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Agricultural Advisory Group

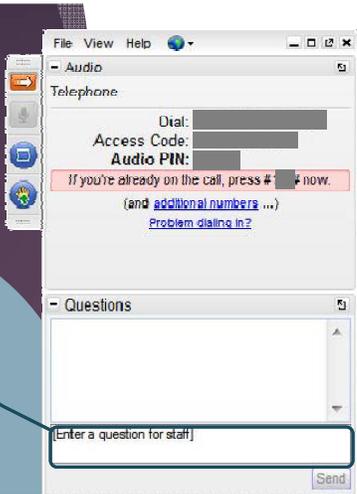
SEPTEMBER 26, 2016

Webinar Control Panel – Providing Comments

2

Make sure you are unmuted on your end.

Enter Comments here



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WEBINAR ORIENTATION

*If you have technical difficulties, contact Emily Adams:
eadams@ccp.csus.edu*

This is a listen-only Webinar. We will not have time to respond to comments in real-time today, but they will be included in the meeting summary. You can also submit comments to AGwue@water.ca.gov.

Meeting Objectives

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- ▶ Update on EO State Agency efforts.
- ▶ Discuss current draft framework to address EO Directive, "Improve Agricultural Water Use Efficiency and Drought Planning."
- ▶ Discuss Methodology for quantification efficiency of agricultural water use.

Agenda Overview

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- ▶ Project Update
- ▶ Agricultural Water Management Plan Analysis
- ▶ AWMP Framework
- ▶ Methodology for Quantification of Agricultural Water Use Efficiency

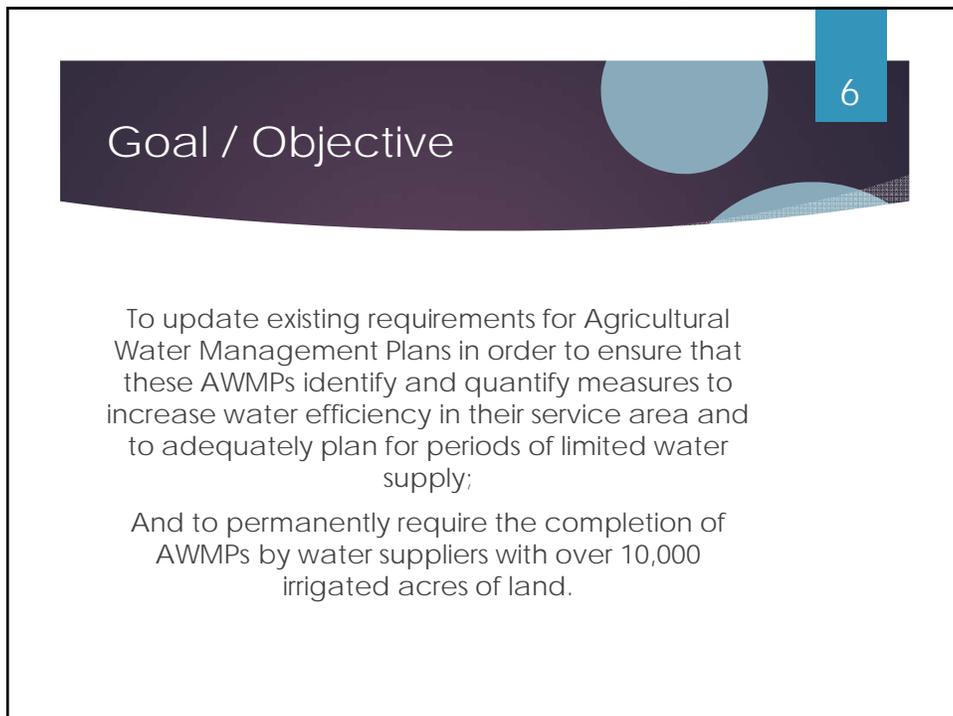


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Agricultural
Advisory
Committee

PROJECT UPDATE

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Goal / Objective

To update existing requirements for Agricultural Water Management Plans in order to ensure that these AWMPs identify and quantify measures to increase water efficiency in their service area and to adequately plan for periods of limited water supply;

And to permanently require the completion of AWMPs by water suppliers with over 10,000 irrigated acres of land.

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AWMP EO Directives

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- ▶ Update AWMP Requirements (EO11)
 - ▶ Identify and quantify ag water use efficiency
 - ▶ Drought planning
- ▶ Medium suppliers (10,000-25,000 acres) required to submit AWMPs (EO 12)
- ▶ Accelerate actions to improve water management and reduce water loss (EO 6)

Stakeholder feedback

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- ▶ Updates should be based on reviews of existing AWMPs and recognize best practices
- ▶ Focus on maximizing water use efficiency rather than minimizing water use
- ▶ Agricultural water use provides groundwater recharge and habitat value

Stakeholder feedback

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- ▶ Consider 5-year drought planning (similar to urban)
- ▶ In quest of streamlining processes, avoid creating greater entanglement
- ▶ Assist smaller districts to get through the process
- ▶ Survey if mid-size suppliers to assess basis for non-compliance
- ▶ Compare requirements/timelines for reporting (AWMP, SGMA, ...)

Issues Identified

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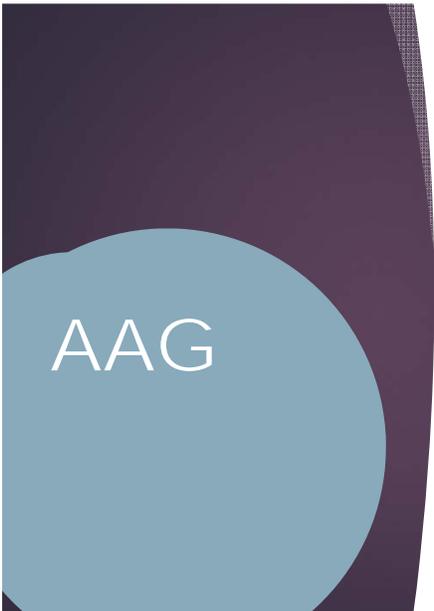
- DWR will review existing AWMPs and identify whether or not they address EO requirements:
 - "...identifying and quantifying measures to increase water efficiency"
 - "...adequately plan for periods of limited supply"
- How can AWMP reporting requirements, SGMA, and other requirements be more aligned?
- Will a "water balance approach" be the way to go to better identify measures to increase wue?



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11

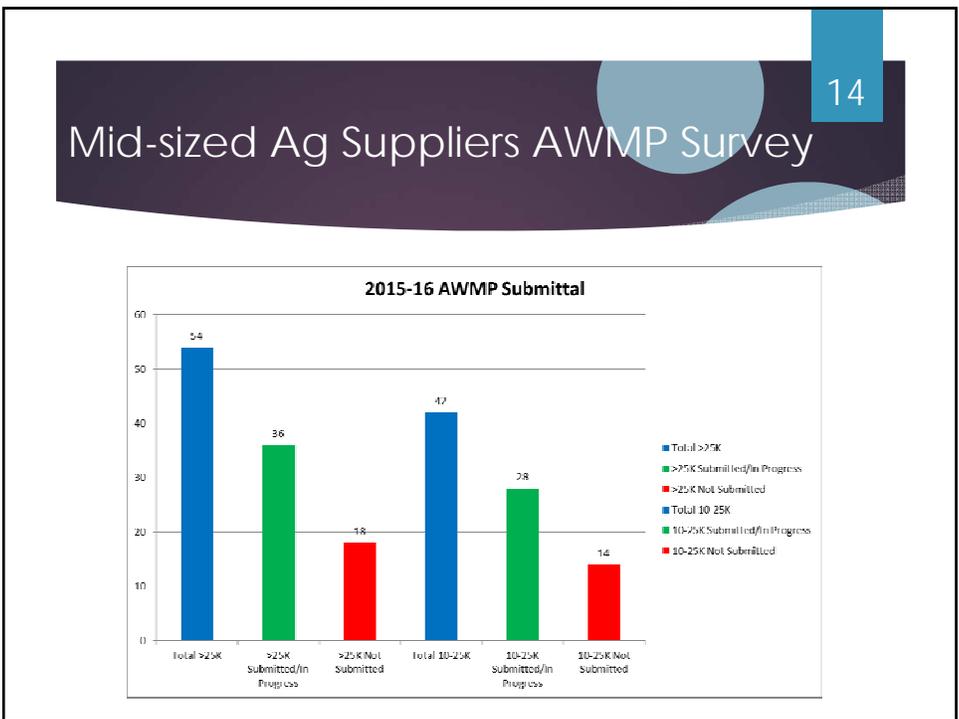
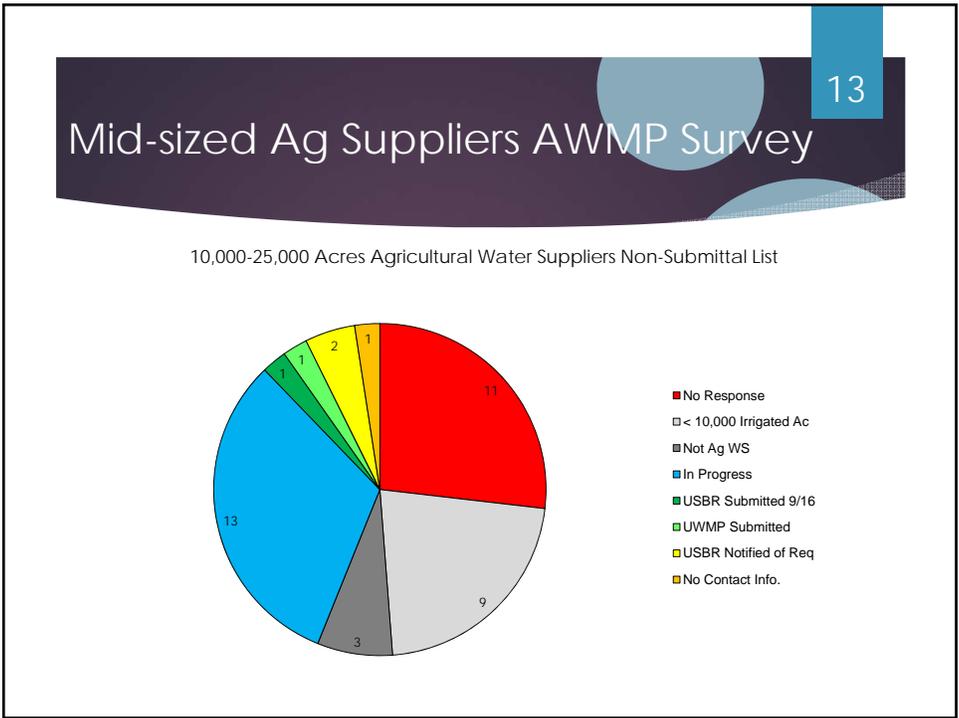
REVIEW AND ANALYSIS OF
AWMPS



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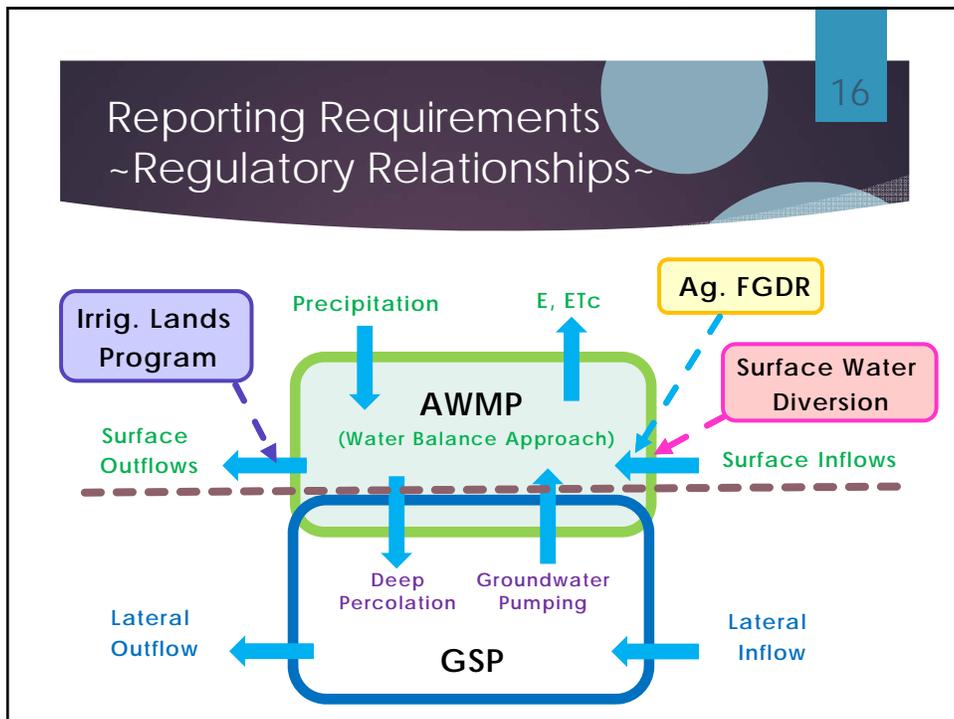
SURVEY OF WATER
SUPPLIERS

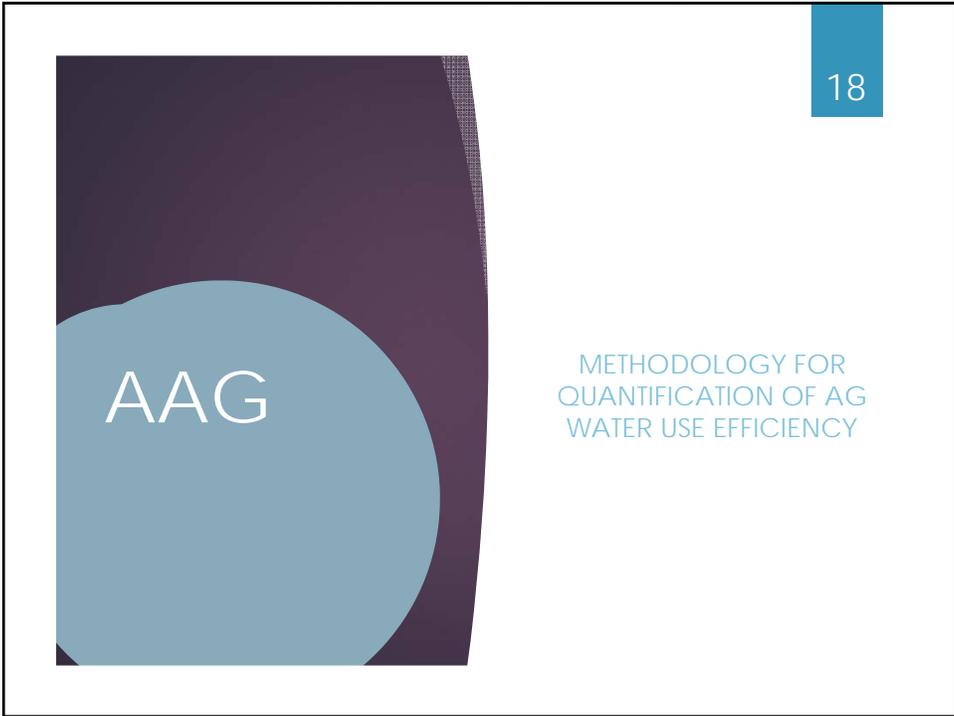
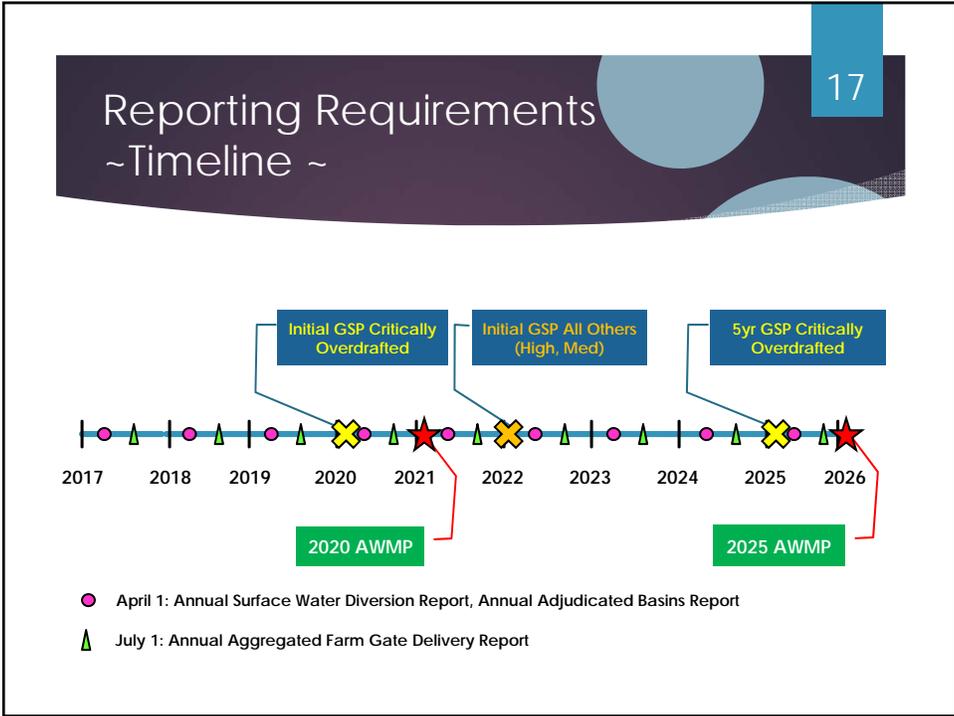


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COMPARISON OF REGULATORY REQUIREMENTS





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Water Management Fractions

- ▶ SB X7-7 (2009) directed DWR to develop a methodology to quantify the efficiency of agricultural water use.
- ▶ Methodology developed through a public process and submitted to the legislature in 2012
- ▶ works at a variety of scales- farm, supplier, region
- ▶ 4 methods-water use fractions
- ▶ Includes recommendations for field evaluations, implementation schedule and cost estimate

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Crop Consumptive Use Fraction

$$\text{CCUF} = \text{[ETAW]}/\text{AW}$$

Evapotranspiration of Applied Water(ETAW)

Applied Water[AW]

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Agronomic Water Use Fraction

$$AWUF = [ETAW + AU]/AW$$

Agronomic Uses [AU] includes water applied for salinity management, frost control, decomposition and other uses essential for crop production

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Total Water Use Fraction

$$TWUF = [ETAW + AU + EU]/[AW]$$

Environmental Use[EU] is applied water directed to environmental purposes including water to produce and or/maintain wetlands, riparian or terrestrial habitats

Water Management Fraction (WMF)

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$$\text{WMF} = [\text{ETAW} + \text{RF}] / \text{AW}$$

Recoverable Flow (RF) is the amount of water leaving a given area that flows to non-saline bodies or percolation to usable groundwater

Supplemental Metrics

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- ▶ Farm Scale- Distribution System Uniformity
- ▶ Water Supplier- Delivery Fraction
- ▶ Productivity
 - ▶ Productivity of Applied Water
 - ▶ Value of Applied Water

Implementation Schedule and Costs

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- ▶ Outlined 3 phases over 3 phases of AWMP submittals initially using existing data with data improvements in subsequent phases
- ▶ Water Supplier implementation costs estimated between \$1 and \$5 per acre.

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EO FRAMEWORK FOR
AWMP

EO Actions

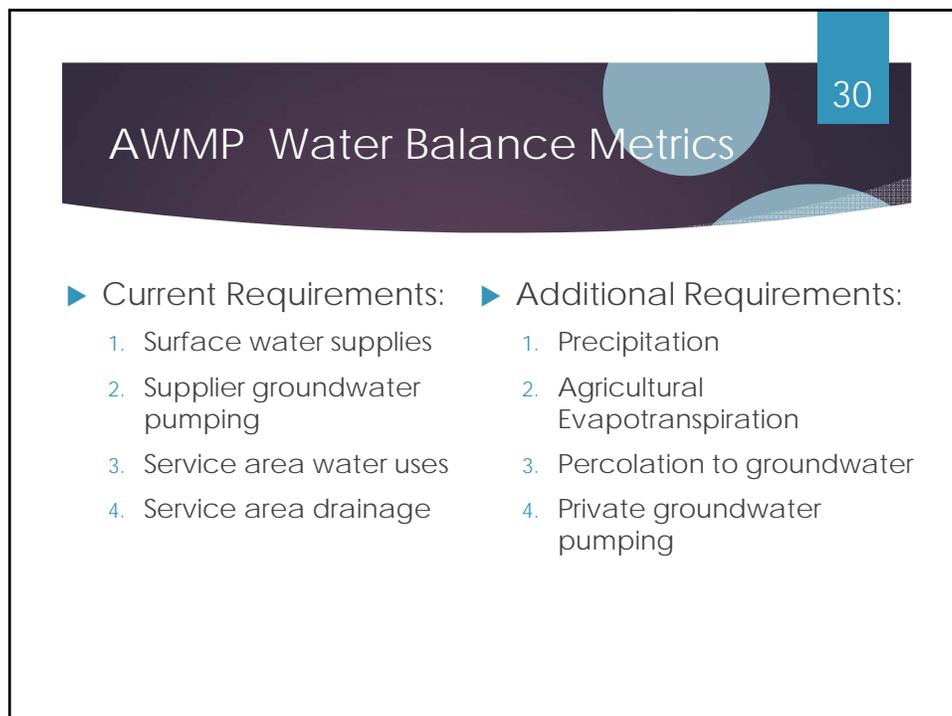
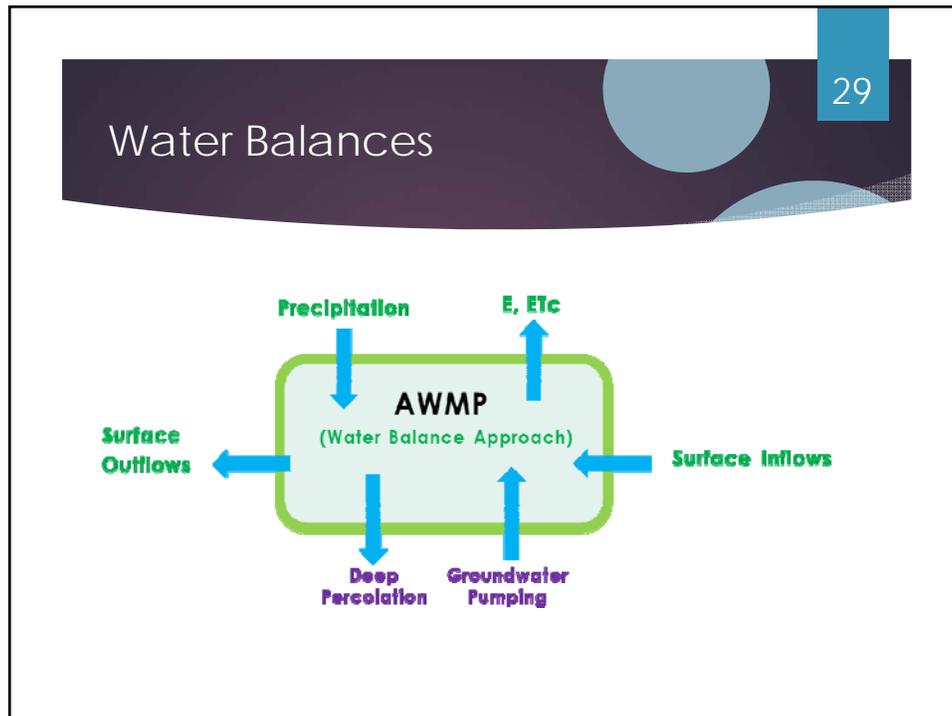
27

- ▶ EO Action #11 – update AWMP requirements to ensure plans identify and quantify measures to increase water efficiency and to plan for periods of limited water supply.
- ▶ EO Action #12- permanently require the completion of AWMPs by water suppliers with over 10,000 acres of irrigated land.

Identify Measures to Increase Water Efficiency

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- ▶ Proposing 3 element framework:
 1. Water Balances
 2. Calculation of water management fractions
 3. Outcome/Objective Based Planning



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Why Water Balances?

- ▶ Provides a better description of service area water sources, flows and use
- ▶ Provides necessary data for SGMA and the GSPs
- ▶ Identifies areas for water efficiency improvements

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Water Management Fractions

- ▶ Draft Recommendation: Suppliers estimate water efficiency using one of the 4 water use fractions
 - ▶ Crop Consumptive use
 - ▶ Agronomic Water Use
 - ▶ Total Water Use
 - ▶ Water Management

Outcome/Objective Based Planning

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- ▶ Based on water balances and water use fractions suppliers identify water flow paths and/or water us where water efficiency improvements can be made.
- ▶ Objective could also be an environmental
 - ▶ Stream flow and timing
 - ▶ Water quality

Outcome/Objective Planning

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- ▶ Include implementation plan to achieve the outcome and objective in AWMP
 - ▶ Identify efficient water management practices
 - ▶ schedule

A presentation slide with a dark purple background at the top containing a light blue circle and the text 'Plan for Periods of Limited Water Supply / Drought Plan' in white. Below this header, there is a list of bullet points. In the top right corner, there is a small blue square containing the number '36' in white.

Plan for Periods of Limited Water Supply / Drought Plan

- ▶ Drought management plans should consider describing the following components: (plan for 5 consecutive years of drought)
 - ▶ Hydraulic levels or conditions monitored / measured
 - ▶ District's policy and process
 - ▶ Operational adjustments
 - ▶ Demand Management policies and incentives
 - ▶ Alternative water supplies
 - ▶ Stages of actions corresponding to different levels of drought
 - ▶ Local/regional coordination and collaboration
 - ▶ Effect on revenues and expenditures

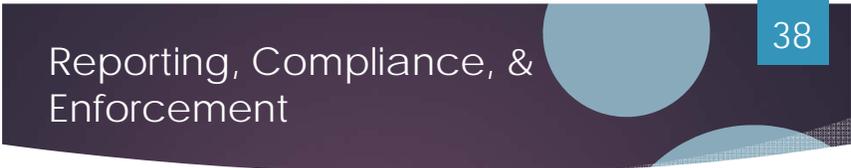


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REPORTING,
COMPLIANCE, AND
ENFORCEMENT

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Reporting, Compliance, & Enforcement

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- Reporting
 - Agricultural water suppliers with over 10,000 acres of irrigated land adopt AWMPs by December 31, 2020 and submit them to DWR within a month of adoption to comply with updated AWMP requirements.
- Compliance
 - DWR reviews submitted AWMPs for completeness and work with water suppliers, if needed, to have them achieve compliance.
- Enforcement
 - Grant and Loan eligibility
 - Report to the Board
 - Report to the Legislature (*due 1 year after AWMP submittal*)

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Proposed AWMP Requirements Update

2015 AWMP Requirements	Updated Requirements
<ul style="list-style-type: none"> • Drought Plan 	<ul style="list-style-type: none"> • Drought Plan (5 years of drought)
<ul style="list-style-type: none"> • Estimate WUE improvements 	<ul style="list-style-type: none"> • Estimate WUE improvements • Quantify efficiency (water management fraction)
<ul style="list-style-type: none"> • Implement 2 critical EWMPs (25K suppliers) • Implement 14 conditional EWMPs 	<ul style="list-style-type: none"> • Outcome/Objective based planning • Implement 2 critical EWMPs (25K suppliers) • Implement 14 conditional EWMPs
<ul style="list-style-type: none"> • Suppliers >25K acres submit AWMPs 	<ul style="list-style-type: none"> • Suppliers >10K acres submit AWMPs
<ul style="list-style-type: none"> • 3 year water supply and demand 	<ul style="list-style-type: none"> • Water budget/water balance

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Jan 10, 2017 Report

Making Conservation a Way of Life
Implementing Executive Order B-37-16
January 10, 2017

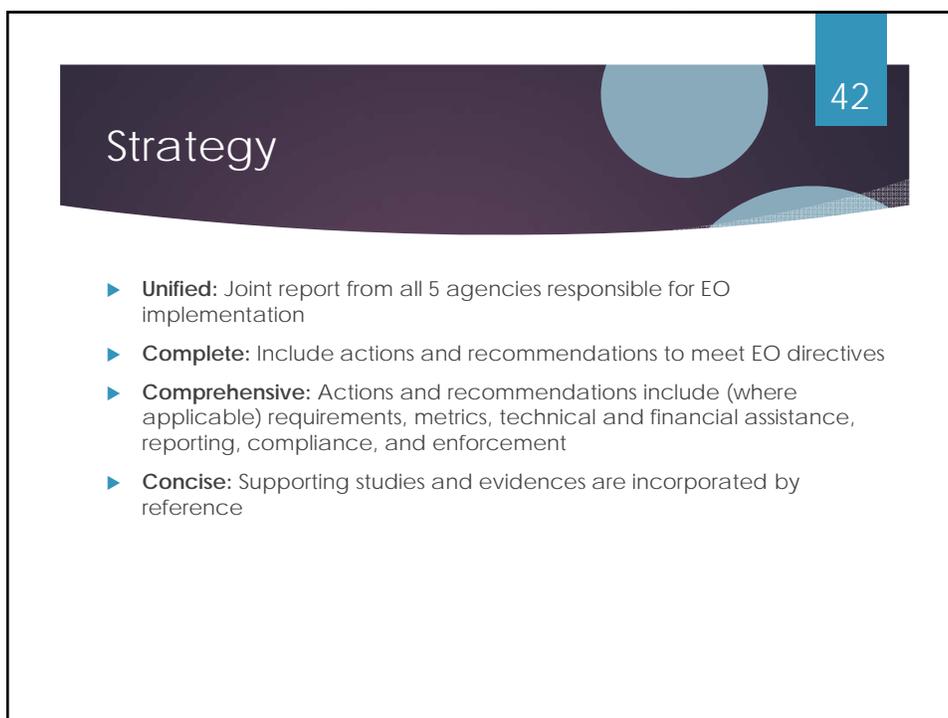
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Targeted Audience

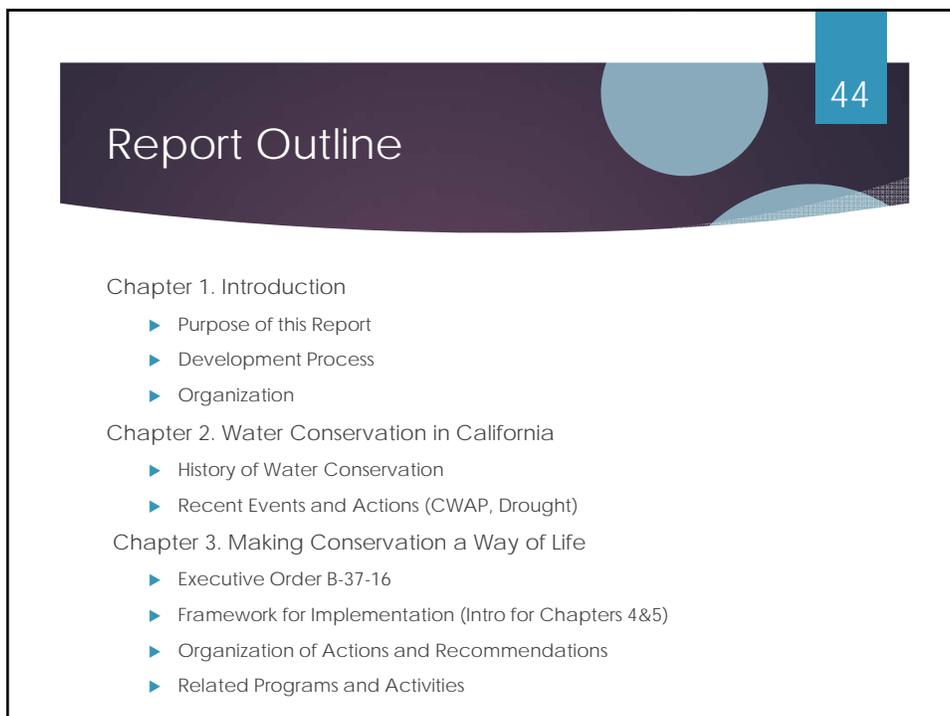
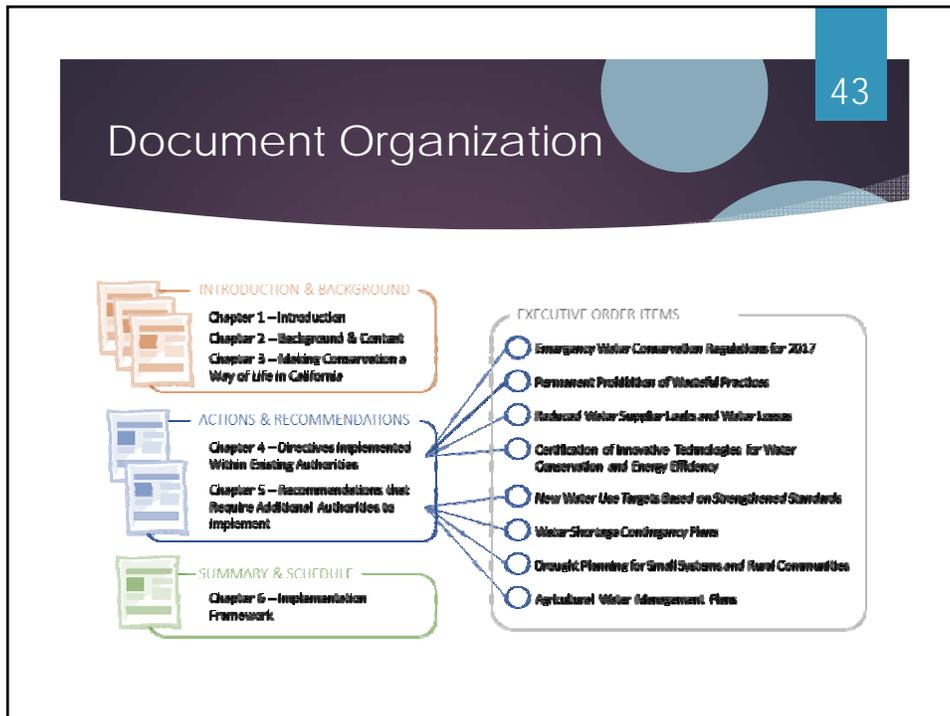
Governor's Office
The Legislature
The Public



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Strategy

- ▶ **Unified:** Joint report from all 5 agencies responsible for EO implementation
- ▶ **Complete:** Include actions and recommendations to meet EO directives
- ▶ **Comprehensive:** Actions and recommendations include (where applicable) requirements, metrics, technical and financial assistance, reporting, compliance, and enforcement
- ▶ **Concise:** Supporting studies and evidences are incorporated by reference



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Report Outline (cont'd)

Chapter 4. Directives that Will be Implemented Within Existing Authorities

-  ▶ Emergency Water conservation Regulation for 2017 (EO 1)
-  ▶ Permanent Prohibition in Wasteful Practices (EO 4)
-  ▶ Reduce Water Supplier Leaks and Water Losses (EO 5; EO 6)
-  ▶ Certification of Innovative Technologies for Water Conservation and Energy Efficiency (EO 7)

The following will be reported for each item:

- Need for change
- Directive
- Implementation

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Report Outline (cont'd)

Chapter 5. Recommendations that Require Additional Authority for Implementation

-  ▶ New Water use Targets based on strengthened Standards (EO 2&3)
-  ▶ Strengthen Urban Water Shortage Contingency Plan (EO 8&9; EO 6)
-  ▶ Improve Drought Planning for Small Water Suppliers and Rural Communities (EO 10; EO 6)
-  ▶ Update Agricultural Water Management Plan Requirements (EO 11, 12&13; EO 6)

The following will be reported for each item:

- Need for Change
- Directive
- Recommendations
- Reporting, Compliance and Enforcement
- Relationship to Other EO recommendations
- Other Recommended Actions

Report Outline (cont'd)

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Chapter 6. Framework for Implementation

- ▶ Summary
- ▶ Schedule

Report Schedule

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Aggressive Schedule

- ▶ Public Draft: November 4, 2016
- ▶ Public Comments Due: November 14, 2016
- ▶ Final: January 10, 2017 (mandated date)