

This presentation premiered at WaterSmart Innovations

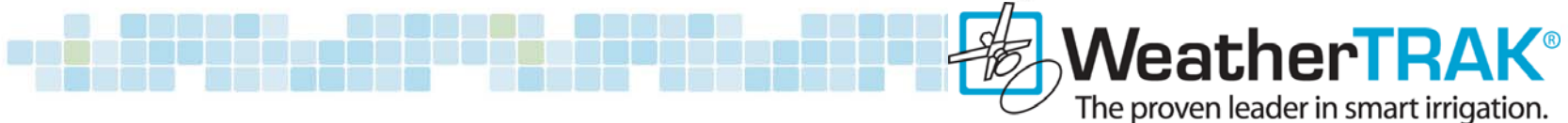
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**Water Smart Innovations:
October 2008**

Water Budget Rate Structures Come of Age: How to Stabilize Revenue, Reduce Demand and Maximize Customer Satisfaction

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What are the Goals of a Successful Rate Structure?

- **Return “fixed” costs to the agency (regardless of the amount of water sold)**
- **Treat customers in a fair and equitable manner**
- **Clearly communicate the value of water and/or the cost of wasting water (conservation message)**
- **Have flexibility to implement a drought response equitably across customers**
- **Motivate customer by customer conservation**
- **Fund conservation and efficiency programs**
- **Grow customer satisfaction**

Are Current Rate Structures Working?

Customer: “You ask me to save water, I do, then you raise my water rates...”

Agency Revenue Shortfalls Example:

- **Charlotte, NC sees \$27 million in reduced revenues after drought restrictions (2007/2008)**
- **“Water Conservation is causing higher rates.”**
- **“We miss people washing their cars and sprinkling lawns.”**
- **We are all going to have to find a better way to do things. I really am afraid of what’s ahead for us if we don’t.” (Wayne Co Manager, Lee Smith)**

Water Rate Structures Need Fundamental Change

Rate Structures Need to:

- **Return/recover all fixed costs independent of water sales**
- **Measure the efficiency level of each customer**
- **Send a clear message (economic) of both customer efficiency and the value of water**
- **Fund multiple water efficiency programs without negative impact on the agency or customer finances**

Scenario for Adopting Water Budget Tiered Rates...

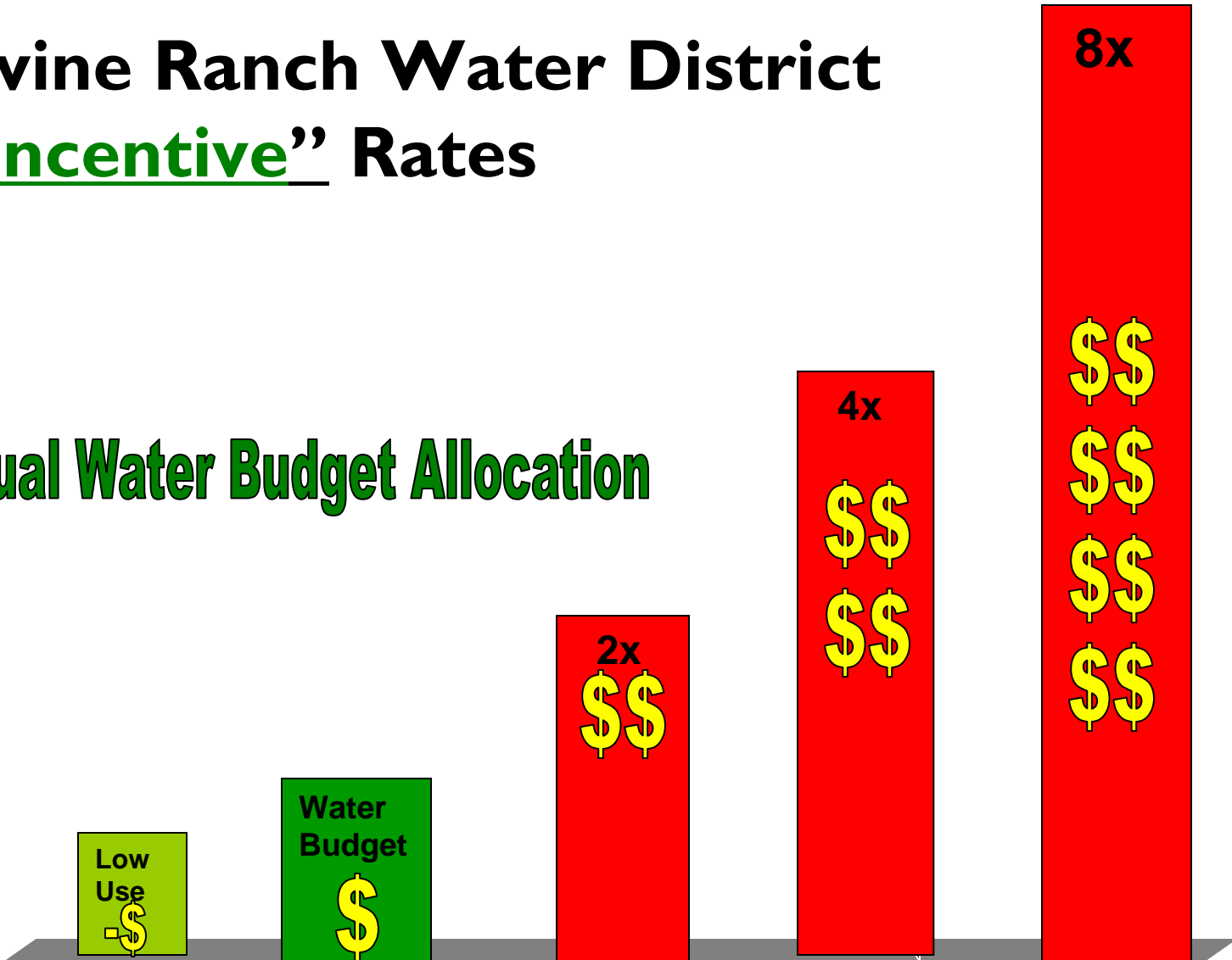
- **Drought**
- **Wholesaler price increases/tiered pricing**
- **State water cutbacks**
- **Colorado River shortages**
- **Calls for conservation**
- **Revenue concerns with conservation requirements**
- **Customer complaints about water waste**

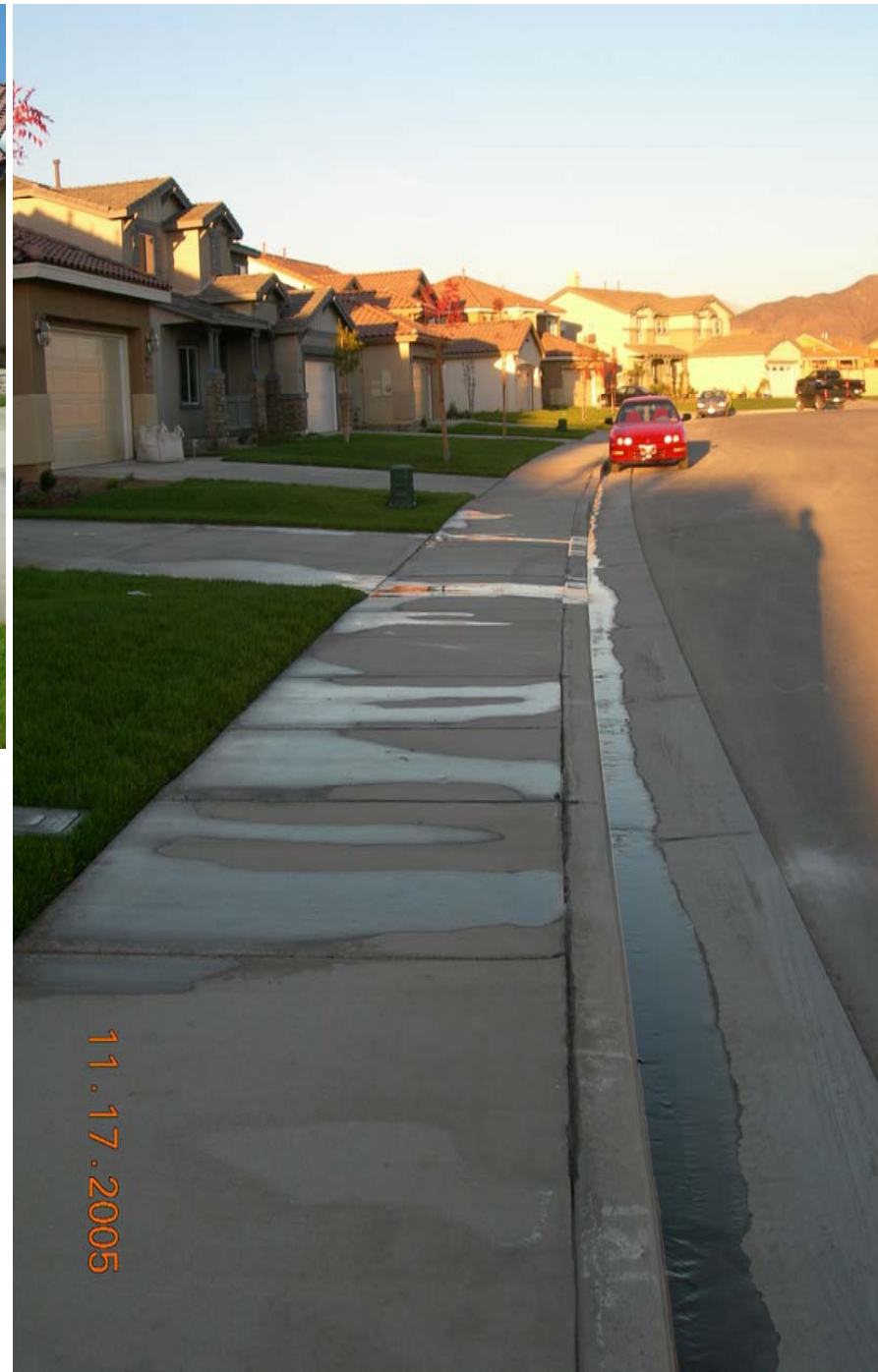
1991

Irvine Ranch Water District

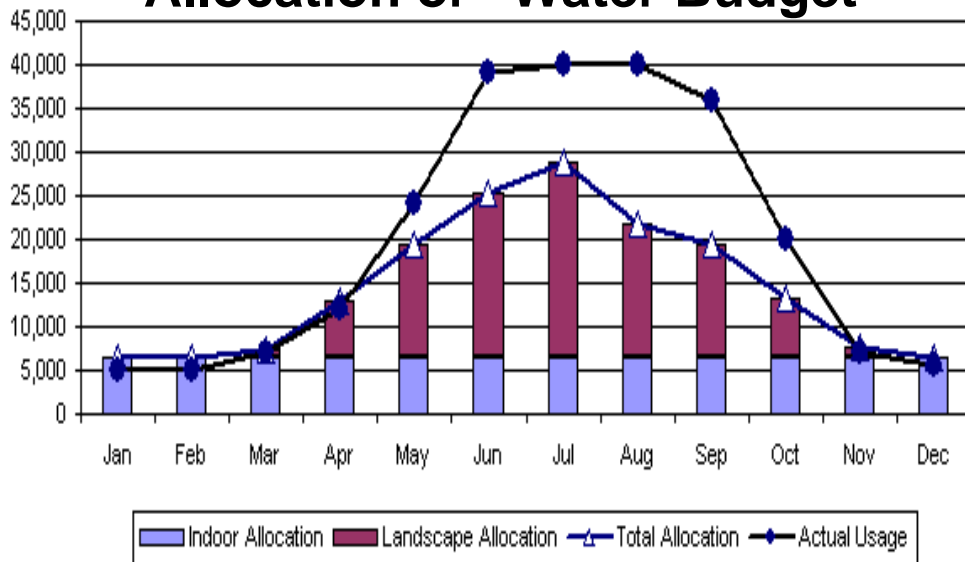
“Incentive” Rates

Individual Water Budget Allocation





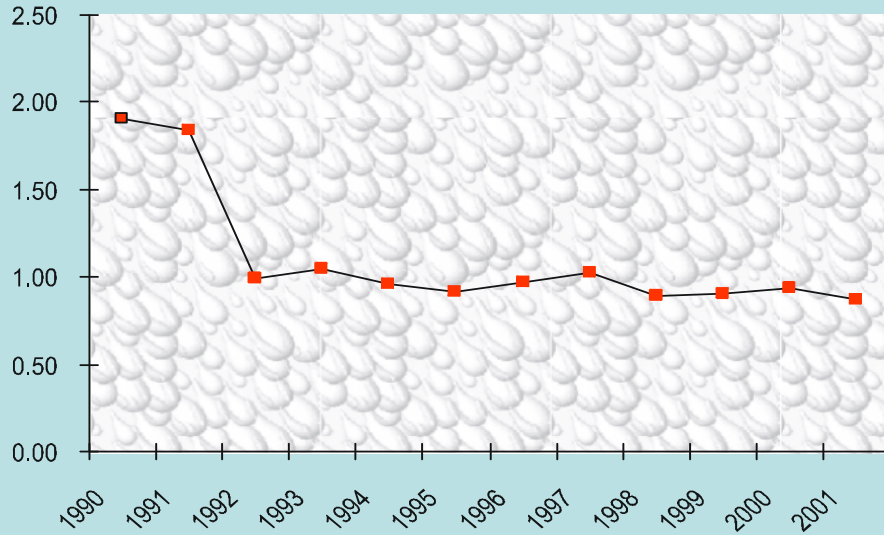
Allocation or "Water Budget"



Impact of Implementing Water Budget Tiered Rates for the Agency

- Reduced Landscape water use (dedicated meters) by **49%**
 - **3.8af/ac/yr to 1.9af/ac/yr**
- Reduced Residential water use by **24%**
- Stabilized Revenue
- Infrastructure/capacity needs declined
- Reduced Urban Runoff
- Fully Funded Conservation programs
 - **Paid for by “water wasters”**
- Increased Customer Satisfaction (**90%+**)

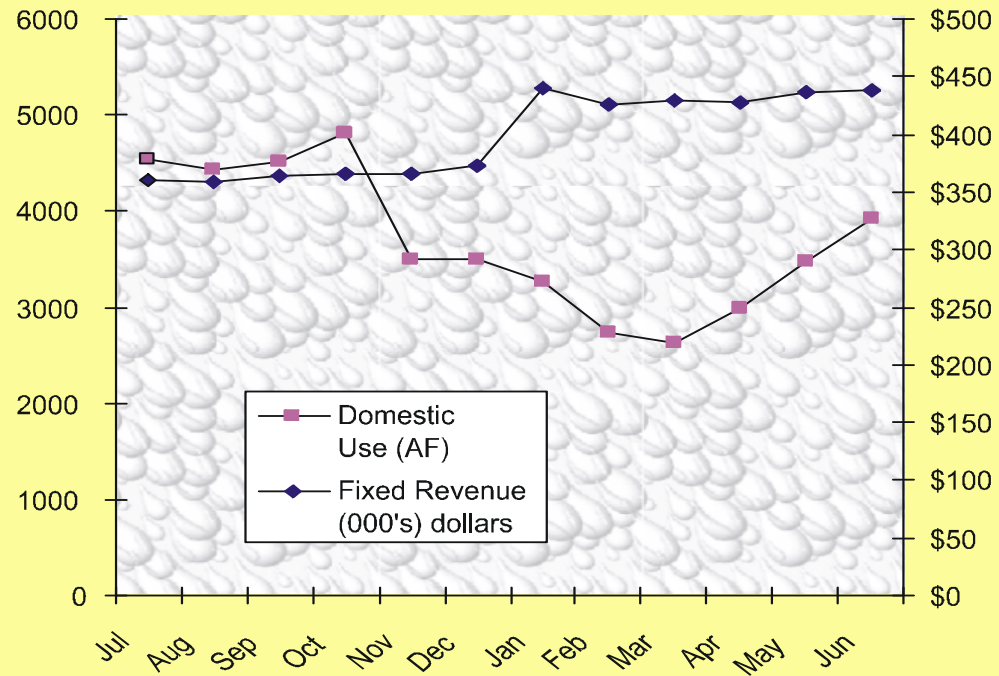
Avg. Use per Account



Impact = Demand Reduction

Impact = Revenue Stability

Domestic Use & Fixed Revenue



Bill #1: The Waster

8/10/98

9/09/98

1255

1337

82 CCF

USAGE - LOW VOLUME DISCOUNT	16	.480	\$7.68
USAGE - CONSERVATION BASE RATE	23	.640	\$14.72
USAGE - PENALTY	20	1.280	\$25.60
USAGE - EXCESSIVE	19	2.560	\$48.64
USAGE - ABUSIVE	4	5.120	\$20.48
WATER SERVICE CHARGE			\$3.90
SEWER SERVICE CHARGE			\$6.90

YOUR ALLOCATION FOR THIS BILL

39 CCF

BILL CALCULATION BASED ON

.12 ACRES

\$127.92

Bill #2: Reformed Waster

2/11/99 3/15/99

1532

1548

16 CCF

USAGE - LOW VOLUME DISCOUNT

11 .480 \$5.28

USAGE - CONSERVATION BASE RA

5 .640 \$3.20

WATER SERVICE CHARGE

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SEWER SERVICE CHARGE

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YOUR ALLOCATION FOR THIS BILL

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BILL CALCULATION BASED ON

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\$19.28

AwwARF Findings on Water Budget Rates

(Mayer, AWWA Journal, May 2008)

Study of 20+ agencies nationwide w/ different variations of a “water budget” tiered rate structure:

- **Conserved water was achieved** (37% reduction at IRWD) across agencies
- **More stable agency revenues**
- **Improved customer acceptance for water efficiency**
- **Improved drought response**
- **Independent funding for conservation programs**
- **Agency staffs approved of water budget rates...**

Water Budget Rates

Pros

- **Direct link between conservation and the bill (clear message)**
- **Water waste will go down**
- **No need for water police, special restrictions, etc.**
- **Enforcement occurs every month via the water bill**
- **Funding for conservation programs comes from water wasters**
- **Every user is allocated the water they need**
- **Agency revenues can be more stable**
- **Long-term resource mgt. tool**
- **Public relations win-win**

Cons

- **Perception of difficulty to design and implement**
 - How to set allocations?
 - **Fear of data collection**
 - **Expectation of high cost to implement**
-

Questions:

- **Is the current rate structure meeting needs?**
- **How effective and costly are current efficiency efforts?**

Fears and Barriers Related to Water Budget Rates:

Fears:

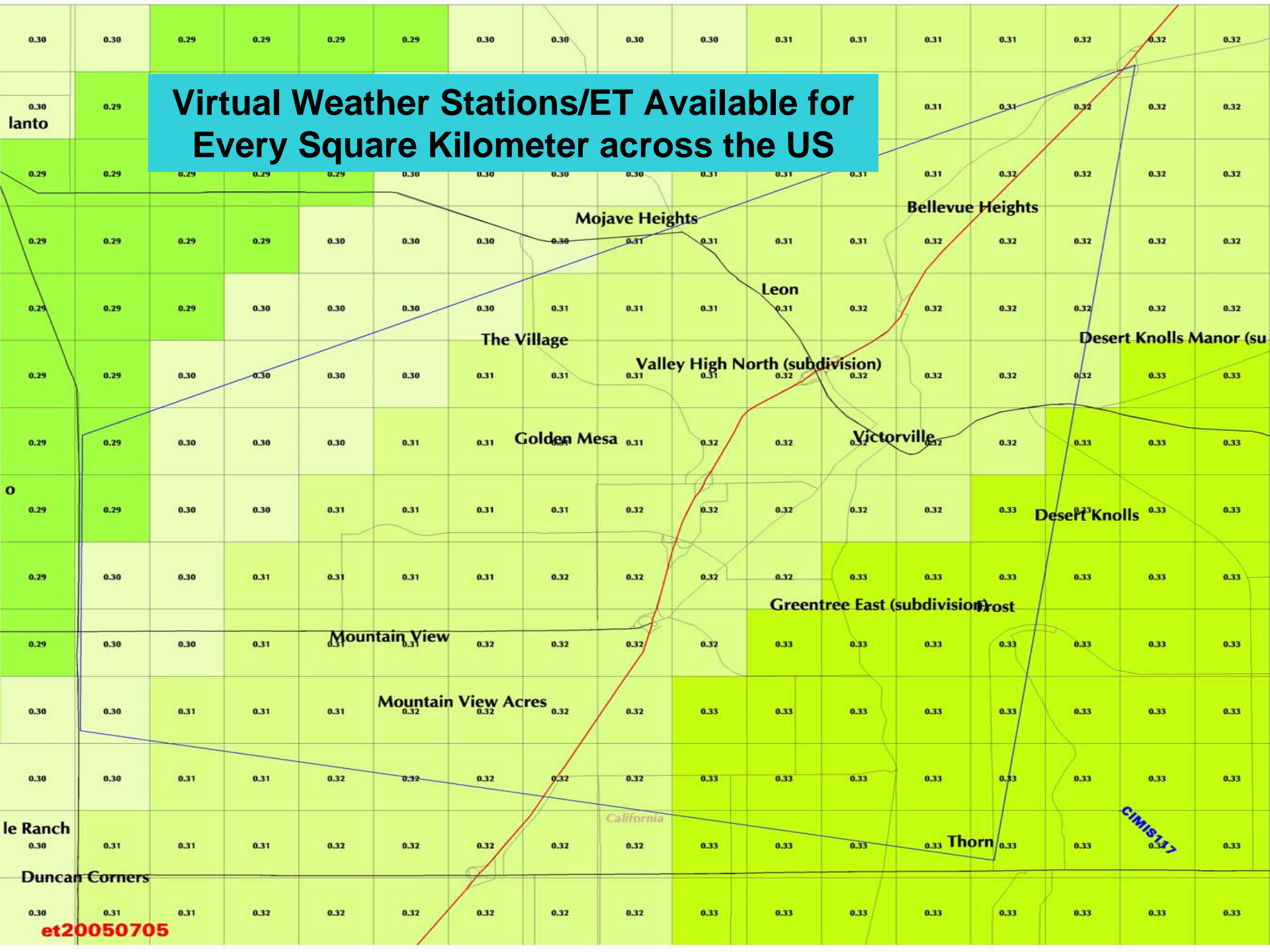
- Too hard/complex
- Current hardware/software can't accommodate data
- Data collection
- How to create customer allocations

Remember: Is the current rate structure meeting the agency needs?

Actual Application:

- Current billing systems (tiers) can accommodate most or all of the data need
- Internal/external programming of software is needed
- Customer data & allocations are straight forward to generate
 - ET data is available for every address in the US from private sources

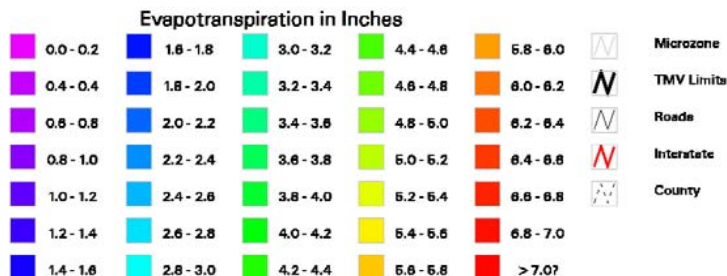
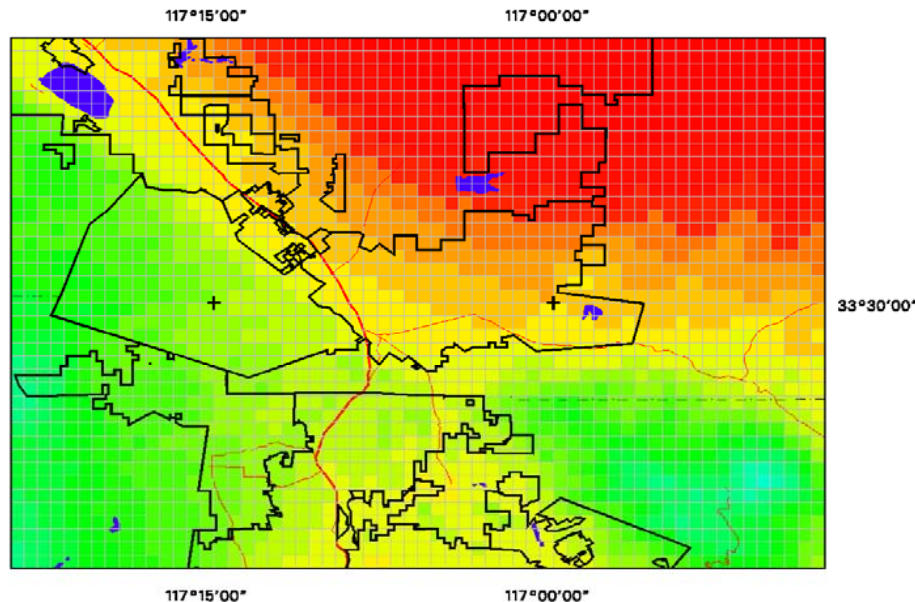
Virtual Weather Stations/ET Available for Every Square Kilometer across the US



Where are “Conservation Rates” Going?

- **Customers will receive “individualized” water budget allocations that reflect local water efficiency needs**
- **Water waste will be measured on a customer by customer and month by month basis**
- **Water waste will be “penalized” with increasing (tiered) rate pricing, producing funding for conservation programs (only those who waste water will pay high or tiered rates)**
- **Drought response will be accomplished quickly and equitably through the water bill**
- **Conservation devices will be “financed” directly on the water bill**

Potential Evapotranspiration June



Rate Structure Plans:

- Develop water budget rate structures
- Download daily ET into the billing system for accurate customer allocations
- Coordinate conservation and customer services to help maintain low water bills for customers
- Finance the cost of conservation devices directly on the water bill

The Water Waster

8/10/98

9/09/98

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Conservation Fee: \$9.95

\$137.87

Process for the Agency

- **Ask the right questions...**
- **Set the Agency goals**
 - Create an efficiency ethic
 - Be “fair” to customers
 - Stabilize revenue (fixed) / keep rates low
- **Develop the rate structure and validate**
 - Develop customer allocations and variance process
 - Determine hardware/software needs
 - Finalize tiers, pricing, weather and data inputs
 - Model final structure with real customer data
- **Implement**
 - Design Conservation Program to support the rate structure
 - Train customer service and staff
 - Notify public

My Expectation for Any Agency Who Implements a Water Budget Tiered Rate Structure:

You will:

- **Reduce demand**
- **Be fair to all types of customer groups and individuals within groups**
- **Reduce urban runoff**
- **Increase customer satisfaction**
- **Stabilize agency fixed revenue needs**
- **Fund more conservation programs**
- **Have more knowledge about your customers water use than you can now imagine...**
- **Become a “resource management” agency instead of a “water salesman”**