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# DWR Sustainable Groundwater Management Act 2019 Basin Prioritization Process

*Board Presentation*

*January 29, 2026*



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# Outline



- Background
- Components
- Scoring Results

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# Background



“It is the policy of the State through SGMA that groundwater resources be managed sustainably for long-term reliability and multiple benefits for current and future beneficial uses.”

- Sustainable Groundwater Management Act – 2014
- Bulletin 118 Interim Update 2016
- Sustainable Groundwater Management Act 2019 Basin Prioritization

# Components



1. Population Density
2. Rate of current and projected population growth
3. Public Supply Well Density
4. Production Well Density
5. Irrigated Acreage Density
6. Degree to which groundwater is relied upon as primary source of water
7. Documented impacts such as subsidence, saline intrusion or water quality degradation
8. Any other relevant information determined relevant by DWR, including adverse impacts on local habitat and local streamflows

# 1. Population density



- Source: 2010 US Census population block data
- Calculate population density
  - Total population / square miles

## Ojai Valley

Current: 7,745 / 9.24 (sq miles) = 838 → 2

Table 1 – Component 1

Priority Points	Population Density, 'x'
0	$X < 7$
1	$7 \leq x \leq 250$
2	$\leq 250 \leq x \leq 1,000$
3	$1,000 \leq x \leq 2,500$
4	$2,500 \leq x < 4,000$
5	$X \geq 4,000$

## 2. Rate of current and projected population growth



- Sources:
  - 2000 and 2010 US Census block data
  - CA Dept of Finance current trend 2030 County population projects
  - 2000 and 2010 County population estimates developed for California Water Plan update 2018
- Calculate Difference between 2000 and 2010
- Calculate Share of Population Growth for the Basin compared to the County
- Calculate Project Population Change from 2010 to 2030
- Calculate the 2030 Population Projection
- Calculate Percent Change:  
$$\text{Percent Growth} = (\text{Projected 2030 Population} - \text{2010 Population}) / \text{2010 Population} * 100$$

## 2. Rate of current and projected population growth



- Additional considerations:
  - Was 2010 population zero?
  - Is projected growth less than or equal to zero?
  - Is the 2010 population less than 1,000 and have growth greater than zero?
  - Is the 2010 population less than or equal to 25,000 and the 2010 population density less than 50 per square mile?
- If YES to any, the priority points were 0.

Table 2 – Component 2

Priority Points	Population Growth, 'x'
0	$x \leq 0$
1	$0 < x < 6$
2	$6 \leq x < 15$
3	$15 \leq x < 25$
4	$25 \leq x < 40$
5	$x \geq 40$

### Ojai Valley

Projected:  $(6,758 - 7,745) / 7,745 * 100 = -12.7\% \rightarrow 0$

# 3. Public supply well density



- Sources:
  - SWRCB DDW Public Supply database, March 2016
  - Verified local public supply well location and use information through public comment process
- Calculate Public Supply Well Density
  - Number of public supply wells / basin area

## Ojai Valley

$$8 / 9.24 \text{ (sq miles)} = 0.86 \rightarrow 4$$

**Table 3 – Component 3**

Priority Points	Public Supply Well Density, 'x'
0	$x = 0$
1	$0 < x < 0.1$
2	$0.1 \leq x < 0.25$
3	$0.25 \leq x < 0.5$
4	$0.5 \leq x < 1.0$
5	$X \geq 1.0$

# 4. Production well density



- Sources:
  - Online System for Well Completion Reports, DWR
  - Verified local public supply well location and use information through public comment process
- Calculate Public Supply Well Density
  - Number of production wells / basin area

Table 4 – Component 4	
Priority Points	Production Well Density, 'x'
0	$x = 0$
1	$0 < x < 2$
2	$2 \leq x < 5$
3	$5 \leq x < 10$
<b>4</b>	<b><math>10 \leq x &lt; 20</math></b>
5	$x \geq 20$

## Ojai Valley

$$164 / 9.24 \text{ (sq miles)} = 17.74 \rightarrow 4$$

# 5. Irrigated acreage density



- Sources:
  - Statewide Crop Mapping 2014, DWR
  - Verified local land use information through public comment process
- Calculate Irrigated Acreage Density
  - Irrigated acreage / basin area (sq miles)

## Ojai Valley

1,899 acres / 9.24 sq miles = 205.52 → 4

**Table 5 – Component 5**

Priority Points	Density of Irrigated Acres, 'x'
0	$x < 1$
1	$1 \leq x < 25$
2	$25 \leq x < 100$
3	$100 \leq x < 200$
4	<b><math>200 \leq x &lt; 350</math></b>
5	$X \geq 350$

# 6. Degree to which groundwater is relied upon as primary source of water – Part A



## A. Total Estimated Groundwater Use

Data Sources:

- California Simulation of Evapotranspiration of Applied Water model
- Statewide Crop Mapping 2014
- Irrigated Acres
- Water balance data developed for CA Water Plan
- Verified local agricultural information received through public comment

## Calculate Total Groundwater Use

1. Determine Total acres of each major crop
2. Determine Applied Water for each major crop
3. Calculate Total Water Applied for Each Crop (Surface Water and Groundwater)
4. Calculate Total Groundwater Use, Step 3 x groundwater percentage of total applied water in CWP Update 2018

# 6. Degree to which groundwater is relied upon as primary source of water – Part A



## Calculating Total Groundwater Use

- Add Ag Use (Part A) and Urban Use (Part B)

OJAI VALLEY	GW Use (AF)
Ag	6,598
Urban	1,132
<b>TOTAL</b>	<b>7,730</b>

### Ojai Valley

7,730 AF / 5,914 acres = 1.30 AF/Acre → 5

**Table 6 – Component 6.a**

Priority Points	Groundwater Use per Acre, 'x'
0	$x < 0.03$
1	$0.03 \leq x < 0.1$
2	$0.1 \leq x < 0.25$
3	$0.25 \leq x < .5$
4	$0.5 \leq x < 0.75$
5	$X \geq 0.75$

# 6. Degree to which groundwater is relied upon as primary source of water – Part B



## B. Estimate Urban groundwater use

### Data Sources:

- Public Water Systems Statistics database, DWR
- Water Purveyor Boundaries
- USDA data layers (urban portion)
- Land Use surveys
- Population data
- Verified local water purveyor information received through public comment

## Calculate Total Groundwater Use

1. Determine Population using 3<sup>rd</sup> party software to estimate 2014 population
2. Refine Water Purveyor Service Area (UWMPs, land use data, etc)
3. Determine Population within Basin
4. Determine Self-Supplied Population
5. Determine Water Purveyor Per-Capita Use
6. Determine GW Basin Per-Capita Use
7. Calculate Population-Based Water Use
8. Calculate GW Use for Population Served by Water Purveyor
9. Calculate GW Use for Self-Supplied Population
10. Estimate Additional GW Use
11. Calculate Total Urban GW Use

# 6. Degree to which groundwater is relied upon as primary source of water – Part B



## Evaluate Overall Supply met by Groundwater (%)

- Calculate Total GW Use
- Calculate Total Water Use
- Calculate % of Total Supply met by GW

OJAI VALLEY	GW	SW	Purchased	TOTAL	% GW
Ag	6,598	652	0	7,250	91
Urban	1,132	3,176	635	4,943	23
<b>TOTAL</b>	<b>7,730</b>	<b>4,463</b>		<b>12,193</b>	<b>63%</b>

Table 7 – Component 6.b	
Priority Points	Groundwater Use per Acre, 'x'
0	$x = 0$
1	$0 < x < 20$
2	$20 \leq x < 40$
3	$40 \leq x < 60$
<b>4</b>	<b><math>60 \leq x &lt; 80</math></b>
5	$x \geq 80$

**Ojai Valley**  
→ 4

## 6. Degree to which groundwater is relied upon as primary source of water



- Calculate Total Priority Points for Groundwater Reliance
- Average of 6.a + 6.b

Ojai Valley

$(5 + 4) / 2 \rightarrow 4.5$

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# 7. Documented impacts such as overdraft, subsidence, saline intrusion or other water quality degradation



Maximum points based on nature of impact and whether impact was susceptible to avoidance or remediation through sustainable groundwater management practices:

- a) Declining Groundwater levels – 7.5 points
- b) Current inelastic subsidence – 10 points or Historical inelastic subsidence – 3 points
- c) Saline intrusion – 5 points
- d) Water Quality measurements that exceed MCLs – 1 to 3 points

# 7. Documented impacts such as overdraft, subsidence, saline intrusion or other water quality degradation



## 7a. Documented Overdraft or Groundwater Level Decline

1) There are many wells that are showing large declines from the late 90's and many more that show significant declines since 2010/11. Only a few show some bump to the higher precipitation year 2017.

No indications of full recoveries from dry periods as expected from past precipitation responses (see note 2).

Sources 4-002\_7a\_Hydrographs.docx DWR Data Viewer - Examples - 344475N1192412W001 (-53.72), 344606N1192312W001 (-132.30 ft) 344539N1192309W001 (-84.5) 344550N1192406W001 (-162 ft before 62ft bump from higher precipitation)

2) In the Ojai Valley, the water level elevation in key Well No. 04N22W05L08S was down 50.2 feet from the 2013 measurement after having been down 78.4 feet from the 2012 measurement. **The Ojai Valley basin responds quickly to rainfall or the lack of rainfall, and it is not uncommon to see large drops in water level during dry periods and recovery to at or above normal levels during wet periods** (see Hydrograph in Appendix B). Source: 4-002\_7a\_VenturaCo2014AnnualReport.pdf pg. 73

Ojai Valley

7.5

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# 7. Documented impacts such as overdraft, subsidence, saline intrusion or other water quality degradation – Part A



## 7.b Documented Subsidence

Ojai Valley

0

# 7. Documented impacts such as overdraft, subsidence, saline intrusion or other water quality degradation – Part A



## 7.c Documented Saline Intrusion

Ojai Valley

0

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# 7. Documented impacts such as overdraft, subsidence, saline intrusion, or other water quality degradation



## 7.d Documented Water Quality Degradation

### Data Sources

- SWRCB DDW Public Supply Database, March 2016
- SWRCB GeoTracker Groundwater Ambient Monitoring and Assessment database, DWR, April 2017
- SWRCB MCL list, November 2017

Reviewed **magnitude** and **prevalence**

# 7. Documented impacts such as overdraft, subsidence, saline intrusion or other water quality degradation



## 7.d.1 Documented Water Quality Degradation

- Calculate Relative MCL Exceedance for Each Constituent
- Calculate Average Relative MCL Exceedance for all constituents

### **Ojai Valley**

1003 WQ detects, 164 exceedances

Average Relative MCL Exceedance, 9 → 5

**Table 8 – Sub-component 7.d.1**

Priority Points	Average Relative MCL Exceedance, 'x'
0	$X \leq 1$
1	$1 < x < 2$
2	$2 \leq x < 3$
3	$3 \leq x < 4$
4	$4 \leq x < 6$
5	$X \geq 6$

# 7. Documented impacts such as overdraft, subsidence, saline intrusion or other water quality degradation



## 7.d.2 Documented Groundwater Contamination

- Divide the number of unique wells with MCL exceedances by the number of public water supply wells within the basin

### Ojai Valley

8 unique wells w/exceedance / 8 public supply wells = 1 → 4

**Table 9 – Sub-component 7.d.2**

Priority Points	Prevalence of GW Contamination 'x'
0	$x = 0$
1	$0 < x < 0.5$
2	$0.5 \leq x < 0.75$
3	$0.75 \leq x < 1$
4	<b>X = 1</b>
5	$X > 1$

# 7. Water quality degradation



## 7.d Documented Groundwater Contamination

- Add 7d.1. and 7.d.2

**Ojai Valley**

5 + 4 = 9 → 3

**Table 10 – Subcomponent 7d**

Priority Points	Documented Impacts, GW Contamination 'x'
0	$x < 3$
1	$3 \leq x < 6$
2	$6 \leq x < 8$
3	$x \geq 8$

# 7. Water quality degradation



## 7.d Documented Groundwater Contamination

- Add:
- 7a Declining GW Levels
- 7b Subsidence
- 7c Saline Intrusion
- 7d Water Quality

### Ojai Valley

$$7.5 + 0 + 0 + 3 = 10.5 \rightarrow 2$$

**Table 11 – Documented Impacts**

Priority Points	Documented Impacts, GW Contamination 'x'
0	$x \leq 3$
1	$3 < x < 7$
2	$7 \leq x < 11$
3	$11 \leq x < 15$
4	$15 \leq x < 19$
5	$x \geq 19$

# 8. Any Other Relevant Information, incl. impacts to local habitat and streamflows



## 8.a Adverse Impacts on Local Habitat and Local Streamflows

- 38 Vegetation Polygons
- 8 Wetlands Polygons

**Ojai Valley**  
**1 + 1 = 2**

Method	Points
Natural Communities dataset to determine if there are one or more polygons representing vegetation, wetland, seep, or spring habitat	No = 0 Yes = 1
NHD Dataset to determine if one or more perennial or permanent streams are located within or adjacent to the basin	No = 0 Yes = 1

## 8.b “Other Information determined to be relevant by the department”



- Hydrology
- Geology
- Land Use
- Other Challenges

Ojai Valley

0

# 8.c and d Additional Conditions Analyzed Prior to Priority Determination



**Table 12 – Subcomponents c and d**

Sub-component	Basin Applicability	Condition	If True, Result
8.c.1	All	$\leq 2,000$ AF of gw use for water year 2014	Total Priority Points = 0
8.c.2	All	<b><math>&gt; 2,000</math> and <math>\leq 9,500</math> AF for water year 2014 with no documented impacts</b>	<b>Total Priority Points = 0</b>
8.c.3	Basins with Adjudications	Basin's non-adjudicated portion extracts $\leq 9,500$ AF for water year 2014	Total Priority Points = 0
8.d.1	Critically Overdrafted Basins	Basin considered to be in Critical Overdraft per Bulletin 118- Interim Update 2016	Total Priority Points = 40
8.d.2	All	GW-related transfers are $> 2,000$ AF in any given year since 2009	Add 2 Priority Points

# 8.c and d Additional Conditions Analyzed Prior to Priority Determination



Table 12 – Subcomponents c and d

Sub-component	Basin Applicability	Condition	If True, Result
8.c.1	All	≤ 2,000 AF of gw use for water year 2014	Total Priority Points = 0
8.c.2	All	> 2,000 and < 9,500 AF for water year 2014 documented	Total Priority Points = 0
8.c.3	Basins with Adjudications	documented portion extracts ≤ 9,500 AF for water year 2014	Total Priority Points = 0
8.d.1	Critically Overdrafted Basins	Basin considered to be in Critical Overdraft per Bulletin 118- Interim Update 2016	Total Priority Points = 40
8.d.2	All	GW-related transfers are > 2,000 AF in any given year since 2009	Add 2 Priority Points

**Ojai Valley**  
0

# Ojai Valley Basin Results



Criteria								
1	2	3	4	5	6	7	8	Total
Population Density	Projected Population Change	Public Supply Wells	Production Wells	Irrigated Acreage/ Square Mile	GW AF/Acre and GW % of Total Water Supply	GWL Decline, Subsidence, Saline Intrusion, WQ	Habitat, Streamflow	
2	0	4	4	4	4.5	2	2	22.5

# Basin Prioritization



Priority	Total Priority Point Ranges $X =$ Cumulative Priority Points
Very Low	$0 \leq x \leq 7$
Low	$7 < x \leq 14$
Medium	$14 < x \leq 21$
<b>High</b>	<b><math>21 &lt; x \leq 40</math></b>

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# Questions/Comments

