Presentation Objectives

Part 1:
• Provide an introduction to SGMA

Part 2:
• Provide the scientific/technical background
  – Background on groundwater and groundwater management in California
  – SGMA Groundwater Sustainability Plans
• Case study for groundwater management in the desert at Hay Ranch, Rose Valley

Part 3:
• Provide the policy and legal background
  – California water history leading up to SGMA
  – SGMA milestones and process
• Case study for Antelope Valley Adjudication

Part 4:
• Provide perspectives and strategies as the regulation unfolds
What is the Sustainable Groundwater Management Act?
The Regulation

- **Sustainable Groundwater Management Act of 2014**
  - Three bills make up SGMA: AB 1739, SB 1319, and SB 1168, clarifications in SB 13 in 2015
  - Framework for sustainable local groundwater management for first time in CA history
  - Maintain sustainable yield

  "A central feature of these bills is the recognition that groundwater management in California is best accomplished locally. Local agencies will now have the power to assess the conditions of their local groundwater basins and take the necessary steps to bring those basins in a state of chronic long-term overdraft into balance." – Governor Edmund G. Brown Jr.

Why?

- **Prior to SGMA, Groundwater Largely Unregulated**
  - Draught
  - Lowering of water tables
  - Drying of wells
  - Land subsidence
  - Increased energy costs from pumping
  - Reduced base flow in streams and rivers

- **SGMA \(\rightarrow\) Meet Long-term Water Needs of State**

- **Many Involved Entities**
The Elements of SGMA

- **Key Components**
  - Establish and refine **Groundwater Basins** and priorities
  - Define **Groundwater Sustainability Agencies**
  - Develop and implement **Groundwater Sustainability Plans**

**Groundwater Basins**
- First established in January 2015 (Bulletin 118) based on June 2014 CASGEM Program
- 127 high- and medium-priority basins covering 96% of the groundwater use in California
The Elements of SGMA

- **Groundwater Sustainability Agencies (GSAs)**
  - Local agency to implement the Act in one or more groundwater basins or subbasins
  - 149 entities have submitted to be a GSA as of Thursday

- **Groundwater Sustainability Plans (GSPs)**
  - To be developed by each GSA
  - Must provide opportunities for public participation
  - GSP deadlines either January 2020 or January 2022
  - February 2016 – Draft regulations for steps for preparation of GSPs
Groundwater Management - Science and Technical Requirements
Groundwater Basics

- **Groundwater Use**
  - Water in California from:
    - Streamflow from mountain snowpack (~30%)
    - Water stored in reservoirs (~30%)
    - Groundwater (~40%)
  - Dry years and drought
    - 2005-2010 – 38% of water supply
    - Increases to 50% in dry years and 60% in drought years
  - Chronic groundwater level decline in some areas
    - 2M ac-ft overdraft Tulare Lake and San Joaquin River

Groundwater Basics

- **Groundwater Basins and Subbasins**
  - Groundwater basin
    - An alluvial aquifer or stacked series of alluvial aquifers with reasonably well-defined boundaries
    - Boundaries are geologic structure or feature
  - Groundwater subbasin
    - Subdivisions of a basin using geologic and hydrologic barriers or institutional boundaries
  - Basin boundaries are inherently scientific but can also be jurisdictional under SGMA
Groundwater Management

• **Groundwater Management Plans**
  - Since 1990s - 125 Groundwater Management Plans (GWMPs) have been developed, implemented, and updated - submitted to DWR
  - 2015 - can’t have new GWMP in medium and high-priority basins
  - Several for Central Valley (Sacramento Valley and San Joaquin Valley)

• **GSPs can be built off of these plans but require**
  - More on existing conditions
  - More on plan objectives
  - More required management activities
  - More monitoring requirements

Groundwater Sustainability Plans

• **GSP - February 16, 2016**
  - Draft regulations - numerous, detailed, demanding
  - GSAs can define problems, establish numeric minimum thresholds, set measurable objectives, determine local projects and actions over 20-year timeframe
  - Submittals of GSPs to DWR for approval - opens July 1, 2017

  **GSP components**
  1. Background information and Basin setting
  2. Identify where and when groundwater conditions cause problems for critical parameters
  3. Spell out specific projects and management actions GSAs will implement to address and prevent identified problems
  4. Include how GSAs will monitor groundwater and adaptive management
Groundwater Sustainability Plans

• Basin Setting
  – Static physical characteristics and dynamic conditions from in water supply, demand, and climatic conditions
    • Collect data on all users, geologic and hydrologic conditions, precipitation, streamflows, land use cover, soils
  – Hydrogeologic conceptual model
    • DWR datasets available
  – Water budget
    • Water budget models available (C2VSM and IWFM)

Groundwater Sustainability Plans

• Example
  – 100+ page report
  – Scott Valley is an ag basin in north, part of Klamath Basin
  – Multiple parameters, evaluation methods, data collection, statistical modeling, Lidar analysis, water budget modelling
  – Grant from SWRB and NC RWC B
Groundwater Sustainability Plans

• Sustainable Management Criteria
  – Establish minimum thresholds for each critical parameter
    • Measurable
    • Interim milestones
  – Progress reports to DWR every 5 years

1. Groundwater levels
2. Groundwater storage
3. Seawater intrusion
4. Water quality
5. Land subsidence
6. Interconnected surface water

• Management Strategies
  – Maximize recharge and conjunctive water use between ground and surface water
    • Develop recharge facilities
    • Protect recharge zones at regional scale
    • Bank water in wet years to replenish basins in dry years
    • Cap and trade water market
Groundwater Sustainability Plans

• Monitoring Networks
  – Detailed description of monitoring network for GSP implementation
    • Use CASGEM monitoring wells, existing wells – may need to add more
    • Different types, frequency, protocols for monitoring
    • Specific to the basin and its characteristics
  – Parameters
    • Achieve sustainability in 20 years
    • No adverse affect to adjacent basins
    • Timeline for data gaps
  – Adaptive Management
    • 5-year assessment and re-evaluation

Issues

• Major Issues
  – Removing 23 adjudicated basins, ~40 percent of the basins requiring GSPs lack adequate groundwater monitoring networks, as defined by the DWR CASGEM program
  – Connected basins – particularly in the Central Valley
    • How to deal with complexities and responsibilities
  – GSA may have no authority over recharge area
    • Central Valley recharged from foothills
  – GSAs must develop numeric models in the face of uncertainty
    • Coordinating modeling decisions and agency buy-off
Questions?

Hay Ranch Groundwater Pumping Project

- Groundwater Pumping from Rose Valley
- Pipeline 9 mile long for injection into Coso Geothermal Field
- Two wells to be pumped at 3,000 gpm or 4,839 acre-feet per year
**Environmental Process**

- **Approvals Needed**
  - Inyo County CUP to transfer water from one basin to another
  - CEQA triggered
- **Hydrologic Analysis and Hydrologic Monitoring and Mitigation Plan (HMMP)**

  *Key Issue – Groundwater impacts to nearby wells, surface waters, and Little Lake*

**Analysis Methods**

1. Review existing groundwater model for Rose Valley Modflow and the existing groundwater users (background)
2. Perform pumping tests for hydraulic parameters/calibrate model (background)
3. Model the drawdown in the Rose Valley (background)
4. Identify significance thresholds (measurable criteria)
5. Identify impacts and mitigation (management activities)
Establish Background Data

- **Groundwater Users**
  - Wells
  - Surface Waters
    - Haiwee Reservoir
    - Springs
      - Rose
      - Tunawee
      - Davis at Portuguese Bench
      - Little Lake Fault Spring
      - Coso Spring
    - Little Lake - man-made 90 acre lake 9 miles south

Establish Background Data

- **Groundwater**
  - Rose Valley 140 to 240 ft bgs to 40 ft bgs
  - Groundwater sources
    - Mountain-front recharge
    - Inflow from Owens Valley/Haiwee Reservoir
  - Looked at stable isotope signatures
**Analysis Methods**

### Rose Valley Stable Isotopes of Water

<table>
<thead>
<tr>
<th>Deuterium permil vsmow</th>
<th>Oxygen-18 permil vsmow</th>
</tr>
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<tbody>
<tr>
<td>-120.00</td>
<td>-16.00</td>
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<tr>
<td>-115.00</td>
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<tr>
<td>-110.00</td>
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<tr>
<td>-85.00</td>
<td>-9.00</td>
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<tr>
<td>-80.00</td>
<td>-8.00</td>
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</tbody>
</table>

- Little Lake Lake Water
- MWL
- Evaporation Line
- Hay Ranch
- Portuguese Bench
- North Rose Valley
- Haiwee Res
- Red Hill
- Little Lake East Springs
- Little Lake Ranch wells
- Little Lake North
- Little Lake Canyon
- Coso Junction
- Coso Range
- Sierra
- LA Aqueduct
- LEGO
- 18-28 GTH

**Establish Background Data**

- **Field Data Collection**
  - Pumping tests
    - Short-term test in 2003
    - 20-day test in 2007
    - Installed temporary pump on existing well and pumped 2000 gpm for 14 days – monitored groundwater levels for 20 days
  - Model recalibration
    - Initial Brown and Caldwell, 2006
    - Geological Model, 2008
    - Recalibrated B&C Model with data from pumping test
    - Included redefined inflow estimates and permeability data
    - Used USGS storage parameter values for Owens Valley
Table 3.2-3: Rose Valley Conceptual Groundwater Budget

<table>
<thead>
<tr>
<th>Budget Components</th>
<th>2006 Model</th>
<th>2007 Model</th>
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<tbody>
<tr>
<td></td>
<td>Simulation Package used in Model</td>
<td>Flow Rate, acre-ft/yr</td>
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<tr>
<td>Groundwater Inflow</td>
<td></td>
<td></td>
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<tr>
<td>Mountain Front Recharge from west</td>
<td>Well</td>
<td>4,191</td>
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<tr>
<td>Groundwater Underflow from the North</td>
<td>Constant Head</td>
<td>788</td>
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<tr>
<td>Total Inflow</td>
<td></td>
<td>4,979</td>
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<tr>
<td>Groundwater Outflow</td>
<td></td>
<td></td>
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<tr>
<td>Existing extraction wells</td>
<td>--</td>
<td>0</td>
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<tr>
<td>Groundwater underflow to Indian Wells Valley exiting from southeastern Rose Valley</td>
<td>General Head</td>
<td>2,050</td>
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<tr>
<td>Evapotranspiration from adjacent Palustrine wetland plants</td>
<td>Evapotranspiration</td>
<td>500</td>
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<tr>
<td>Phreatophyte plant transpiration on Little Lake Ranch property south of Little Lake (outside model grid)</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>Groundwater Discharge through Little Lake Gap to Indian Wells Valley</td>
<td>Drain</td>
<td>2,429</td>
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<tr>
<td>Total Outflow</td>
<td></td>
<td>4,979</td>
</tr>
</tbody>
</table>

*Conceptual budget, simulated budget components were adjusted during model calibration process.

Establish Measurable Criteria

- Predicted drawdown after 30 years of full pumping rates
- Up to 5 feet at Little Lake
Establish Measurable Criteria

• **Plan Criteria**
  - Can’t withdraw without impacting Rose Valley
  - Determined a >0.3 foot change in lake levels would result in significant effects
  - No more than 10% decrease in lake volume – which falls within the natural variation seen – water is managed at the lake
  - Based on wetland plant biology and morphology of lake
  - Root zone inundation
  - Maintenance of riparian zone width

• **Monitoring Program**
  - Existing and new wells, defined trigger points to stop or curtail pumping before effects to LL

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Hydrologic Mitigation and Monitoring Program

<table>
<thead>
<tr>
<th>Project</th>
<th>Distance from Hay Ranch (ft)</th>
<th>Suisun Delta Well</th>
<th>Pescadero Delta Well</th>
<th>Hay Ranch Observation Well</th>
<th>Casey Ranch North Well</th>
<th>Navy Gold Well</th>
<th>Navy Lago Well</th>
<th>Navojoa Hill Crown Well</th>
<th>Navy HI-BAY Well</th>
<th>Navy HI-PASS Well</th>
<th>Little Lake Ranch North Well</th>
<th>Little Lake Ranch North monitoring point</th>
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<tr>
<td>1 yr</td>
<td>1.1</td>
<td>1.3</td>
<td>1.6</td>
<td>2.7</td>
<td>&lt;0.2</td>
<td>&lt;0.2</td>
<td>&lt;0.2</td>
<td>&lt;0.2</td>
<td>&lt;0.2</td>
<td>&lt;0.2</td>
<td>&lt;0.2</td>
<td>&lt;0.2</td>
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<tr>
<td>2 yr</td>
<td>2.3</td>
<td>5</td>
<td>8.2</td>
<td>2.4</td>
<td>2.1</td>
<td>0.3</td>
<td>0.3</td>
<td>0.4</td>
<td>0.4</td>
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<td>3 yr</td>
<td>2.7</td>
<td>4.9</td>
<td>4.6</td>
<td>2.5</td>
<td>2.2</td>
<td>0.5</td>
<td>0.4</td>
<td>0.4</td>
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<td>4 yr</td>
<td>2.8</td>
<td>4.1</td>
<td>4.1</td>
<td>2.6</td>
<td>2.2</td>
<td>0.9</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
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<tr>
<td>5 yr</td>
<td>2.7</td>
<td>3.9</td>
<td>3.5</td>
<td>2.4</td>
<td>2.2</td>
<td>0.7</td>
<td>0.7</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
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<tr>
<td>Bottom Elevation (feet)</td>
<td>3.3</td>
<td>7.2</td>
<td>9.9</td>
<td>2.8</td>
<td>2.3</td>
<td>1.1</td>
<td>1.1</td>
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<td>1.1</td>
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<tr>
<td>'True above Project' Harvest (feet)</td>
<td>4</td>
<td>1.2</td>
<td>1.2</td>
<td>3</td>
<td>2.8</td>
<td>14.5</td>
<td>15</td>
<td>12</td>
<td>22</td>
<td>18</td>
<td>12</td>
<td>10.0</td>
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Adaptive Management

- Results after almost 7 years of monitoring
  - Model predictions had correct trend
  - Generally see an downstream lag in drawdown a few years after max pumping, as predicted

- Pumping rates reduced
  - Was 3,040 ac-ft/yr from Sept 2013 through June 2014
  - Now 1,614 ac-ft/yr from July 2014 to June 2016
    - Max drawdown based on pumping rate of 1,614 ac-ft/yr
    - As of January to Feb 2016 monitoring, no trigger levels reached
Adaptive Management

- Data collected from May 2009 to present
- Model recalibrated in 2011
- Trigger levels readjusted in 2014 for new max pumping rate allowed

Hay Ranch Project Groundwater Baselines and Trigger Levels
February 2016

<table>
<thead>
<tr>
<th>Well ID</th>
<th>Monitoring Point</th>
<th>Baseline/UVL</th>
<th>Percent of Baseline</th>
<th>Recalculated/UVL</th>
<th>Percent of Baseline</th>
<th>Trigger Level (m)</th>
<th>Recalculated/UVL Compared to Baseline (%)</th>
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<tbody>
<tr>
<td>BR96</td>
<td>BR96</td>
<td>3340.92</td>
<td>92.41</td>
<td>3342.30</td>
<td>90.73</td>
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<td>1.50</td>
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<td>BR91</td>
<td>BR91</td>
<td>3318.01</td>
<td>90.73</td>
<td>3318.01</td>
<td>90.73</td>
<td>1.50</td>
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<tr>
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<td>BR129</td>
<td>3309.86</td>
<td>90.73</td>
<td>3309.86</td>
<td>90.73</td>
<td>1.50</td>
<td>0.21</td>
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<tr>
<td>BR118</td>
<td>BR118</td>
<td>3302.88</td>
<td>90.73</td>
<td>3302.88</td>
<td>90.73</td>
<td>1.50</td>
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<tr>
<td>BR100</td>
<td>BR100</td>
<td>3291.33</td>
<td>90.73</td>
<td>3291.33</td>
<td>90.73</td>
<td>1.50</td>
<td>0.21</td>
</tr>
<tr>
<td>BR100</td>
<td>BR100</td>
<td>3291.33</td>
<td>90.73</td>
<td>3291.33</td>
<td>90.73</td>
<td>1.50</td>
<td>0.21</td>
</tr>
</tbody>
</table>

1) UVL: Concentrations of solute measured in foot above mean sea level. Baseline/UVL was measured in May 2009 and March 2011 and approved by Maricopa County Water Department (MCWD).
2) Max 95% Maximum Acceptable Concentration from Title 14 of ADEQ's June, 2009 Conditioning Use Permit (ADEQ's 002-192). To 95%.
3) Maximum Level of Contamination from Title 14 of ADEQ's June, 2009 Conditioning Use Permit (ADEQ's 002-192). To 95%.
Questions?
Groundwater Management - Policy and Legal

Sources of Water

- Groundwater
- Surface water
- “New” water
  - Recycled Water
  - Desalination
  - Stormwater
Plumbing for Surface Water

- SWP is a major supply source yet record low delivery levels

Source: http://www.water.ca.gov/swpao/deliveries.cfm
this slide conflicts with my slide, I think...
Tania, 4/3/2016
Groundwater Basins...from afar


California Water History

- Surface Water or Subterranean Streams
  - Regulated by State Water Resources Control Board
  - 1914: Water Commission Act sets up the water permit system for surface water (appropriative rights):
    - Post-1914 requires permits/decrees with dates/seasons when the water right will be used
    - Pre-1914 water rights are not subject to the permit system and often dates and seasons of use are not specified but actual beneficial use determines both the amount and season of diversion that can be used
California Water History

- Groundwater - mostly unregulated for over 100 years after surface water
- Groundwater regulation mandatory 2015 with SGMA
  - Law presumes groundwater is percolating groundwater
  - Prior to SGMA, groundwater management:
    - Voluntarily, such as AB 3030 Plans
    - Adjudicated Basins (Approx. 23 in the State in the past 100 years)

Pre-1914
No permit, but reporting rqm’t

Post-1914
Surface water regulations

2015
Groundwater regulations
**Water Rights**

- California’s “System”:
  - “Hybrid” system of riparian/overlying and appropriative doctrines
  - Contra contractual rights
- Real Property Right of “Bundle of Sticks”: Water right usually part and parcel to land
- Usufructuary Right: Right to possess and use, not own, water

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**Riparian (Surface)/ Overlying (Ground) Water Right**

- Arises from land ownership
  - **Riparian**: Land that is adjacent/contiguous to surface stream
  - **Overlying**: Land that sits above groundwater
  - Subdivision of parcels may “break” contiguity/overlying status but water right may be preserved where deed explicitly reserves the right to the land
  - Amount limited to “reasonable and beneficial” uses on land; generally not quantified
- Generally not subject to forfeiture for non-use
Appropriative Right (Post-1914)

- Arises from actual use of water for non-riparian/overlying lands
  - First in time, first in right (potential exception Water Code § 1460 for “municipalities”)
- Amount limited to quantified amount for “reasonable and beneficial” uses (usually based on 5 preceding years)
- Can be lost to prescription (unless public entity per Civil Code § 1007) or forfeiture for non-use

Prescriptive Water Right

- Arises from taking water away from another legal water user
  - Real Property Law Elements:
    - Hostile/Adverse
    - Open/Notorious
    - Continuous (5 years)
    - Exclusive
    - Claim of Right
Federal Reserved Right

- Unique water right quantified by the needs of the federal lands at the time the installation commenced
- McCarran Amendment: Serves as the basis for the federal government to waive its sovereign immunity to be sued in state court; requires a comprehensive adjudication of all issues among all stakeholders/parties
- Winters doctrine & examples:
  - Agua Caliente Band of Cahuilla Indians suing purveyors in Coachella Valley
  - Edwards Air Force Base in Antelope Valley Groundwater Cases

Water Uses and “Hierarchy”

<table>
<thead>
<tr>
<th>Water Code § 106; CCR Title 23</th>
</tr>
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<tbody>
<tr>
<td><strong>Municipal</strong>: For the water supply of a city, town, community services district, etc.</td>
</tr>
<tr>
<td><strong>Domestic</strong>: Use in homes, resorts, campgrounds, domestic stock, up to ½ acre irrigation</td>
</tr>
<tr>
<td><strong>Irrigation</strong>: Use for crops or large (more than ½ acre) of landscape</td>
</tr>
<tr>
<td><strong>Industrial</strong>: Use for commerce, trade, or industry</td>
</tr>
</tbody>
</table>
Reasonable & Beneficial Use

**“Beneficial Use” Requirement**

Cal. Const., Art. X, § 2 (1928 Amendment): “General welfare requires water be put to beneficial use, and waste or unreasonable use or unreasonable method of use be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.”

Public Trust Doctrine: Certain resources are preserved for public use, and the government is required to maintain them for the public’s reasonable use.

SGMA Milestones

- Still in earliest stages of implementation
- Many more steps and milestones over next 27 years

Implementation Deadlines

<table>
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<tr>
<th>Date</th>
<th>Milestone</th>
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<tbody>
<tr>
<td>January 1, 2015</td>
<td>Establishment of planning entities (water districts, MWDs)</td>
</tr>
<tr>
<td>June 1, 2016</td>
<td>Adoption of local plans by June 1, 2016</td>
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<tr>
<td>December 31, 2016</td>
<td>Finalization of local plans and development of sustainable groundwater management plans</td>
</tr>
<tr>
<td>January 1, 2017</td>
<td>Development of management plans for high priority basins (SGBs)</td>
</tr>
<tr>
<td>January 1, 2018</td>
<td>Development of groundwater replenishment plans for medium and high priority basins</td>
</tr>
<tr>
<td>January 1, 2019</td>
<td>Development of sustainable groundwater management plans under SGMA</td>
</tr>
<tr>
<td>January 1, 2020</td>
<td>Development of high priority basins pursuant to regulation of high priority basins</td>
</tr>
<tr>
<td>January 1, 2021</td>
<td>Development of high priority basins pursuant to regulation of medium and high priority basins</td>
</tr>
</tbody>
</table>

SGMA and Groundwater Management • 2016 AEP Conference
SGMA Milestones

<table>
<thead>
<tr>
<th>SGMA Milestone</th>
<th>Deadline</th>
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<tbody>
<tr>
<td>Establish Medium and High-Priority Groundwater Basins</td>
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</tr>
<tr>
<td>Develop Groundwater Sustainability Agencies</td>
<td>June 30, 2017</td>
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<tr>
<td>Develop Groundwater Sustainability Plans for Medium and High-Priority Basins</td>
<td>January 31, 2020</td>
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<tr>
<td>in Critical Overdraft</td>
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GSP Emergency Regulations

- DWR is required to draft and adopt emergency regulations for:
  - the Evaluation of GSPs and Alternatives;
  - the Implementation of GSPs and Alternatives; and
  - Coordination agreements (WC 10733.2)

**Deadline**: June 1, 2016
Basin Boundaries

- The basin boundary defines the management area under SGMA
  - GSA limits are tied to basins
  - If no modification of basin and subbasin boundaries:
    Bulletin 118 applies
    - DWR modifying Bulletin 118 right now

Questions?
Groundwater Adjudication

• Antelope Valley Adjudication Cases
  https://www.scefiling.org/cases/casehome.jsp?caseId=19

  – 17 years of trial court litigation
  – 9,000 docket entries
  – 145 parties & 2 class actions
  – Moved from judge to judge;
  – Mediators for years
  – 180 TAF demand, but...
  – 110 TAF safe yield
  – Now on appeal

Adjudication: Antelope Valley

• Major agricultural operations, public water suppliers;
  70,000 unexercised overlies; 3000-4000 small
  pumpers; 100-1,000 large pumpers
• 900 square mile area
• Edwards Air Force Base – largest property owner
  (federal land)
Common Adjudication Issues

- Judge and Forum Changes (“Shopping”)
- Defining basin boundaries
- Determining if there has been overdraft
- Water rights determinations
- Forming a “physical solution”
- Appointing a Watermaster
- Ongoing court jurisdiction, studies, reporting, etc.
- Real world impacts: property values, land use planning, etc.

Unique Adjudication Issues in Antelope Valley

- McCarran Amendment: federal government can waive its sovereign immunity to be sued in state court; requires a comprehensive adjudication of all issues among all stakeholders/parties
  - AFB: U.S. insisted on bringing in every claimant to water in the area
- Creating classes: pumper class and non-pumper class
- Legal issues: recapture of native water return flow
Looking Ahead: Adjudications or SGMA?

- Where SGMA does not succeed, adjudications are very likely
- Antelope Valley: Poster child for reform (AB 1390/SB 26):
  - Plaintiff must undertake various steps, including:
    - Name all public water suppliers;
    - Provide public notification of the lawsuit;
    - Provide a draft model answer; and
    - Provide initial disclosures re historical water use, locations of extraction and use, and the claimed legal basis for a water right such as an overlying right or prescriptive right.
  - Trial court and other parties:
    - Identify trial issues and divide the process into phases
    - Parties required to expedite factual discovery about water use, etc.
Hot Topics That Lead To Heated Disputes

- Stakeholder’s land boundaries vs. Basin boundaries
- Multiple GSAs
- Multiple GSPs
- Ramp down to reach “sustainability” vs. water rights preservation
  - Supplemental supplies like “new” water become key!
- Ramp up of costs to fund GSA and GSP administration and enforcement
  - Proposition 218 rate setting…uncharted waters!

Benefits of Plan Environmental Documents

For individual projects within the plan area:

- Provide clear guidance and definitions
- Provide legally vetted and City-approved information
- Provide a better understanding of potential issues
- Identify resources or the likelihood of resources
Risk Management Tips for Avoiding Disputes

- Form the right team!
- Identify water supply sources:
  - actual water right, contractual right, or other basis for claiming share of the water supply pie
- Evaluate groundwater basin’s characteristics and conditions
- Learn what legal, regulatory and strategic options exist
- Engage friends and befriend foes at local level through GSA and GSP process

Questions?
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Thank you!