

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



Southern Nevada, Central Arizona, USBR, and MWD Partner on Innovative Grant Program



**Metropolitan Water District
of
Southern California**



Bill McDonnell
October 8, 2014

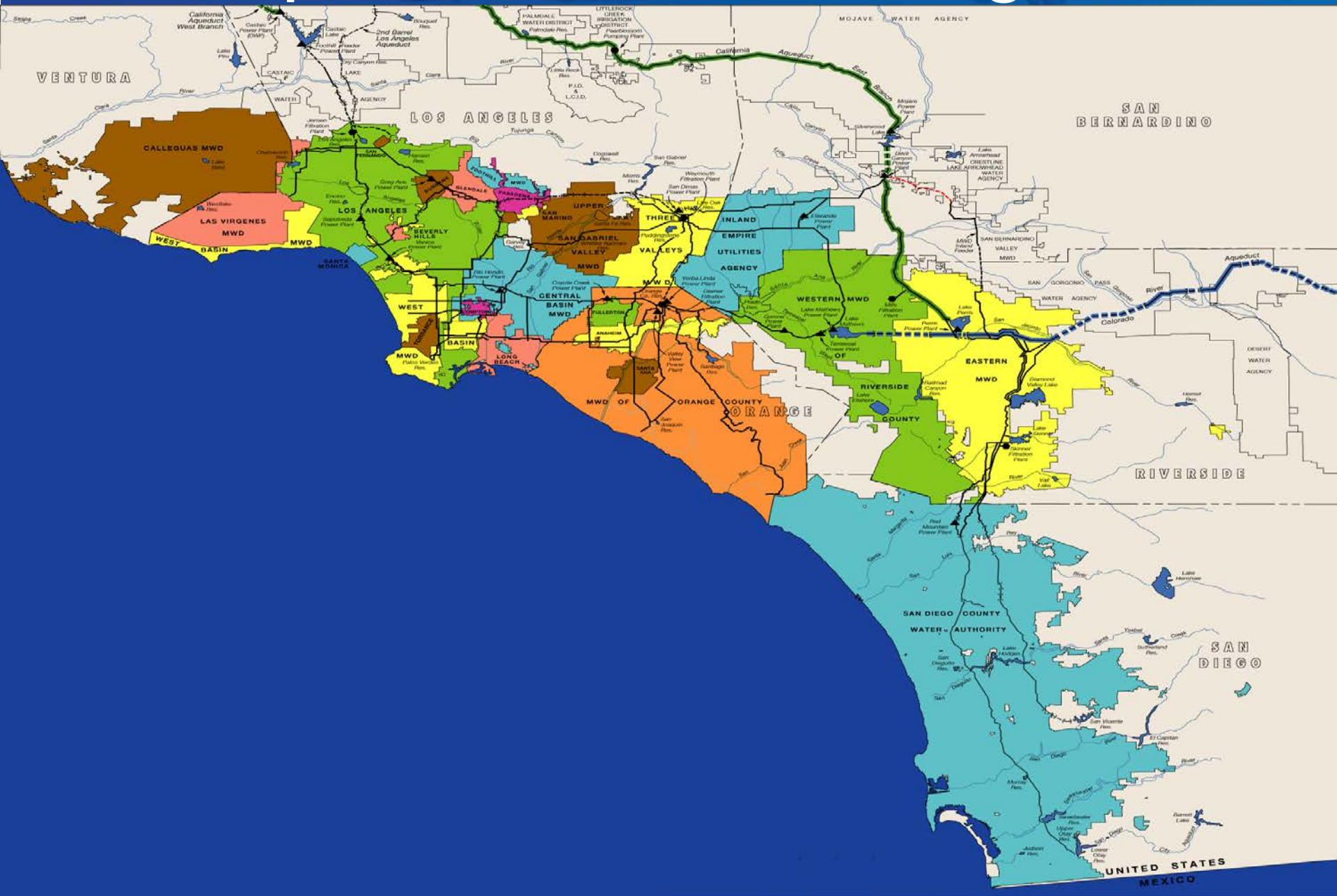
www.bewaterwise.com

Metropolitan Water District of Southern California

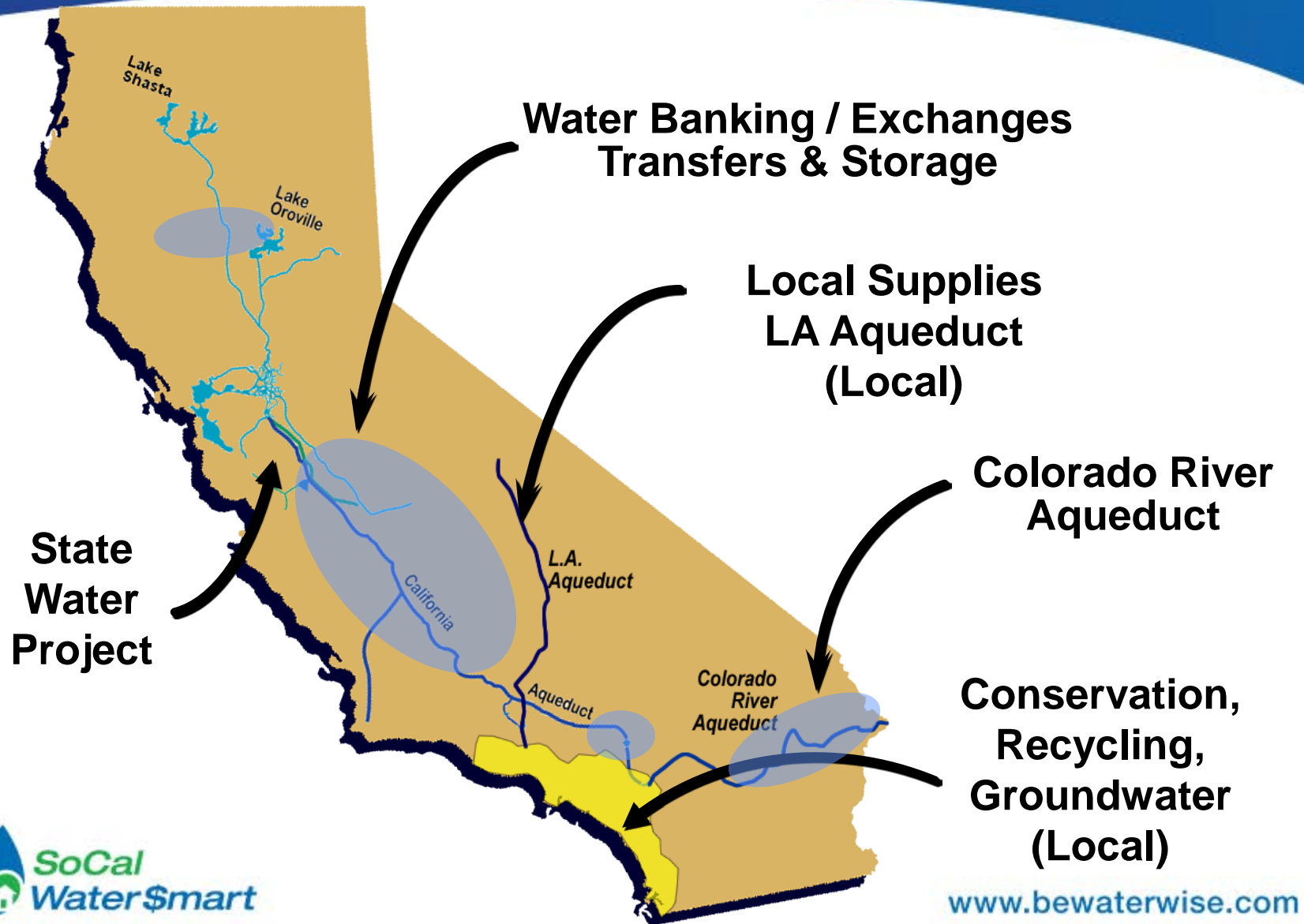


- Regional water wholesaler
- Includes 6 counties
- 5,200 square miles
- 26 member agencies
- 250-300 retail water agencies
- 19 million people
- Add about 150,000 people/yr
- Imported water supplies meet about half of retail demands

Metropolitan's Member Agencies



Where Southern California Gets its Water



Average Rainfall = 15 inches per year

USBR Lower Colorado Issues

- Water for Future Needs
- Brine Concentrate Management
- Environmental Needs
- Implementing the Colorado River Plan
- Support CALFED/Bay Delta
- Tribal Needs
- Growing Demands
- Diminishing Supply Reliability
- Local Water Augmentation Strategies
- Emerging Rural Demands
- Drought



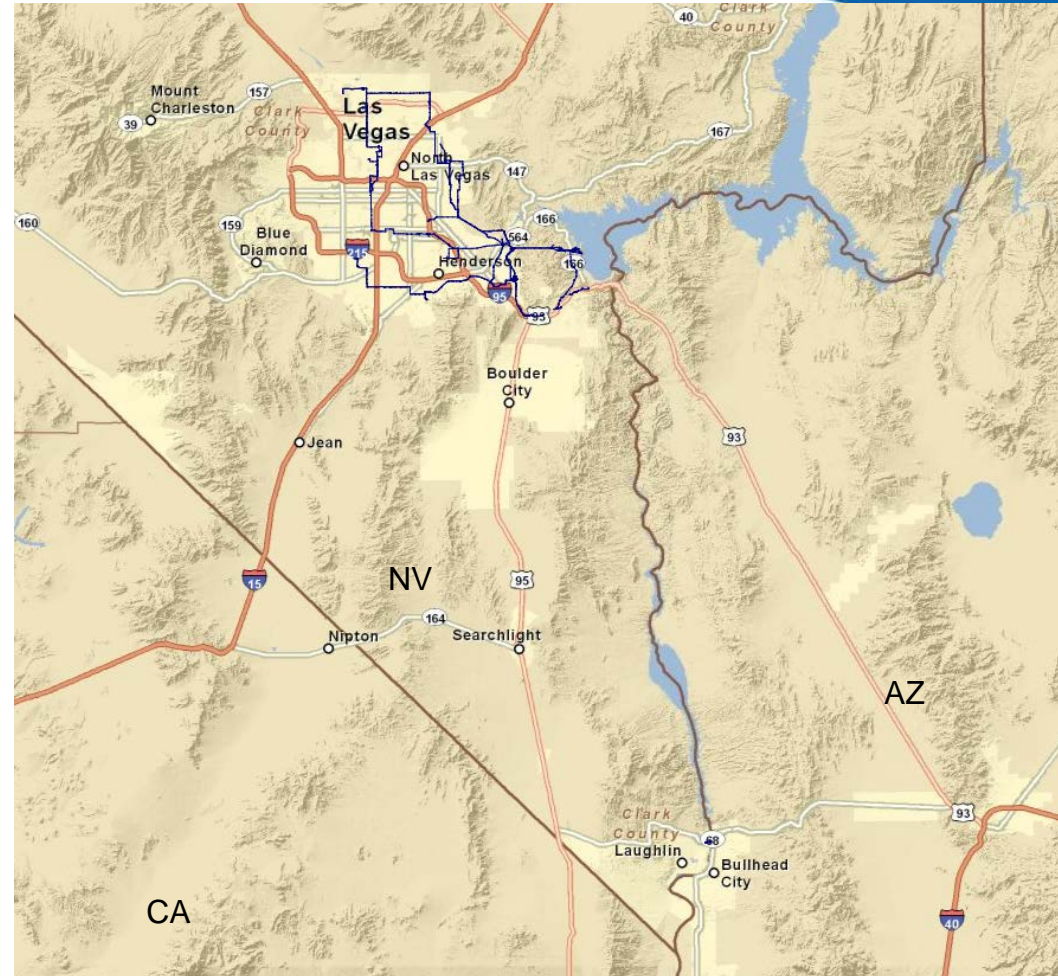
Value of Creative Solutions to USBR

- **Leverages financial resources**
- **Advancement of new efficient technologies**
 - regional water supplies used more efficiently
- **More water for environmental uses**
- **Secure water for future generations**
- **Achievement of quality of life such as recreational opportunities**



The Southern Nevada Water Authority (SNWA)

- A cooperative agency formed in 1991 to address Southern Nevada's unique water needs on a regional basis.
- SNWA provides water withdrawals, treatment and wholesale deliveries as well as regional conservation services to their purveyors.

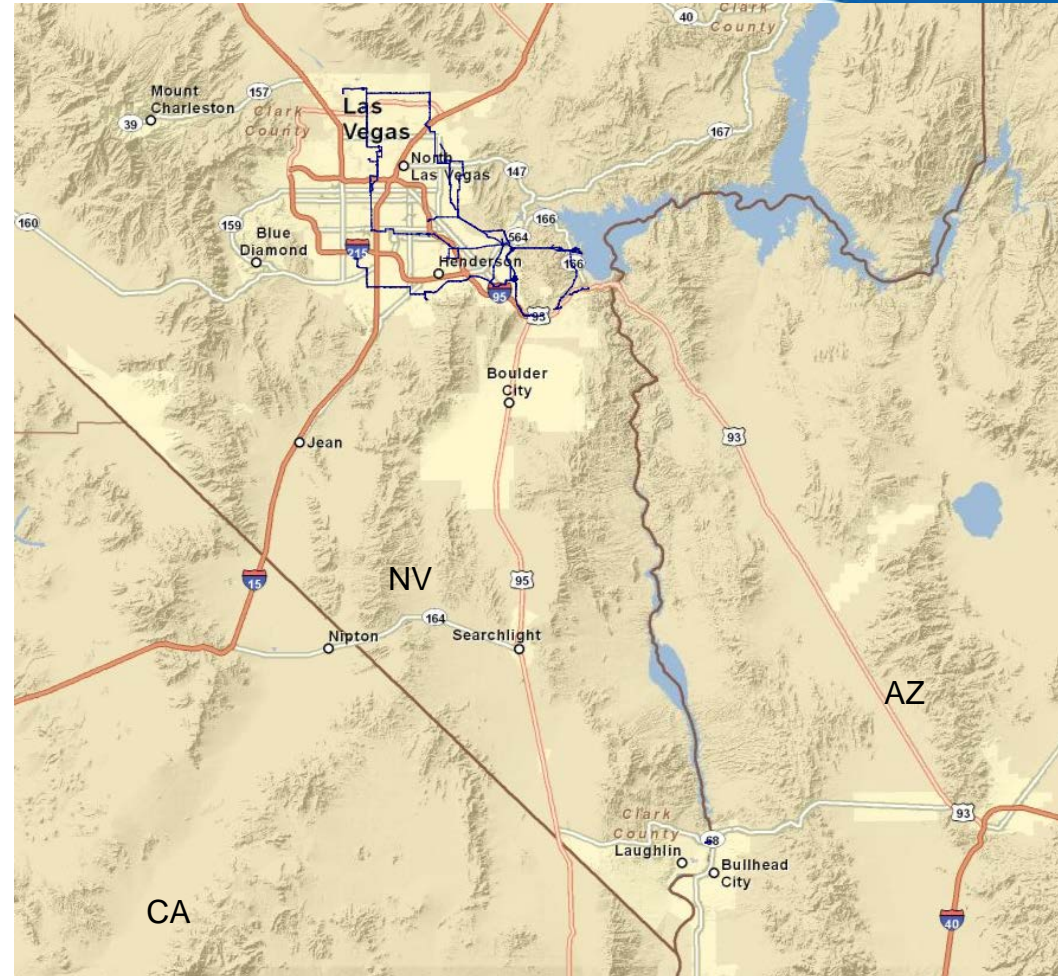


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The Southern Nevada Water Authority (SNWA)

- Big Bend Water District (serving Laughlin, NV)
- Boulder City
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County Water Reclamation District
- Las Vegas Valley Water District

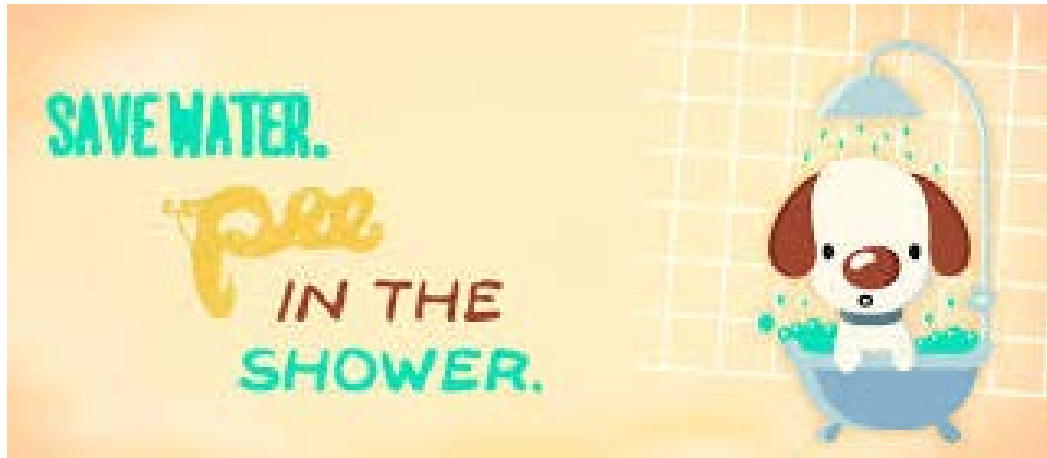


Central Arizona Project

- Central Arizona Project
 - designed to bring about 1.5 million acre-feet of Colorado River water per year to Pima, Pinal and Maricopa counties.
 - CAP carries water from Lake Havasu near Parker to the southern boundary of the San Xavier Indian Reservation southwest of Tucson.
 - It is a 336-mile long system of aqueducts, tunnels, pumping plants and pipelines and is the largest single resource of renewable water supplies in the state of Arizona.



Ever Get Pitched Products or Ideas to Save Water?



*Save water
Drink wine*



"IT'S A NEW DESIGN TO SAVE WATER."



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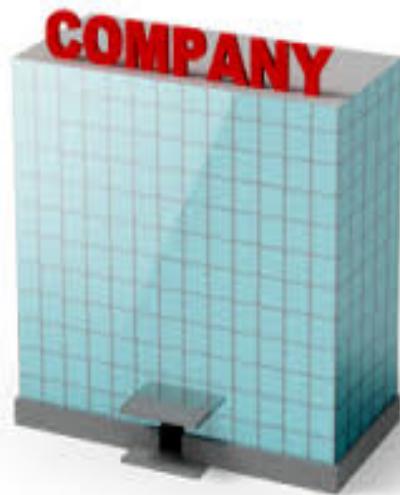


YOUR WATER. YOUR FUTURE.

Ideas Come from Everyone

Entrepreneur

COLLEGE



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How Do YOU Handle?



"This really is an innovative approach, but I'm afraid we can't consider it. It's never been done before."

In 2001 We Had No Mechanism To Fairly Evaluate the Ideas



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A Competitive Process



I N N O V A T I V E
C O N S E R V A T I O N
P R O G R A M
Metropolitan Water District
of Southern California



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CAP
CENTRAL ARIZONA PROJECT

YOUR WATER. YOUR FUTURE.

How to Equitably Handle Inquiries

- In 2001 Designed ICP
 - Competitive grant
 - MWD and USBR funded
 - Open to everyone
 - Same criteria for everyone
 - Simple process
 - Outside panel of expert judges



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ICP Since 2001

- 2013 was fifth round
- To date issued 57 grants
- Approximately \$2.0 million
- Received over 250 applications



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2013 Moves Beyond California



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CAP

CENTRAL ARIZONA PROJECT

YOUR WATER. YOUR FUTURE.



- Outside MWD co-funding
- Outside California water agencies co-funding
- Three state program

Evaluation Criteria

- Project innovation
- Water/energy savings
- Market impact
- Cost effectiveness
- Project preparedness
- ICP focus



2013 ICP Focus



- Landscape irrigation
- Commercial
- Industrial
- Institutional



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2013 Overview of Proposals

2013 ICP	
Proposals Submitted	50
Proposals Selected	13
Total Funding	\$509,807
Areas Represented	
Landscape	9
Commercial	2
Agriculture	1
Residential	1

2013 Selected Projects

- Sprinkler Flow Control
- Biochar
- Actively Aerated Compost Tea
- Residential/Commercial Rainwater Harvesting
- Plant Sensing for Vineyard Irrigation
- Pressure Regulated Spray Heads
- Hydrogels Injected in Turf Root Zone

2013 Selected Projects

- Large Scale Drip Irrigation Scheduling
- CII Water Audit Mobile Application
- Stake Wireless Soil Moisture Sensor
- Polymer Coated Sand for Plant Water Retention
- Conveyor Dishwashers
- Greywater

Wireless Moisture Sensor Spike



Three State Pilot



Conveyor Dishwasher Study



Water and Energy Monitoring Equipment



Plant Sensing to Improve Vineyard Irrigation



Plant Sensing vs Standard Irrigation Practices



Figure 2: Picture taken on June 24th at [redacted]

(2 pictures of the 2 vine rows representing each a different treatment (fruition left, standard right); each row has two vines equipped with one sensor each)

Aerial View of Plant Sensing to Improve Vineyard Irrigation



Figure 7: aerial picture taken on June 15th at L'aventure (Paso Robles)

Aerial picture showing the block divided into the 2 treatment at l'aventure. The left section is the standard treatment, the right section is the Fruition treatment. Irrigation applied in the standard treatment has impacted the fruition treatment through underground water movement (blue arrow).

Irrigation Gauges



Figure 9: irrigation gauges installed under the water emitter

(picture showing how the irrigation gauges have been installed to reflect the amount of water applied in the vine row corresponding to each treatment).

Bewaterwise.com

ICP Button

The screenshot shows the bewaterwise.com website. At the top, the logo and tagline "THE METROPOLITAN WATER DISTRICT of SOUTHERN CALIFORNIA and THE FAMILY of SOUTHERN CALIFORNIA WATER AGENCIES" are visible. Navigation links include Home, Garden Spot, Rebates, Events, Contacts, Sitemap, Classes, and Español. A "Share" button is also present. The main content area is divided into several sections:

- Water Savings Incentive Program:** A large banner with the word "LANDSCAPE" and a photo of a garden. A link says "Click here for more info about the Water Savings Incentive Program".
- Rebates:** A section for SoCal WaterSmart rebates, including a link to "Learn More".
- Highlights:** A list of featured programs with small icons:
 - Metropolitan E-Newsletter:** Read "Your Water" for news about current water issues.
 - Save Water & Energy:** Learn more about the state's energy-water conservation campaign.
 - Water Savings Incentive Program:** WSIP is a collaborative effort between Metropolitan, its 26 public member agencies and large volume water customers to improve water use efficiency.
 - Landscape Irrigation Survey:** This no-cost survey is designed to improve irrigation efficiency for commercial, industrial, institutional and common area landscapes with at least one acre of irrigated land.
 - Innovative Conservation Program:** Metropolitan, in cooperation with Southern Nevada Water Authority and Central Arizona Project also its 26 member agencies and the Bureau of Reclamation researches water savings and reliability of new water saving devices, technologies, and strategies. New projects are identified and evaluated every other year.
 - Integrated Water Resources Plan Update:** Metropolitan's long-term water plan offers an innovative strategy to protect the region from future supply shortages, with an emphasis on water-use efficiency through conservation and local supply development.
 - Video: Water Saving Tips:** Please don't forget to conserve water...every day. Even if it rains. Check out this video to learn how - inside and outside your home.
 - Video: Solar Cup Program:** A seven-month program that begins in the fall, in which high school teams build and race solar-powered boats.
- Sacramento - San Joaquin Delta...** A link to learn about the comprehensive plan to improve the Delta ecosystem.
- The Watering Index and Calculator:** A section explaining the Watering Index and how it works with the Watering Calculator. It includes a graphic showing "Southern California WATERING INDEX: DAILY 100%" and a link to add the index to a web site.
- Local Water Restrictions:** A section explaining water use regulations that vary from city to city and county to county.
- Tips in English and Español:** A section for water saving tips and video clips.

At the bottom, there is a "Find Your Member Agency" section with a search bar.

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