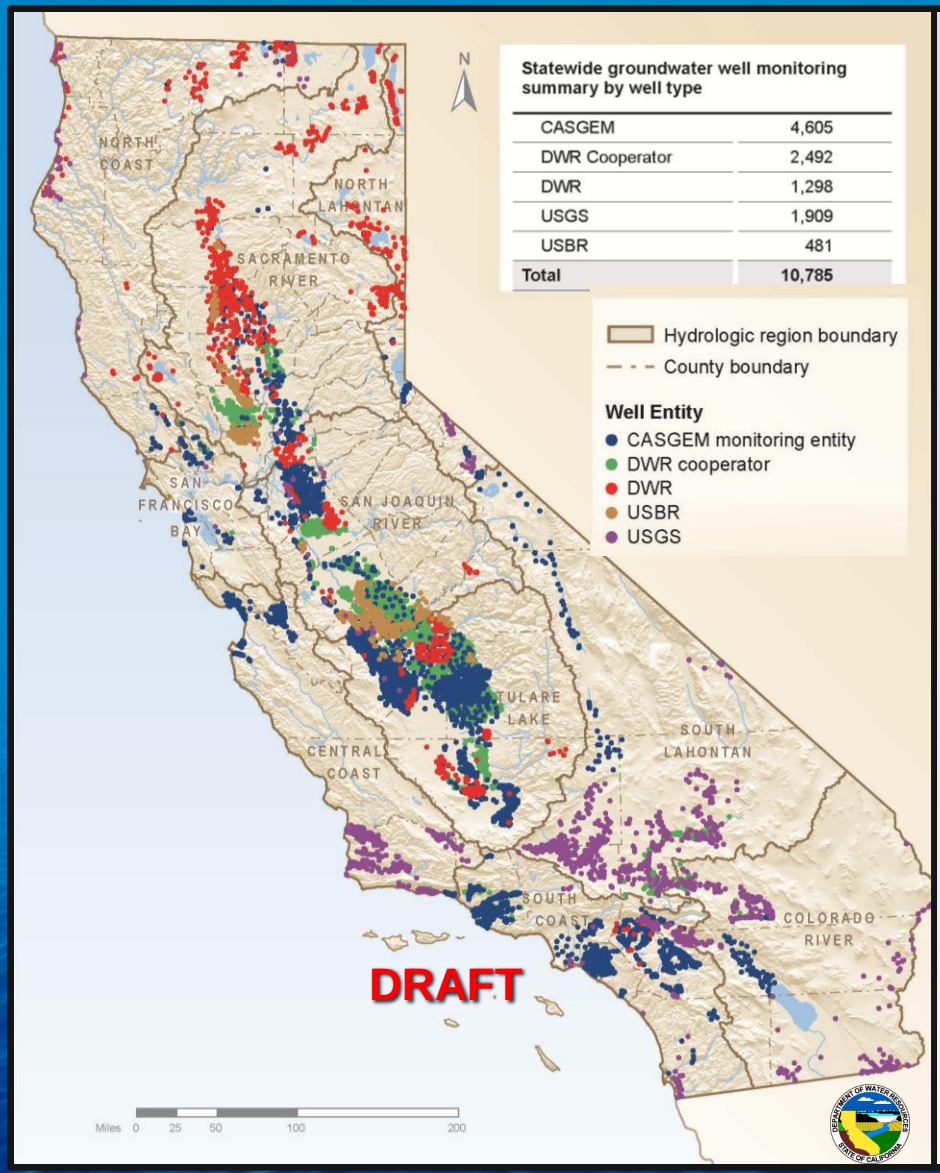
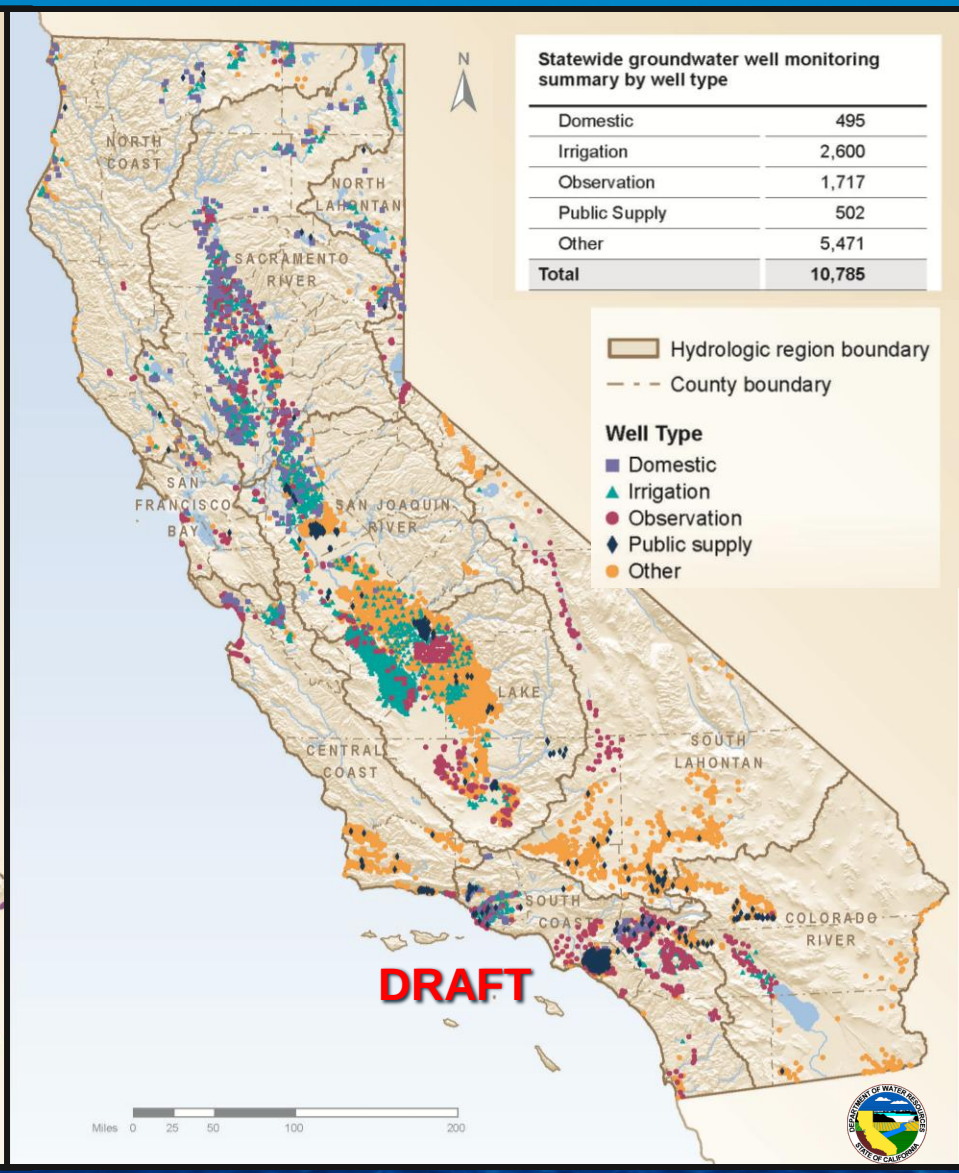
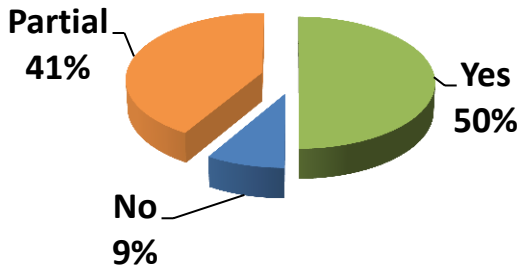
# Statewide Mont Wells by Entity and Well Type



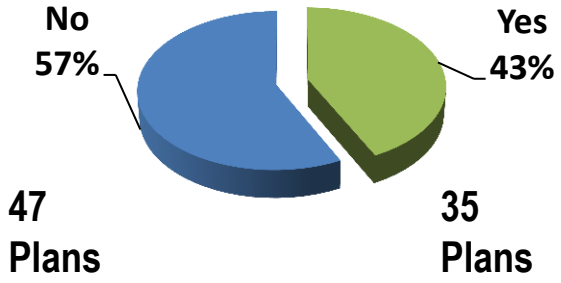



# Preliminary Results of Statewide GWMP Assessment

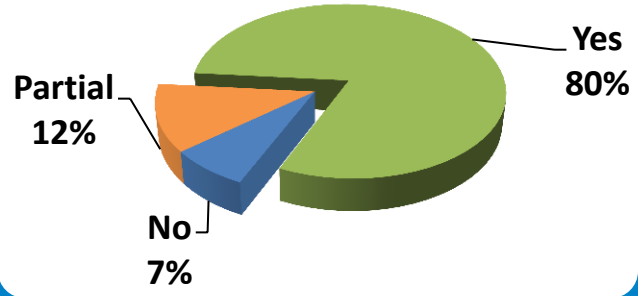
## Basin Management Objectives



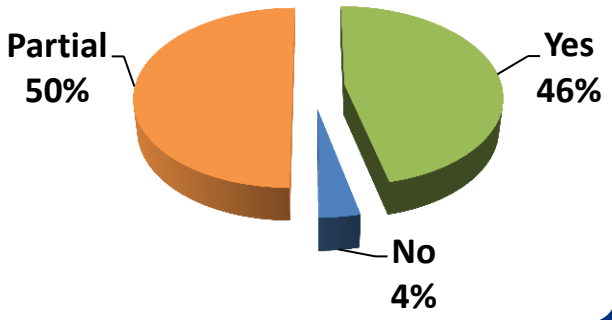

## ALL SB 1938 Requirements Addressed



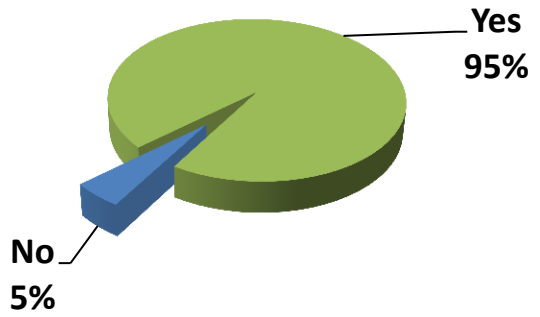

## Map




## Monitoring Protocols



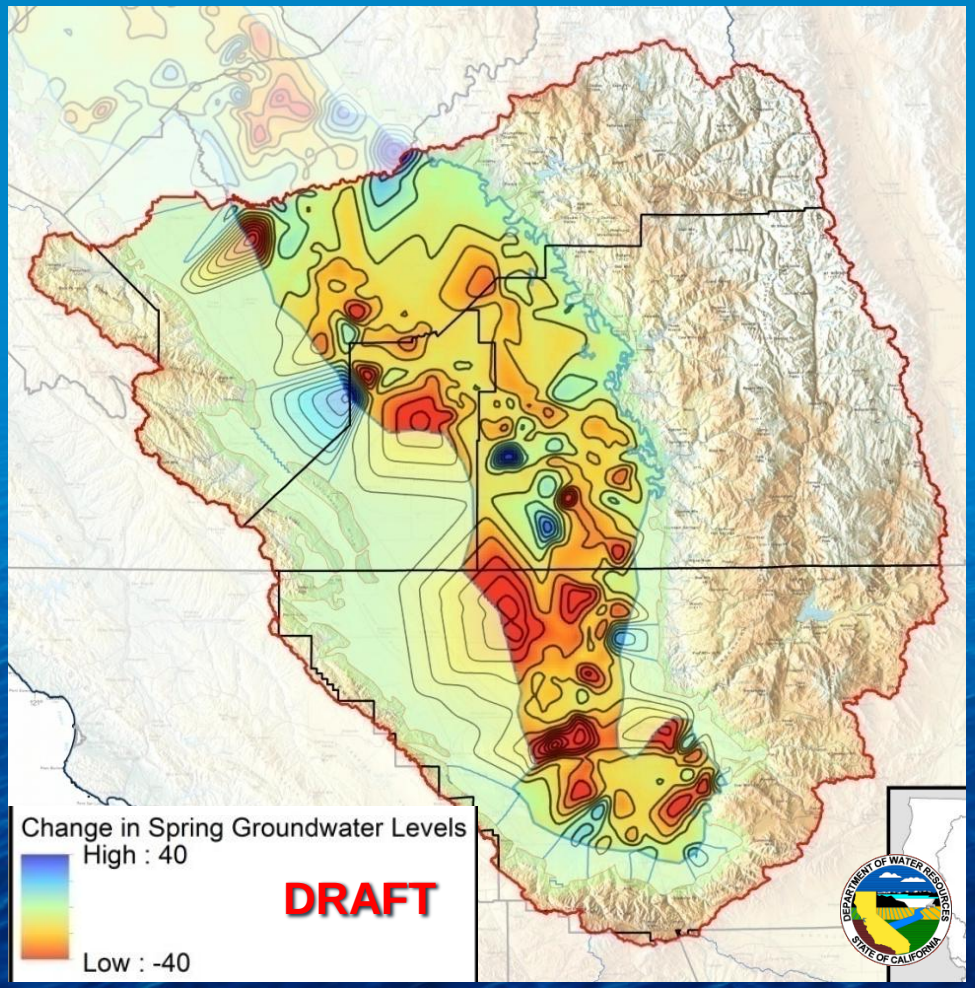

## Agency Cooperation

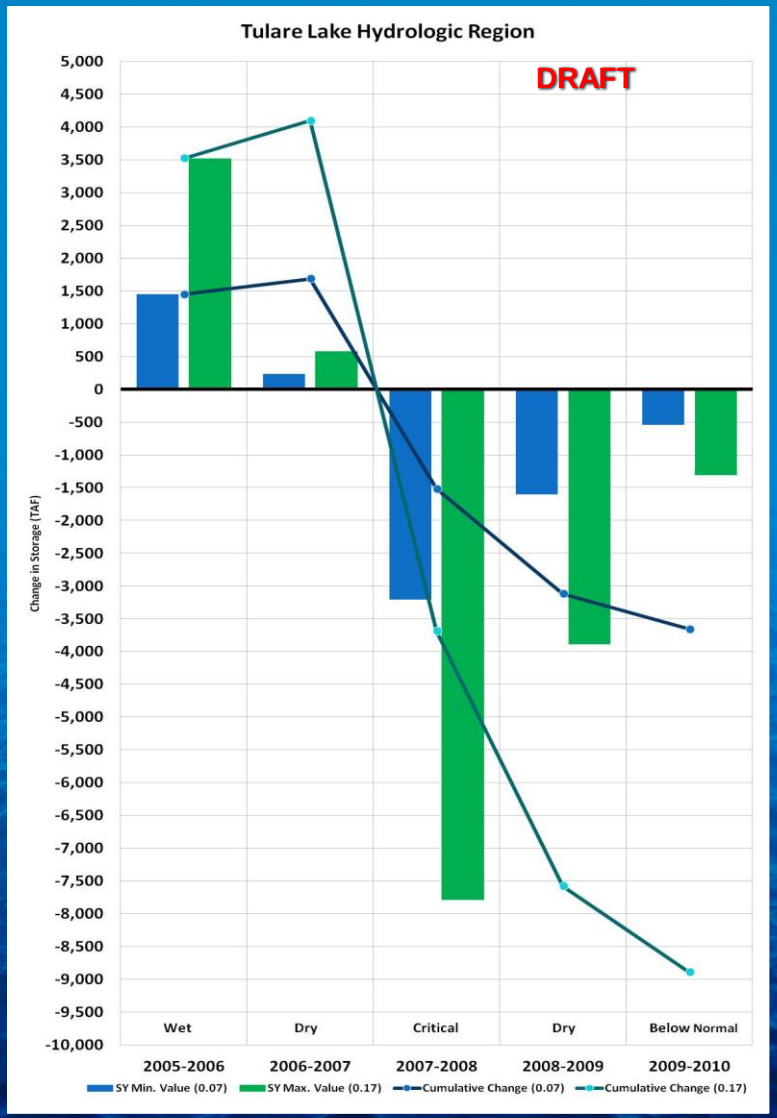


# Annual Change in Groundwater Storage

## Spring 2005 – Spring 2010

## Tulare Lake HR



## Figure X-x Tulare Lake hydrographs

Regional locator map


### Changing demand and management practices

Hydrographs were selected to help tell a story of how local aquifer systems respond to changing groundwater demand and resource management practices. Additional detail is provided within the main text of the report.

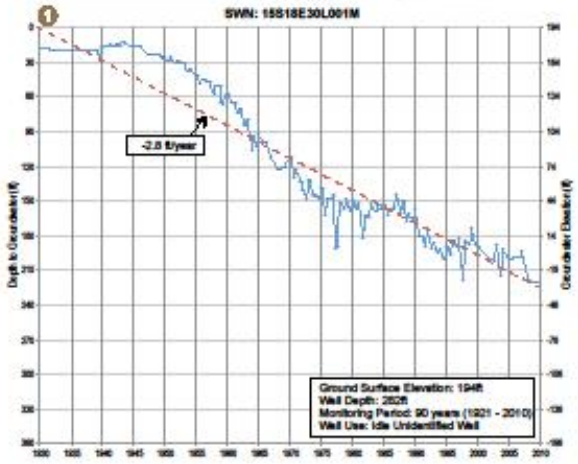
❶ **Hydrograph 15S18E30L001M:** illustrates the long-term declining groundwater levels and an ongoing imbalance between the annual amounts of groundwater extraction versus recharge for this area. With current groundwater levels at or below sea level, the hydrograph also points to unsustainable management of the aquifer.

❷ **Composite Hydrograph 16S15E34N001M, 16S15E34N004M, and 16S15E32Q001M:** shows how imported surface water has contributed to the nearby groundwater level recovery and the near elimination of land subsidence within the immediate aquifer area.

❸ **Hydrograph 20S23E12A001M:** illustrates the local aquifer response to changes in groundwater recharge and extraction, due to changes in precipitation and surface water supply deliveries.

❹ **Hydrograph 26S18E18G001M:** highlights recovering groundwater levels associated with the introduction of imported surface water from the California Aqueduct, which resulted in decreasing groundwater demand and facilitating in-lieu groundwater recharge.

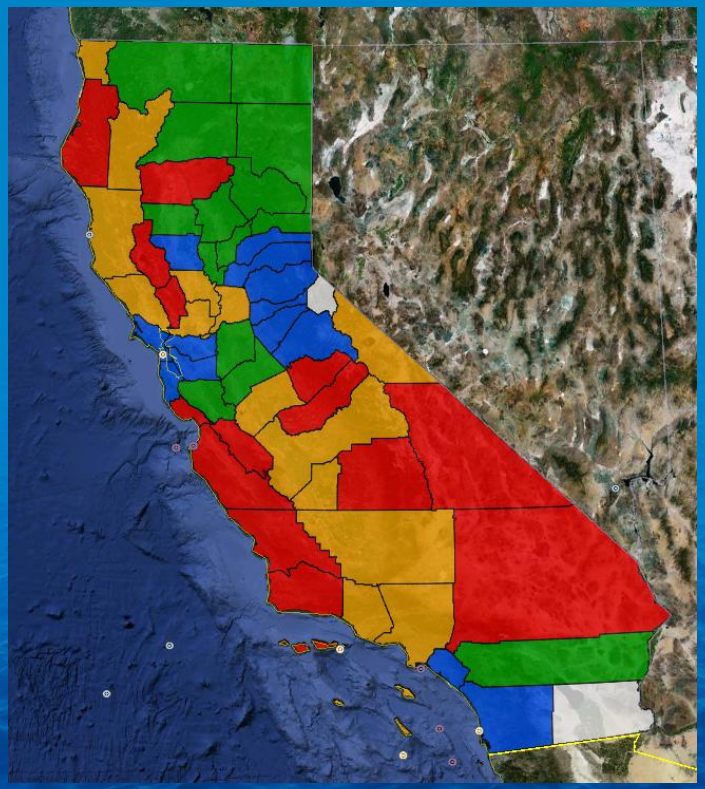
❺ **Hydrographs 30S24E02C001M and 30S27E05D001M:** illustrate the successful stabilization of sharply declining groundwater levels through implementation of in-lieu and active groundwater recharge projects via active conjunctive management practices.



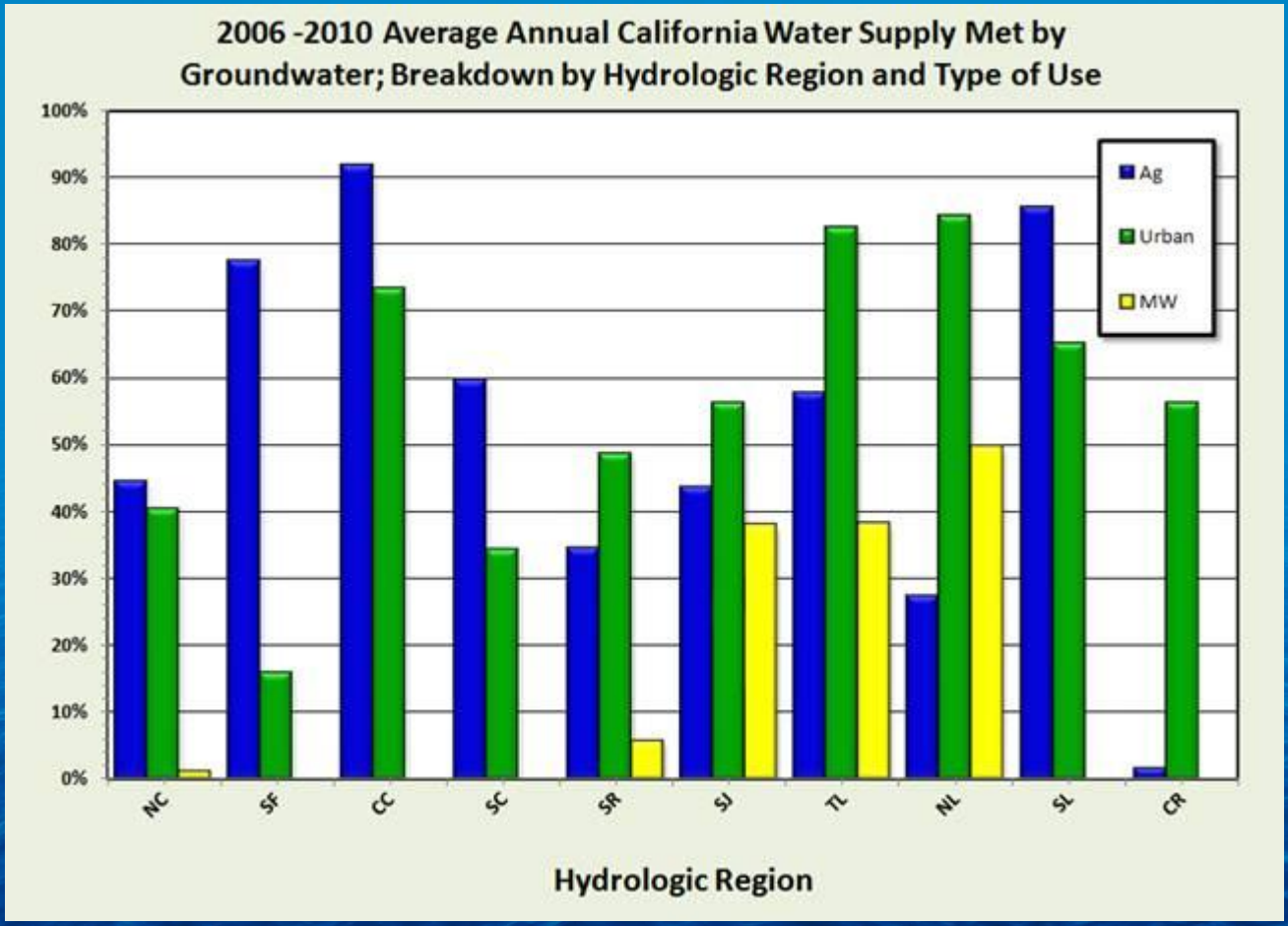

# Groundwater Use…% Use Met by GW

## HR
(% Use Met by GW)

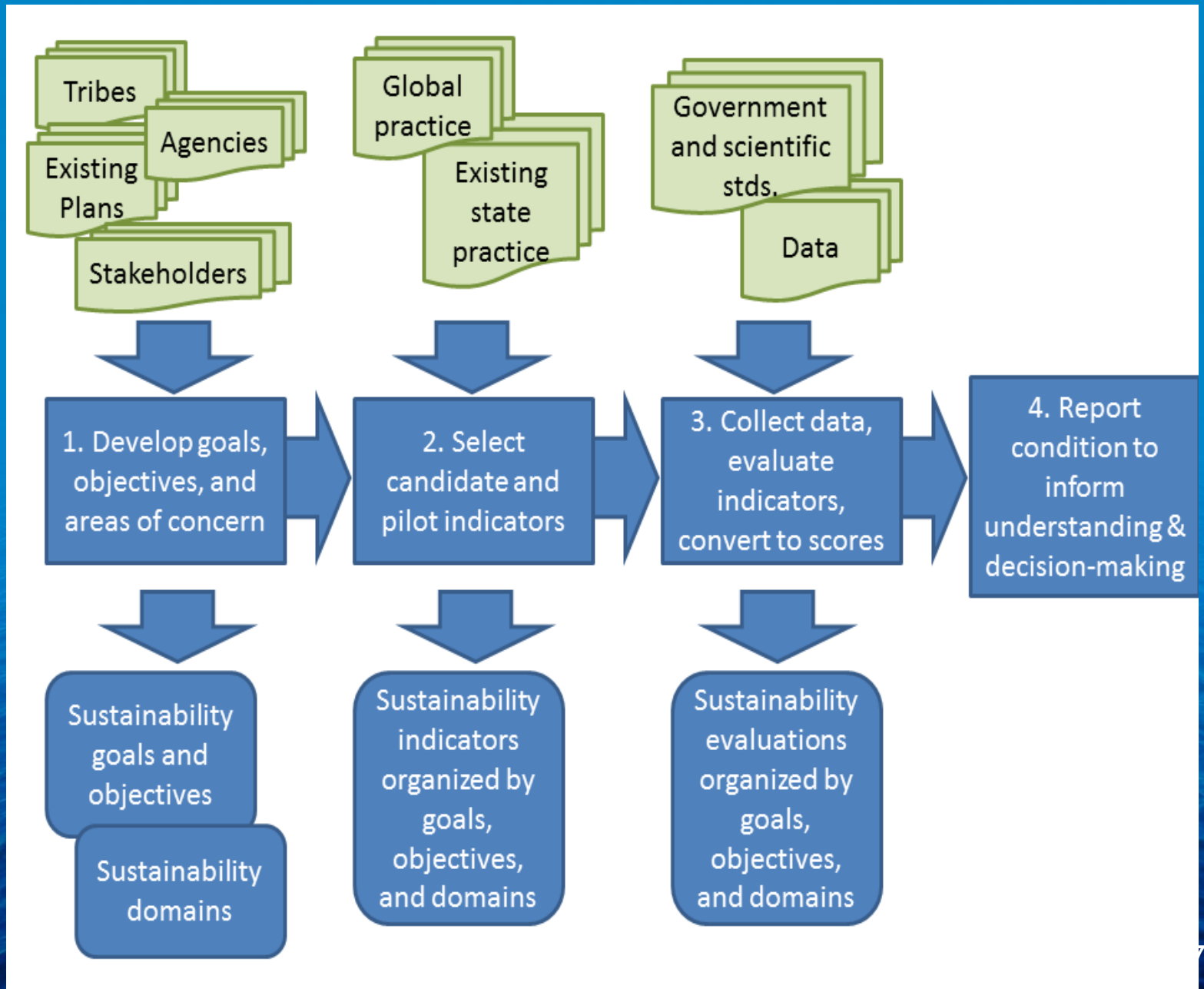
## County
(% Use Met by GW)



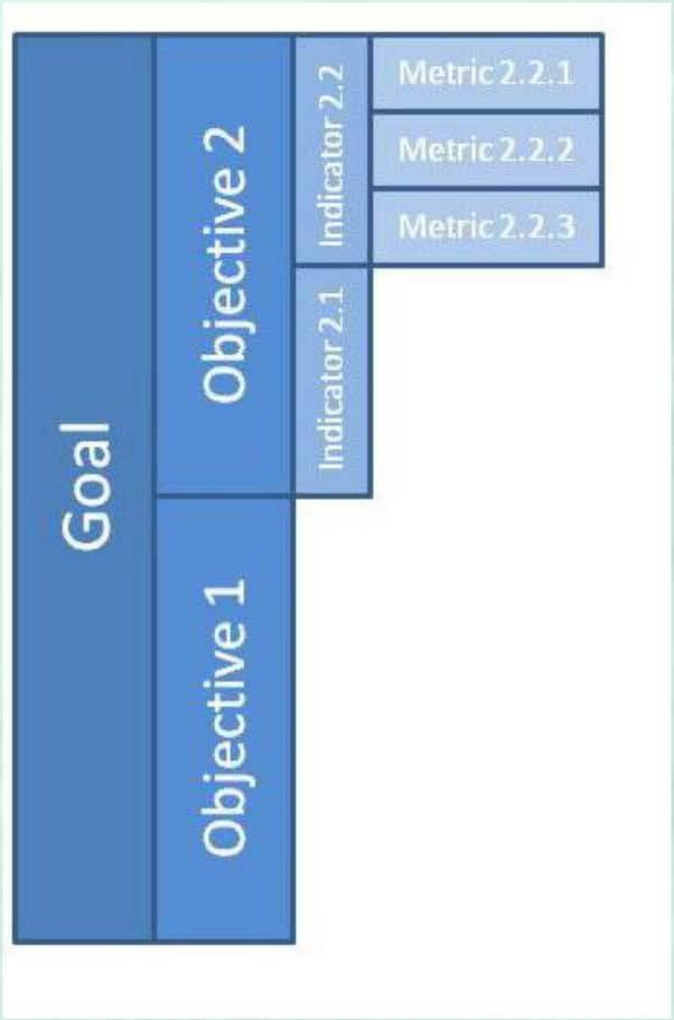
**Preliminary Data – Subject to Revision**


2006 -2010 Average Annual California Water Supply Met by Groundwater; Breakdown by Hydrologic Region and Type of Use
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Ag
Urban
MW
NC
SF
CC
SC
SR
SJ
TL
NL
SL
CR
Hydrologic Region

# California Water Sustainability Indicators Framework



# Organizing indicators




- Water supply reliability
- Water quality
- Ecosystem health
- Social benefits and equity
- Adaptive & sustainable management

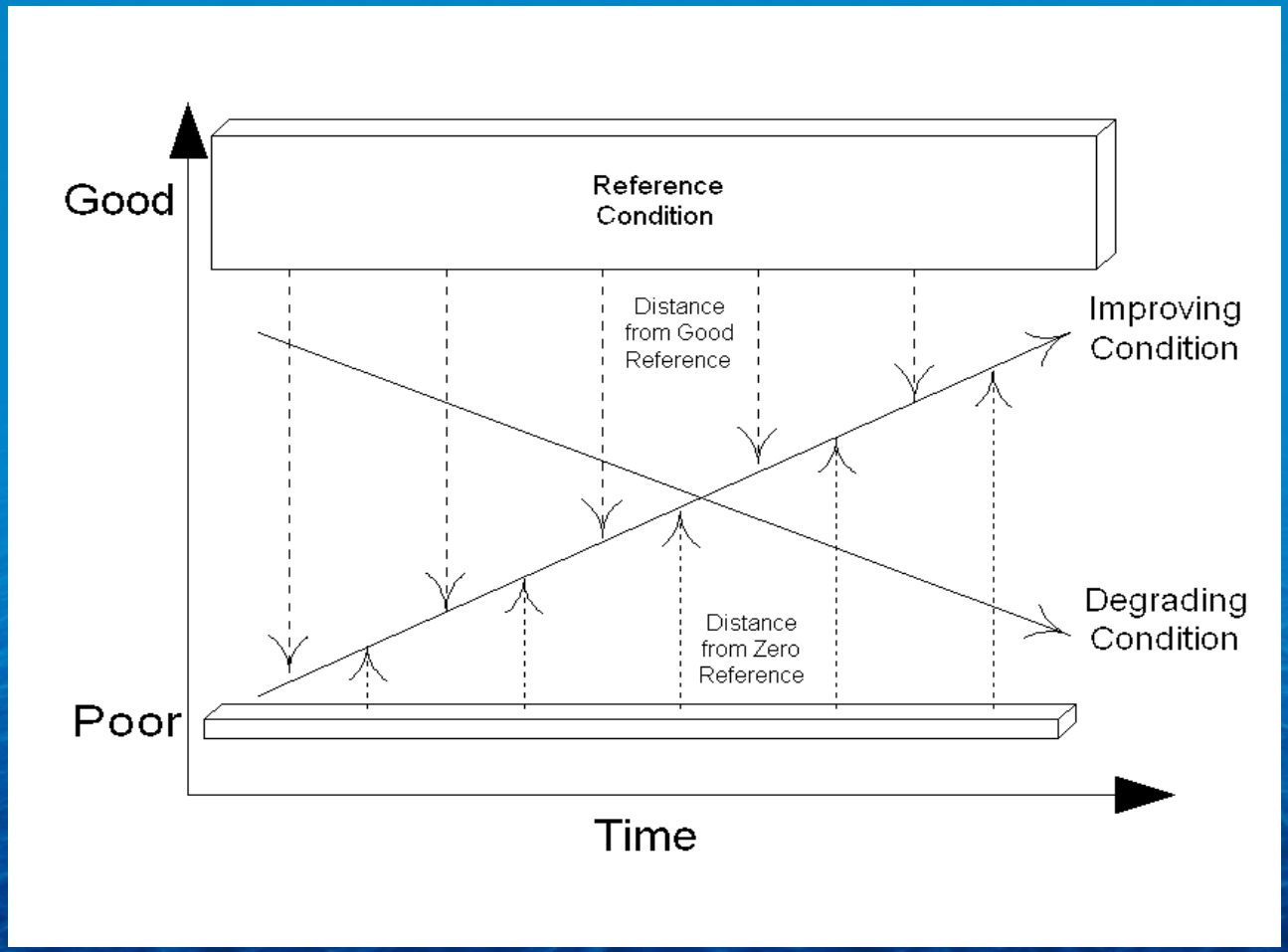
## Sustainability Goals and Objectives for California Water

| Sustainability Goals and Objectives | Relationship to Water Plan 2009 |
|---|---|
| Goal 1: Manage and make decisions about water in a way that integrates water availability, environmental conditions, and community well-being for future generations. | Reflects overall goal of sustainability; Various RMSs |
| Goal 2. Improve water supply reliability to meet human needs, reduce energy demand, and restore and maintain aquatic ecosystems and processes.<br>*Objectives: Increase water use efficiency; Increase water recycling; Reduce water demand; Increase water supply; Increase conjunctive management of new and recycled water from multiple sources.* | Water Plan Objective 2, 3, 9; RMS Reduce water demand; Increase water supply |
| Goal 3. Improve beneficial uses and reduce impacts associated with water management.<br>*Objectives: Improve regional water movement operations and efficiency; Investigate new water technologies; Improve social and ecological benefits from water transfers; Reduce social and ecological impacts from water transfers.* | Water Plan Objective 1, 2, 7, 11; RMS Improve operational efficiency |
| Goal 4. Improve quality of drinking water, irrigation water, and in-stream flows to protect human and environmental health.<br>*Objectives: Improve water quality for human uses and as a consequence of human use; Protect the natural systems that maintain water quality.* | Water Plan Objective 4, 12, 13; RMS Improve water quality |
| Goal 5. Protect and enhance environmental conditions by improving watershed, floodplain, and aquatic condition and processes.<br>*Objectives: Practice, promote, improve, and expand environmental stewardship; Maintain and increase watershed protection through conservation activities and investments; Protect aquatic, floodplain, and riparian biotic communities.* | Water Plan Objective 5, 12, 13; RMS Practice resource stewardship |
| Goal 6. Integrate flood risk management with other water and land management and restoration activities.<br>*Objectives: Reduce impacts of developed lands on flooding and channel processes; Balance flood protection with water storage and conservation.* | Water Plan Objective 1, 6, 8, 12, 13; RMS Improve flood management |
| Goal 7. Employ adaptive decision-making, especially in light of uncertainties, that support integrated regional water management and flood management systems.<br>*Objectives: Improve and expand monitoring, data management, and analysis; Connect decision-making with data and analysis; Improve diversity of population involved in decision-making.* | Water Plan Objective 10; Various RMSs |

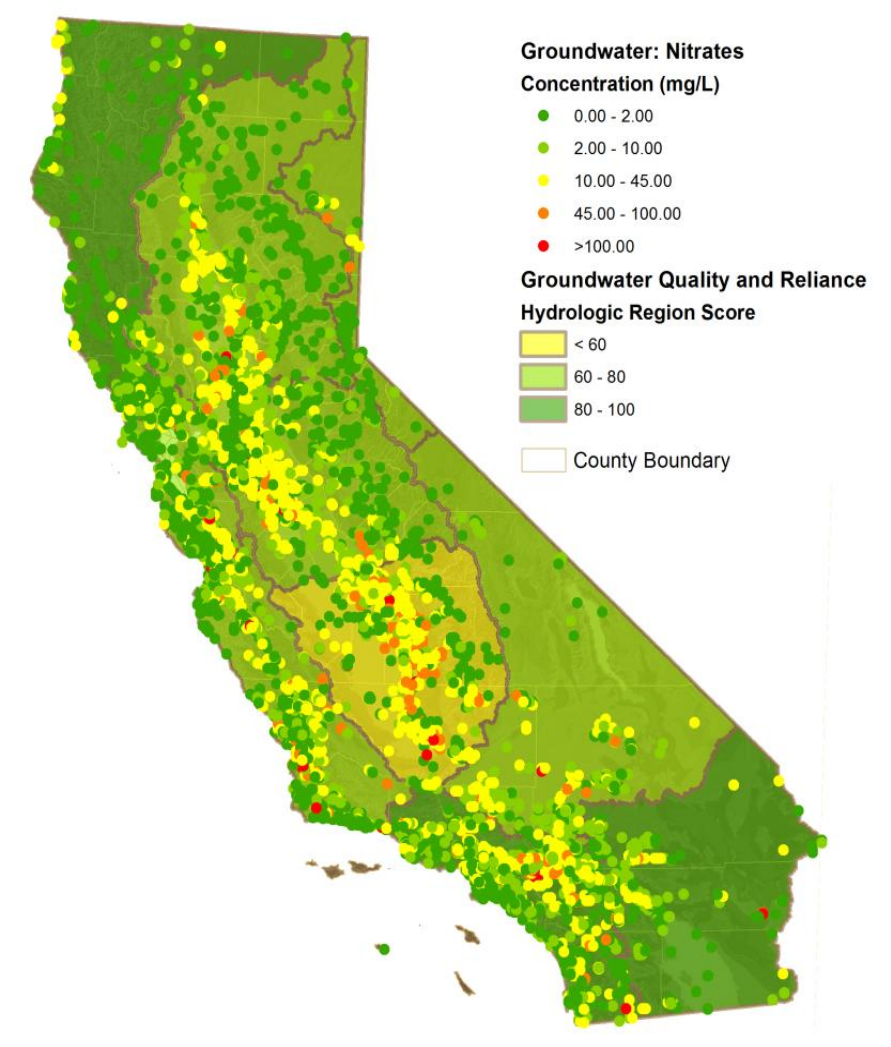
## Water Sustainability Domains

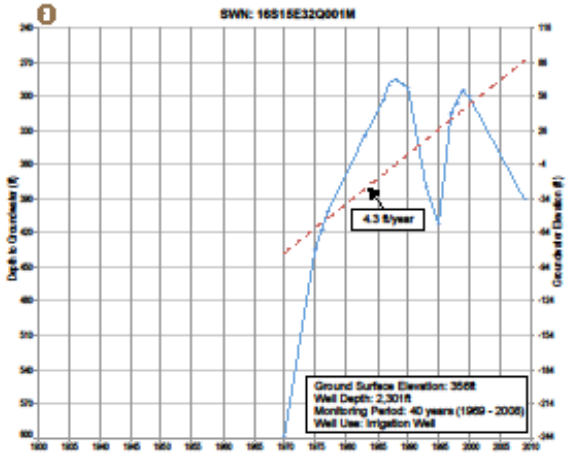
| Domain Name | Description |
|---|---|
| Water Supply Reliability | The availability or provision of water of sufficient quantity and quality to meet water needs for health and economic well-being and functioning. |
| Water Quality | The chemical and physical quality of water to meet ecosystem and drinking water standards and requirements. |
| Ecosystem Health | The condition of natural system, including terrestrial systems interacting with aquatic systems through runoff pathways. |
| Adaptive and Sustainable Management | A management system that can nimbly and appropriately respond to changing conditions and that is equitable and representative of the various needs for water in California. |
| Social Benefits and Equity | The health, economic, and equity benefits realized from a well-managed water system, including management of water withdrawal and water renewal. |

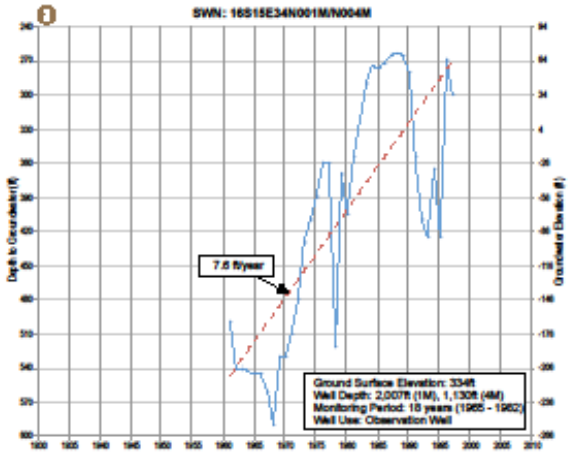
# “Distance to Target”

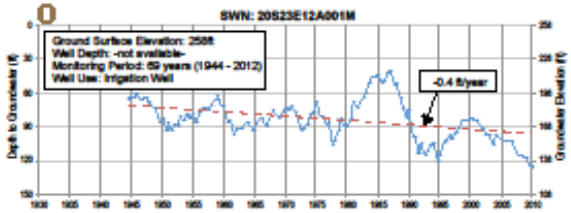


Groundwater and Drinking Water Contamination Score for Hydrologic Regions
(The score is based on the proportion of each county's population that is 100% dependent on groundwater that exceeds one or more MCLs for contaminants [SWRCB, 2013]. A score of 0 was assigned if a county has more than 10% of residents relying on contaminated groundwater. A score of 100 was assigned if a county has 0% of residents relying on contaminated groundwater. The average county score was aggregated to each hydrologic region. Data source: State Water Resources Control Board.)



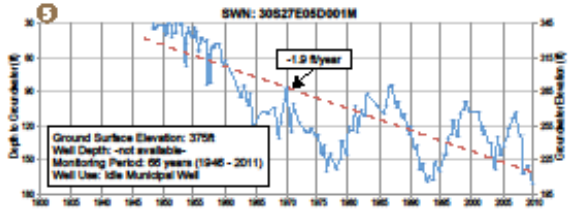

SWN: 16S15E32Q001M
4.3 ft/year
Ground Surface Elevation: 356ft
Well Depth: 2,301ft
Monitoring Period: 40 years (1969 - 2008)
Well Use: Irrigation Well


SWN: 16S15E34N001M/N004M
7.6 ft/year
Ground Surface Elevation: 334ft
Well Depth: 2,007ft (1M), 1,130ft (4M)
Monitoring Period: 18 years (1965 - 1982)
Well Use: Observation Well

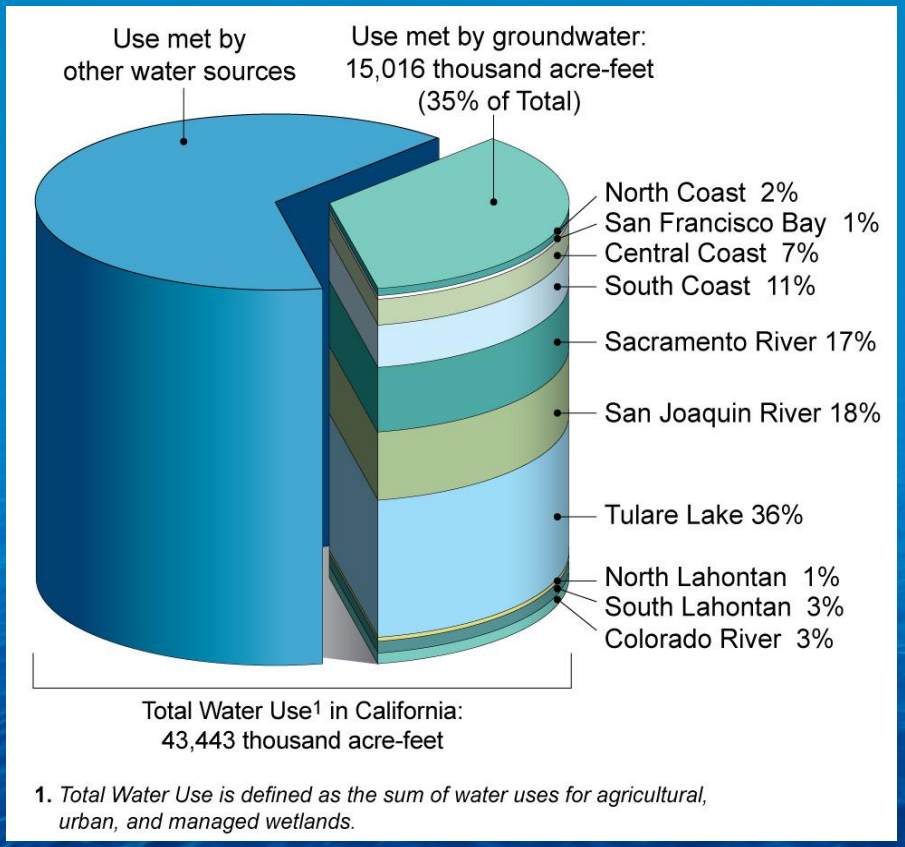

SWN: 20S23E12A001M
Ground Surface Elevation: 258ft
Well Depth: -not available-
Monitoring Period: 69 years (1944 - 2012)
Well Use: Irrigation Well
-0.4 ft/year


SWN: 28S18E18G001M
1.6 ft/year
Ground Surface Elevation: 827ft
Well Depth: -not available-
Monitoring Period: 47 years (1958 - 2011)
Well Use: Idle Irrigation Well

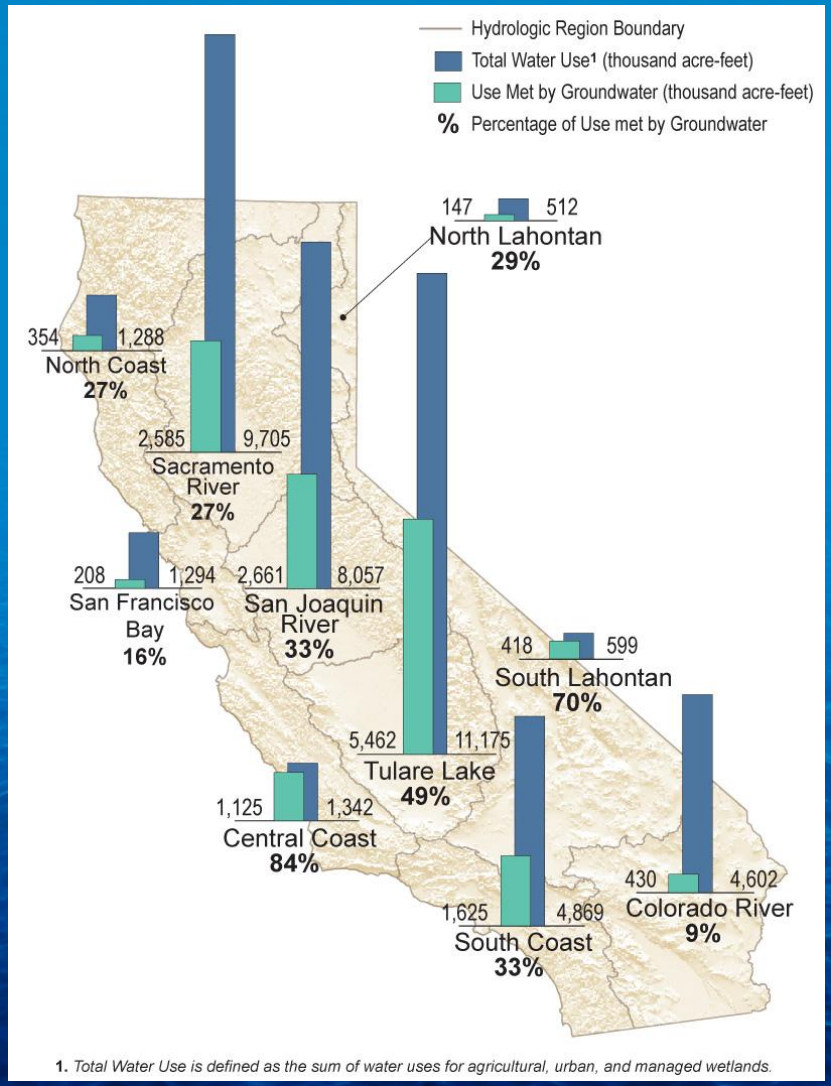

SWN: 30S24E02C001M
-2.0 ft/year
Ground Surface Elevation: 290ft
Well Depth: 354ft
Monitoring Period: 73 years (1939 - 2011)
Well Use: Irrigation Well


SWN: 30S27E05D001M
-1.9 ft/year
Ground Surface Elevation: 375ft
Well Depth: -not available-
Monitoring Period: 66 years (1946 - 2011)
Well Use: Idle Municipal Well

# CWP Update 2009: Water Use Met by Groundwater:
## Statewide and by Hydrologic Region




1. *Total Water Use is defined as the sum of water uses for agricultural, urban, and managed wetlands.*




1. *Total Water Use is defined as the sum of water uses for agricultural, urban, and managed wetlands.*

*California Water Plan Update 2009*
(1998-2005 average annual data)

# Glossary of Terms

| Term | Definition |
|---|---|
| **Goal** | A goal is a broad statement describing where a community or society would like to end up. |
| **Objective** | Objectives are more specific and measurable aspects of a broader goal. |
| **Indicator** | Indicators are qualitative or quantitative parameters that are metrics from monitoring programs (e.g., groundwater level, streamflow). Indicators are the ways to measure achievement of objectives and progress toward goals |
| **Index** | An index is an aggregation of indicators that may convey a story about a system, or part of a system. |
| **Theme/domain** | Themes and domains are types of category (i.e., collection of like attributes) and are terms of art referring to large parts of natural or social systems (e.g., landscape condition). |

# Proposed Definition

Water sustainability is the dynamic state of water use and supply that meets today's needs without compromising the long-term capacity of the natural and human aspects of the water system to meet the needs of future generations.

# California Water Plan Vision

California has healthy watersheds and integrated, reliable, and secure water resources and management systems that:

- Enhance public health, safety, and quality of life in all its communities;
- Sustain economic growth, business vitality, and agricultural productivity; and
- Protect and restore California's unique biological diversity, ecological values, and cultural heritage.