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# Water Shortage Task Force

**Shana Epstein**  
**Ventura Water General Manager**

**August 26, 2014**



# **Item 2 : Status of Casitas Municipal Water District Water Supply**

**Ron Merckling**

**CMWD Water Conservation and Public  
Affairs Manager**

## Lake Casitas Approaching Historic Low





**Casitas Purpose:**

Water Supply Reliability

Supplement Groundwater

**Casitas Service Area:**

Direct - M&I and AG water service

Wholesale - Supplement GW

# **CA Water Code § 71611. Sale of Water**

“A district may sell water under its control, without preference, to cities.....within the district for use within the district.”

## **1995 Agreement**

Casitas interest - financial stability

City interest - water supply reliability

### **To Meet WC § 71611:**

Provided for annual accounting of out-of-district water to be Returned  
Rental Charges for unreturned water, on-going until returned (Sec G)

### **To Meet Casitas Interest - financial stability:**

Minimum Purchase of 6,000 AFY by City (Sec D3)

### **To Meet City's Interest - water supply reliability:**

> 90,000 AF in Lake Casitas, limit of 8,000 AF (Sec F2)

90,000 to 65,000 AF in Lake Casitas, limit of 6,025 AF (Sec F1)

> 65,000 AF in Lake Casitas, City subject Casitas Allocation Program (Sec E)

## Where are we Now for City's In-District Water Use?

- City's 4-Year Average In-District Demand = 4,700 AFY
- City's 2013 Water Resources Report identifies 5,390 AFY In-district demand in 2025
- City is accruing Rental Water and Unreturned Rental Water Charges

# California Drought of 2014

## Extreme Drought Conditions

- State Water Project - 5%
- Depleted Reservoir Levels
- Agricultural Fallowing
- Urban Water Use Restrictions

## State's Call to Action

- Reduce Urban Use by 20%
- Limit Urban Irrigation to 2 days per week

### U.S. Drought Monitor California



July 29, 2014

(Released Thursday, Jul. 31, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

|                                   | None | D0-D4  | D1-D4  | D2-D4  | D3-D4 | D4    |
|-----------------------------------|------|--------|--------|--------|-------|-------|
| Current                           | 0.00 | 100.00 | 100.00 | 100.00 | 81.88 | 50.41 |
| Last Week<br>30/07/14             | 0.00 | 100.00 | 100.00 | 100.00 | 81.88 | 36.48 |
| 3 Months Ago<br>40/04/14          | 0.00 | 100.00 | 100.00 | 96.81  | 76.08 | 24.77 |
| Start of Calendar Year<br>1/01/14 | 2.01 | 97.39  | 94.25  | 87.53  | 27.59 | 0.00  |
| Start of Water Year<br>1/07/13    | 2.83 | 97.37  | 95.95  | 94.12  | 11.26 | 0.00  |
| One Year Ago<br>30/07/13          | 0.00 | 100.00 | 98.23  | 93.88  | 0.00  | 0.00  |

#### Intensity

|                     |                        |
|---------------------|------------------------|
| D0 Abnormally Dry   | D2 Severe Drought      |
| D1 Moderate Drought | D4 Exceptional Drought |
| D3 Extreme Drought  |                        |

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for local statements.

#### Author:

Brad Rippey

U.S. Department of Agriculture



<http://droughtmonitor.unl.edu/>

## Local Drought Status 2014

### Water Resource Status - August 2014

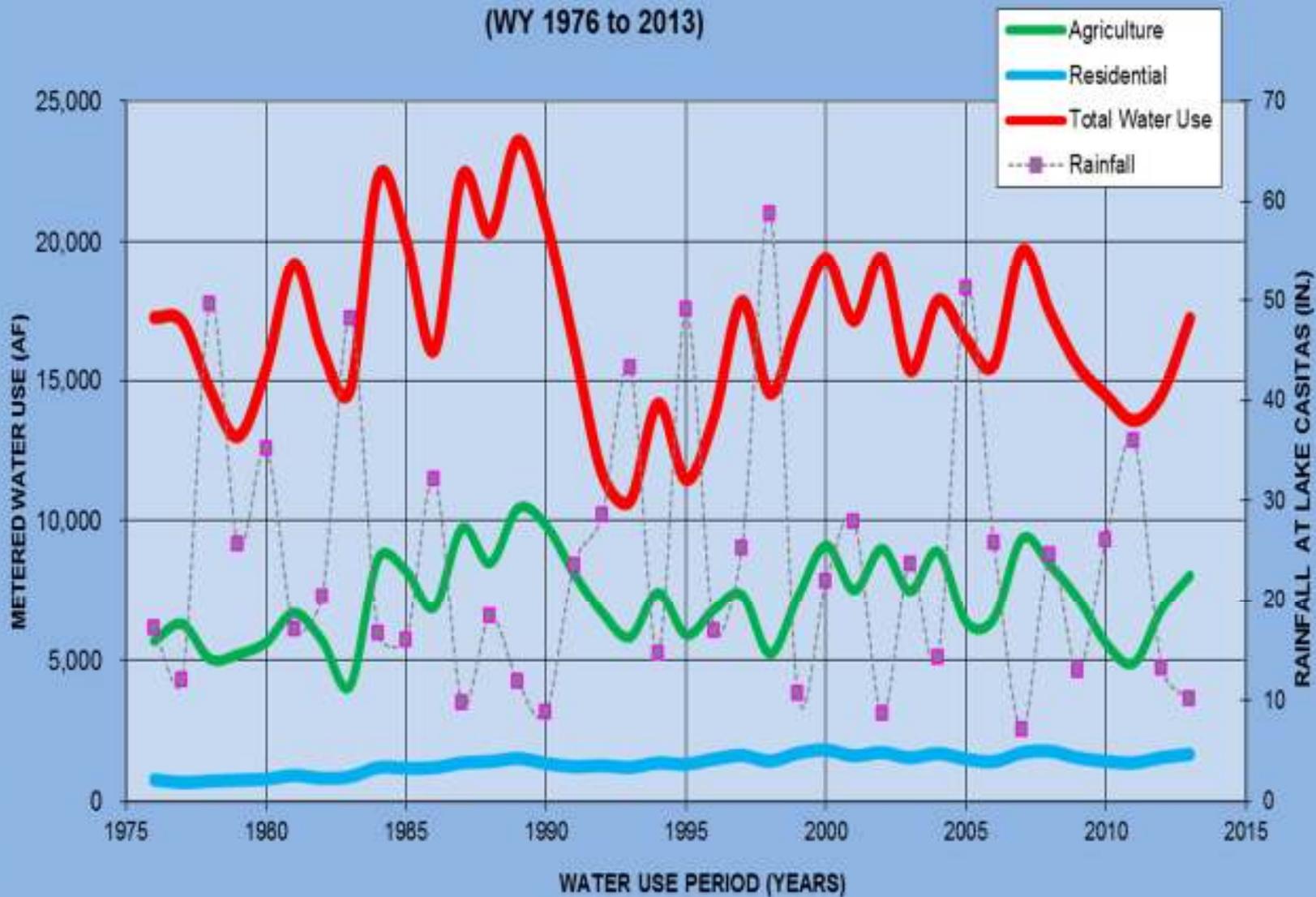
- Upper Ventura River - DRY
- Ojai GW Basin - Approaching historic low level
- Lower Ventura River - Minimal Flows

### Major GW Purveyor Status - 8/22/2014

- Meiners Oaks WD - 100% Casitas
- Senior Canyon MWC - 100% Casitas
- Golden State - 30% Casitas
- Ventura River WD - 80% Casitas
- Ventura Water - 100%++
  - July 2013 = 515 AF → July 2014 = 548 AF

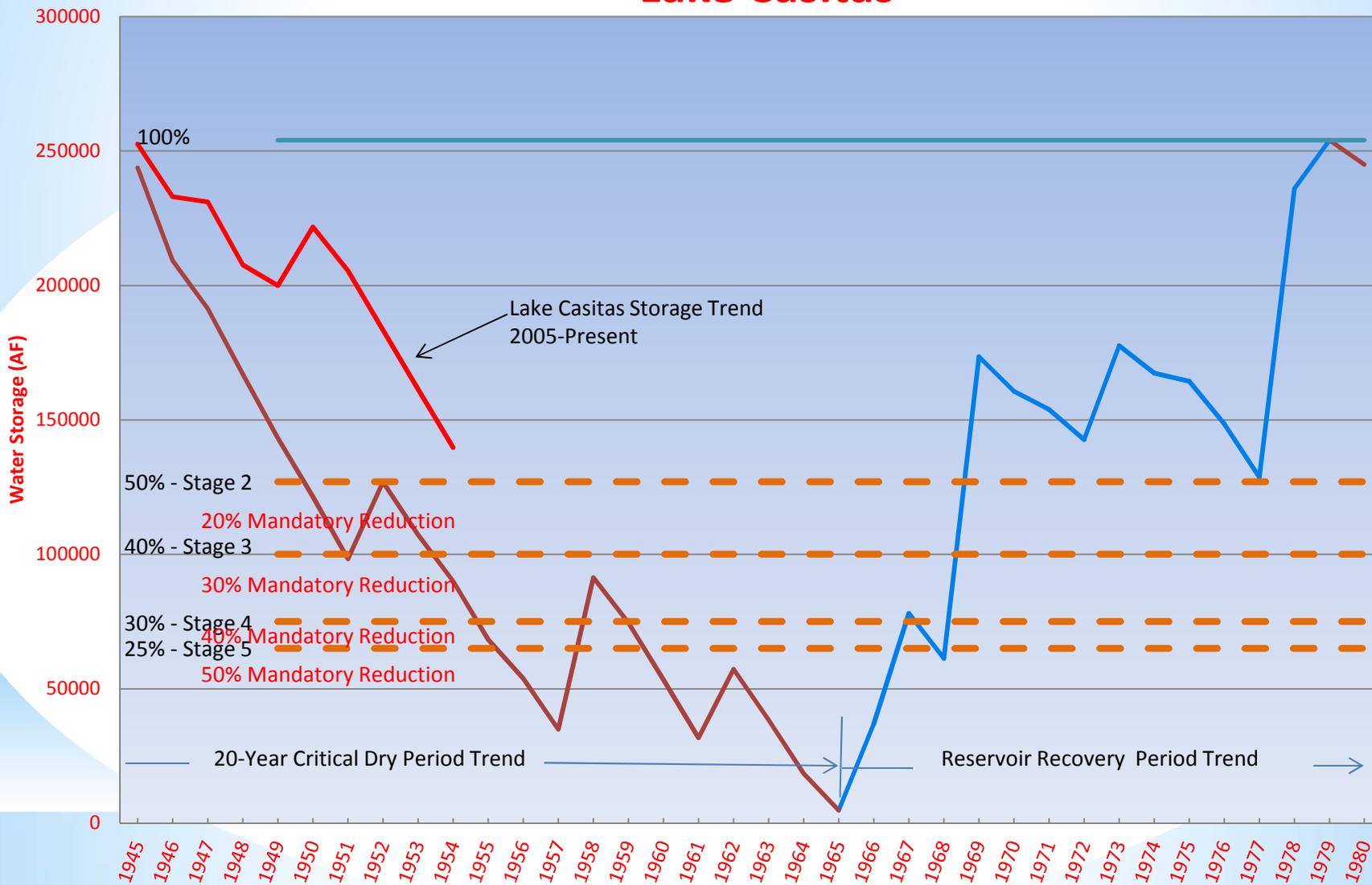
GW Agriculture and Smaller Purveyors becoming temporarily reliant on Casitas Supply

Casitas Annual Water Demand Patterns  
(WY 1976 to 2013)



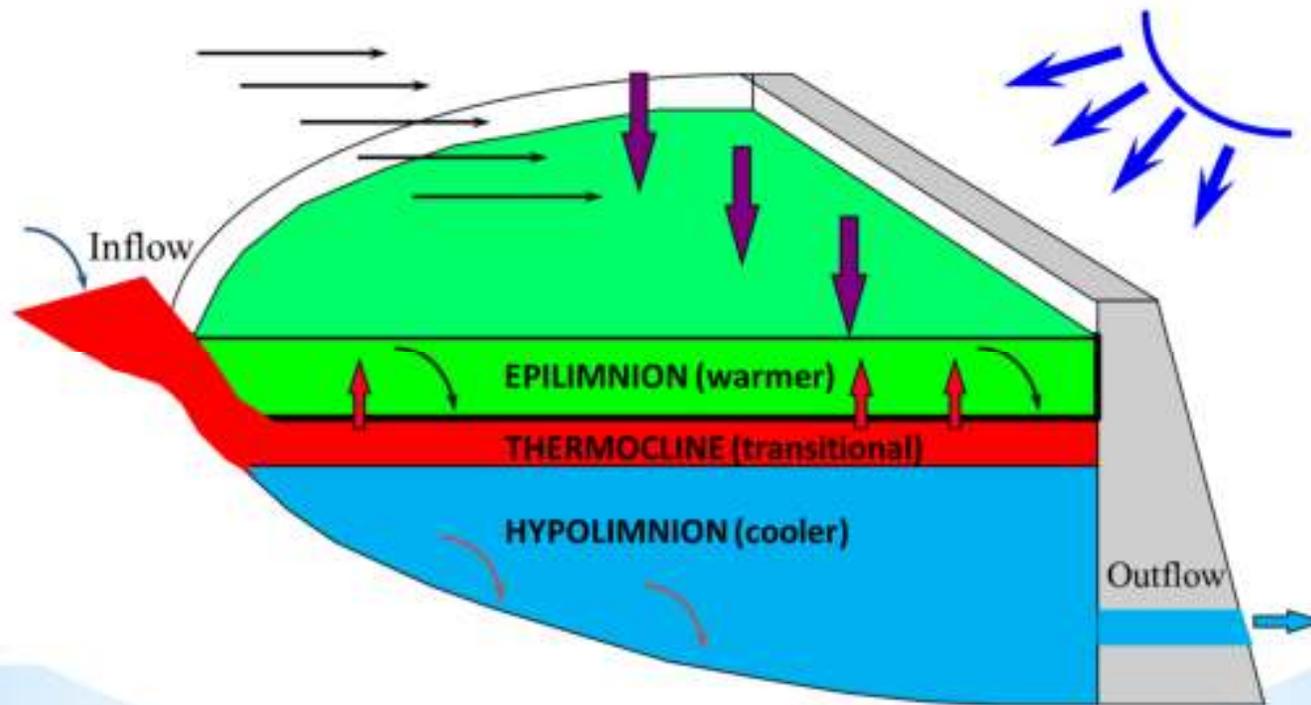
# Critical Water Level Action Triggers

## Lake Casitas



## Drought Impacts to Surface Water Supply

- Water Quality Changes
- Increase in Algae Blooms
- Lower Production Rates
- Increase Risk in Water Supply Reliability



# QUESTIONS

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# **Item 3 : Implementation of Stage 3 Water Shortage Contingency Plan**

**Karen Waln  
Management Analyst**

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| <b>Water Supply Source</b>   | <b>2015 Supply Drought Impact (AFY)</b> | <b>2015 Supply Average (AFY)</b> |
|--|---|----------------------------------|
| <b>Casitas Municipal Water District</b>  | <b>4,600</b>                            | <b>5,111</b>                     |
| <b>Ventura River / Foster Park</b>   | <b>0-2,000</b>                          | <b>4,200</b>                     |
| <b>Mound Groundwater Basin</b>   | <b>4,000</b>                            | <b>4,000</b>                     |
| <b>Oxnard Plain Groundwater Basin</b>  | <b>3,918</b>                            | <b>3,918</b>                     |
| <b>Santa Paula Groundwater Basin</b><br>- Original City Allocation<br>- City Acquired Water Rights | <b>1,600</b><br><b>5.8</b>              | <b>1,600-3,000</b><br><b>5,8</b> |
| <b>Recycled Water</b>  | <b>700</b>                              | <b>700</b>                       |
| <b>Total</b>   | <b>14,824-16,824</b>                    | <b>19,535-20,935</b>             |



# Why 20% Reduction?

- Ventura water supply: Projected to lose 20% in drought
- SWRCB Mandate: 20% reduction to be achieved with 2 day/week outdoor watering restriction
- Outdoor water restrictions: Projected to save 20% of total water consumption



# Drought Response Matrix of Local Agencies

| City                        | Landscape Irrigation Restricted To: | Automatic Outdoor Watering Prohibited Between | Landscape Must Not Run to Waste | No Washing for Hard Surface | Shut-off Nozzle for Washing Required | Water Leak Fixed Within | Water Fountains Must be Re-circulating | Water Served on Request in Restaurants | Penalty   | Other  |
|-----------------------------|-------------------------------------|---|---------------------------------|-----------------------------|--------------------------------------|-------------------------|--|--|---|--|
| Camarillo                   | 3 days/week - odd/even address      | 8 am to 6 pm                                  | ✓                               | ✓                           | ✓                                    | 48 hours                | ✓                                      | ✓                                      | 1st-warning, 2nd-\$100, 3rd-\$500, 4th - up to \$1,000        | Stage 2 - 30% Reduction                        |
| Casitas MWD                 | 2 days/week                         | 10 am to 6 pm                                 | ✓                               | ✓                           | ✓                                    | Timely Response         | ✓                                      | ✓                                      | 1st-warning, 2nd-\$100, 3rd-\$250, 4th-\$600                  | Stage 1  |
| LADWP                       | 3days/week, - odd/even address      | 9 am to 4 pm                                  | ✓                               | ✓                           | ✓                                    | Timely Response         | ✓                                      | ✓                                      | 1st - warning, 2nd- \$100, 3rd-\$200, 4th-\$300               | Phase 2 - odd/even implemented                 |
| Meiners Oaks Water District | 2 days/week                         | 15 minutes only                               | ✓                               | ✓                           | ✓                                    | 48 hours                | ✓                                      | ✓                                      | 1st- warning, 2&3rd - \$100, 4th-\$200, 5th-\$300, 6+ - \$500 | Stage 2  |
| Monticito                   |                                     | 7am to 7 pm                                   | ✓                               | ✓                           |                                      | Immediate               |  | ✓                                      | 1st - warning, 2nd- \$250, 3rd on dbl up to \$1,000           | No new water connections and no pool refilling |
| Moorpark                    |                                     | 9 am to 4 pm                                  | ✓                               | ✓                           | ✓                                    | 48 hours                | ✓                                      | ✓                                      | Depends on purveyor   | New landscaping allowed estbl. time            |
| Oxnard                      | 2 days/week - Tues & Sat            | 9 am to 4 pm, or 9 am to 6 pm DST             | ✓                               | ✓                           | ✓                                    |                         | No refilling fountains                 | ✓                                      | 1st - \$100, 2nd - \$200, 3rd - \$500                         | Stage 2  |
| Port Hueneeme               | 3 days/week - M, W, F or Sat        | 9 am to 5 pm                                  | ✓                               | ✓                           | ✓                                    | 72 hours                | ✓                                      | ✓                                      | 1st-warning, 2nd-\$100, 3rd-\$250                             | Level 1 Water Supply Shortage                  |



# Drought Response Matrix of Local Agencies (cont.)

| City                         | Landscape Irrigation Restricted To: | Automatic Outdoor Watering Prohibited Between | Landscape Must Not Run to Waste | No Washing Hard Surface | Shut-off Nozzle for Washing Required | Water Leak Fixed Within | Water Fountains Must be Re-circulating | Water Served on Request in Restaurants | Penalty  | Other                                  |
|------------------------------|-------------------------------------|---|---------------------------------|-------------------------|--------------------------------------|-------------------------|--|--|--|--|
| Santa Barbara                |                                     | 8 am to 6 pm                                  | ✓                               | ✓                       | ✓                                    |                         | Indoor or on residential property ok   | ✓                                      | 1st-warning, 2nd or more-\$250                 | Stage 2                                |
| Santa Paula                  |                                     |   |                                 |                         |                                      |                         |  |  |  | No water shortage stage reported.      |
| Simi Valley                  | 3 days/week                         | 9 am to 5 pm                                  | ✓                               | ✓                       | ✓                                    | 72 hours                | ✓                                      | ✓                                      | 1st-warning, add fines set by resolution       | Level 1 Water Supply Shortage          |
| Thousand Oaks                | 3 days/week                         | 9 am to 5 pm                                  | ✓                               | ✓                       | ✓                                    | 72 hours                | ✓                                      | ✓                                      | 1st-\$100, 2nd-\$200, 3rd-\$500                | Level 1 Water Supply Shortage          |
| Ventura River Water District | 2 days/week                         | 9 am to 6 pm                                  | ✓                               | ✓                       | ✓                                    |                         | ✓                                      |  | 1st-warning, 2nd-\$100, 3rd-\$200, 4th-\$500   | August 13, 2014 Board Action Scheduled |
| Ventura                      |                                     |   | ✓                               | ✓                       | ✓                                    | 48 hours                | ✓                                      | ✓                                      | 1st-education, 2nd-warning, 3rd-\$25, 4th-\$50 | Under Current Water Waste Ordinance    |



# Proposed Stage 3 20% Mandatory Water Conservation

**Limits on Watering Hours:** No watering between 9 am to 6 pm

**Watering Days:** Monday and Wednesday, for odd-numbered street addresses and Tuesday and Thursday, for even-numbered street addresses

**Violation Response:** 1<sup>st</sup> - educational material, 2<sup>nd</sup> - written notice, 3<sup>rd</sup> - \$100 fine, 4<sup>th</sup> - \$200 fine, 5<sup>th</sup> - \$300 fine, 6<sup>th</sup> - \$400 fine, 7<sup>th</sup> - \$500 fine (max) per verifiable offense

**Payment of Penalty Fines:** Water customer is responsible for payment

**Appeal Process:** 1<sup>st</sup> – Customer Care Supervisor, 2<sup>nd</sup> – General Manager, 3<sup>rd</sup> – Third Party Contract



# Recommendations

- Prepare a resolution for the City Council recognizing the statewide water supply shortage emergency
- Prepare an ordinance restricting outdoor irrigation of ornamental landscape or turf with potable water to between the hours of 9:00 a.m. and 6:00 p.m. Pacific Standard Time, to two days a week, based on a system of odd/even watering dates that corresponds to the last number of the customer's address

# Recommendations

- Include in the proposed ordinance the following progressive penalties for noncompliance to the outdoor watering restrictions:
  - First offense = Educational notice
  - Second offense = Written notice of violation
  - Third offense = \$100 fine
  - Fourth offense = \$200 fine
  - Fifth = \$300 fine
  - Sixth = \$400 fine
  - Seventh and + = \$500 fine and possible water shut off



# Recommendations

- Revise noncompliance penalties currently imposed in the Water Waste Ordinance to align with proposed outdoor watering restrictions penalties.

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# **Item 4 : Baseline Consumption for Citywide Reduction Comparison**

**Ryan Kintz**  
**Environmental Services Specialist**



# Baseline Consumption Reporting

- State methodology: Monthly water production totals reported against 2013
- Consistent: Real time production from all sources with losses, no delay in reporting
- 2013 benchmark: Most current water demand history and similar rainfall to 2014



# Water Production Report

| June 2013 | June 2014 | % Reduction |
|-----------|-----------|-------------|
| 1,554.82  | 1,476.21  | 5.06%       |

| July 2013 | July 2014 | % Reduction |
|-----------|-----------|-------------|
| 1,623.54  | 1,528.41  | 5.86%       |

All values in acre feet



# Baseline Consumption Reporting

- Recommendation: Adopt state methodology to measure success by using 2013 water production numbers as baseline for citywide reduction comparisons
- Alternatives
  - 1) Compare current monthly water demand to a 5 or 10-year average for that month
  - 2) Use monthly consumption data from billing system

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# **Item 5 : Ventura's Recycled Water System and Santa Clara River Estuary Status Update**

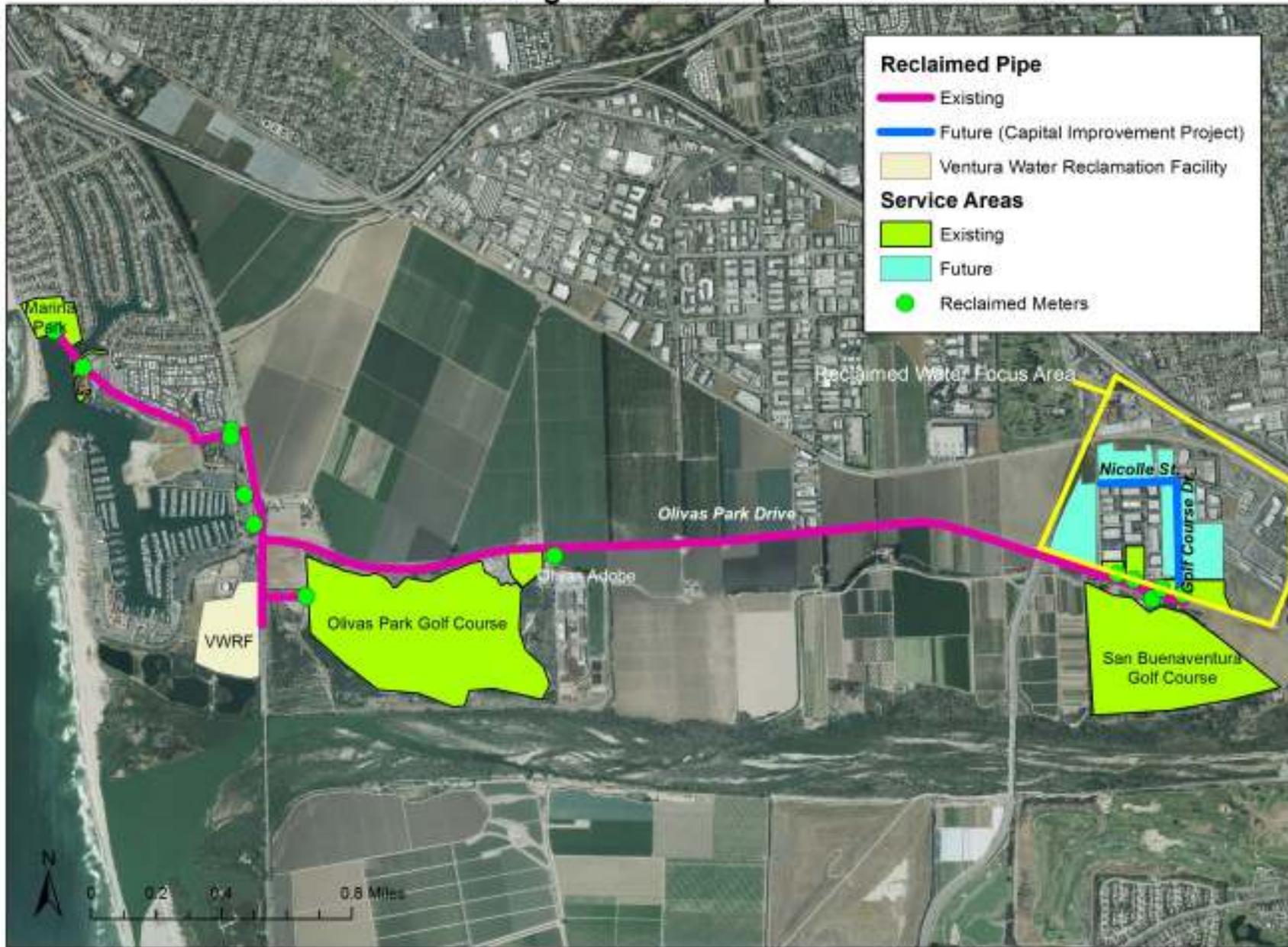
**Shana Epstein  
Ventura Water General Manager**



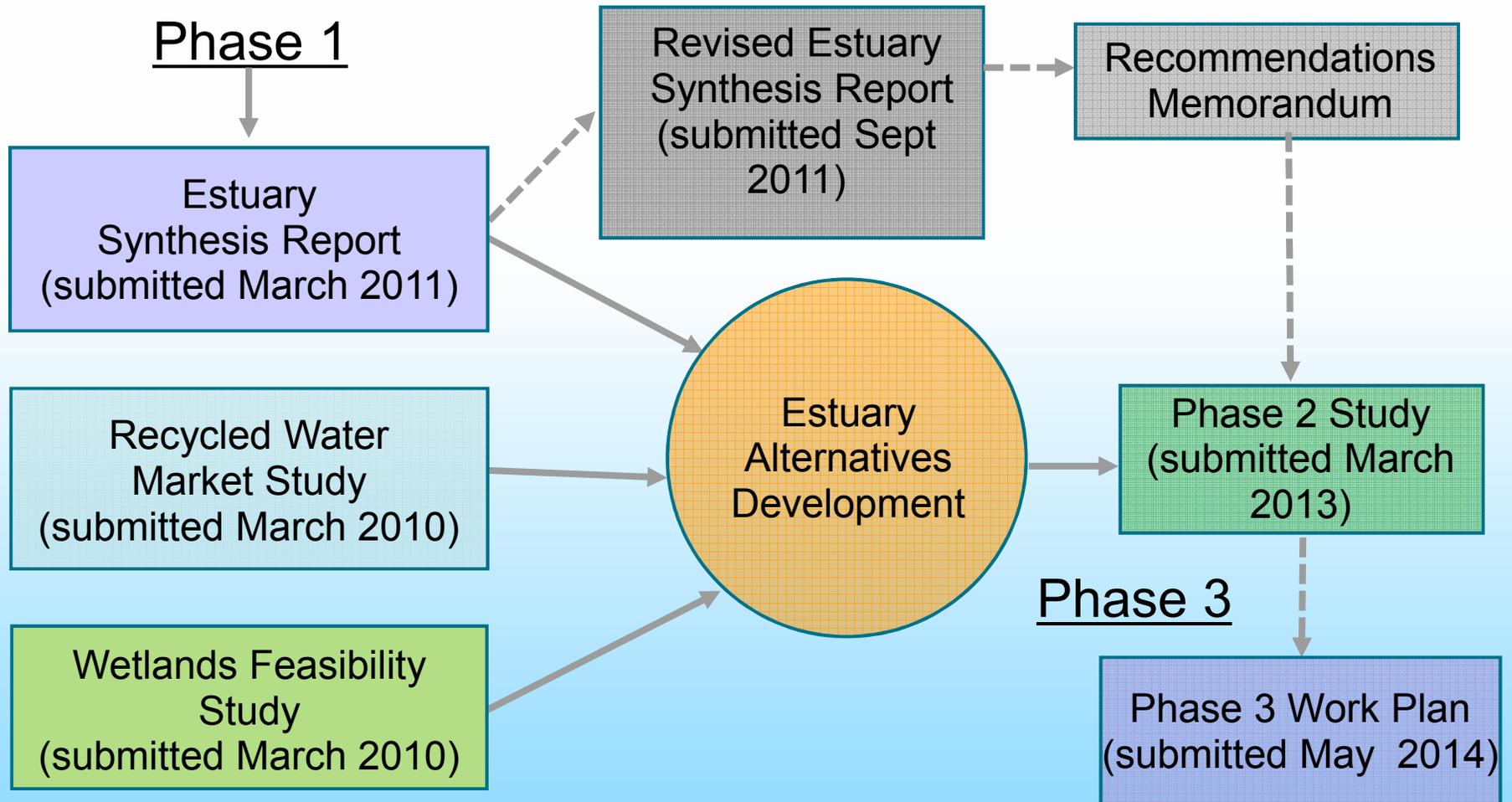
# Recycled Water Status

- Existing Reclaimed Water Policy
- Ventura Water Reclamation Facility Special Studies
- Ojai Valley Sanitation District

## Reclaimed Water: Existing and Future Pipes and Service Areas



# Estuary Special Studies Requirements





# Phase 1 and 2 Work Elements

- **Phase 1: Three separate reports**
  - **Estuary Subwatershed Study**
  - **Treatment Wetlands Feasibility Study**
  - **Phase 1 Recycled Water Market Study**
- **Phase 2: Report Submitted March 2013**
  - **Collected more data on estuary water balance and water quality**
  - **Additional evaluation on wetlands siting and costs**
  - **Additional evaluation on reuse opportunities and costs**

# Phase 2: SCR Estuary Special Studies Water Use Alternatives Evaluation Criteria

✓ Improve effluent quality

✓ Reduce effluent flow

✓ Create new habitat

✓ City water supply benefit

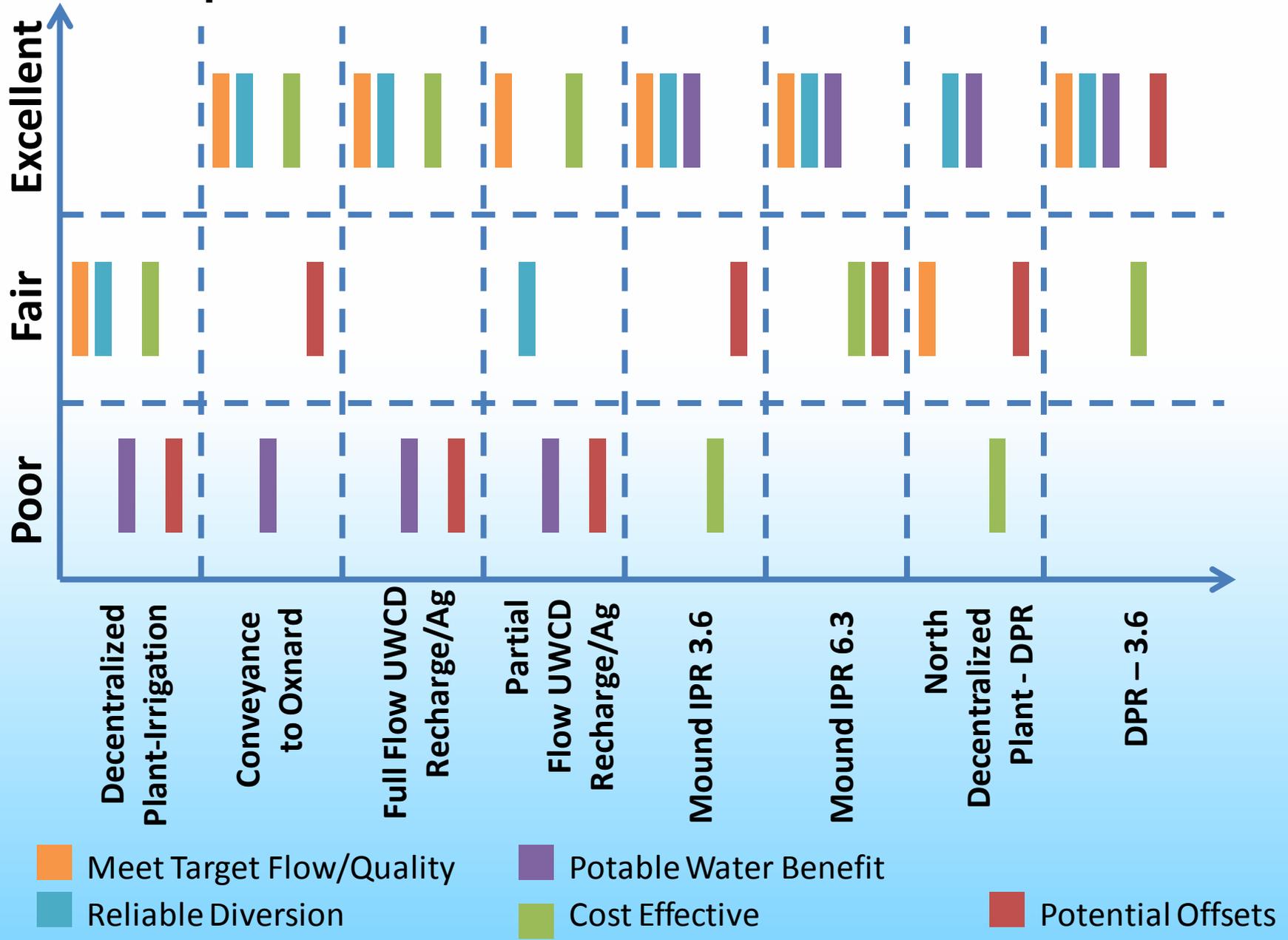
✓ Reliable water management practice

✓ Cost

| Discharge to SCRE – Flow and Quality |  | Predicted SCRE Nitrate Concentration Range (mg-N/L) | Predicted Habitat, acres |                |                     |
|--------------------------------------|--|---|--------------------------|----------------|---------------------|
| Flow (mgd)                           | Nitrate Concentration from treatment wetlands (mg-N/L) |   | Steelhead                | Tidewater Goby | CLT and WSP nesting |
| No Action (6.3)                      | 8 (no wetlands)  | 6.2 – 7.7   | 148                      | 101            | 167                 |
| 0                                    | 0  | 9.6 – 12.5  | 58                       | 107            | 183                 |
| 2                                    | 4  | 4.5 – 6   | 78                       | 110            | 183                 |
| 4                                    | 4  | 3 – 5.2   | 115                      | 111            | 182                 |
| 5                                    | 4  | 2.8 – 4.7   | 132                      | 110            | 177                 |
| 8                                    | 5  | 3.5 – 4.9   | 157                      | 85             | 160                 |



# Comparison of Alternatives vs Criteria



# Phase 3 Work Elements

- **Phase 3 Due December 2015**
  - **Incorporate additional data collected into alternatives analysis**
  - **Evaluate how to pair up recycled water and wetland options into scenarios for diverting flow from the estuary and determine costs and benefits**

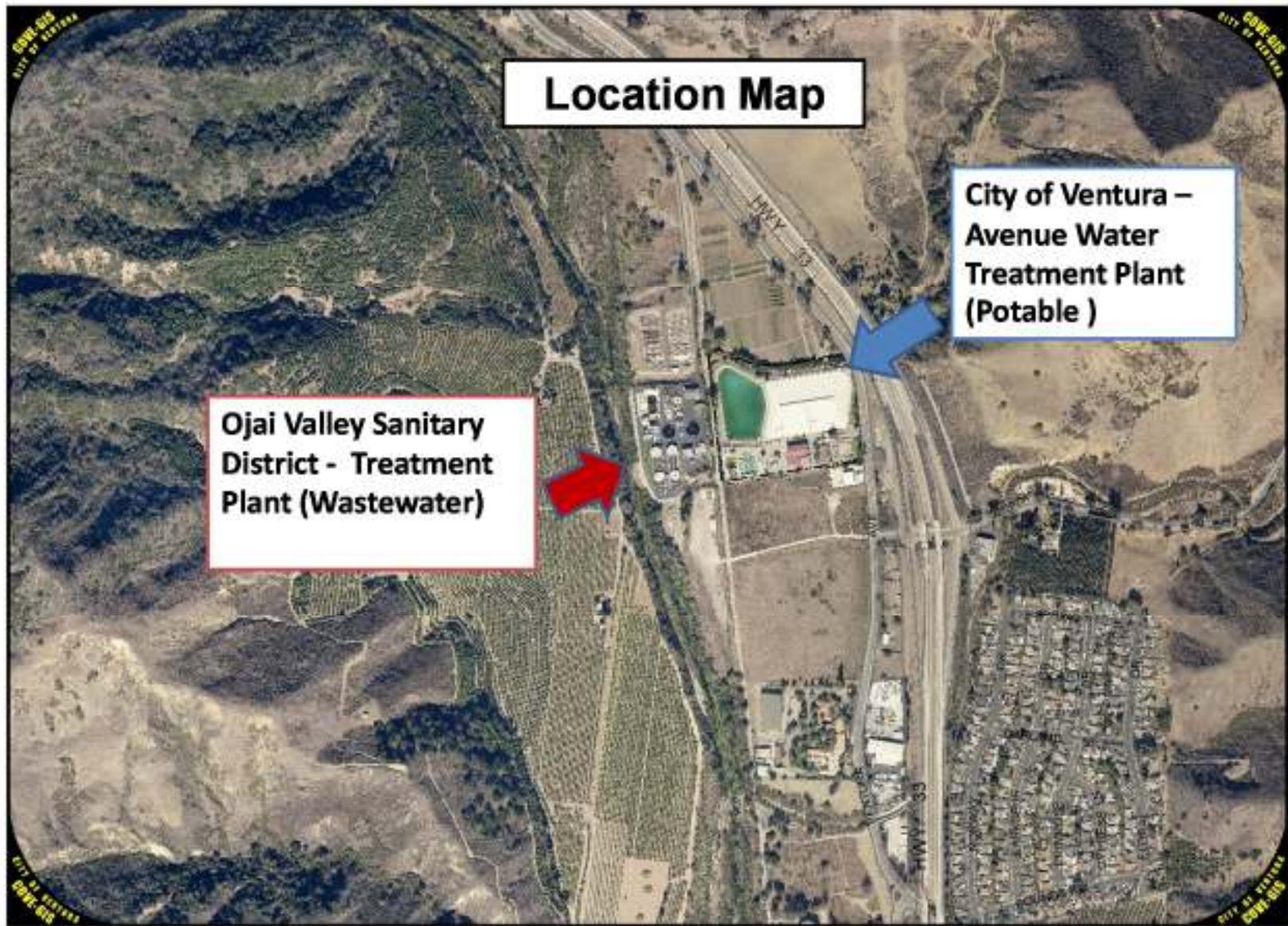


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# Ojai Valley Sanitary District: Potential Source of Reclaimed Water





**Location Map**

**Ojai Valley Sanitary District - Treatment Plant (Wastewater)**

**City of Ventura - Avenue Water Treatment Plant (Potable)**

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# Feasibility Study on the Reuse of Ojai Valley Sanitary District Effluent



City of San Buenaventura  
June 29, 2007



**KHE**

**STOECKER ECOLOGICAL™**  
NATURAL RESOURCE ASSESSMENT AND RESTORATION SERVICES



# OVSD Study Scope of Work

- **Phase 1** – Feasibility Analysis to determine to what extent recycled water may be utilized under current policies and regulatory restrictions
- **Public Workshops** – Identify/evaluate alternatives, gain customer support and address environmental concerns
- **Phase 2** - Preparation of Engineer's Report to comply with CDPH's Title 22 requirements and the UV commissioning required demonstrating compliance with Title 22 of the OVSD tertiary/UV system

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# Questions?

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