

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



Water Wise Schools

Effecting Change Through Partnerships

WaterSmart Innovations
October 6, 2011

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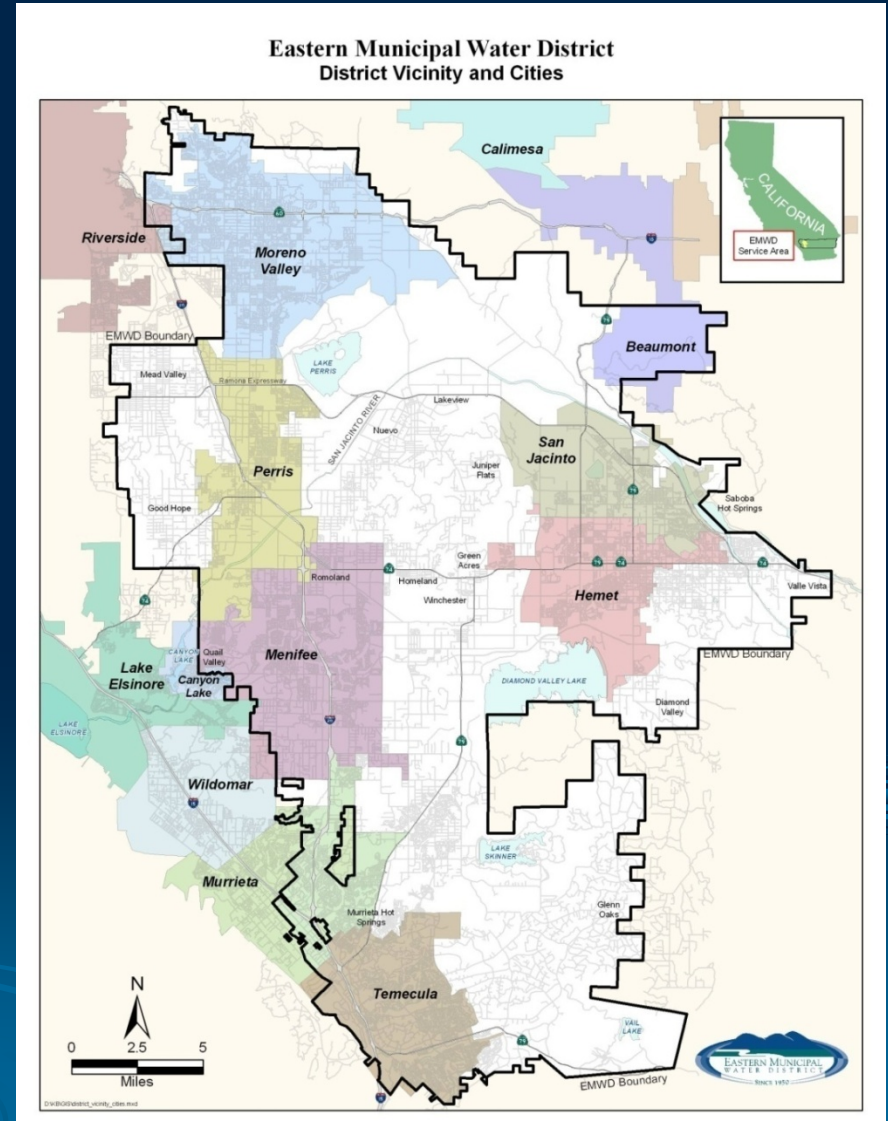
Eastern Municipal Water District

Deb Whitney, dwhitney@usbr.gov

Bureau of Reclamation

Eastern Municipal Water District

- Water, wastewater and recycled water service
- 135,000 + retail water connections
- Wholesale supplier to seven local public water systems
- 540 square miles
- Southwest Riverside
- Semi Arid climate



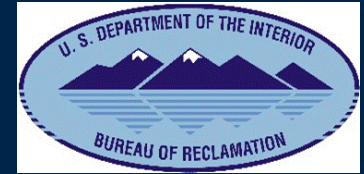
Water Supply

- **Metropolitan Water District**
 - 65% of Supply in 2011
 - Colorado River Aqueduct
 - Restriction on the State Water Project
- **Groundwater**
 - 11% of Supply in 2011
 - Aquifers in Overdraft
- **Desalinated Groundwater**
 - 4% of supply in 2011
- **Recycled Water**
 - 20% of Supply in 2011



Funding Participants

- **United States Bureau of Reclamation**



- CALFED Water Use Efficiency Grant Program Subscribed to WeatherTrak for daily ET



- **Metropolitan Water District of Southern California (MWD)**



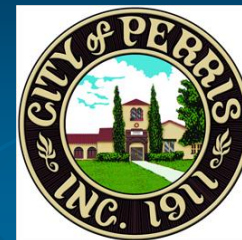
- MWD Funded, Member Agency Administered Program

- **Eastern Municipal Water District**



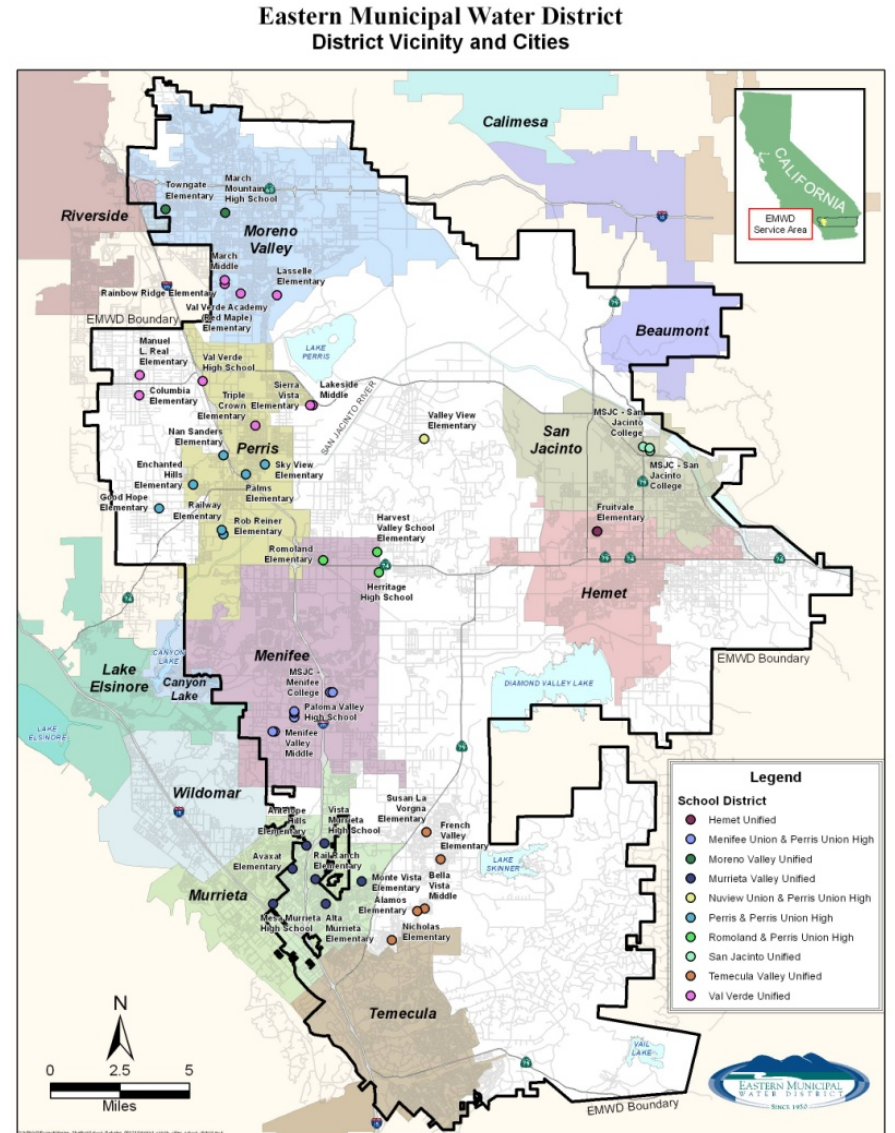
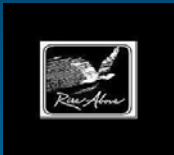
- **With Cooperation From:**

- Rancho California Water District
- City of Perris Water System



School Participants

- 10 School Districts
- 42 Campuses
 - Elementary Schools
 - Middle Schools
 - High Schools
- 1 College District
 - 2 Campuses



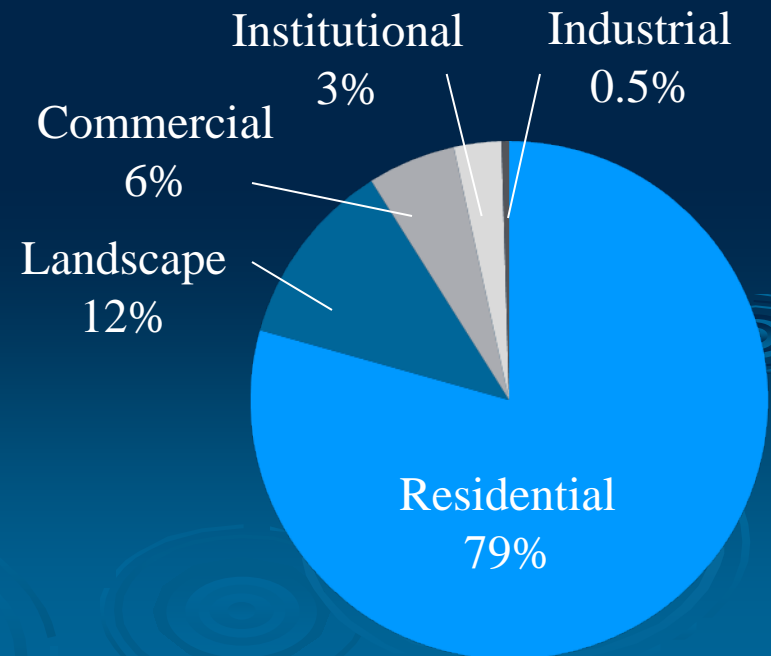
Program Description

- **Directly Install Water Efficient Devices for Public Schools**
 - Offer a minimum of one school per School District
 - Target older schools for indoor devices
 - Follow with focus on outdoor devices
- **Total Program Budget – \$675,000**
 - EMWD/MWD – \$375,000
 - USBR – \$300,000



Program Need

- Water Supply Limitations
- Schools are Large Water Users
- Limited School Participation in Conservation Programs
 - Budget constraints
 - Staff constraints/conflicts
 - Limited awareness



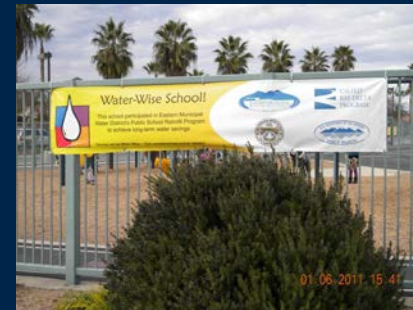
Program Process

- **Connect with School Districts**
- **Indoor Phase**
 - Evaluations for eligible schools
 - Replace toilets, faucets, aerators, urinal, pre-rinse spray heads
- **Outdoor Phase**
 - Nozzle counts and controller evaluation
 - Install nozzles and controllers



Connect with School Districts

- Work with Facility Maintenance Planners
- Multiple Attempts to Contact
 - Telephone
 - Direct mail
 - Email
 - Letters to Superintendents
- Participation Varied
 - One district opted out
 - Two district - all schools
 - Staff limitations
- Most Challenging Part of Program



Indoor Retrofits

- **Indoor Participation Limited**
 - 11 Schools
 - Existing devices already efficient
- **Devices**
 - 339 – High Efficiency Toilets
 - 143 – Faucets 2.2 GPM
 - 289 – Aerators 2.2 GPM
 - 1 – Waterless Urinal
 - 3 – Pre-rinse Spray Heads



Outdoor Retrofits

- **Participation Exceeded Expectations**
 - Additional 35 Schools
- **Education Required**
 - School staff need to understand technology
- **Flexibility Essential**
 - To meet site specific needs
- **Require Signed Agreements**
 - Schools required to replace like nozzle for 10 years
- **Devices**
 - 32,484 – High Efficiency Nozzles
 - 100 – Weather Based Irrigation Controllers



Total Estimated Water Savings

Device Type	Average Cost Installed	Device Savings AFY	Device Life Years	Total # Installed	# of Schools	Program Savings AFY	Program Savings Lifetime AF
High Efficiency Toilets	\$667	0.0425	20	339	11	14	288
Waterless Urinals	\$1,055	0.1227	20	1	1	.1	2.5
Faucets	\$495	0.0062	5	143	4	14	143
Aerators	\$39			289	5	0.5	1
Pre-rinse Spray Heads	\$141	0.1530	5	3	2	0.5	2.3
Weather Based Irrigation Controller	\$1,302	0.8000	5	100	32	33	325
HE Nozzles w/Body	\$13	0.0040	5	5,906	12	24	236
HE Nozzles Only	\$3	0.0040		26,578	23	106	1,063
Totals						192	2,061

Challenges

- **School Participation**
 - Finding the right person
 - Working around school hours
 - Staff availability
- **Identifying Devices to Replace**
 - Limited need for indoor devices
 - Schools prefer specific devices



Lessons Learned

- **Communication with Schools**
 - Develop a clear statement of what will be provided through the program
 - Clearly communicate what is needed from school maintenance staff
- **Plan Sufficient Staff Time**
 - Coordinating with schools
 - Providing field support
 - Pre-count site inspection
 - Post installation inspection



Lessons Learned, cont.

- **Managing costs**
 - Separate contracts for indoor and outdoor
 - Specify a variety of devices
 - Provided an allowance for brand of controller that our contractor did not install
- **Flexibility is key**
 - Needs change from site to site
 - Be willing to work with school staff



Moving Forward

- **Finish Final Report**

- Verify savings
- Final school feedback

- **Use Lessons Learned**

- Invest time in building relationships
- Outdoor market has great potential
 - Education may be required
- Look for opportunities to install nozzles and controllers
 - Use funding partners to share costs
- Build flexibility into programs



Successful Partnerships

- **School Districts**
 - Established a link with key contacts
 - Took opportunity to multiply benefits
 - Saved water, saved money
 - Serve as an example
- **Funding Partners**
 - Multiple funding sources leads to greater benefits



Water Conservation Field Services Program

Major Components:

- Assist in the development of water management and conservation plans
- Encourage and promote implementation of water efficiency measures
- Demonstrate conservation technologies
- Promote and support water education and training



USBR – FY 2010/11 Snapshot

- **During 2010:**
 - \$250,000 (WCFSP)
 - \$100,000 (CALFED)
 - \$890,000 (WaterSmart)
- **During 2011:**
 - \$768,000 (WCFSP)
 - \$2,400,000 (CALFED)
 - \$1,475,000 (WaterSmart)



USBR – FY 2010/11 Snapshot, cont.

- **Technical Assistance:**
 - MWD Ag Analysis Project
 - MWD Economic Analysis Project
 - Apple Valley Ranchos Conservation Plan Assistance
- **Studies:**
 - Western States Rate Study



Contact Information

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