

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



THE LAST FRONTIER

OUTDOOR CONSERVATION



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Landscape Conservation
Are We Done Yet?



**How Do We
Know?**



Landscape Irrigation Efficiency

Only One Way to Know!

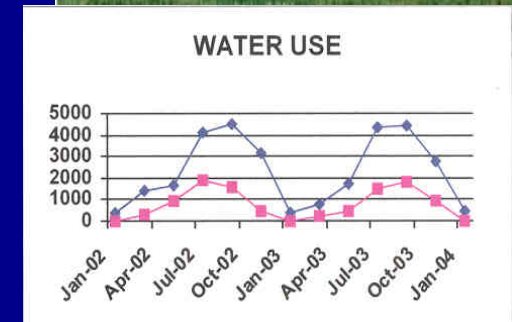
Landscape Water Budgets

- ✓ Site specific characteristics
- ✓ Real-Time Weather

$$\text{BUDGET} = \text{AREA} * \frac{K_L * ETo - ERain}{IE} * C$$

Water Use Analysis

- ✓ Actual Water Use vs. Budget



Your Savings Potential	Current Period	All Periods
Over Water Ccf	439	19,979
Lost Dollars \$	\$1,374	\$62,535

Redwood City's Case Study



Program's Success = 90% Water Waste Reduction

Waterfluence

HISTORIC AGGREGATE STATISTICS

Average Overwatering Feet per Year



City of Redwood City - Profile

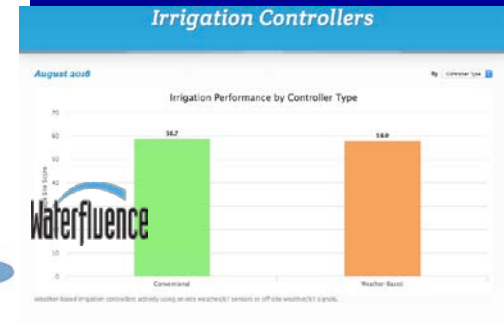
- Water Source: Hetch Hetchy / SFPUC
- Water Purchases: 7.7 MGD
- Population: 87,000
- Total Accounts: 24,000
- Irrigation Meters: 575
- Irrigation Sites: 340
- Irrigated Acres: 511
- Acres of Turf: 226 – 44%



Landscape Conservation In the Beginning....*BMP5*



- ◆ Water Surveys/Water Budgets
- ◆ Water Use Reports
- ◆ Education/Technical Support
- ◆ Financial Incentives
- ◆ Conservation Rate Structure
- ◆ Improved Billing System
- ◆ Automatic Meter Reading

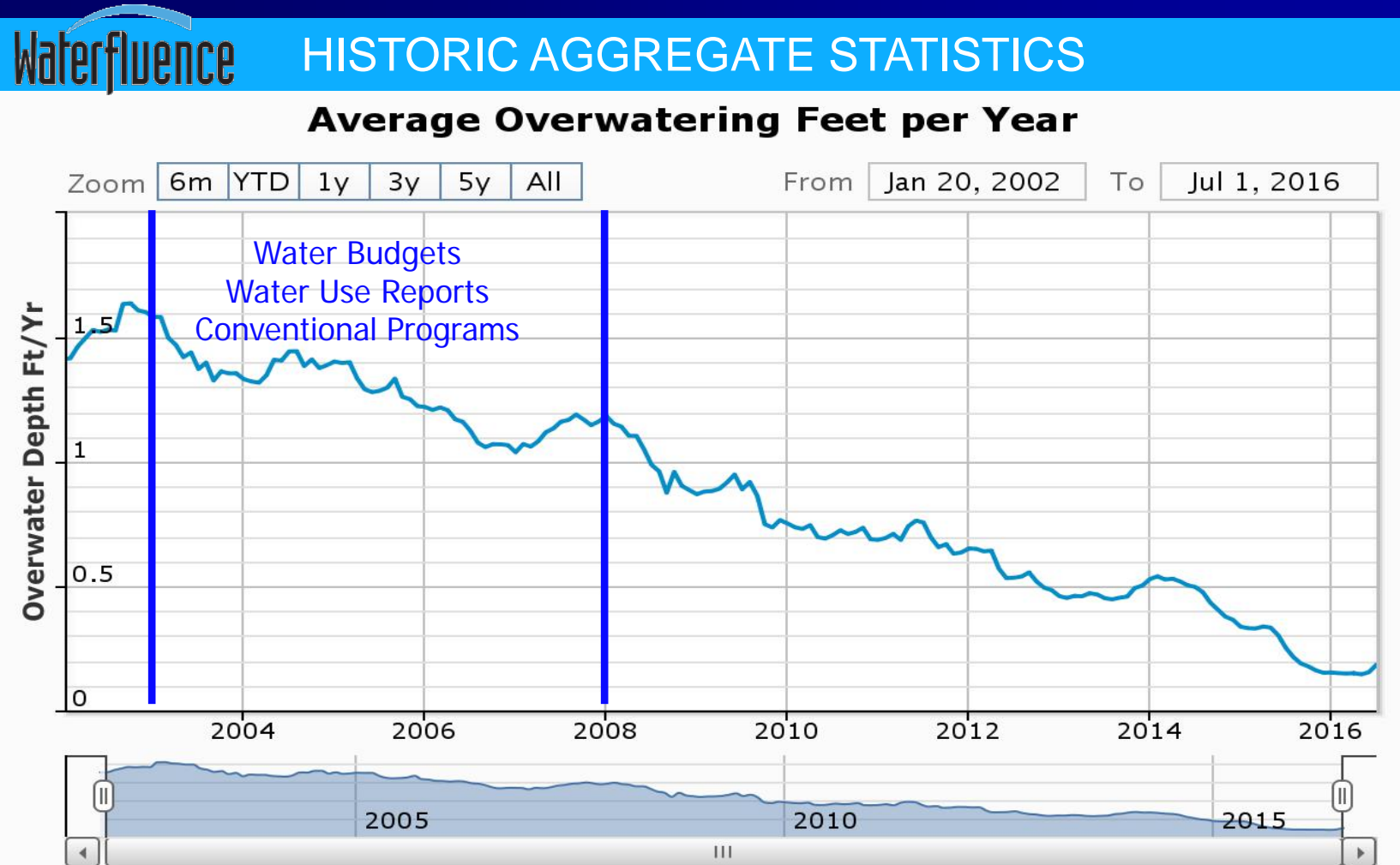


Smart Controllers



Redwood City's Case Study

Conventional Programs



The Final Solution: **Budget-based Rates**



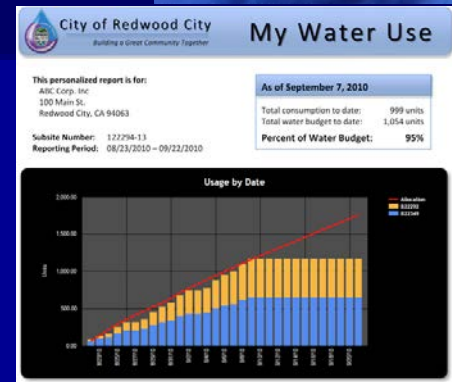
Tier	Rate (per ccf*)	Percent of Water Budget Used
Highly Efficient	\$2.50	0-80%
Budget	\$3.21	81-100%
Over Budget	\$4.00	101-150%
Wasteful	\$6.42	151-200%
Excessive Use	\$9.63	201+%

The Choice is Simple:
Use Water Efficiently
OR
Pay a High Price for Water

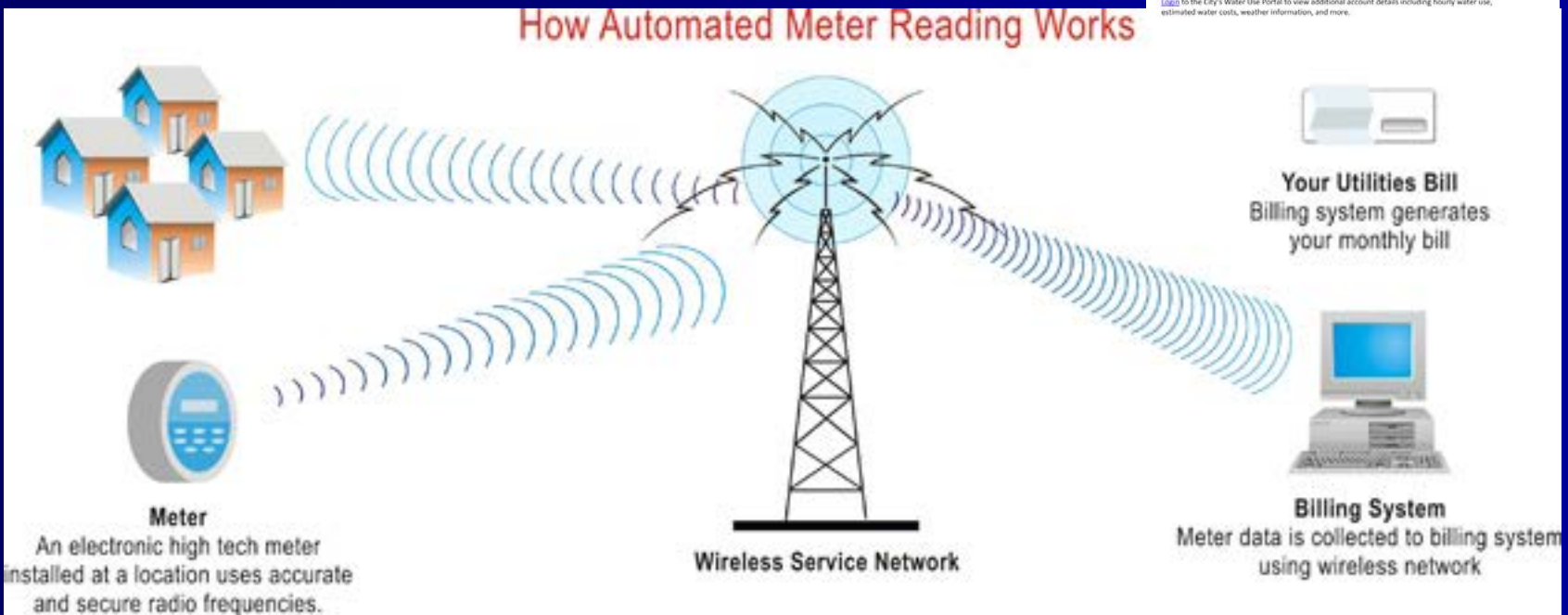
Program Optimization Advanced Metering Infrastructure(AMI)



- ✓ Hourly Meter Reading
- ✓ Hourly/Daily/Monthly Data on Customer's Account
- ✓ Leak Detection Notices
- ✓ Weekly Over-Budget Notices



[Link](#) to the City's Water Use Portal to view additional account details including hourly water use, estimated water costs, weather information, and more.



Program Optimization Emergencies = Opportunities



Higher Water Rates

- ✓ SFPUC Multi-Billion **Regional** Seismic Upgrade Project
- ✓ Wholesale Water Cost Increase
- ✓ Customer Rates Increase

Drought Mandate

- ✓ Drought Penalties
- ✓ Social Pressure

Tier	Rate	% of Budget
Potable Water		
Budget Rate	\$6.19	- 100%
Wasteful	\$12.40	101 - 200%
Very Wasteful	\$18.59	200 +%
Recycled Water:		\$6.19



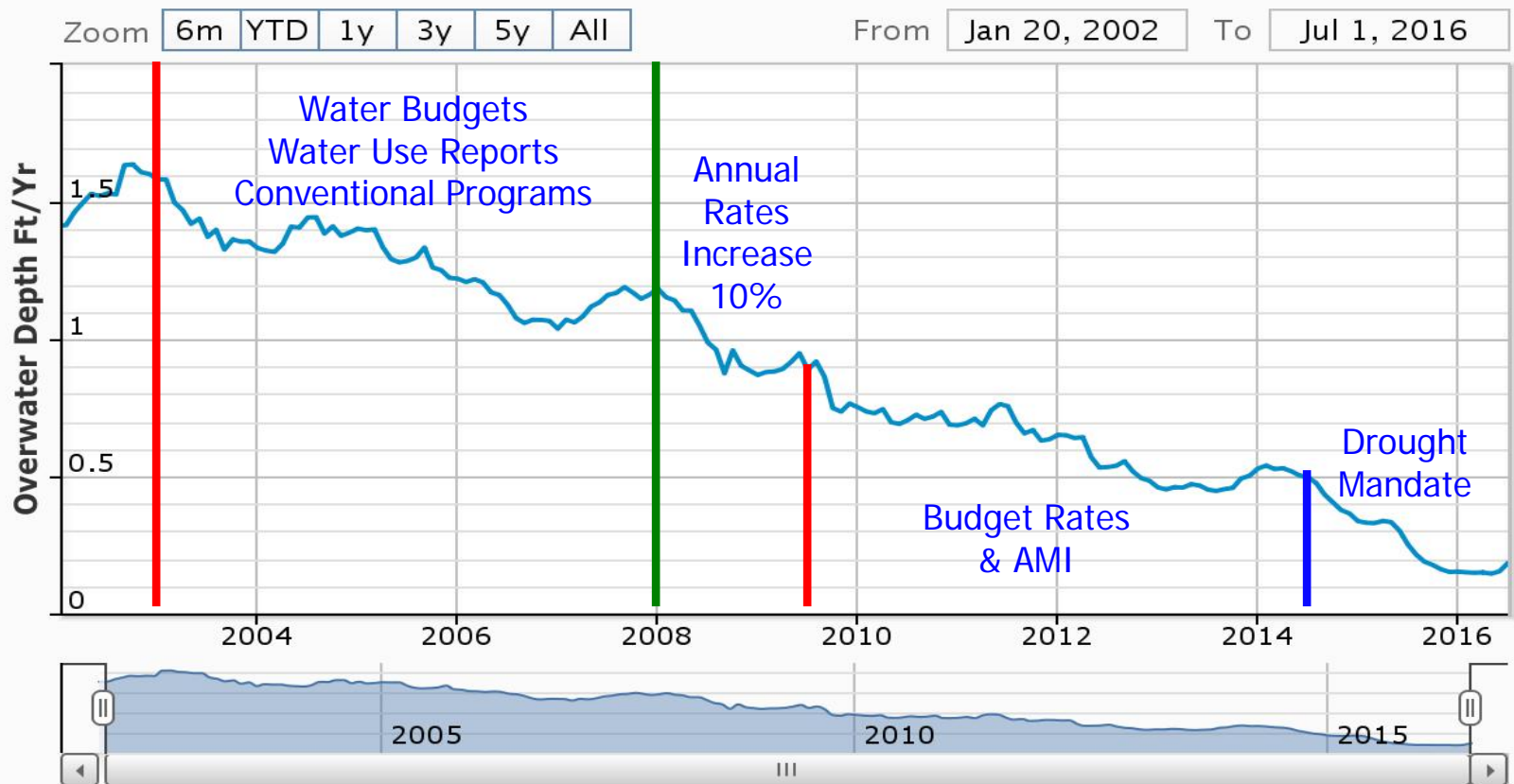
Landscape Water Use Efficiency Summary



Waterfluence

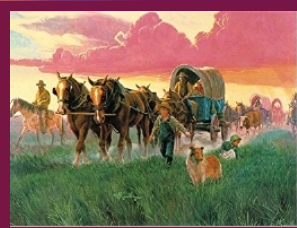
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Acknowledgments:

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