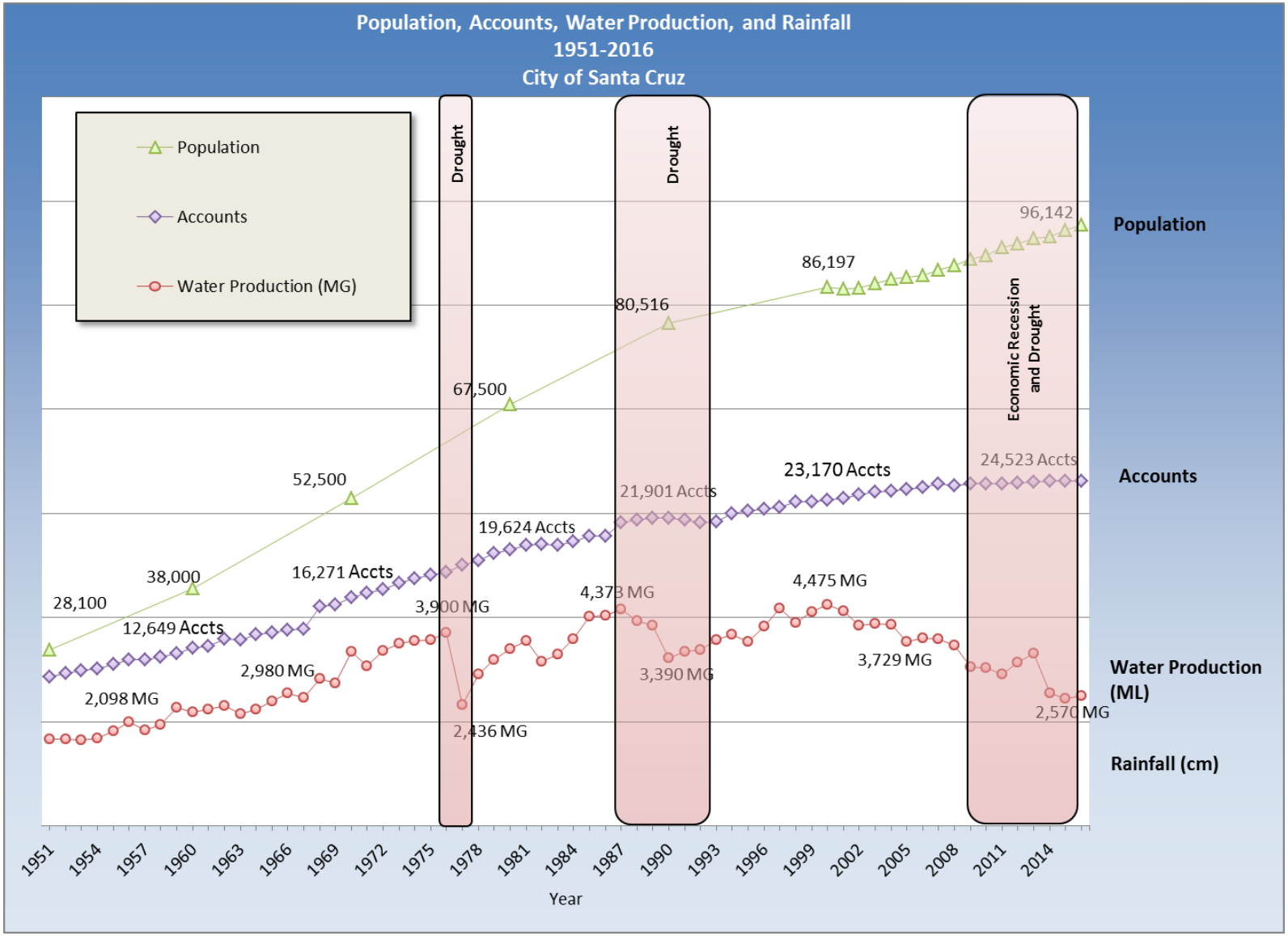


CII = Commercial, Industrial, Institutional

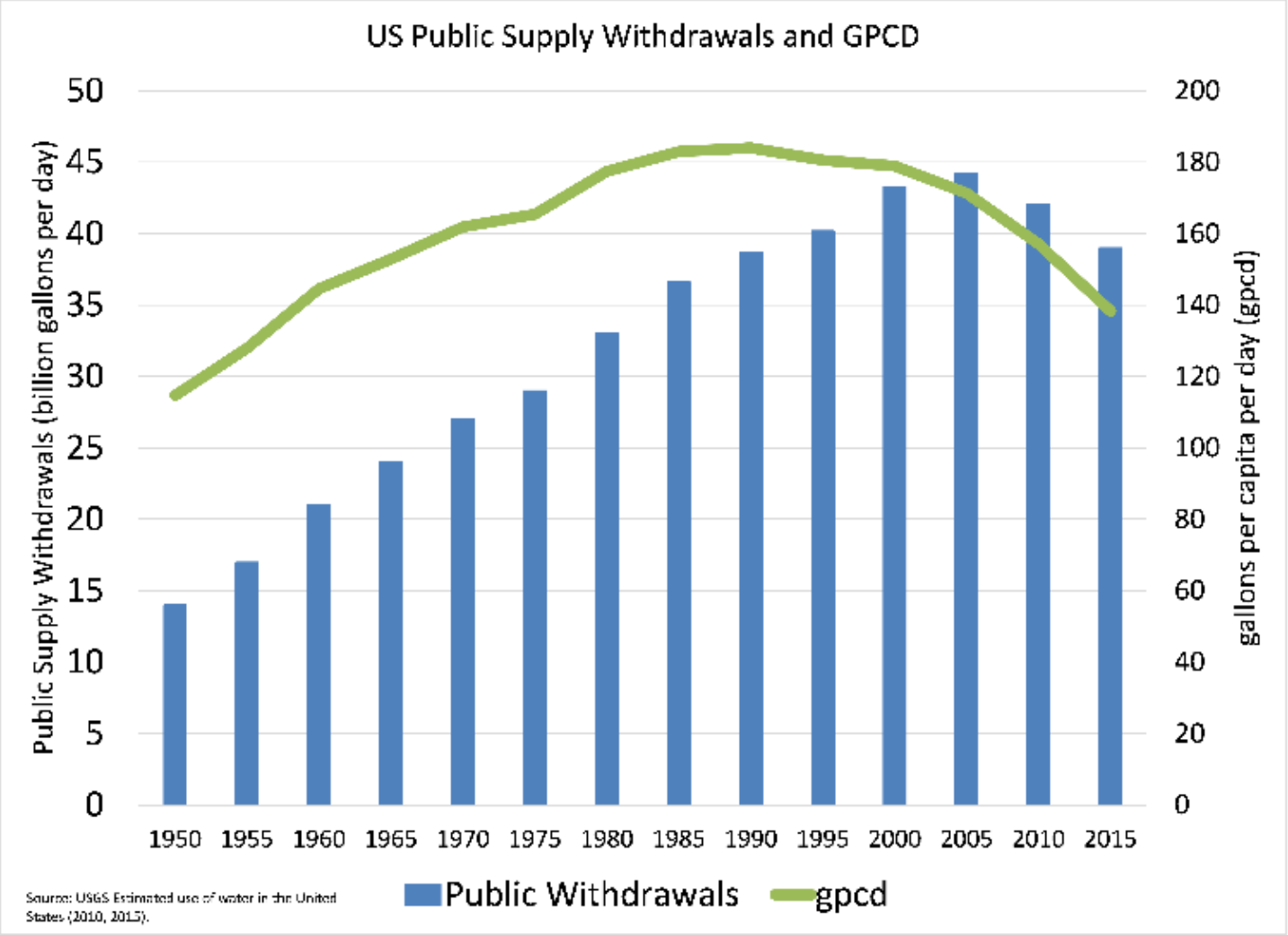
Scotts Valley Water District

Does not include recycled water

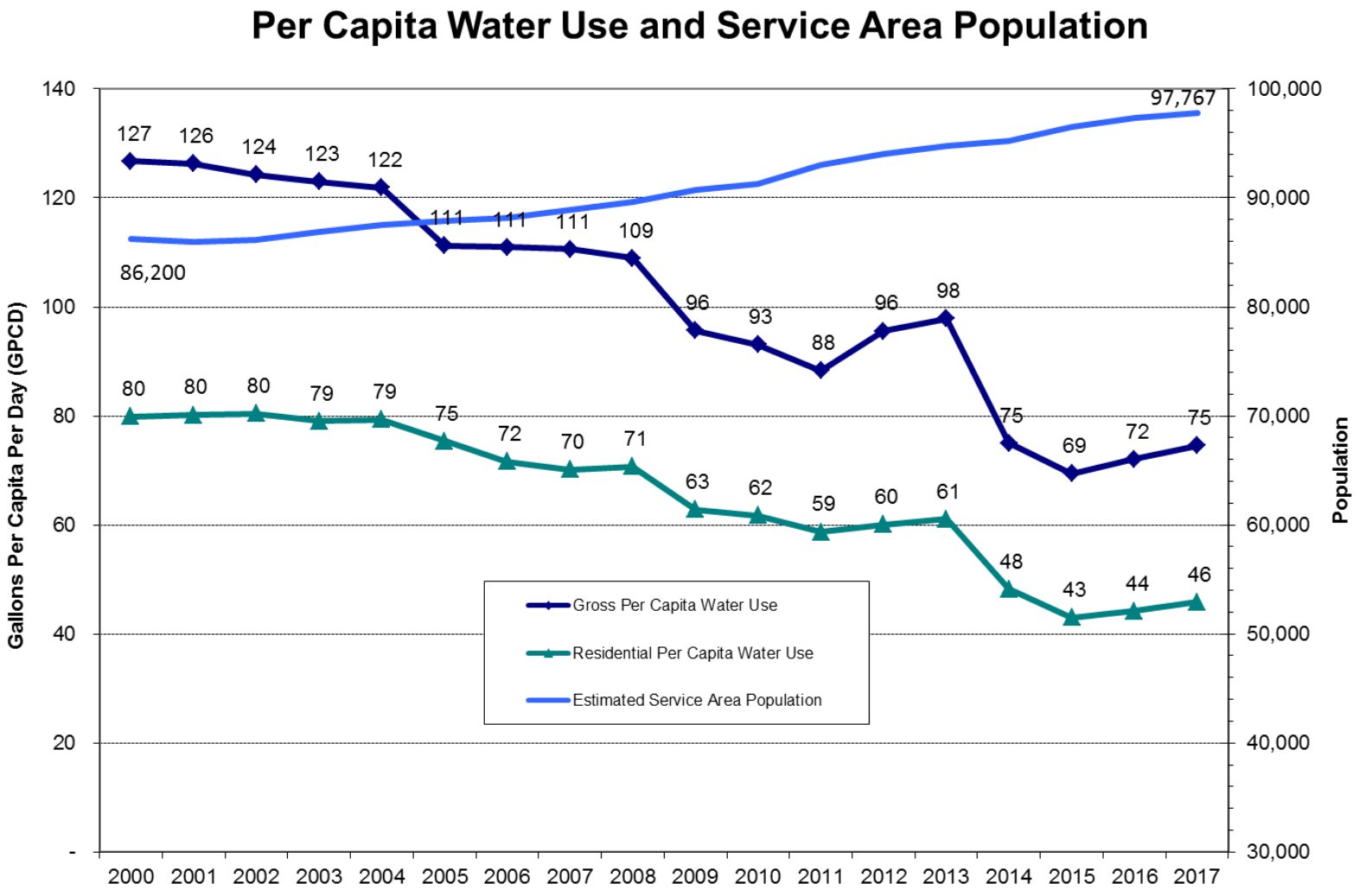
Santa Cruz City Water Service Area



National Trend



Per Capita Water Use



Population – Cities, County

TABLE 1: POPULATION AND GROWTH RATES OF COUNTY JURISDICTIONS				
Area	**1/1/2017 Population Estimate [1]**	**1/1/2018 Population Estimate [2]**	**2016 Population Growth Rate [1]**	**2017 Population Growth Rate**
City of Capitola	10,570	10,563	0.35%	-0.07%
City of Santa Cruz	66,170	66,454	0.52%	0.43%
City of Scotts Valley	12,196	12,195	0.01%	-0.01%
City of Watsonville	53,447	53,434	0.00%	-0.02%
Unincorporated Area	**134,121**	**134,218**	**0.29%**	**0.07%**
County Total	276,504	276,864	0.28%	0.13%
State of California	39,500,973	39,809,693	0.82%	0.78%

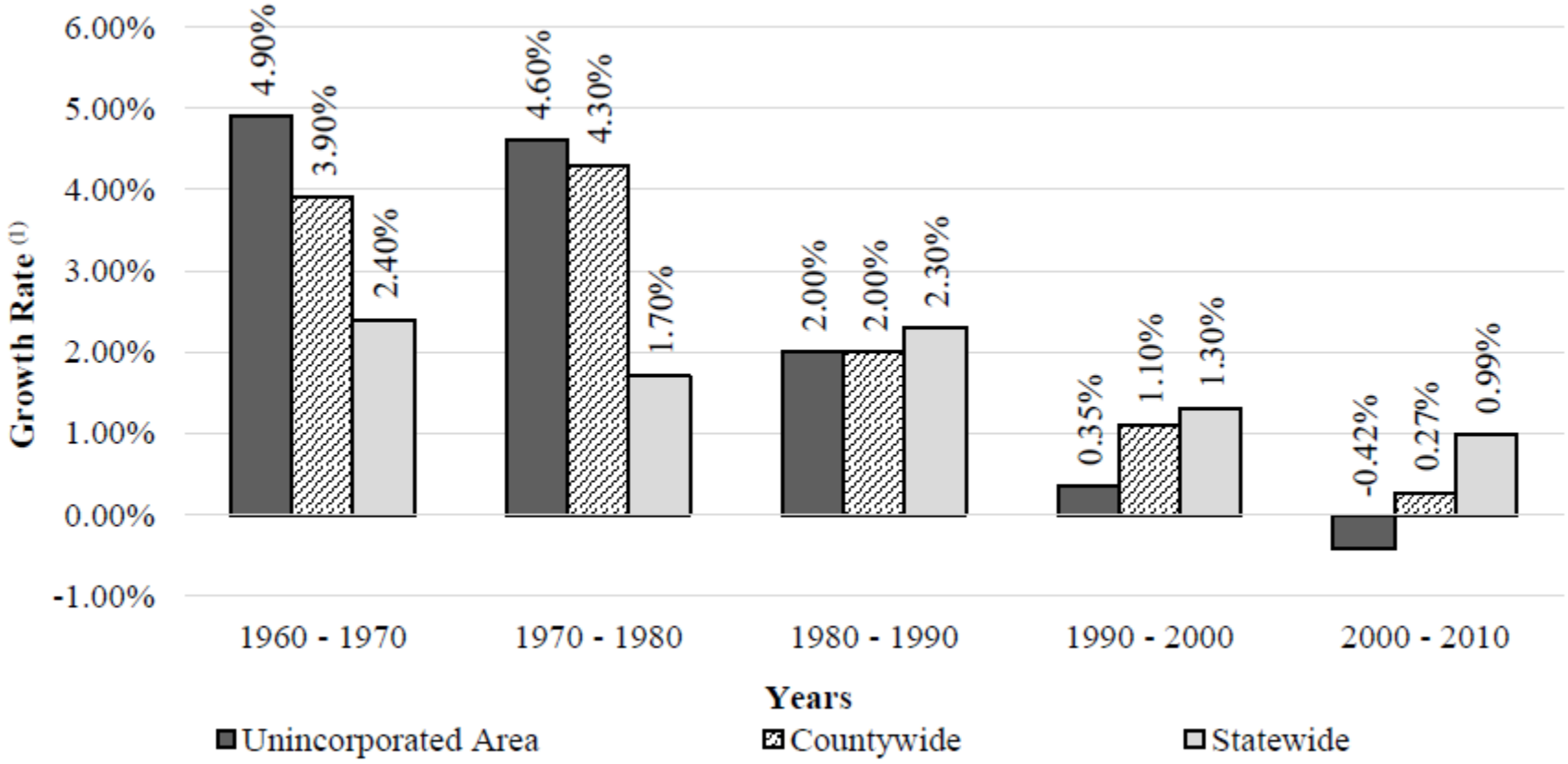
Source: DOF E-5 2018 City/County Population and Housing Estimates (5-18); with revised E-5 2018 estimates

[1] Population estimates for previous years are updated to match current data in the DOF E-5 tables and may differ from those recorded in last year's report.

[2] 2018 data is provisional

Population Trends

FIGURE 1: POPULATION GROWTH RATE BY DECADE



(1) Average annual growth rate; Source: 1960, 1970, 1980, 1990, 2000, and 2010 U.S. Census

Population Forecast

TABLE 2: AMBAG POPULATION FORECAST FOR SANTA CRUZ COUNTY (2018 AMBAG Adopted Forecast)								
Area	**2015 [1]**	**2020 Forecast**	**2025 Forecast**	**2030 Forecast**	**2035 Forecast**	**2040 Forecast**	**Annual Average Rate**	**% Change 2015-40**
City of Capitola	10,087	10,194	10,312	10,451	10,622	10,809	0.29%	7.16%
City of Santa Cruz	63,830	63,381	72,091	75,571	79,027	82,266	1.16%	28.88%
City of Scotts Valley	12,073	12,145	12,214	12,282	12,348	12,418	0.11%	2.86%
City of Watsonville	52,562	53,536	55,187	56,829	58,332	59,743	0.55%	13.66%
Unincorporated Area	**135,042**	**136,891**	**137,896**	**139,105**	**140,356**	**141,645**	**0.20%**	**4.89%**
County Total	273,594	281,147	287,700	294,238	300,685	306,881	0.49%	12.17%

[1] 2015 data from U.S. Census Bureau and DOF

Population Forecast in Groundwater Basin

Area	2015	2020	2025	2030	2035	2040
Unincorporated Santa Cruz County	17,742	17,985	18,117	18,276	18,441	18,610
Scotts Valley	12,073	12,145	12,214	12,282	12,348	12,418
Total Basin	**29,815**	**30,130**	**30,331**	**30,558**	**30,789**	**31,028**

Source: 2018 AMBAG Regional Growth Forecast

Looking Ahead 20 Years

MAKING WATER CONSERVATION A CALIFORNIA WAY OF LIFE

Primer of 2018 Legislation on Water Conservation and Drought Planning
Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman)

PREPARED BY

California Department of Water Resources

AND

State Water Resources Control Board

NOVEMBER 2018

California's New Water Efficiency Laws

CALCULATING WATER TARGETS

To create each water provider's unique target, the following standards will be calculated and added together:

INDOOR USE

The standard for indoor residential water use is 55 gallons per person per day multiplied by the population of the service area.

+

OUTDOOR USE

The standard for outdoor residential water use is based upon a community's climate and the amount of landscape area and is still to be determined.

+

WATER LOSS

The standard for water loss due to leaks in the water system pipes is still to be determined.

+

CII LANDSCAPE

The standard for outdoor CII water use for accounts with dedicated irrigation meters is still to be determined.

Indoor Water Use

DIVING DEEPER

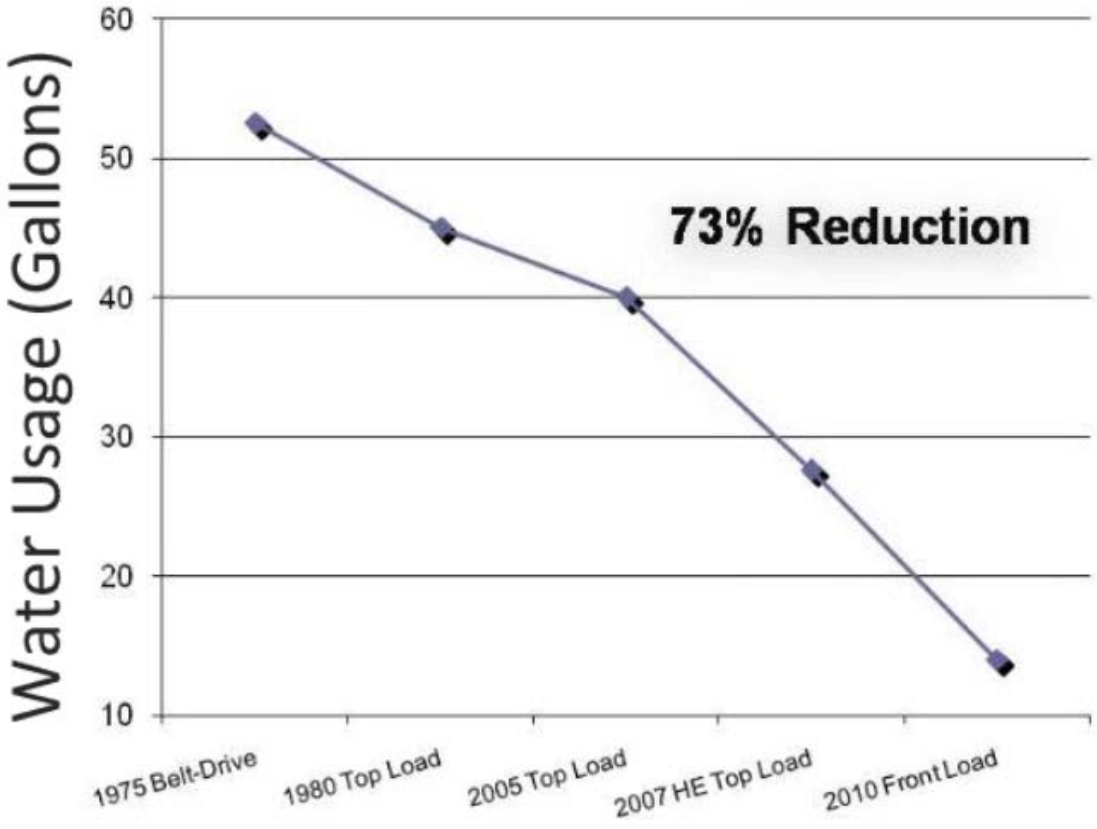
THE INDOOR STANDARD

The standard for indoor residential water use is 55 gallons per person per day multiplied by the population of the service area.

55 GPCD x Service Area Population x 365 days = Indoor Standard

- GPCD will reduce to 52.5 by 2030 and 50 GPCD after 2030. (subject to change via Legislature)
- Water industry experts project that many people are already meeting this standard or do not have far to go.
- The Alliance for Water Efficiency has an online water calculator that can estimate how much water a household uses indoors. You can find it at: www.home-water-works.org/calculator.

Improvement in Clothes Washer Efficiency



Sustainable products, that make life better, while lowering impact

CA and US Plumbing Code Changes

- Significant impact over 20 years
- 8.6% reduction in water demand

Outdoor Residential Water Use

DIVING DEEPER

THE OUTDOOR STANDARD

The standard for outdoor residential water use is based upon a community's climate and the amount of landscape area. This customized standard is still to be determined.

- **Irrigable** landscape will be measured via aerial imagery
- Aerial imagery will be provided by DWR, some agencies are exploring securing more detailed imagery
- Outdoor standard calculation will take into consideration the unique climate of each water provider's location

Utility Water Losses

DIVING DEEPER

THE WATER LOSS STANDARD

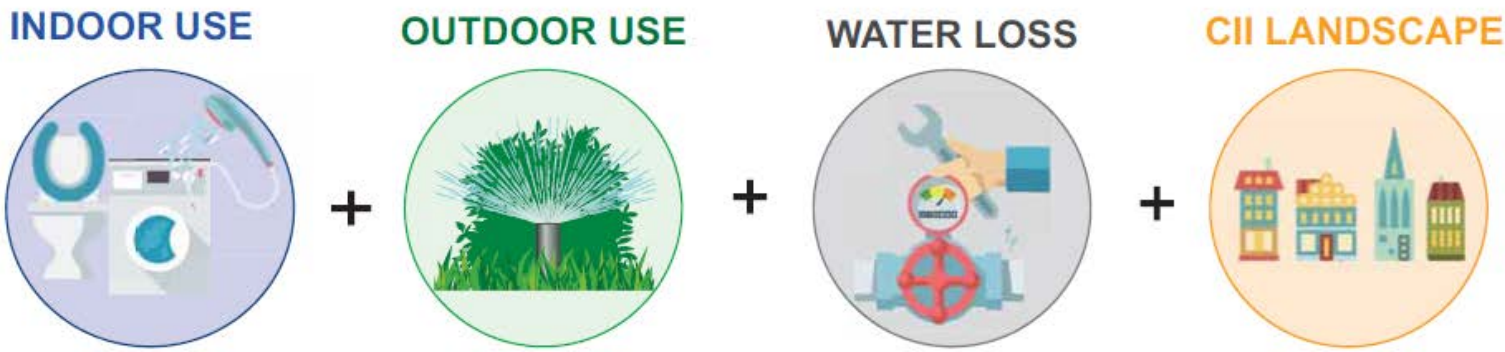
The standard for water loss reduction due to leaks in the water system pipes is still to be determined.

- SB 555 requires Annual Validated Water Loss Audit Reports submitted to DWR
- Water Board to set volumetric water loss performance standards by July 1, 2020 per SB 555, earlier than the other standards.
- Standard will incorporate cost effectiveness

Future Urban Water Use Targets

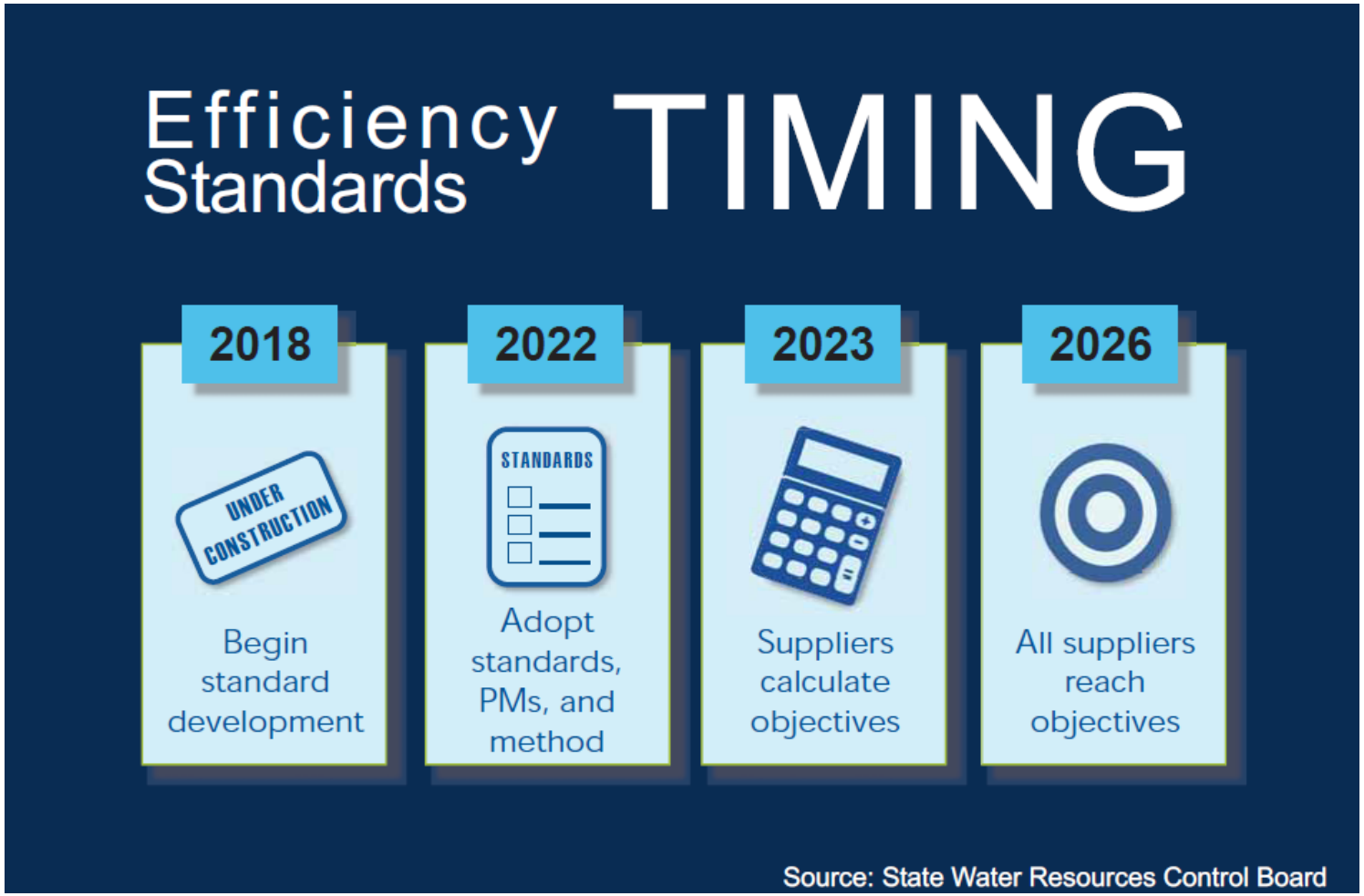
CALCULATING WATER TARGETS

Providers will need to meet the SUM of 4 standards, NOT each one individually.



= WATER PROVIDER'S UNIQUE WATER TARGET

Standards Begin Same Time As GSP



Water Efficiency or Growth?

Wrap-Up

- SLV and SV water districts basin's largest users
- Majority of district water use is for residential purposes
- Water production will probably continue to decline over time (even with modest growth) due to :
  - **relatively low population growth,**
  - **current plumbing code and appliance standards, and**
  - **future water use efficiency targets,**
- Water use efficiency should help partners achieve groundwater sustainability goals

Questions?

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