

WELCOME.

Ewing is your premier source for conservation solutions, and a leading authority on the latest Water Management Products and trends. Our dedicated Water Management Specialists will keep you informed of local conservation rebate programs and national and local legislation on water conservation initiatives. In a world with limited water availability and increased demand on water delivery systems, Ewing takes seriously its role as your local expert in irrigation efficiency.



EWING



Challenges to Market Adoption of Efficient

Irrigation Technologies

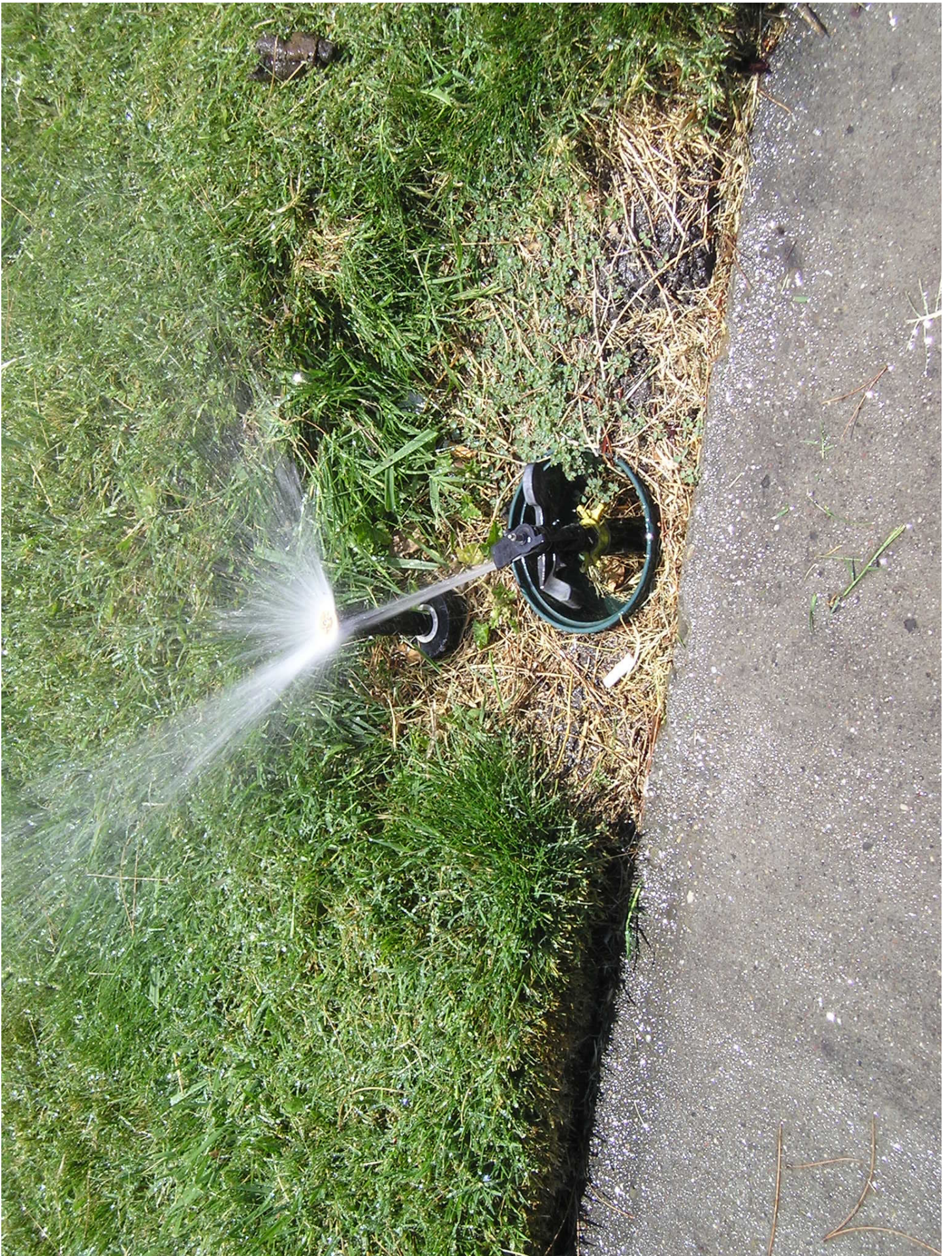
- Previous Technologies
- Current Technologies

An aerial photograph of a vibrant green lawn, likely a golf course, with a white rectangular text box centered in the middle. The text is in a bold, black, sans-serif font.

**WHAT IS THE #1
IRRIGATED CROP
IN THE USA?**



EWING

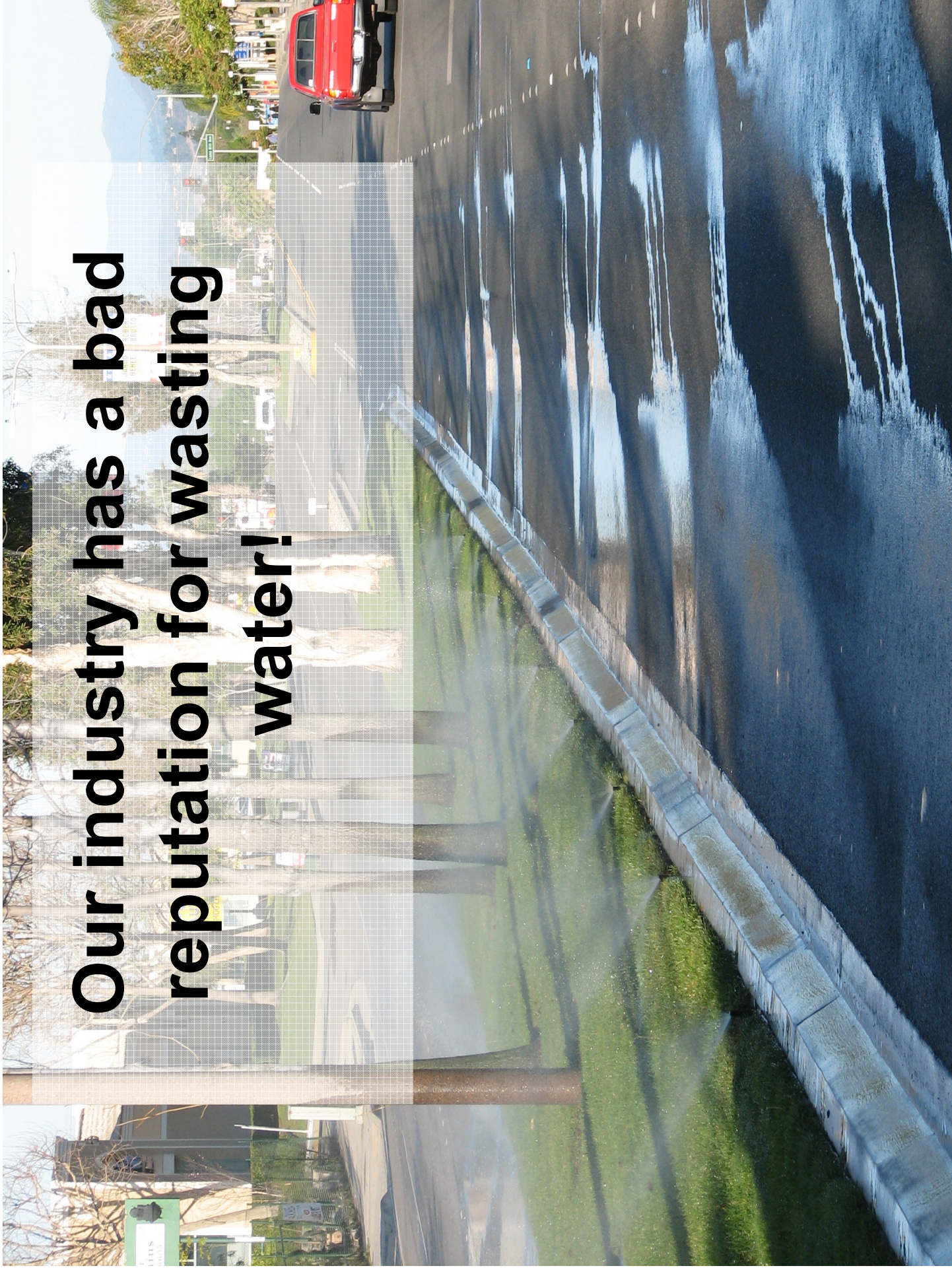








**Our industry has a bad
reputation for wasting
water!**





Irrigation of turf & landscape uses approx. 65% of the municipal supply

- Sprinkler systems for turf & landscape are **50% efficient**





What's your GPCD?

- 1999 AWWWARF Residential End Uses Study of Water Use in 1200 Homes in Western US and Canada
 - 170 GPCD Home Water Use – Single Family

Population Growth Drives Water Demand

U.S. POPClock Projection

According to the U.S. Bureau of the Census, the resident population of the United States, projected to 05/05/09

306,360,741

COMPONENT SETTINGS FOR APRIL 2009

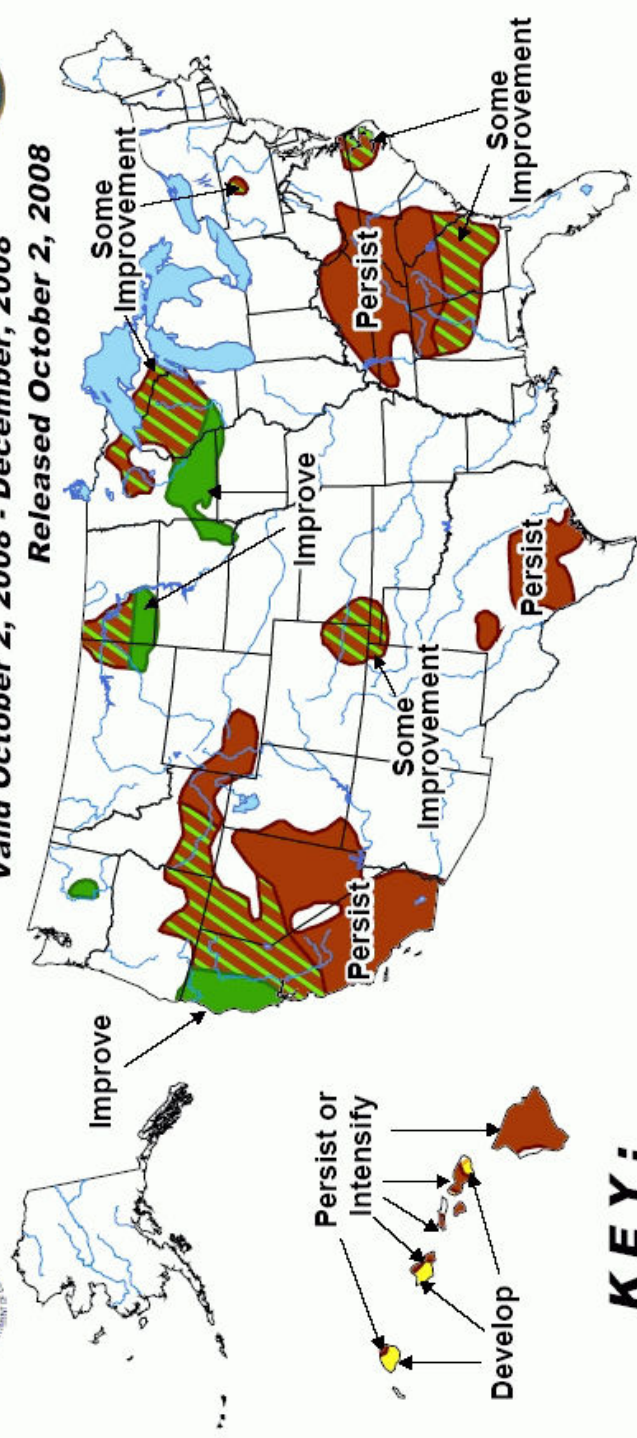
One birth every.....	8 seconds
One death every.....	12 seconds
One international migrant (net) every.....	35 seconds
Net gain of one person every.....	13 seconds

DROUGHT TRENDS







U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period Valid October 2, 2008 - December, 2008

Released October 2, 2008



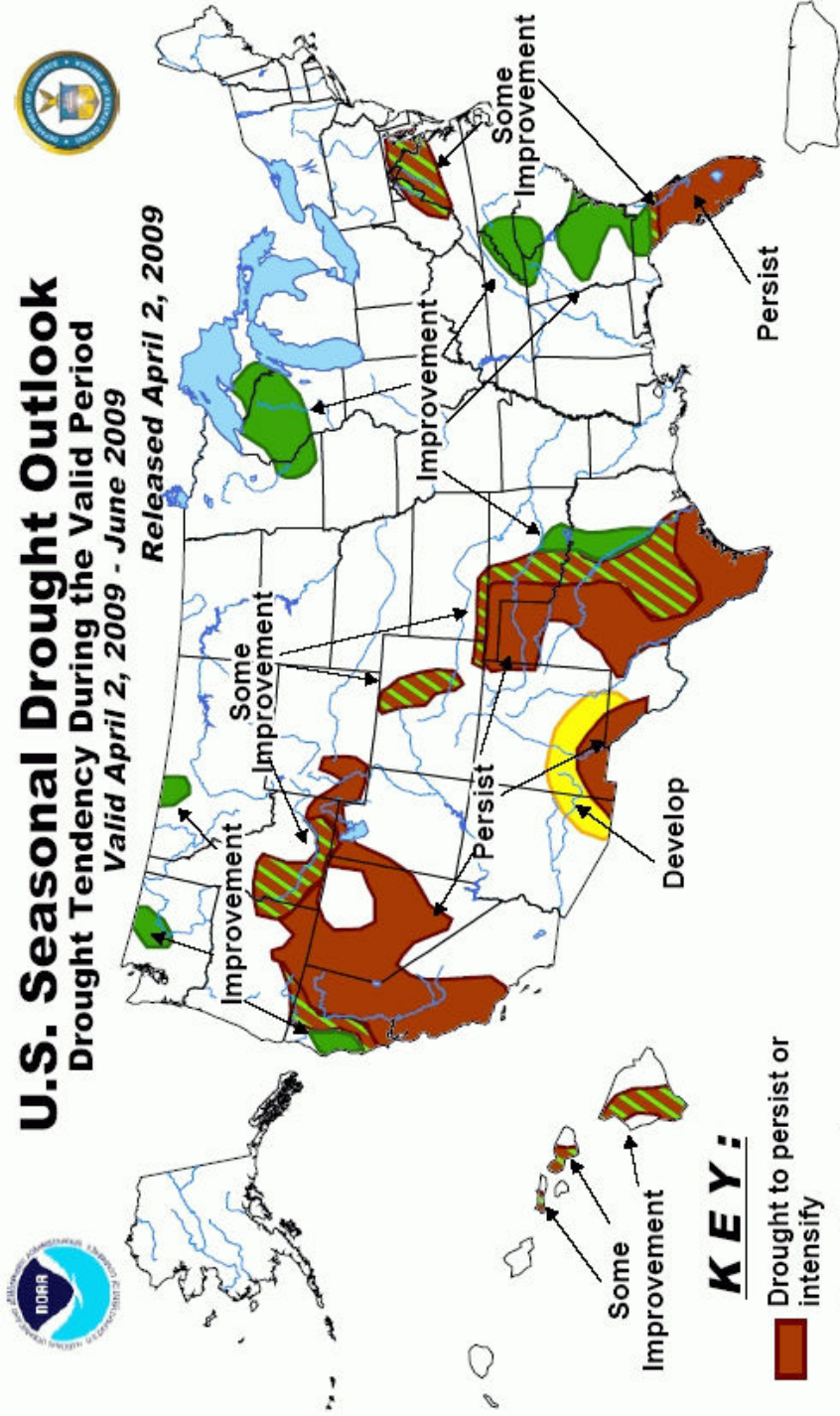
KEY:

-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

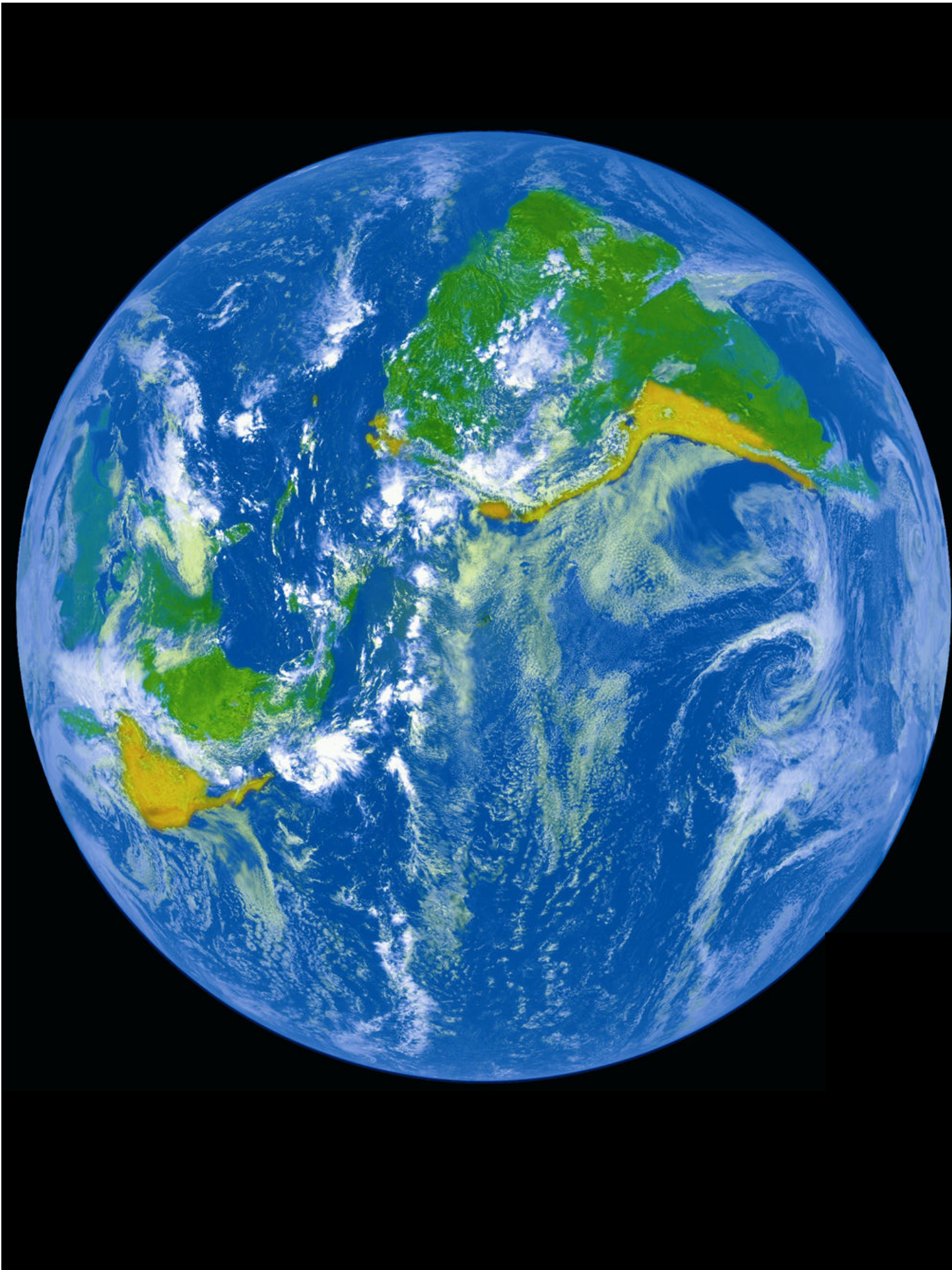
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

DROUGHT ...

Mother Nature still holds the trump card



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.



Urban Sprawl and Loss of Farm Land

- We are losing our best and most fertile farm land to development**
- Rate of loss during the 90's was 2.2 million acres per year**
- Since 1970 we have lost 40 million acres to development**
- By 2050 we will lose an additional 55 million (15% of our farmland)**
- By 2100 the loss will be 110 million acres (30% of our farmland)**



We used to water this way



Rain/Freeze Sensors

- Inexpensive
- Easy to add with wireless options to any controller
- Reliable (for the most part)
- Help prevent liability issues



Pressure Regulation



Non-Pressure Regulated



Pressure Regulated

Check Valves

- Prevent low head drainage
- Reduce liability for that leaking sprinkler at the end of the line
- Best used on the lowest heads on a line

Check Valves can help reduce low head drainage



Other Types of Sensors



Flow Sensing / Flow Metering

Measuring Evaporation

Low Volume Irrigation (DRIP)

- Used for crop irrigation internationally for many years
- Applies water exactly where the plant needs it.
- Very efficient



Some Challenges with DRIP...

- Lots of components
- Proper emitter placement
- Must have proper filtration
- Requires routine maintenance
- You can't see it operate



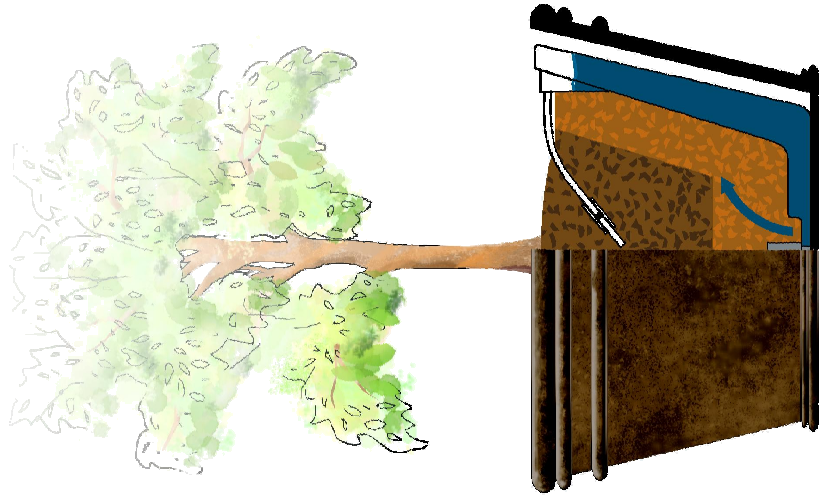
Recent Product Innovations

- High Uniformity, Low Precipitation Rate, Rotating Stream Nozzles



Container Irrigation Solutions

- Reservoir-based irrigation systems
- Sensor to control moisture level
- Drainage control with overflow adapter
- Water efficient – low evaporative loss



Weather Based Irrigation Controllers (SMART)



- **Most irrigation controllers are adjusted once or twice a year. Lots of water is wasted in the fall/winter months**
- **Adjust irrigation run times daily based on a the changes in the weather**
- **Looks at the plants daily water requirements (ET)**

What is Evapotranspiration (ET)?



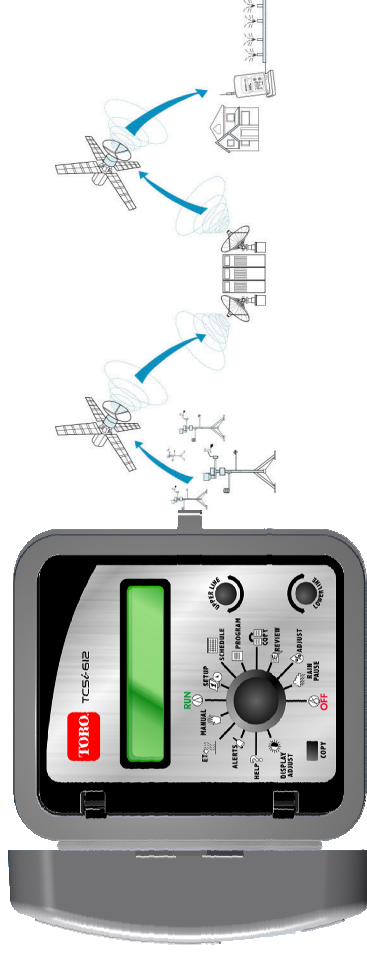
Defined:

- Amount of moisture evaporated from the soil, and...
- The amount of moisture transpired from the plant

Factors Used:

- Temperature
- Humidity
- Wind
- Solar Radiation (minus)
- Rainfall

SMART ET Controllers



- Transmits ET data from a weather station network
- Requires an annual subscription fee
- Input per station of:
 - Sprinkler type, plant type, slope, soil type, sun/shade exposure, etc.

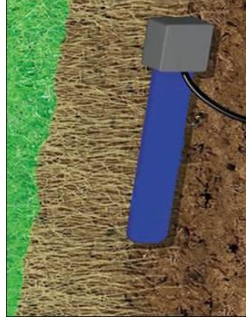


SMART ET Controllers con't...

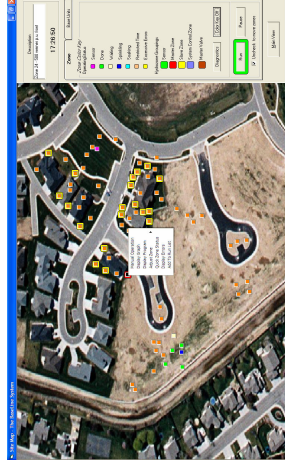
- On site sensors calculate ET
- Some work with a specific controller
- Others are an add on device to an existing controller.



Soil Moisture Sensors



- Add on device to any controller, single sensor
- Full blown water management system run on a PC with graphical mapping capabilities

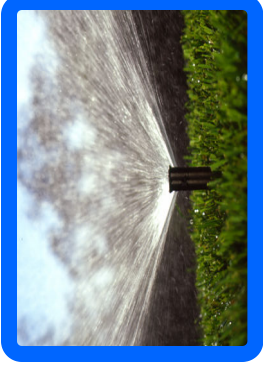
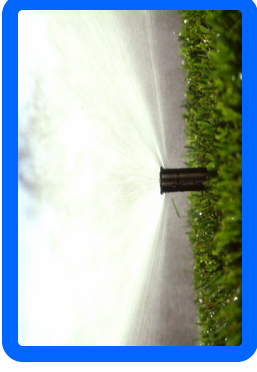


How “SMART” Are They?

- You can put a “Smart” controller on a “dumb” irrigation system and waste a lot of water
 - MUST have an efficient irrigation system before you install this technology
- Set up can be time consuming and confusing
 - Requires an irrigator who knows what they’re doing

Water Conservation Opportunities

- Rain Sensors
- Pressure Regulation
- Check Valves
- Drip Irrigation
- High Efficiency Sprinklers



Passive water conservation devices



Education !

**If You Can Read This
Thank A Teacher.**




Water Efficiency is the Buzz...

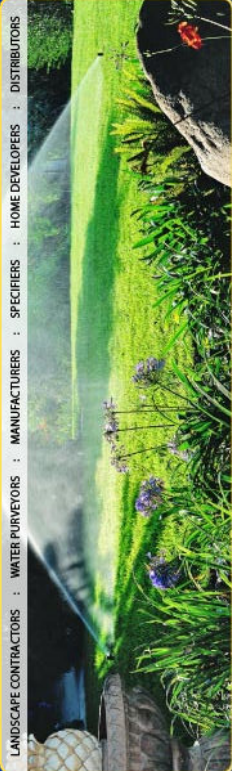
- EPA
- USGBC
- ASLA
- AWE
- IA
- SWAT



Smart Water Application Technology

 [CASE STUDIES](#) : [TESTED PRODUCTS](#) : [ABOUT IA/ SWAT](#)

[LANDSCAPE CONTRACTORS](#) : [WATER PURVEYORS](#) : [MANUFACTURERS](#) : [SPECIFIERS](#) : [HOME DEVELOPERS](#) : [DISTRIBUTORS](#)



Join the effort to maximize outdoor irrigation efficiency through the use of "Smart" Water Application Technologies™

"Smart Water Application Technologies™", or SWAT™, is an international partnership initiative of water purveyors and irrigation industry representatives created to promote landscape water use efficiency through the application of state-of-the-art irrigation technologies. This website will help you discover how "smart" irrigation technologies are changing the face of landscape irrigation and the benefits of taking part in promoting this important transformation.



Landscape Contractors

Find out how "smart" irrigation technologies can help grow your business and improve client satisfaction.

[→ learn more](#)

Water Purveyors

Help maximize limited water resources by implementing a smart irrigation technologies initiative in your community.

[→ learn more](#)

Manufacturers

Join the "smart" irrigation revolution by supporting Smart Water Application Technologies efforts.

[→ learn more](#)

Irrigation Designers and Specifiers

Discover how "smart" irrigation technologies can help create more efficient and environmentally sustainable irrigation solutions.

[→ learn more](#)

New Home Developers

Learn how "smart" irrigation technologies can help you maximize limited water resources to help meet growing water demands.

[→ learn more](#)

Irrigation Distributors

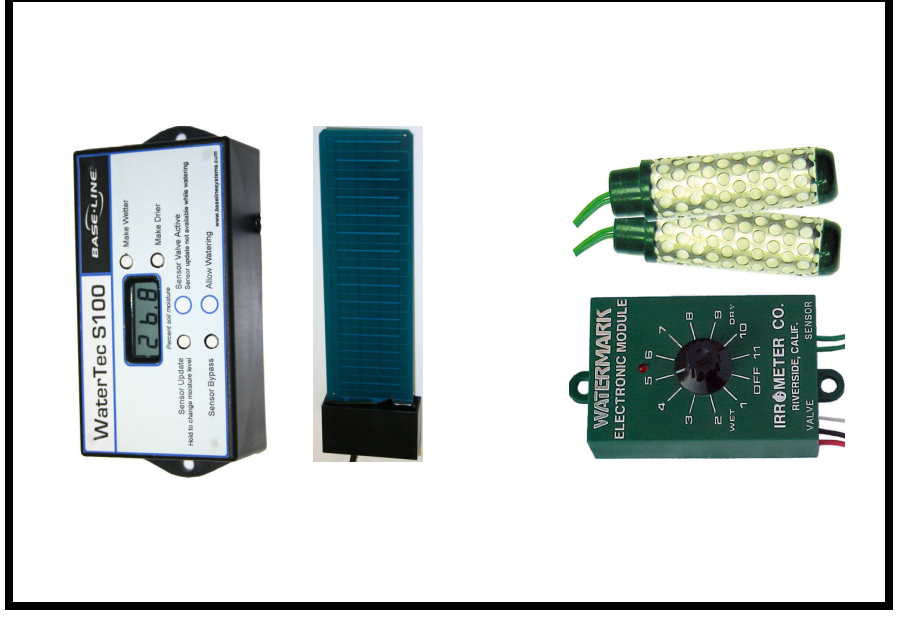
Support your contractors as the irrigation industry introduces water-saving "smart" technologies.

[→ learn more](#)

Smart Water Application Technology

- Irrigation Association lead industry initiative to promote new technology in irrigation
- Cooperative efforts from all aspects of the irrigation industry
- Develop Testing and Performance Standards for SMART Controllers
- Current standards for Weather Based Irrigation Controllers (ET and Soil Moisture Sensors)
- Rain Sensors next protocol to be developed







6540 Arlington Boulevard
Falls Church, VA 22042

Tel: 703-536-7080
www.irrigation.org

Smart Water Application Technology™ (SWAT™) Performance Report			
Testing Agency: Center for Irrigation Technology www.californiairrigation.org			
Product: Hunter ET System with Pro-C 300 Controller			
Product Type: Climatologically Based Controller			
Product Description: ET SYSTEM is an onsite ET sensor suite with outdoor interface ET module, for direct connection to Hunter SmartPort® enabled controllers.			
SWAT™ Protocol: Turf and Landscape Equipment Climatologically Based Controllers 7™ Draft Testing Protocol (November 2006)			
<p>The concept of climatologically controlling irrigation systems has an extensive history of scientific study and documentation. The objective of this protocol is to evaluate how well current commercial technology has integrated the scientific data into a practical system that meets the agronomic needs of turf and landscape plants. The evaluation is accomplished by creating a virtual landscape subjected to a representative climate to evaluate the ability of individual controllers to adequately and efficiently irrigate that landscape. After initial programming and calibration the controller is expected to perform without further intervention during the test period. Performance results indicate to what degree the controller maintained root zone moistures within an acceptable range. If moisture levels are maintained without deficit, it can be assumed the crop growth and quality will be adequate. If moisture levels are maintained without excess it can be assumed that scheduling is efficient.</p> <p>*All SWAT™ Protocol may be viewed at www.irrigation.org</p>			
Hunter ET System with Pro-C 300 Controller SWAT™ Performance Summary			
Irrigation Adequacy			
Minimum of 6 test zones: 100%	Maximum of 6 test zones: 100%	Mean/Average of 6 test zones: 100%	Irrigation Excess
<p>Irrigation Adequacy represents how well irrigation met the needs of the plant material. This reflects the percentage of required water for turf or plant material supplied by rainfall and controller-scheduled irrigations. Research suggests that if this value is between 80% and 100%, the acceptable quality of vegetation will be maintained</p>		<p>Minimum of 6 test zones: 0% Maximum of 6 test zones: 2.3% Mean/Average of 6 test zones: 0.5% Irrigation Excess represents how much irrigation water was applied beyond the needs of the plant material. This reflects the percentage of water applied in excess of 100% of required water according to data from CIMIS station #80 Fresno State, Fresno County during the test period.</p>	
Hunter ET System			
Installation	Data Source	Data Link	Additional Fees
<p>Refit to Hunter SmartPort® enabled controllers.</p>	<p>ET System onsite sensor suite</p>	<p>Direct low voltage wiring into Hunter SmartPort®</p>	<p>None</p>
Product Detail Supplied by Manufacturer www.hunterindustries.com			
Initial Purchase	Additional Hardware	Additional Fees	
<p>ET System must be purchased separately from compatible Hunter controller model: SRC, Pro-C and ICC</p>	<p><input type="checkbox"/> ET WIND is an optional anemometer for measuring wind speed</p>	<p>None</p>	
Additional Features			
Zones	Time of Day	Day of Week	If Data Link is Discontinued
<p>The original Hunter controller may have up to 48 zones depending on the model.</p>	<p>Separately programmable start times for ET controlled zones. NOTE: ET System withGuard™ will override time of day restrictions.</p>	<p>ET System has day of week, even/odd date, and interval Day scheduling (up to 31 days). NOTE: ET System withGuard™ will override day of week restrictions</p>	<p>If wiring to on-site ET sensor is removed, system displays fault message and operates on last full 24 hour ET average. Traditional controller schedules may be selected manually if sensor service is required.</p>
		<p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> withGuard™ technology Enables it to trigger protective watering when extreme conditions threaten your plants</p> <p><input type="checkbox"/> ET information combines with each zone's particular plant, soil, sun, and spandler data</p> <p><input type="checkbox"/> Easily upgrades most Hunter controllers to weather-based control with no high voltage AC wiring required</p> <p><input type="checkbox"/> Non-volatile memory</p>	



Smart Water Application Technology™ (SWAT™) Performance Report

Irrigation Adequacy

Minimum of 6 test zones: 100%

Maximum of 6 test zones: 100%

Mean/Average of 6 test zones: 100%

Irrigation Adequacy represents how well irrigation met the needs of the plant material. This reflects the percentage of required water for turf or plant material supplied by rainfall and controller-scheduled irrigations. Research suggests that if this value is between 80% and 100%, the acceptable quality of vegetation will be maintained.

Irrigation Excess

Minimum of 6 test zones: 0%

Maximum of 6 test zones: 2.3%

Mean/Average of 6 test zones: 0.5%

Irrigation Excess represents how much irrigation water was applied beyond the needs of the plant material. This reflects the percentage of water applied in excess of 100% of required water according to data from CIMIS station #80 Fresno State, Fresno County during the test period.



6 test zones have differing plant types,
soil types, micro-climates and application devices

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[Basics](#)

[Fast Tips](#)

[Handbook](#)

[IA Certified Professionals](#)

[Logos](#)

[Resources](#)

July is Smart Irrigation Month!

**Your sprinkler system:
Save water, save money and see better results**

Automatic sprinklers offer convenience and control in protecting your landscape investment. Sprinkler systems help you to enjoy your yard, and to keep it healthy and beautiful. However, most homeowners tend to overwater their lawn or waste water through inefficient habits. Adopting water-savvy habits is essential to maintaining and extending your community's water supply, especially during peak use.



The key to efficient outdoor irrigation is applying just enough water and only when necessary. Water-wise habits will result in a healthier lawn and landscape, in addition to conserving water. Plus, reducing your consumption will help reduce your water bill.

The Irrigation Association® has named July *Smart Irrigation Month* to provide tips about smart practices and new technology. Continue reading to learn what you can do in July - and during the year - to operate your system at peak efficiency.



WaterSense Irrigation: A Systems Approach

- Efficient irrigation requires a systems approach including:
 - Advanced technologies
 - Sound designs
 - Proper installation
 - Sound management and maintenance practices

- WaterSense is responding by:
 - Labeling certification programs for irrigation professionals that have a water efficiency component
 - Then partnering with irrigation professionals to promote water efficiency
 - Labeling water-efficient irrigation products.



Certification Programs for Irrigation Professionals

- WaterSense is labeling professional certification programs in three areas:
 - Irrigation System Design
 - Irrigation System Installation and Maintenance
 - Irrigation System Auditing

- WaterSense has labeled 5 programs to date:
 - One under the design specification
 - One under the installation and maintenance specification
 - Three under the auditing specification

- WaterSense has partnered with over 300 irrigation professionals:
 - 169 designers
 - 223 installation and maintenance professionals
 - 21 auditors





- To be considered for the label, a product area must be able to:
- Realize water savings on a nation level
 - Perform as well or better than their less efficient counterparts
 - **Be about 20% more efficient than conventional counterparts**
 - Achieve water efficiency through several technology options
 - Be independently verified by a third party to confirm that the product meets EPA criteria for efficiency and performance
 - Provide measurable results

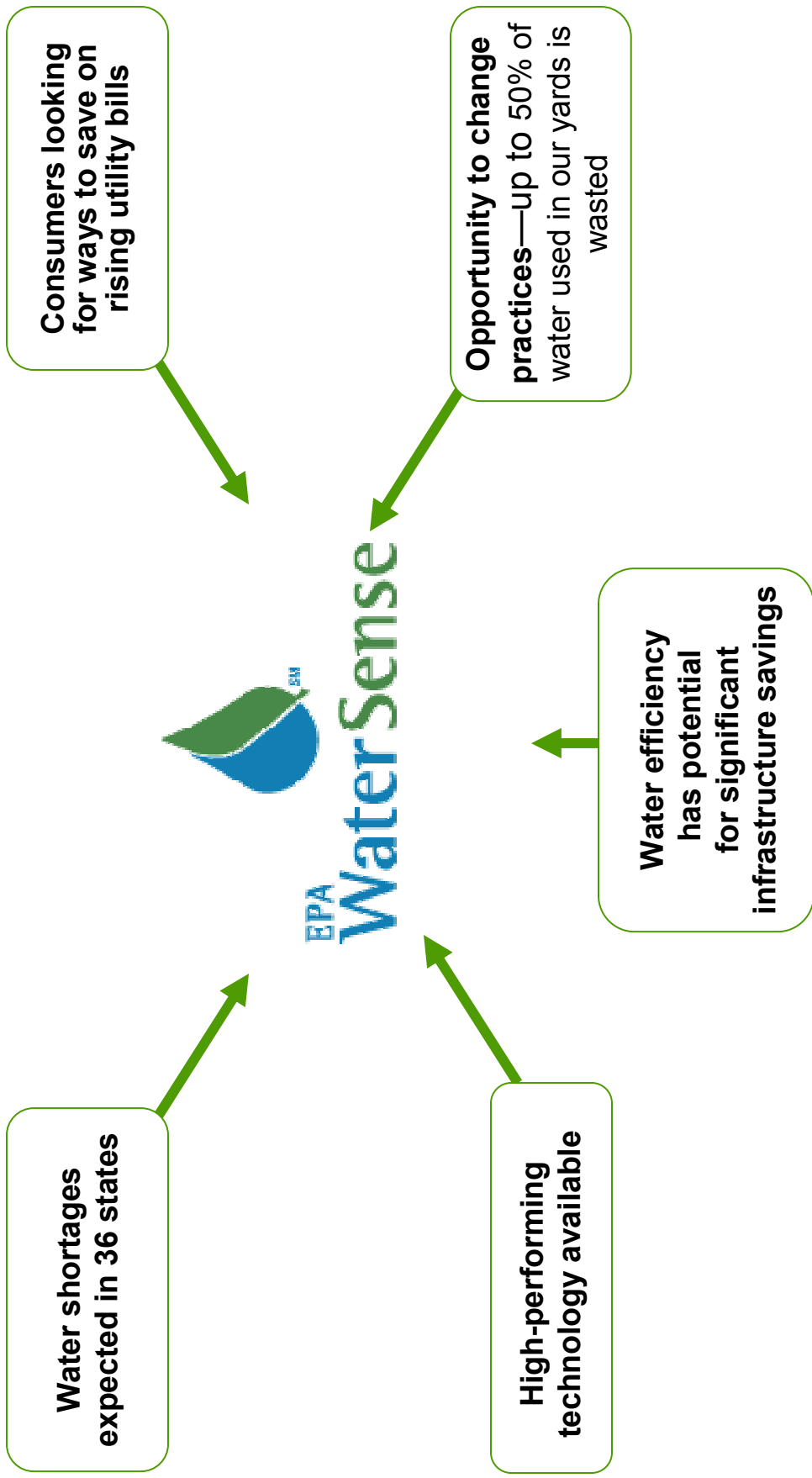


US Environmental Protection Agency

- Water and Wastewater systems spend about \$4 Billion annually to pump, deliver, collect, treat and clean water
- Predicts that this consumption figure will grow by more than 20% in the next 15 years
- Electricity consumption for pumping constitutes 90% of total energy use by water utilities



Need for Water Efficiency





Alliance for Water Efficiency

Functions

- Centralized clearinghouse
- Credible research, evaluation and testing of products practices and standards
- Strong advocate for water efficiency
 - EPA WaterSense
- Education on the big picture and training for professionals

www.allianceforwaterefficiency.org





- 20% of all energy used in CA is for pumping water around the state. (Energy/Water Nexus)
- Performance standards for weather based irrigation controllers and soil moisture sensors
- Due to CA Legislature by Jan. 1, 2010
- **After Jan. 2012**, controllers that **DON'T** meet these standards will be **prohibited** from being sold in CA.
- CA starts trends!

<http://www.energy.ca.gov/appliances/irrigation/>



EWING

The California Water Smart Irrigation Controller Project

*Results and Perspective on a Large Field Study of an Important Emerging
Technology*



Project Funding Provided by California
Department of Water Resources

Project Team

Researchers

Peter Mayer, P.E. William DeOreo, P.E. and Matt Hayden—
Aquacraft, Inc.

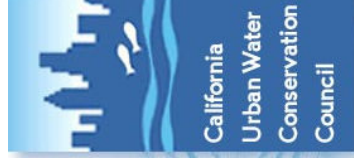
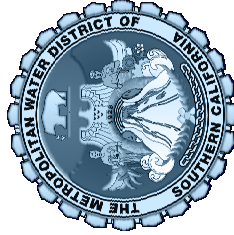
Erin Caldwell – National Research Center

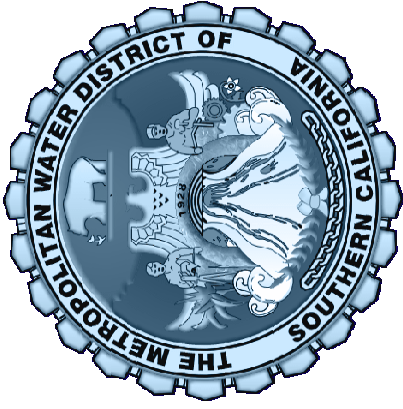
Utility Partners

Alice Webb-Cole – MWD & 26 S. Cal Providers
Jon Bauer – EBMUD
Bob Eagle – Contra Costa Water District
Kevin Galvin – SCVWD

Project Management

Marsha Prillwitz & Chris Brown – CUWCC

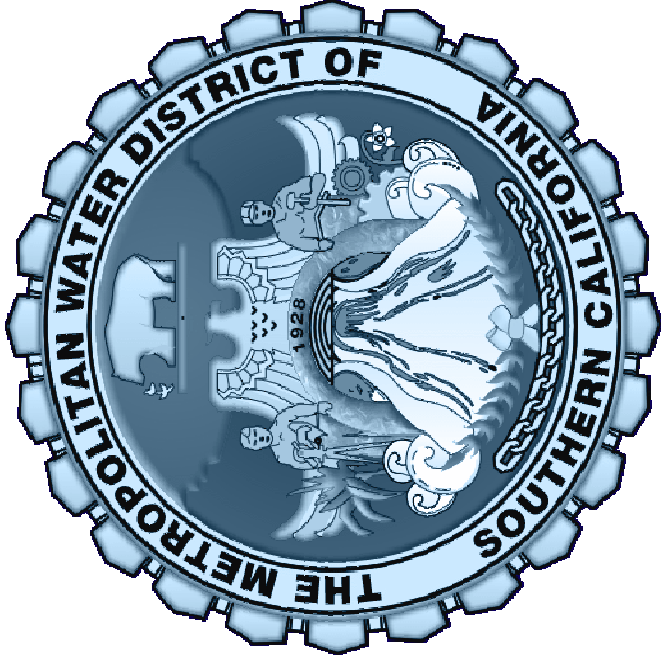




Lead Agencies



- 32 Water suppliers involved
- Nearly \$5 million committed
- Goal of over 8,000 smart irrigation controllers installed
- Estimated 58,000 acre feet of water savings potential
- Variety of outreach efforts



Alice Webb-Cole

MWD

And 26 additional agencies



Jon Bauer

EBMUD

And 6 additional agencies



Southern California State Grant

- February 2004 – April 2007
- \$1.8 million awarded
- Original estimate of 5,514 controllers
 - Residential 4,961
 - Commercial 553
- Direct installation and self installation
 - Direct 1,600
 - Self 3,914

Southern California

Initial Approach:

Feb 2004 – May 2005

- Allocated grant among 22 member agencies
- Worked with agencies to develop implementation plans
- Issued RFI to compile list of available devices

Initial Approach:

Feb 2004 – May 2005

- Very Little Success
- Challenges for homeowners
 - Didn't know:
 - What a smart controller was
 - What it did
 - Where to purchase
 - High cost compared to standard controller

Rethinking the Approach: May 2005 – Nov 2005

- Workshop with agencies to identify issues
 - Consumer awareness
 - Availability of product
 - Cost for customer
- Internal brainstorming on program implementation
- Survey of 500 homeowners on awareness

Rethinking the Approach: May 2005 – Nov 2005

- Developed concept of free distributions
 - Modeled after ULFT distributions
- Sought landscape industry partners
- Issued RFP to purchase small quantity of controllers
- Developed forms and promotional materials

First Free Exchange Event Nov 2005 – Old Controllers



Free Exchange Events

Nov 2005 – Nov 2007

- Methods tested
 - Walk-up
 - Drive-through
 - California-Friendly Landscape Training
 - Community College
 - Internet sign-up



Rebate Programs

Jul 2005 – Dec 2006

- Residential rebates

- Six agencies

- 195 rebates

- Commercial rebates

- Seven agencies

- 400 rebates

Southern California Results

	Original Estimates	Actual Results
Residential self-install	3,520	2,665
Residential direct-install	1,441	910
Commercial self-install	394	400
Commercial direct-install	159	654
Totals	5,514	4,629

Southern California Results

- February 2004 – October 2008
- Completed 4,629 controllers
 - Residential 3,575
 - Commercial 1,054
- Direct installation and self installation
 - Direct 1,564
 - Self 3,065

Elements Common to Northern California Programs

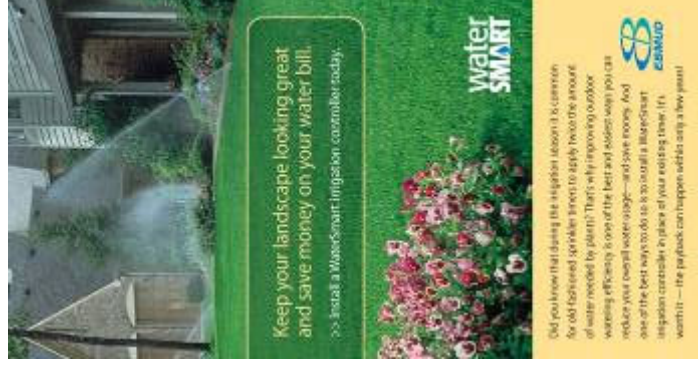
- Targeted at higher water users
- All are variations on a rebate incentive
- Strong educational or follow up component

Northern California WBIC Installations by Agency

	1 to 12 Stations		13 to 24 Stations		25 Stations and up		Number Controllers Installed	Number Controllers Allocated
	Direct Install	Self Install	Direct Install	Self Install	Direct Install	Self Install		
EBMUD		442		297		63	802	1305
Alameda	6	47	20	37	1	3	114	124
Contra Costa		56		60		25	141	149
Santa Clara	66	12	40	200	3	137	458	657
Sonoma	88	40	19	26	4	21	198	291
Total	160	595	79	630	8	249	1713	2605

Initial EBMUD WSIC Program

- Effective marketing materials developed in cooperation with the Irrigation Association Smart Water Application Technology (SWAT) Initiative



Initial EBMUD WSIC Program

- ~4% response from three direct mailings to 23,000 customers using more than 750 gpd of irrigation
- Issued ~1200 vouchers
- Only 20% of vouchers issued were redeemed for controllers

Initial EBMUD WSIC Program

- Voucher Program proved complicated and costly to administer for water agency, customer, and distributor.
- Vouchers didn't provide strong incentive for contractors.
- Confusion over value of voucher
 - \$300, \$600, \$1,200 maximum amounts
 - Value only 50% up to maximum
 - One reason we think some customers didn't redeem voucher (along with a complex pre-application process)

Revised EBMUD WSIC Program

- Beginning January 1, 2008 the program was revised and simplified.
- The biggest revision was that the financial incentive was changed from a voucher to a rebate.
- Also, the application process was simplified to remove the pre-application.
- Customers can not get rebate until they have an inspection.

Revised EBMUD WSIC Program

- New consolidated brochure
- Article in Customer Pipeline (bill insert)
- Point of Purchase displays
- Improved web page
- Ads in print media

Revised EBMUD WSIC Program

- Based on the account's average IRRIGATION water use over the past three years.

Irrigation Use (gpd)	Rebate Amount
250 to 749	\$100
750 to 2,999	\$250
3,000 to 5,999	\$350
6,000 and above	\$500

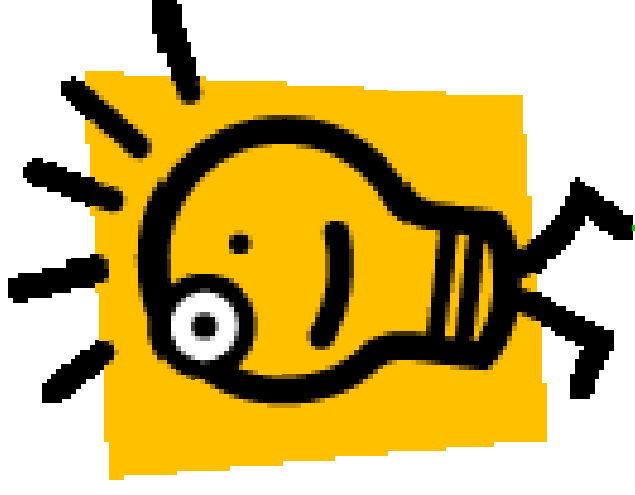
EBMUD WSIC Overall Goals and Activity



Sector	1 to 12	13 to 24	= or > 25	Installations Complete
Residential	175	149	10	334
Commercial	267	148	53	468
Total	442	297	63	802

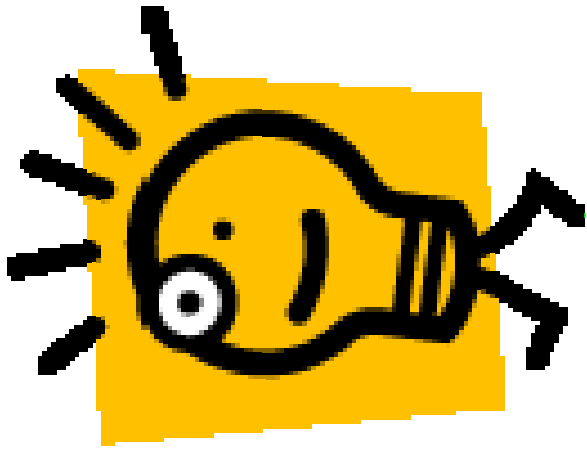
What seems to work...

- Checking irrigation system efficiency
- Working with landscape contractors and property management companies
- Cross promotion of WSIC rebate program with rebates for other irrigation hardware upgrades



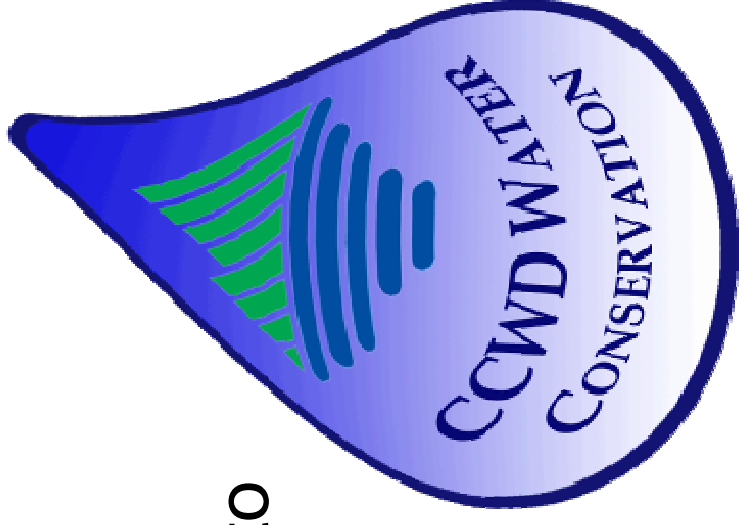
What seems to work . . .

- When we communicate meaningful benefits that are understood by the customer using effective marketing materials
- Add in a financial rebate incentive
- And follow up to verify the controller is installed and programmed properly . . .



Recommendations...

- Target High Water Users
- Materials That Provide Solutions to Customers' Concerns
- Train Installers to Properly Schedule Units
- Promote Importance of Effective Water Management



Peter Mayer, P.E.



Perceived Benefits

Which, if any, of the following do you perceive as a benefit of having a smart controller?	Percent	Number
Saves time and effort	52.7%	N=661
→ Makes programming the settings easier	33.5%	N=420
Saves money	49.0%	N=614
Water-efficient	80.7%	N=1012
Cost-efficient	37.4%	N=469
Improves the health of the landscape	34.9%	N=438
Other	7.1%	N=89
Total*	100.0%	N=1254

*Actual totals will equal more than 100% as respondents could give more than one answer

Factors that Influence Savings

- **Pre-Installation Watering Patterns – i.e. what % of ET was applied to begin with**
- Region (S. Cal or N. Cal) – programmatic differences
- Installation method – self installed or professionally installed
- Climate zone – Coastal, Inland, or Foothill
- Make and model of smart controller (sometimes significant)

Factors that did Not Influence Savings

- Type of site – residential vs. non-residential

Researchers are still investigating sensor vs. signal based controllers to determine if this is a significant factor in water savings.

Preliminary Conclusions

- Smart controllers reduce water use – particularly at sites that have historically over-irrigated.
- Weather adjusted change in usage was measured to be -25.5% across all 2,122 sites.
- Self installed controllers reduced water use more compared with professionally installed controllers.

Preliminary Conclusions 2

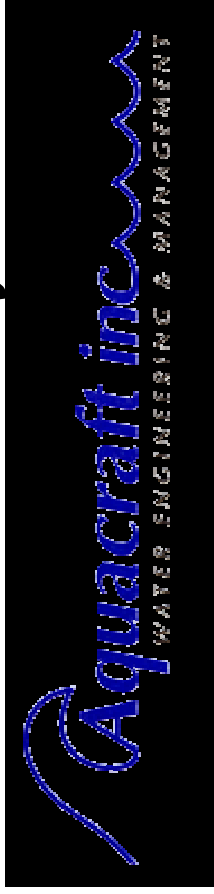
- Climate zone (Coastal, Inland, Foothill) influenced changes in usage. Additional analysis is required.
- Most controllers appear capable of reducing demand.
- Specific controller technology is less important than pre-installation irrigation habits.

Preliminary Conclusions 3

- Smart control technology appears to have tremendous potential for managing outdoor urban water demands.
- Results presented here are PRELIMINARY and are subject to change as additional work is done.

Final Report Available in 2009

- Final presentation available at www.aquacraft.com
- Project report available in early 2009
- Agencies will monitor performance of WBICs for another 3 years.



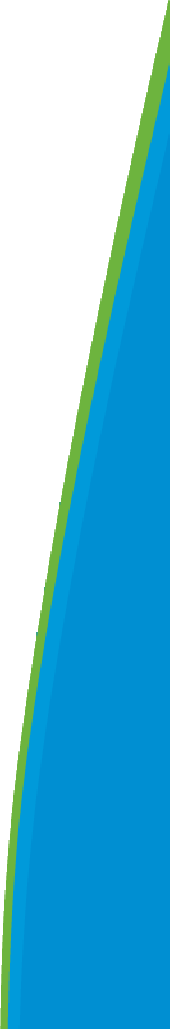
mayer@aquacraft.com



Preliminary Results

Statistically Significant Change in Water Use?

	<u># of Sites</u>	<u>%</u>
Increase	959	41.8
No Change (+/-6%)	35	1.5
Decrease	1300	56.7



Irrigation System Efficiency

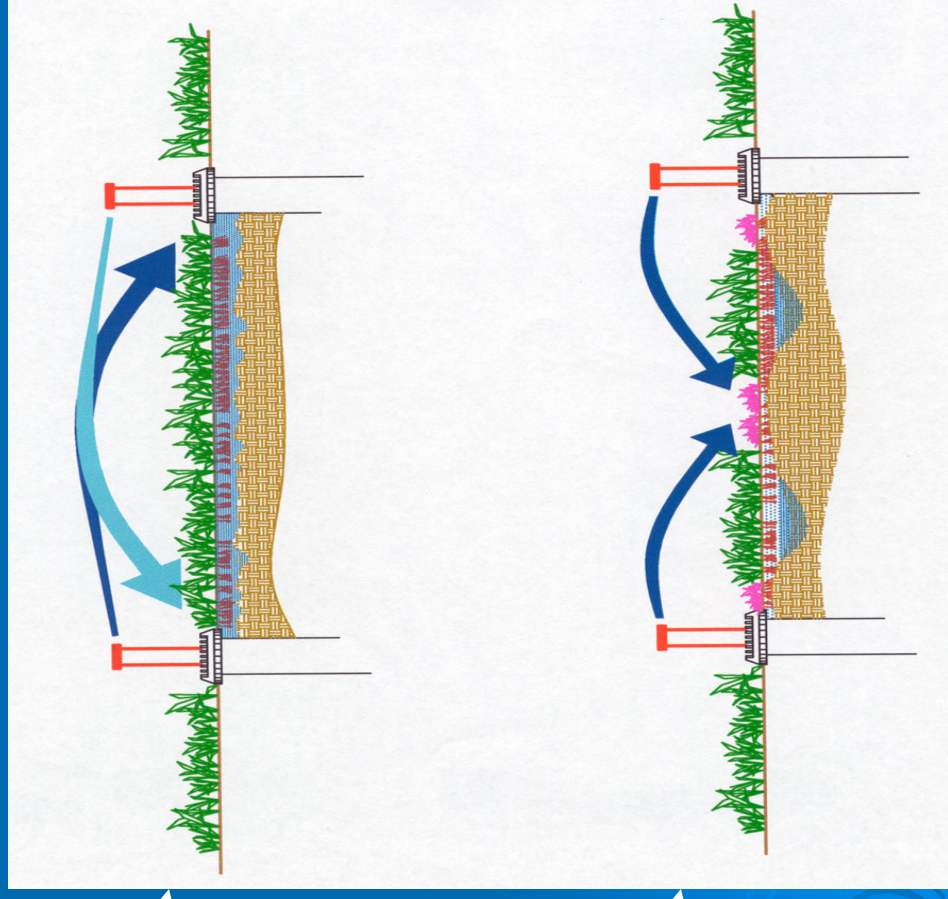
“Distribution Uniformity”

Good Uniformity

..... Even distribution of water

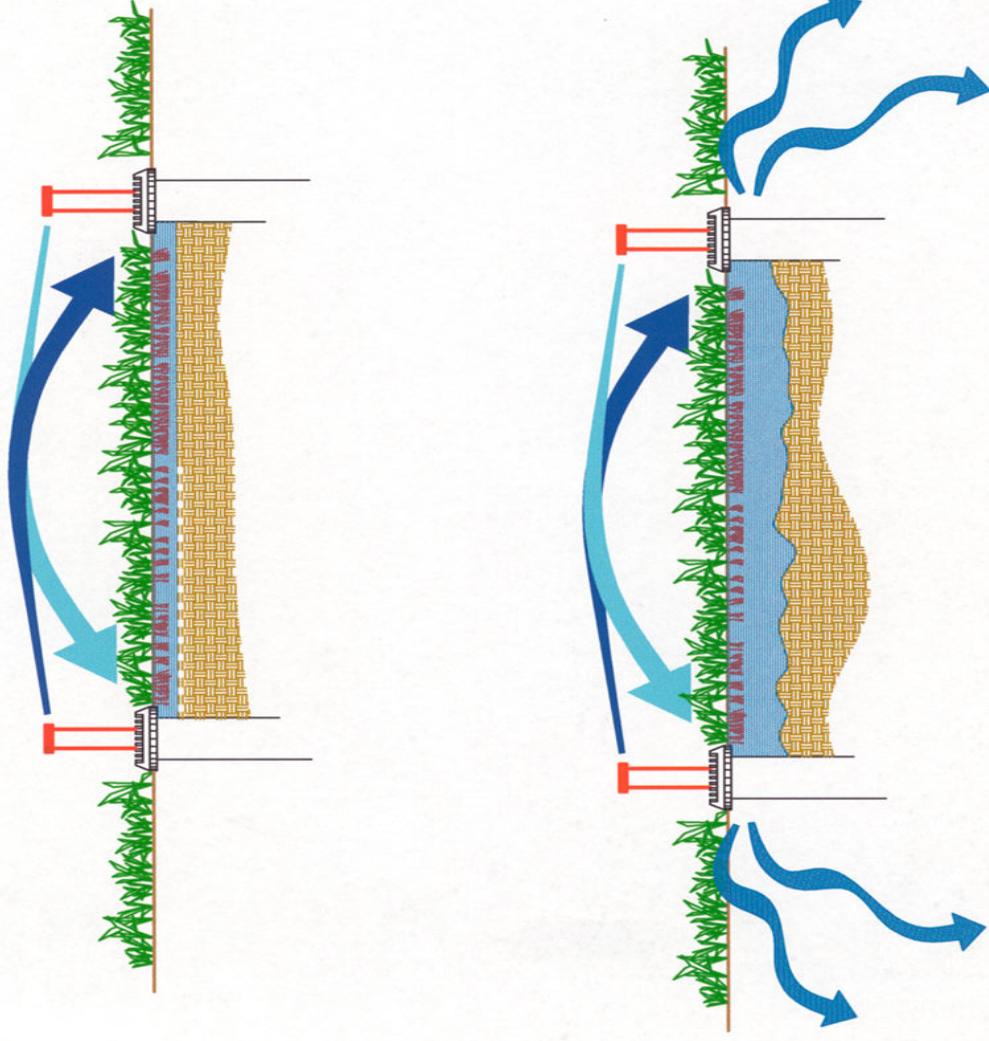
Poor Uniformity

..... Uneven distribution of water



Irrigation Efficiency: “Applying precisely what the landscape requires”

(Expressed as a “% of Efficiency” – Typically 50-80%)



Efficient:

- No runoff
- No water below the root zone
- Scheduled to ET

Not Efficient:

- Water runoff
- Watering below the root zone
- Poor scheduling



- CONSERVATION & REBATES
- DROUGHT & RESTRICTIONS
- LANDSCAPES
- DOING BUSINESS
- WATER QUALITY
- WATER RESOURCES

Over 100 Million Square feet of Turf Replaced Since 1999

- ▶ Landscapes
- ▶ Rebates
- ▶ Car Wash
- ▶ Conservation
- ▶ Pools & Spas
- ▶ Indoor Water Audit Kit
- ▶ Water Smart Art
- ▶ Commercial Programs
- ▶ Conservation Coalition
- ▶ Restaurants
- ▶ Water Efficient Technologies
- ▶ Water Smart Home
- ▶ Conservation Plan
- ▶ Water Use Facts
- ▶ Helpline
- ▶ Interest Form - Homeowners
- ▶ Interest Form - Commercial

Get off your grass, we'll pay cash
 The SNWA Water Smart Landscapes program provides a rebate of \$1.50 per square foot of grass removed and replaced with water-efficient landscaping. [More»](#)


Wash your car the water-smart way
 The Water Authority has partnered with local companies to create the Water Smart Car Wash program. Print out a coupon for a Water Smart Car Wash and start saving. [More»](#)

Cash in with instant rebate coupons
 SNWA has teamed with local retailers to provide coupons toward the purchase of a removable or permanent pool cover, rain sensor and smart irrigation controller. [More»](#)

Buy a Water Smart Home
 The Southern Nevada Home Builders Association and SNWA sponsor the Water Smart Home program, the first of its kind in the nation. It certifies qualifying new homes and neighborhoods as Water Smart, ensuring that home buyers are purchasing a home that can save as much as 75,000 gallons of water per year. [More»](#)

- Rebate coupons
- Kids' information

Video



Get helpful tips to conserve water at your home **PLAY ▶**

Before and after



View before and after photos of landscape conversions. **LAUNCH ▶**

Drought Status

ALERT

[More »](#)

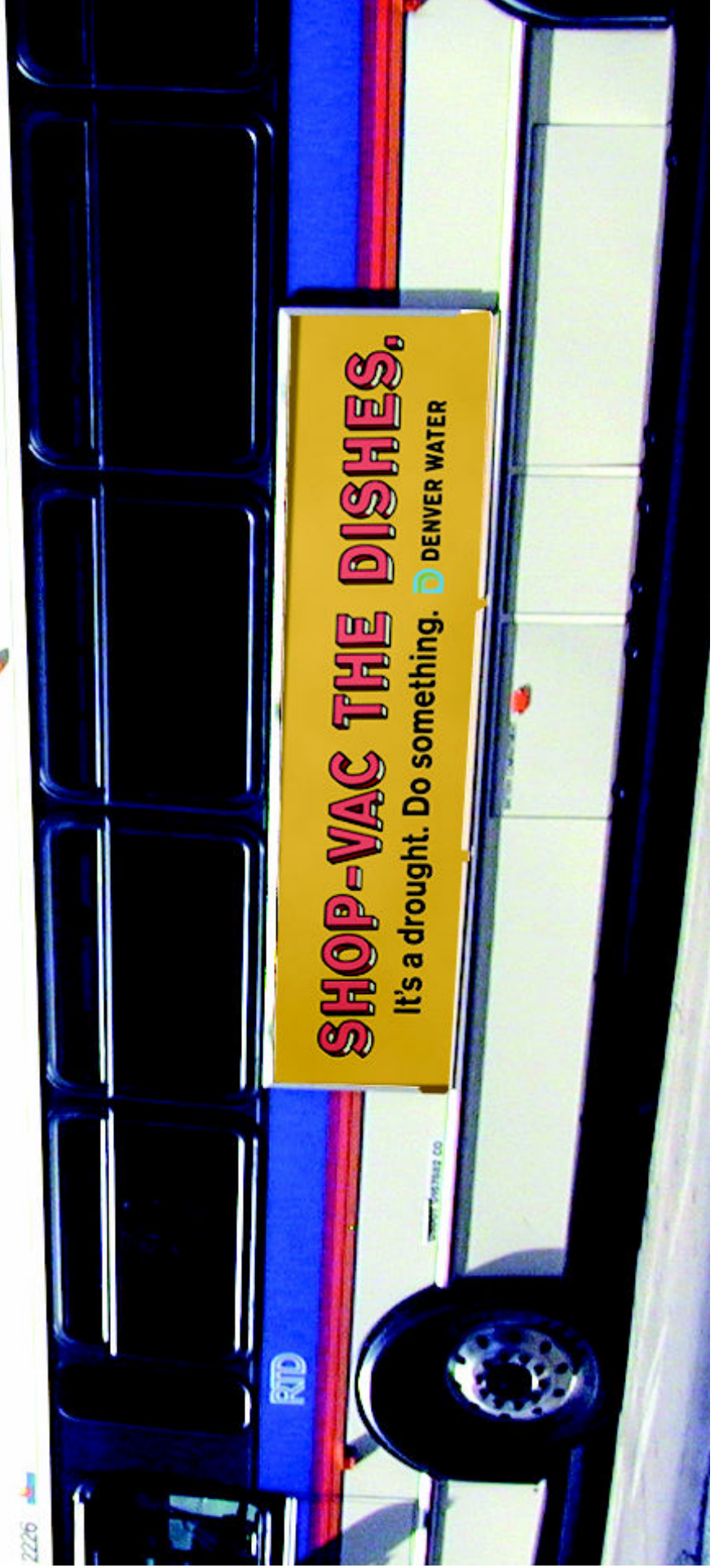
A Creative Approach to Conservation Messaging...




BRUSH EVERY OTHER TOOTH.

It's a drought. Do something.

 **DENVER WATER**



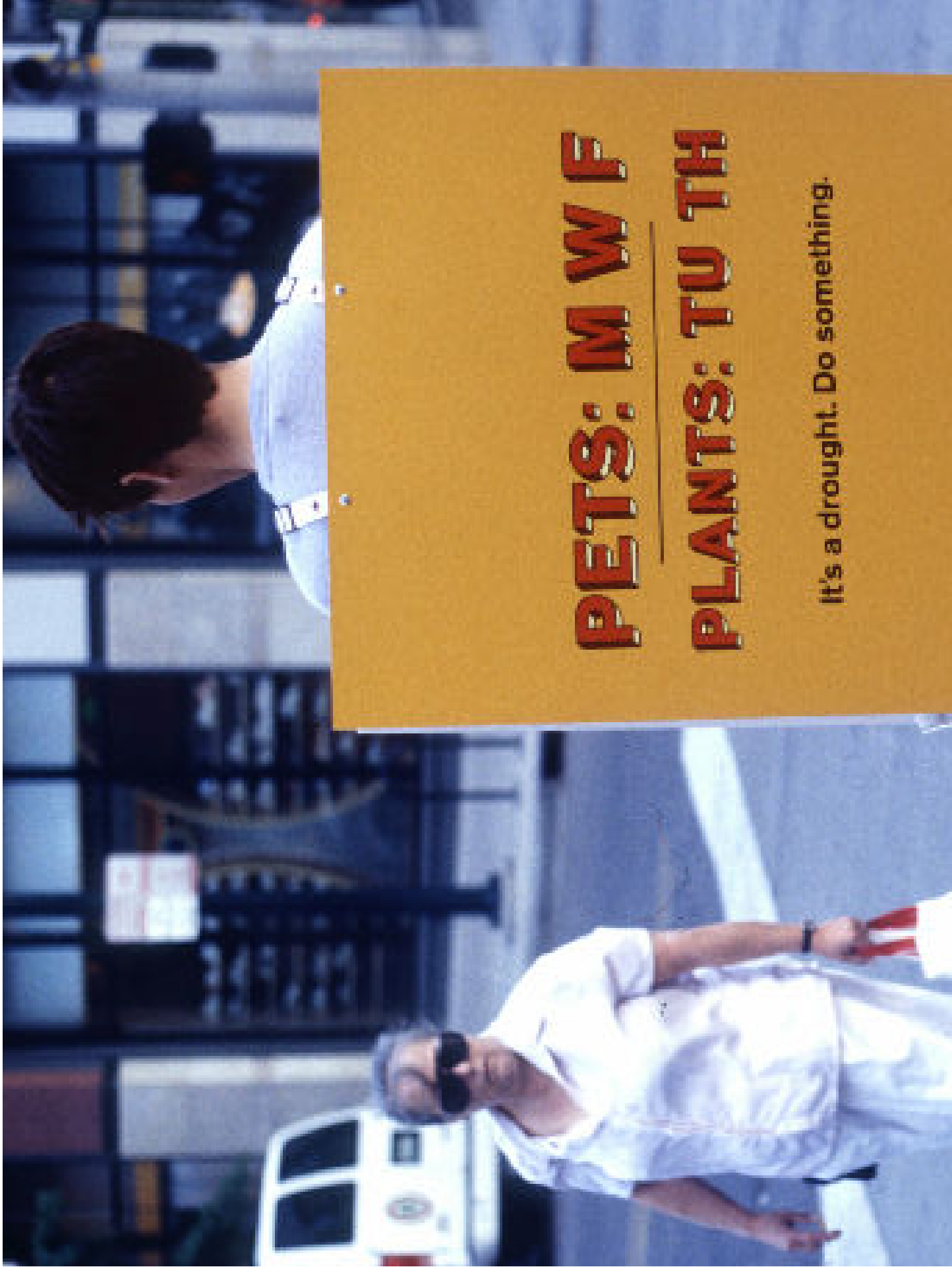
SHOP-VAC THE DISHES,

It's a drought. Do something.  DENVER WATER

0226 

RTD

www.rtd.com



PETS: M W F
PLANTS: T U T H

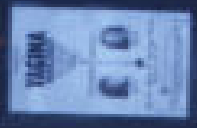
It's a drought. Do something.

SPRAY PAINT YOUR
GRASS GREEN.

It's a drought. Do something.



Glena



**ONLY WASH
THE STINKY
PARTS,**

It's a drought. Do something.



So What Does All Of This Mean?

- We must work together as an industry to promote our benefits and water efficiency
- There isn't a one size fits all, magic bullet solution for the problems.
- Water efficient products exist that can be part of the solution.
- We need to look at alternative water sources for landscape irrigation.
- The value of water will drive conservation.
- There is a need for education.



EWING

One acre foot of water ... WHAT DOES IT COST?

“New Water”
\$25,000 per
acre foot

“Conserved
Water”
\$550 per acre
foot



The value of water!



\$1,000 AF



\$325,851 AF



\$724,114 AF



\$351,980 AF



\$410,141 AF

*Sports Event,
Airport, etc*
\$2.50 /16 oz

\$6,517,029 AF

THANK YOU.

For more information,
please contact:

Tom Noonan

916 812 5034

tnoonan@ewing1.com



EWING