



EASTERN MUNICIPAL WATER DISTRICT

# Sustainable Water Rates

Paul D. Jones II, P.E. General Manager

## Sustainable Water Rates

- What is an Allocation-Based Rate Structure?
- What are its Unique features?
- How does it work?
- Development and Deployment at EMWD
- Rate Structure Funds Water Use Efficiency Programs
- Results
- Summary

EASTERN MUNICIPAL WATER DISTRICT

## Mission Statement

Our mission is to provide safe and reliable water and wastewater services to our community in an economical, efficient, and responsible matter, now and in the future.

# What is an Allocation-based Rate Structure?

- Commonly Used Names:

- “Allocation-based Rate Structure”
- “Water Budget Rate Structure”
- “Conservation-based Rate Structure”
- “Sustainable Rate Structure”
- “Irvine Ranch Rate Structure”



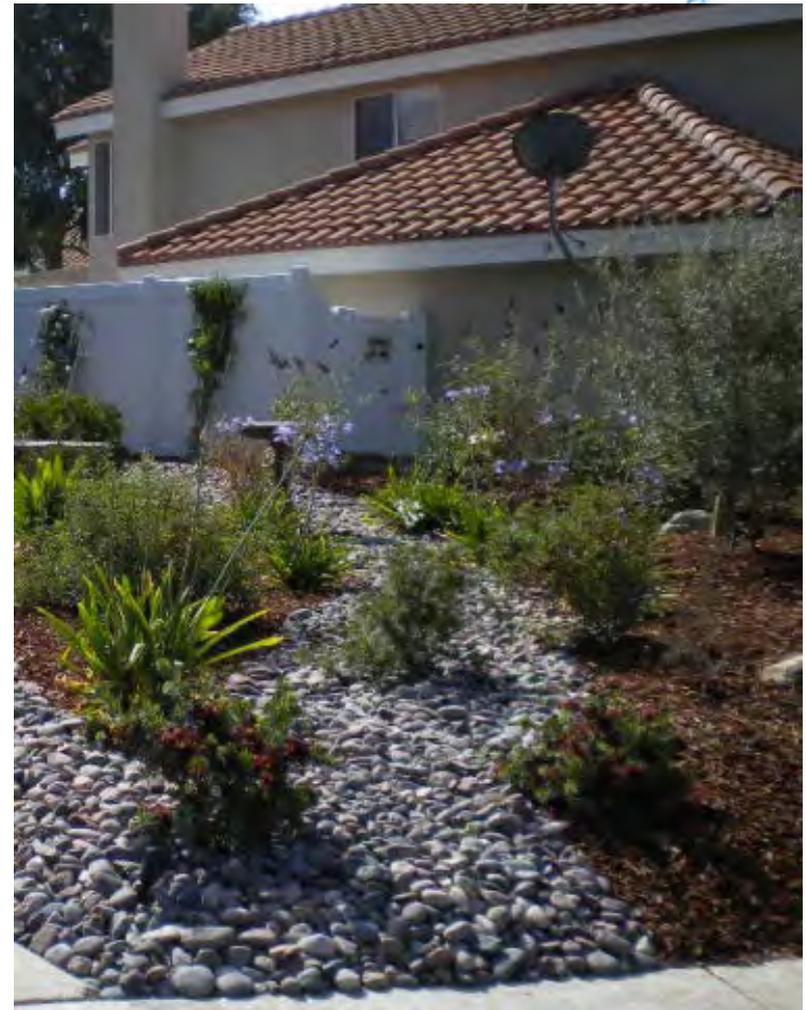
Same Basic Rate Structure

- Creates an “Allocation” or “Water Budget” for each customer account based upon reasonable needs and efficient use.
- Uses Economic Incentives: Water is priced to customer **lower for use within allocation** – much **higher for use over allocation**
- Are there other types of rate structures that encourage conservation??  
Yes, but Allocation-based structures have unique benefits combined with extraordinary performance.

# Unique features of an Allocation-based Rate Structures



- **Individualized:** based on land use specific uses (indoor needs) and landscape needs (weather adjusted).
- **Encourages Efficient Use Pattern:** within allocation through a sharply tiered pricing system
  - Rewards efficiency
  - Communicates cost of water over-use
- **Uses Fair Premise:** those who over-use pay more, those who use only what they need, pay much less



# Unique features (cont'd.)



- **Identifies Over-use customers:** water bill functions as a “report card” – focus staff resources
- **Provides Appropriate Nexus:** Revenue from over-use tiers reinvested in water use efficiency programs
- **Addresses Urban Runoff:** Allocations shown to curb over-irrigation; revenues from over-use tiers can be used for urban runoff control programs  
**AB 2882 (Wolk)**

P.O. Box 8300  
Perris, CA 92572-8300

WITHIN SOUTHERN CALIFORNIA  
OUTSIDE SOUTHERN WEBSITE

**CUSTOMER NAME:** CUSTOMER NAME  
**ACCOUNT NUMBER:** 159282-02  
**SERVICE ADDRESS:** STREET ADDRESS

**NO OF DAYS:** 28  
**NEXT READ DATE:** 04/22/09

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**Summary of**

Balance Forward		
Water Charges	210.79	56.17
Sewer Charges	22.37	-56.17
<b>ACTUAL ACCOUNT BALANCE</b>	<b>233.16</b>	

**Identifies excessive and wasteful water use**

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**Meter Information**

Meter No.	Previous Read	Current Read
87321344	1928	1978

**Water Usage History**

Current Year:

Read Date	# Days	Billing Units	Usage in Gal. *	Average GPD
Mar 25	28	50	37400	1336
Feb 25	29	11	8228	284
Jan 27	20	11	8228	411

Previous Year:

Read Date	# Days	Billing Units	Usage in Gal. *	Average GPD
Mar 3	31	10	7480	241
Feb 01	28	8	5984	214
Jan 04	32	18	13464	421

\* 1 Billing Unit (BU) = 748 Gallons  
+ GPD = Gallons per Day

**Current Water Charges**

Period/Quantity	Rate/Unit	Amount (\$)
Water Service	28 Day(s) 346/day	9.69
Indoor Use	7 billing units 1.30100/unit	9.11
Outdoor Use	18 billing units 2.38100/unit	42.86
Excessive	13 billing units 4.26700/unit	55.47
Wasteful	12 billing units 7.80500/unit	93.66
<b>Total Water Charges</b>	<b>50 billing units</b>	<b>210.79</b>

**Current Sewer Charges**

Period/Quantity	Rate/Unit	Amount (\$)
Sewer Service	28 Day(s) 7.99/day	22.37

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**Water Budget Information**

Indoor Allocation: 7 BU

Basics on Household Size: 3 people

Outdoor Allocation: 18 BU

Landscape Area: 8,000 sqft

**Provides target for efficiency**

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**Total Current Charges** 233.16

**ACTUAL ACCOUNT BALANCE** 233.16

**NO VARIANCE**

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**Special Information:**  
Water Use Efficiency Ordinance 72.23 is now effective!  
Penalties may be applied for repeated water waste (runoff).  
Water-wise landscaping for new development is now required.  
See [www.usewaterwisely.org](http://www.usewaterwisely.org) for more information.

**Allocation = Indoor Needs + Outdoor Needs (seasonal) + Variances**

- **Provides individualized allocations for a diverse customer base:**
  - 80% of retail demand is residential
  - Old and new development
  - Variation in family size and irrigation area



- **Indoor Use Allocations based on:**

- 3 persons per household for single family residential
- 60 gallons per person, per day
- 2 persons per household for multi-family residential
- No indoor allocation for landscape customers
- Variance available for additional occupants and special circumstances

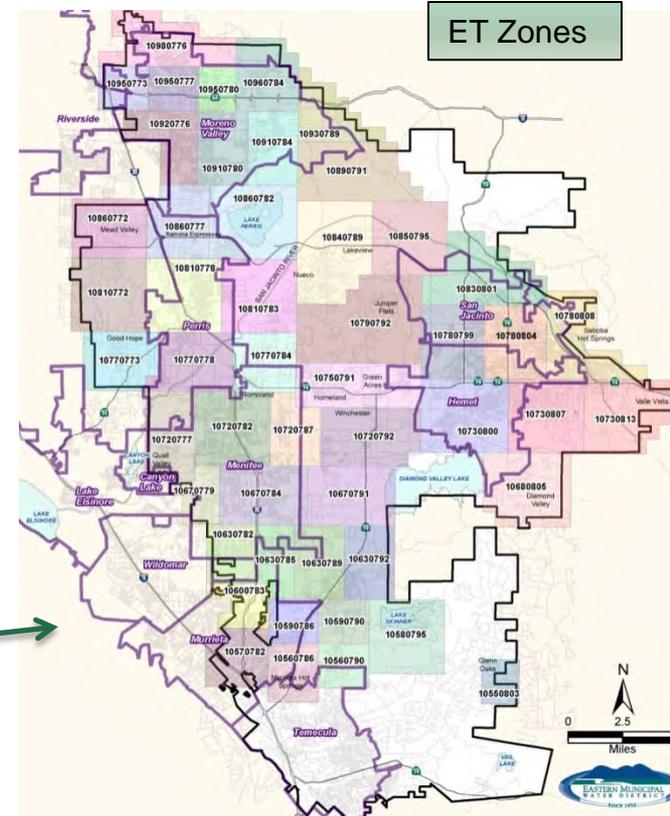


# Individualized Allocations (cont'd.)



- **Outdoor Use Allocations based on:**

- Irrigated area and Evapotranspiration (ET)
- Irrigated area is:
  - Estimated using parcel information
  - Measured using aerial photography, or
  - Measured in the field
- Variance available for pools, large animals and other needs
- Evapotranspiration for 50 separate zones
- Adjustment (Conservation ) Factor Applied:
  - 1.00 for accounts installed before September 2008
  - 0.80 for accounts between September 2008 and January 2010
  - 0.70 for accounts installed in or after January 2010



# A Clear Pricing Signal



- Tier 1: Indoor Use \$1.55/unit\*
  - Budget = Number of Persons \* 60 Gallons Per Day
- Tier 2: Outdoor Use \$2.83/unit
  - Budget = ET \* CF \* Landscaped Area + Variance
  - Tier 2 Rate is 1.8 x Tier 1 rate
- Tier 3: Excessive \$5.08/unit
  - 50% of Indoor and Outdoor budgets combined
  - Example Indoor budget 4 units , Outdoor budget 6 units, Tier 3 budget is 5 ((4+6)\*50%)
  - Tier 3 Rate is 3.2 x Tier 1 rate
- Tier 4: Wasteful \$9.29/unit
  - Tier 4 Rate is 6 x Tier 1 rate

**Within Allocation**

**Over-allocation Usage**

\* One billing unit equals 100 cubic feet

# Development and Deployment



- Target Residential and Landscape Customers
  - 90% of retail sales
- One year implementation process
  - Billing engine changes
  - Customer service
  - Outreach
- “Shadow bills” – February and March 2009
- First bill sent out April 10, 2009
- Budget of \$1.5 million
  - \$11/account one time cost

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[www.emwd.org](http://www.emwd.org)

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**EMWD reports...** is designed to keep  
EMWD's customers and the public  
informed of matters affecting them.

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**Proposed  
Sewer Rate Increase**

Sewer service charges are *proposed*  
to increase approximately \$1.41 per  
month based on the increasing costs  
related to the collection, treatment  
and disposal of the nearly 45 million  
gallons per day that are processed  
through EMWD's four wastewater  
treatment plants. The cost of  
maintaining these facilities is also  
included in the *proposed* increase.



## Frequently Asked Questions

How can I find out what my water budget will be?

In February and March 2009, all customers will receive customized notices with their billing statements showing exactly what their budget would be for that billing period. In April 2009, customers will see their budget for the billing period as well as an estimated budget for the next three months.

EMWD will have an online calculator on its website at [www.emwd.org](http://www.emwd.org) to assist customers in estimating their water budgets.

How is my irrigated area being determined?

Irrigated areas are estimated using County parcel data (lot size) and GIS data (house footprint, garage/carport area, and driveway space). The maximum default irrigated area will be set at 6,000 square feet.

What if I need more water than my budget gives me?

Customers must apply for a variance to their water budget to adjust the household number, landscape area, or for a special circumstance such as a home daycare facility. Variance forms will be available to download at [www.emwd.org](http://www.emwd.org). Customers may also call Customer Service to request a form.

Why do I have to pay a higher rate for my outdoor water use?

Indoor water is essential for public health and safety. The vast majority of outdoor watering is not. Therefore, the cost of providing outdoor water is proportional to the need. However, in a tiered rate system, the averaged cost of indoor and outdoor water is usually less expensive than in a non-tiered system.

How much water is in a billing unit?

One billing unit is 748 gallons of water.

More information available at  
[www.emwd.org](http://www.emwd.org)



# Rate Structure Funds Water Efficiency Programs (cont'd)



## • Residential Programs

- Free Residential Survey
- Turf Buy-back Program
- Freesprinklernozzles.com
- Smart Controller Direct Install Program
- High Efficiency Clothes Washer Direct Install Program
- Financial Incentives:
  - Smart Controllers
  - High Efficiency Nozzles
  - High Efficiency Clothes Washers

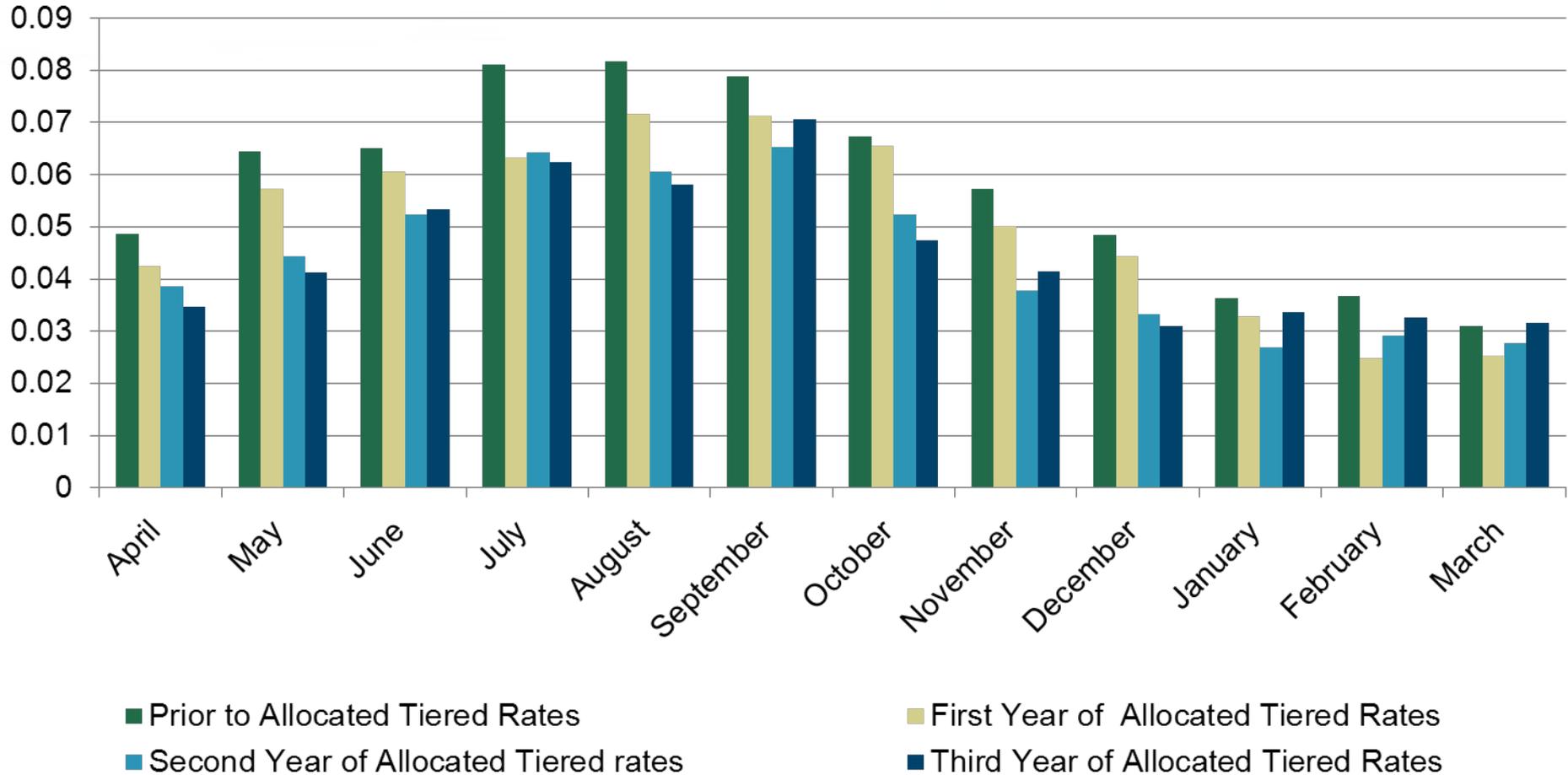


## • Commercial, Institutional, Industrial and Landscape

- Turf Buy-back
- Freesprinklernozzles.com
- Financial Incentives
  - High Efficiency Nozzles
  - Weather Based Irrigation Controllers
  - Ultra Low and Zero Water Urinals
  - Connectionless Food Steamers
  - Air-Cooled Ice Machines
  - Cooling Tower Controllers
  - Dry-Vacuum Pumps



## Demand per Meter for Allocated Accounts Before and After Implementation



- Allocation Based Rate Structure:
  - Encourages efficient use and is fair to customers
  - Communicates the value of water
  - Identifies wasteful use of water – two way communication
  - Reinvestment in water use efficiency programs
  - Urban runoff benefits





EASTERN MUNICIPAL WATER DISTRICT

## Contact Information

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