

This presentation premiered at WaterSmart Innovations

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A Better Way to Beautiful: Evidence that Education Changes Water Use Behavior

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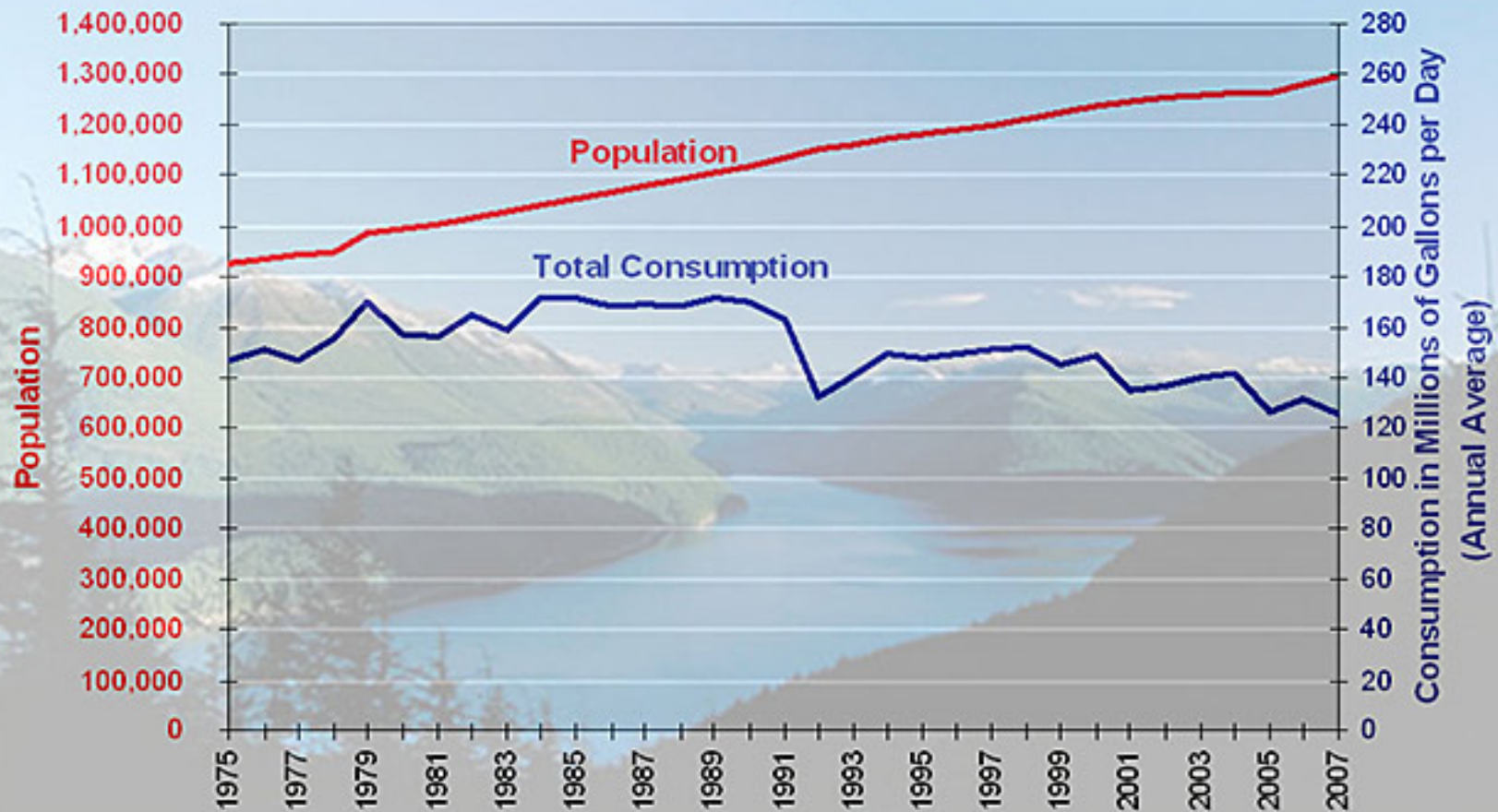
Context

- Seattle Public Utilities (SPU)
 - Provides water to over 450,000 households (~1.4 million people)
 - Partners with wholesale customers (Saving Water Partnership) to sponsor 1% Program
 - **Goal:** Reduce per capita water use 1% per year -- 10% reduction between 2000-2010
 - **Desired Outcome:** Sustainable water future by holding water demands constant despite growth
 - **Tools:** Motivate customer actions using education and social marketing to change behaviors, hardware, and conservation ethic



WATER USE DECLINED 26% SINCE 1990 WHILE POPULATION INCREASED 16%

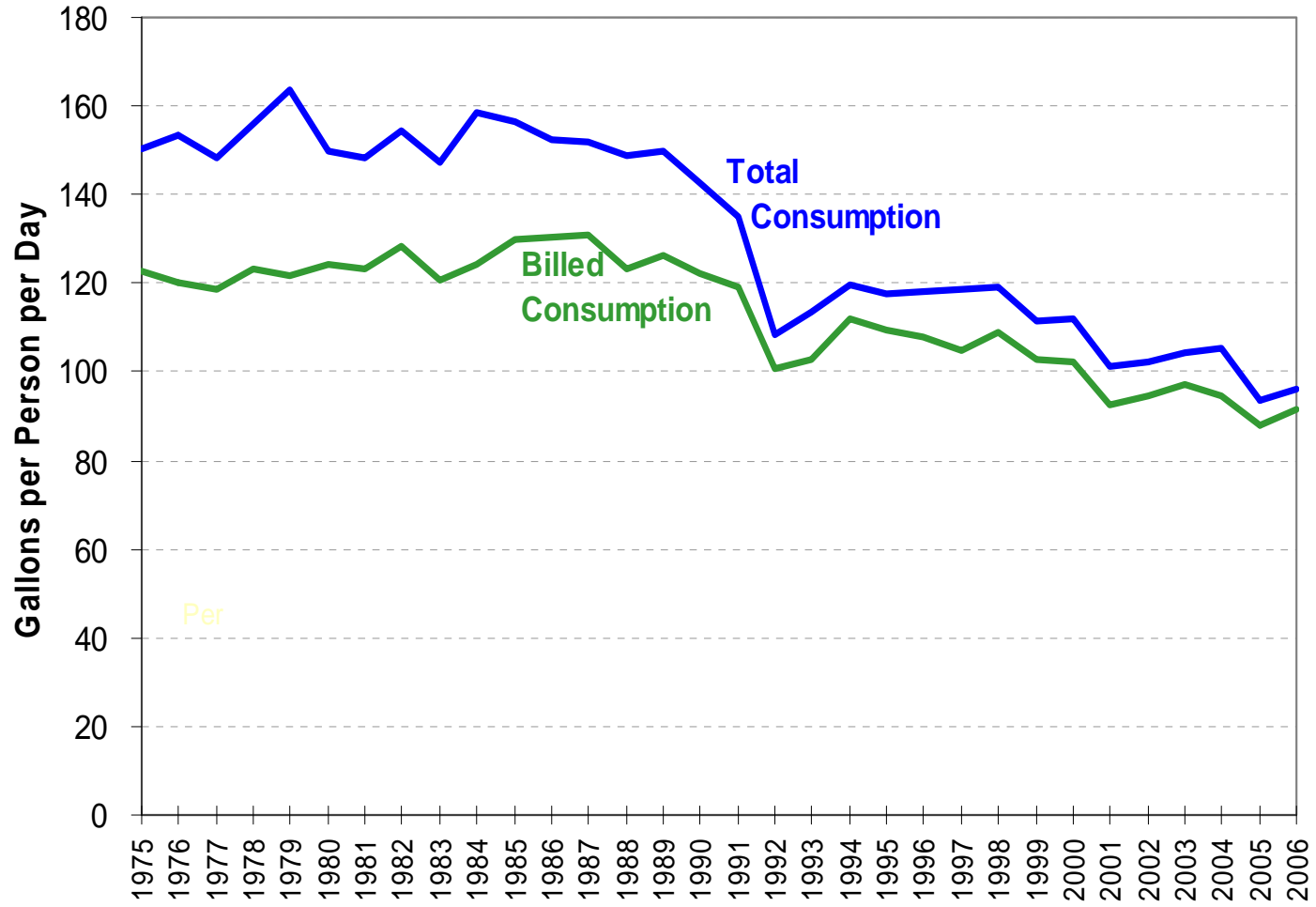
Growth in Population and Water Consumption Seattle Regional Water System: 1975-2007

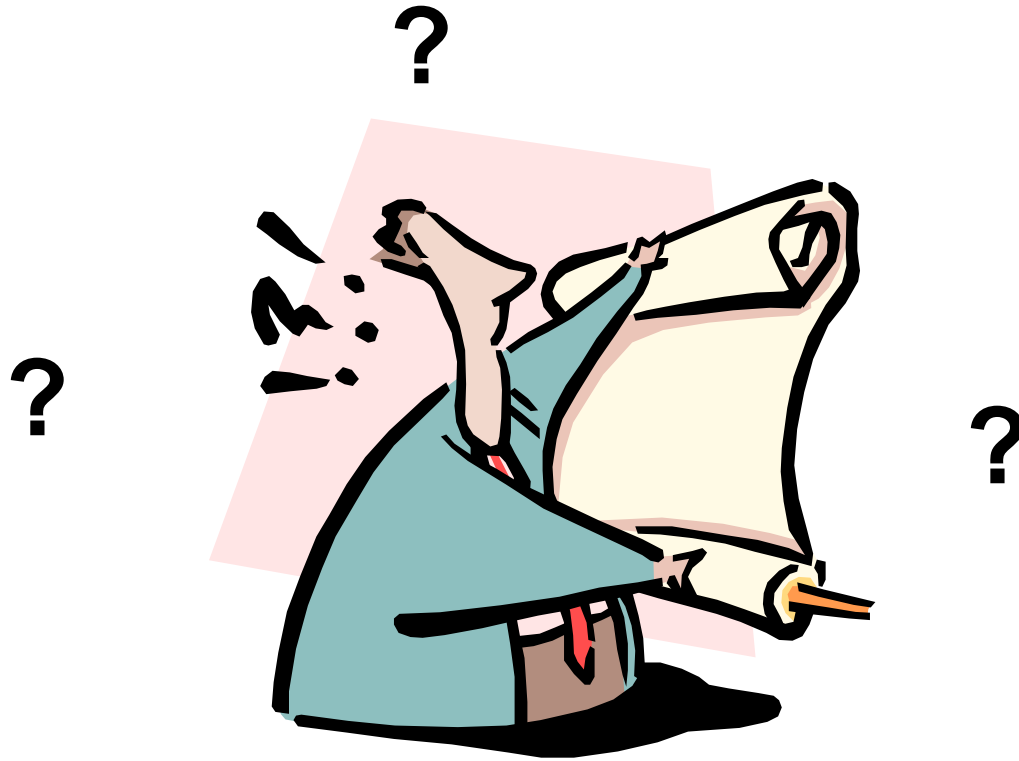


Savings On-Target

- The 1% Program has saved a cumulative total of 7.63 million gallons a day (MGD) since 2000
- Since 1990, a combination of the 1% Program, rates, codes, and system water loss reduction has resulted in savings of 44 MGD or 26% despite 16% population growth
- Per person water use reduced one-third: from 150 to less than 100 gallons per day

Total and Billed Annual Average Consumption Per Capita Seattle Regional Water System: 1975-2006





Can we better understand and measure the effects of educational programs on water savings?

Enter: 2006 Residential Study

- **Traditional**
 - Benchmark
 - Baselines
 - Program planning
 - Many topics, indoor and out
- **New**
 - **Trends (1999, 2001, 2006)**
 - **Attribution and consumption analysis**

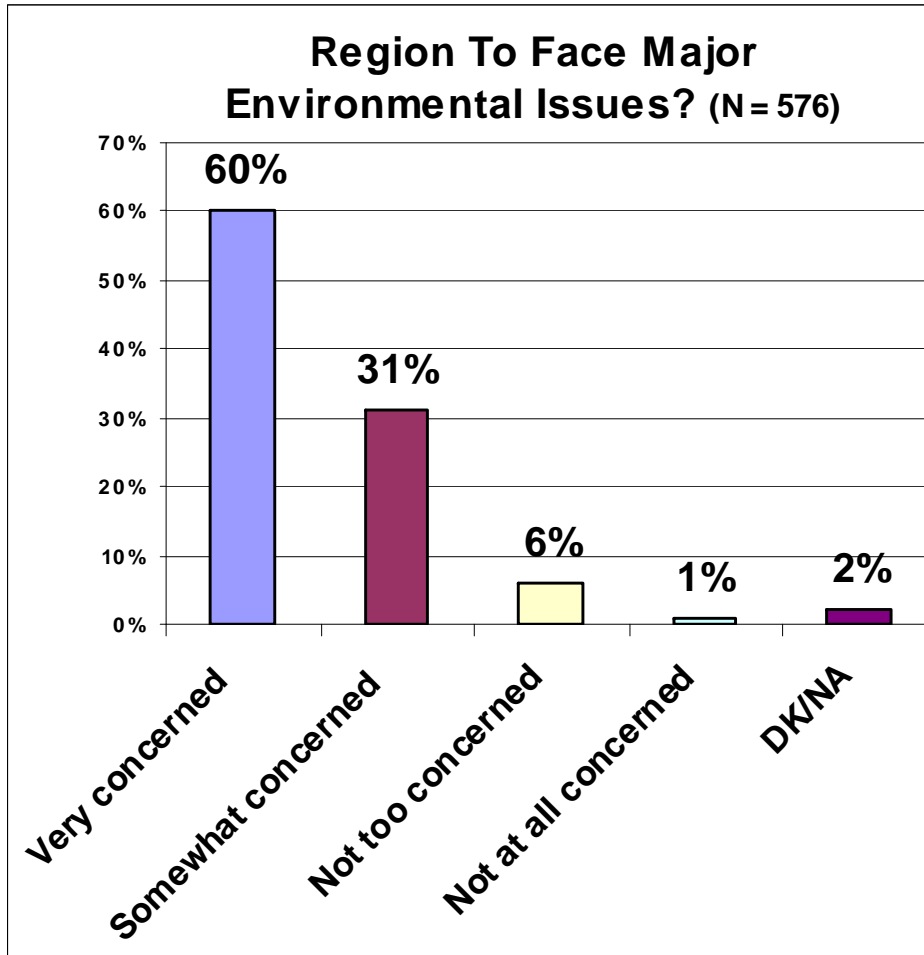
Methods

- **Survey**
 - Random sample telephone survey – Fall 2006
 - 1146 respondents, +/- 2.9% error at 95% confidence
 - Weighted to Seattle/Wholesale proportions
 - Improved minority representation
- **Attribution/Consumption Analysis**
 - **619 single family households**
 - **High, Medium, Low consumption groups**
 - **Analyzed survey variables & consumption**

Study Conclusions

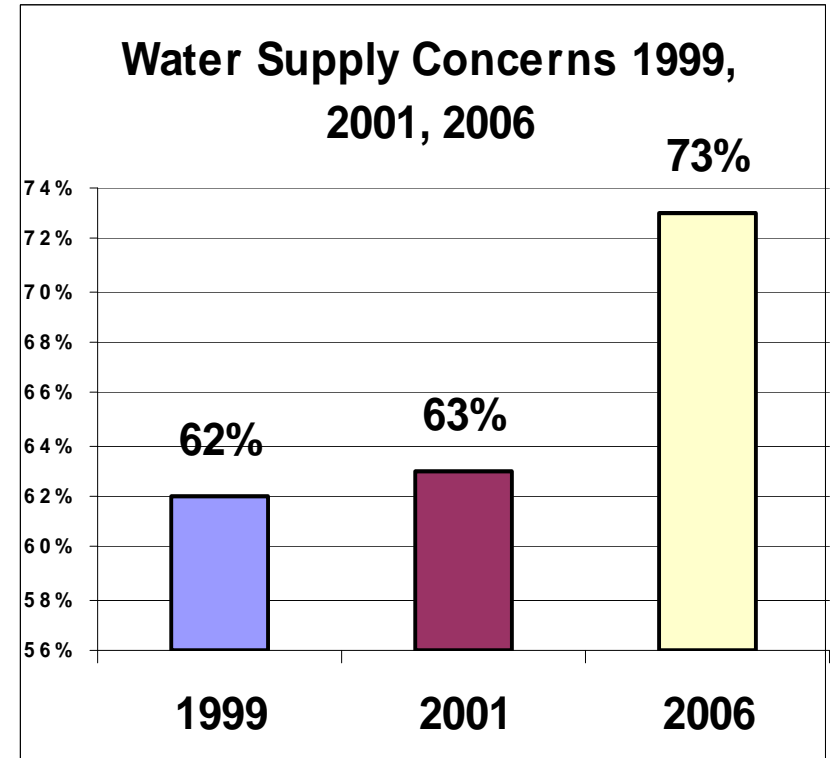
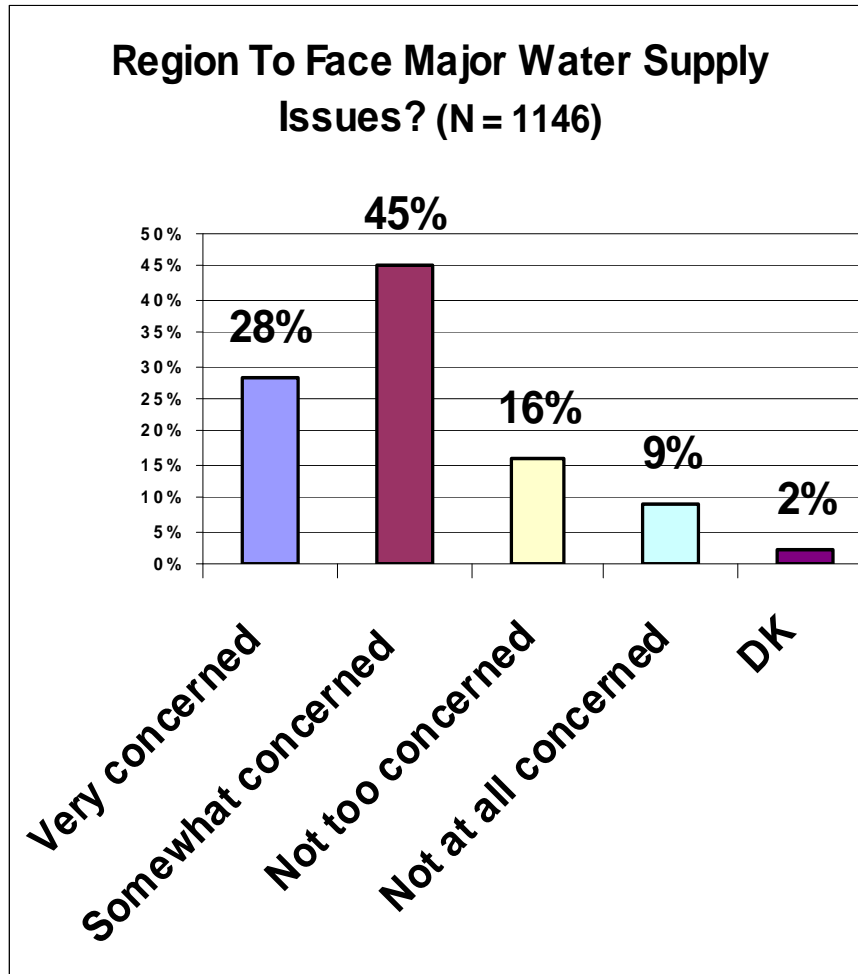
- Customers voice strong environmental concerns
- Customers can't gauge use
- Social trends present challenges
- **Awareness of utility water conservation programs has declined**
- **Program awareness linked to:**
 - **More actions taken**
 - **Less water used**

Environmental Concerns High



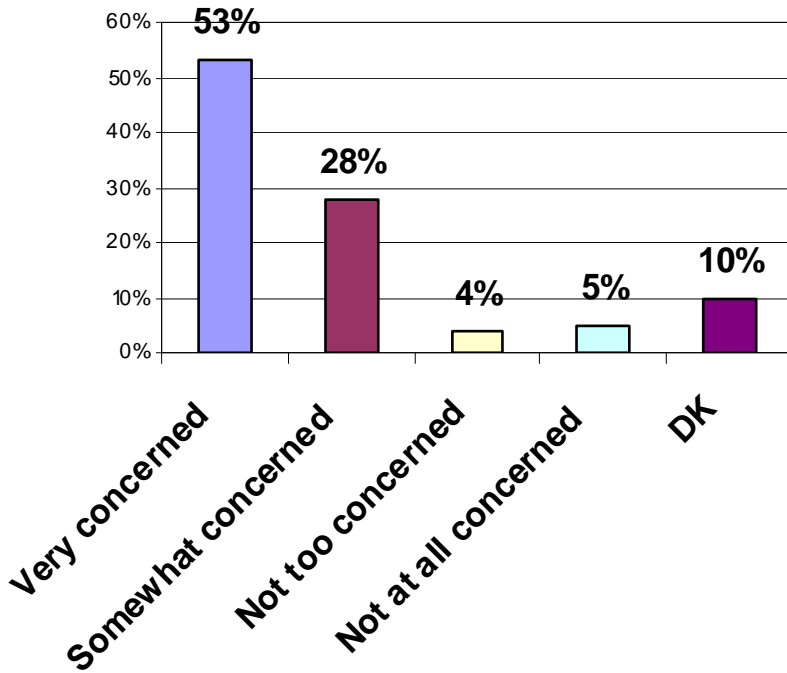
- **Why?**
 - **Water Issues**
 - **Air pollution**
 - **Population growth**
 - **Traffic**
 - **Climate change**

Environmental Concerns, cont.

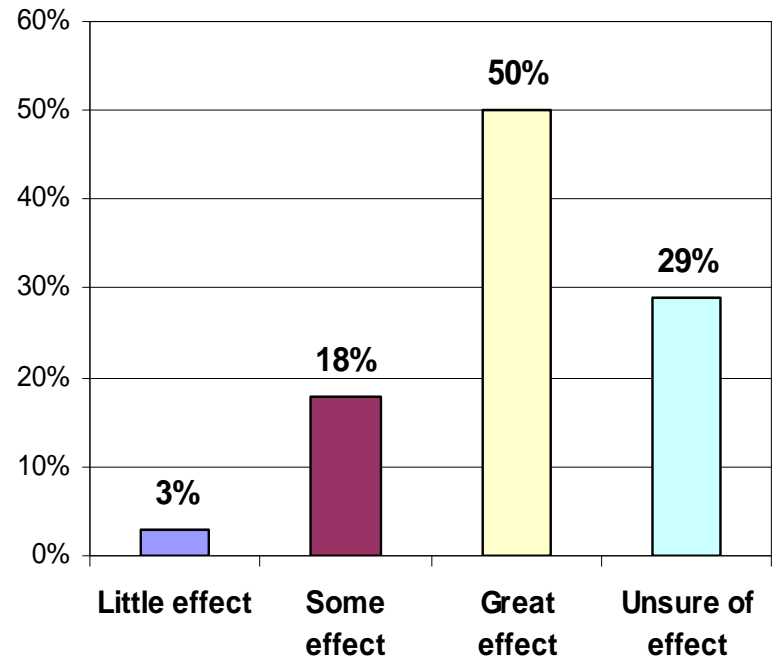


Environmental Concerns, cont.

Concern About Global Climate Change?



Effect of Global Climate Change on Water Supply



Water Use Perceptions Fuzzy

- Many customers can't accurately gauge high, medium, low use
 - Especially acute among high users
- Low users aren't reinforced for "good" behavior
- While bi-monthly graph helps, doesn't analyze use relative to desired level

Trends Signal Challenges Ahead

- **Outdoor: Increase in avid gardeners**
 - High users:
 - Are passionate; hire pros; water more often; have auto-irrigation systems
 - Take more conservation actions
 - Want a healthy garden
 - Look like older, affluent baby boomers
- **Indoor: Increase in spa bathrooms**
 - Medium and High users have more showers and multiple showerheads

Awareness of Conservation Programs Down

N.S. for 2001						
Sig. for 2006	Seattle	Wholesale	Weighted Population	Seattle	Wholesale	Weighted Population
	2001			2006		
	%	%	%	%	%	%
Yes	82	86	84	72	60	68
No/Don't Know	18	14	16	28	40	32
N =	530	505	1032	896	250	1146

BUT Awareness & Participation Appear Key to Reduced Use

- Aware households report more actions taken**
- Aware households consume less water**

Per Household Water Use Attribution Analysis

	Aware	Unaware	Aware	Unaware
	Peak/ Day	Peak/ Day	Off-Peak/ Day	Off- Peak/ Day
Mean Consumption in Gallons	231	238	160	162
Median Consumption in Gallons	185	190	129	139
N =	462	143	459	140

Per person peak consumption 10% less in Aware Households

Per Person Water Use Attribution Analysis

	Aware	Unaware	Aware	Unaware
	Peak/ Person/ Day	Peak/ Person/ Day	Off-Peak/ Person/ Day	Off-Peak/ Person/ Day
Mean Consumption in Gallons	103	115	68	73
Median Consumption in Gallons	74	77	53	55
N =	462	143	459	140

Recommendations

- Increase education efforts regarding future water supply, especially effects of climate change
- Launch program awareness building campaign
- Develop better tools to help customers grasp how current use compares to desired use
- Adopt wider definition of High Water Users
- Focus on very interested gardeners, auto irrigators, indoor trends, leaks

Thanks!

Questions?



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For more info on the 1% Program see:

www.savingwater.org

To download the study report:

<http://savingwater.org/docs/2006Regional%20Survey.pdf>

PSST– Read this Book: *Predictably Irrational* by Dan Ariely