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*The Art of Sustaining  
Conservation Awareness and  
the Science of Measuring the Results*

# **Assessing the Effectiveness of the Conservation Public Information Campaign**

**Noel Nielson  
Dallas Water Utilities**

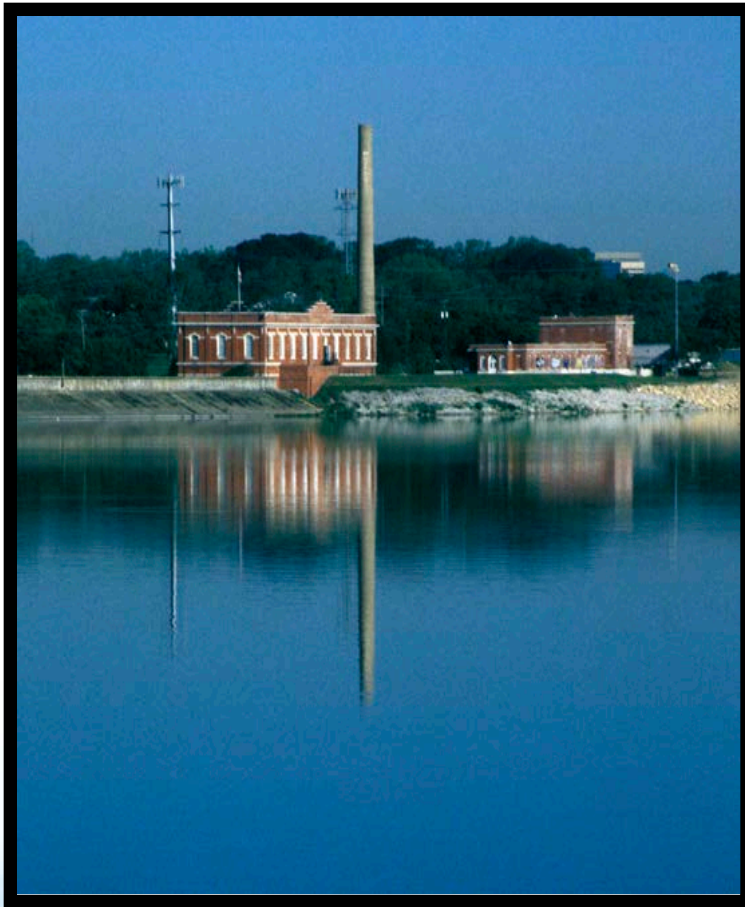
**Fujiang Wen  
Dallas Water Utilities**

# AGENDA

- **DWU Quick Facts & Conservation Efforts**
- **Survey Rationale**
- **2012 Survey Highlights**
- **Measuring the Results**



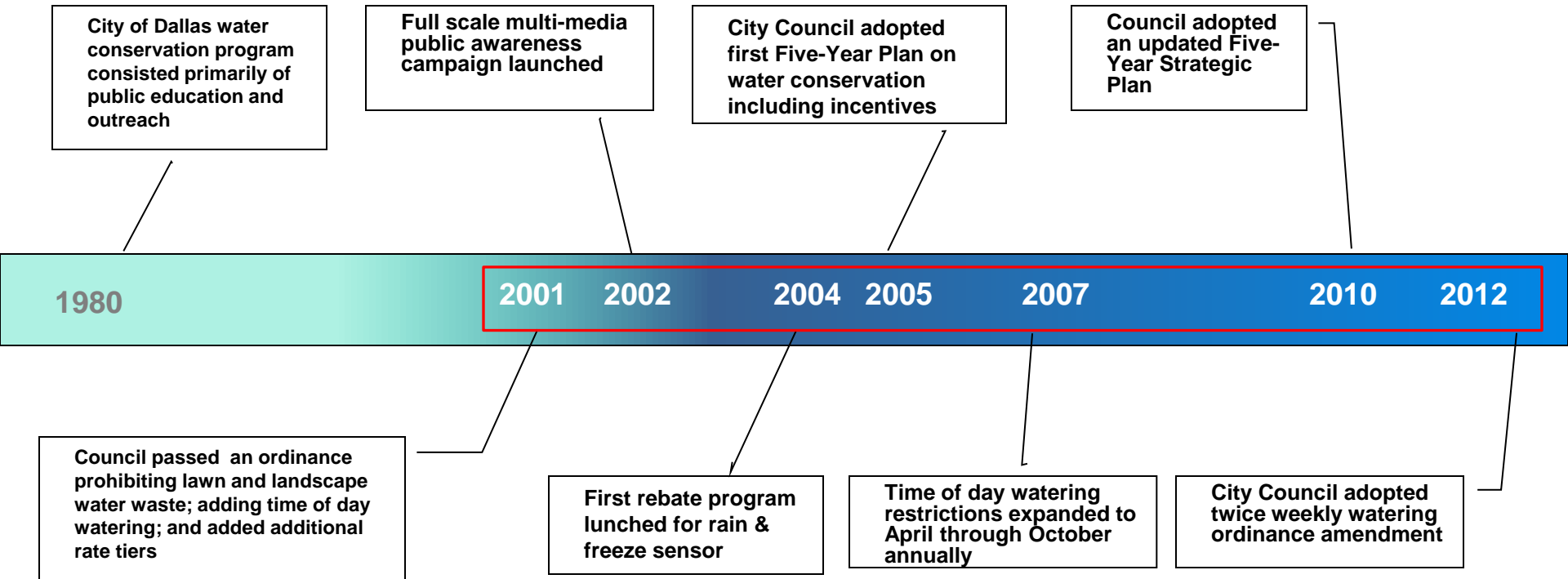
# Dallas Water Utilities Quick Facts



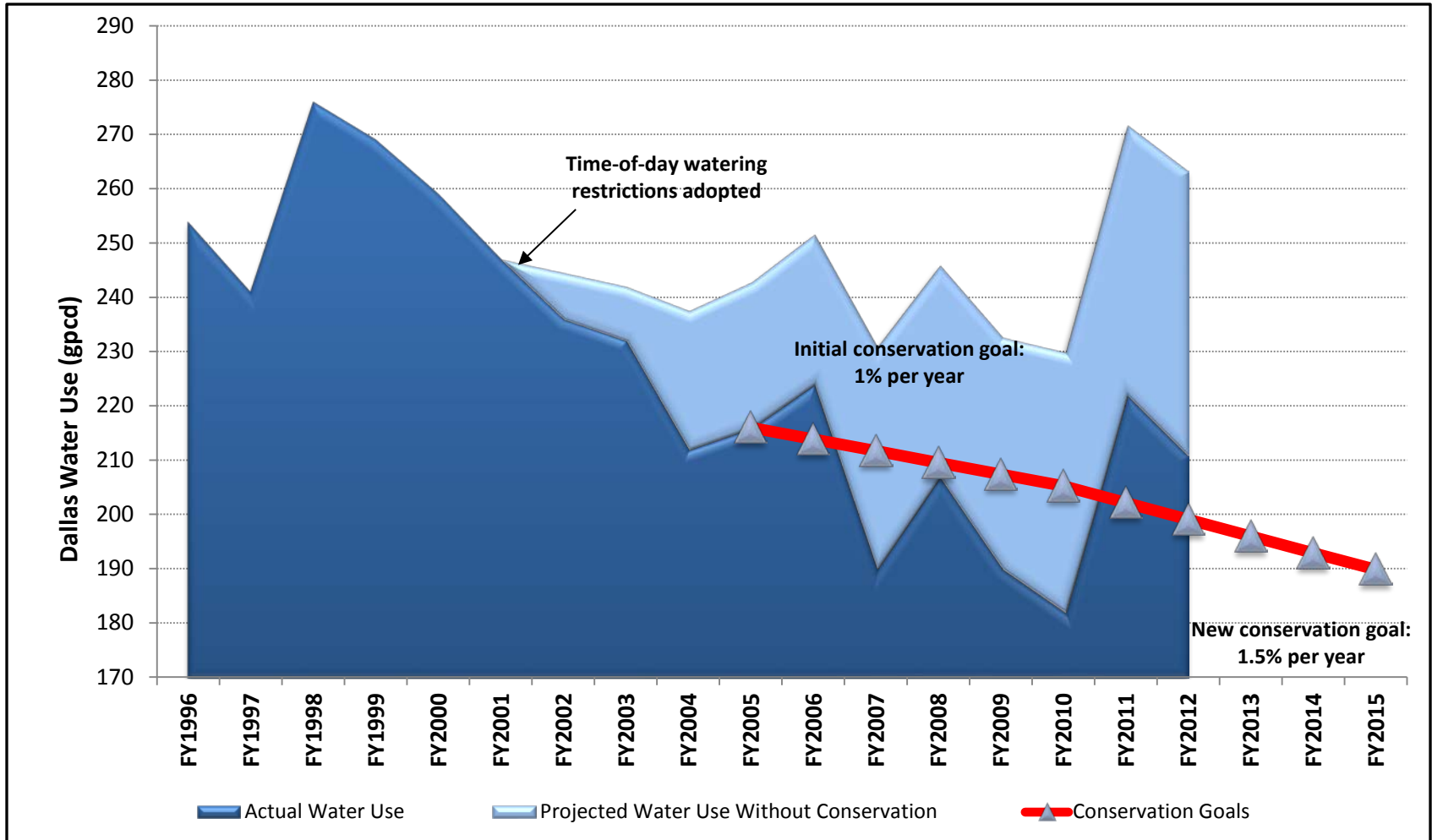
White Rock Pump Station

- Founded in 1881
- Water supply from 6 reservoirs
- Funded from water and wastewater revenues, receives no tax dollars
- Approximately 1,500 employees
- Population served -- **2.4 million**
  - 1.2 million in Dallas (retail)**
  - 1.2 million - 27 wholesale customers**
- 699 square mile service area
- 306,000 retail customer accounts
- Treated 145 BG of water and 56 BG of wastewater in FY12

# DWU Water Conservation Program Timeline



# Dallas GPCD Trend



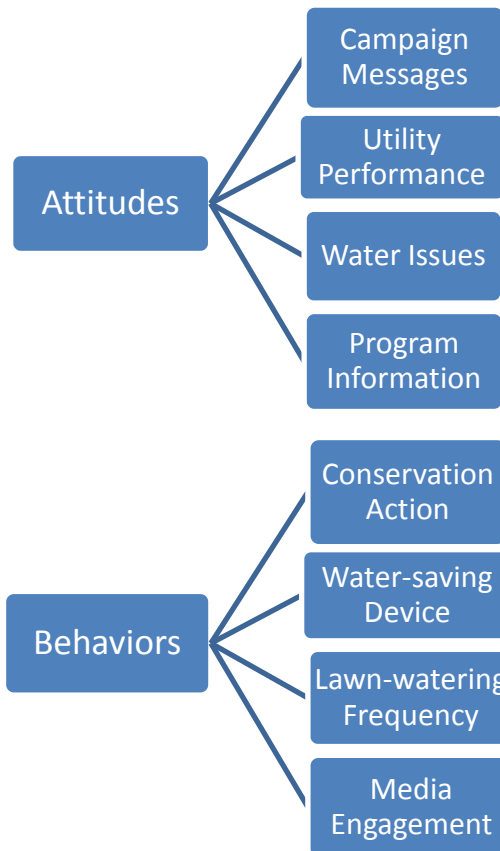
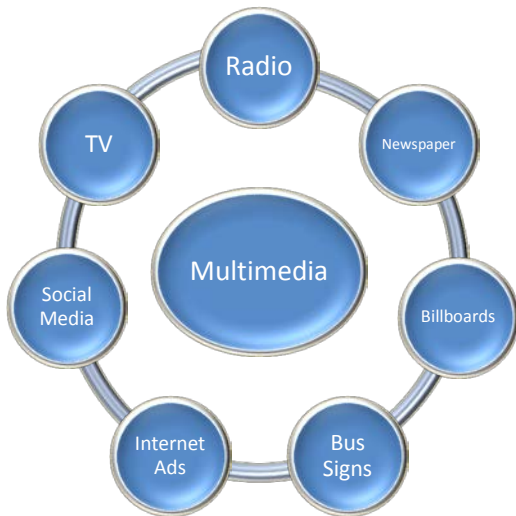
Conservation efforts have worked in tandem to save 165 billion gallons since 2001

# Survey Rationale

Intervention: Multimedia

Survey Design: Attitudes & Behaviors

Survey Analysis: Attitudes, Perception, & Behaviors



# 2012 Survey Highlights



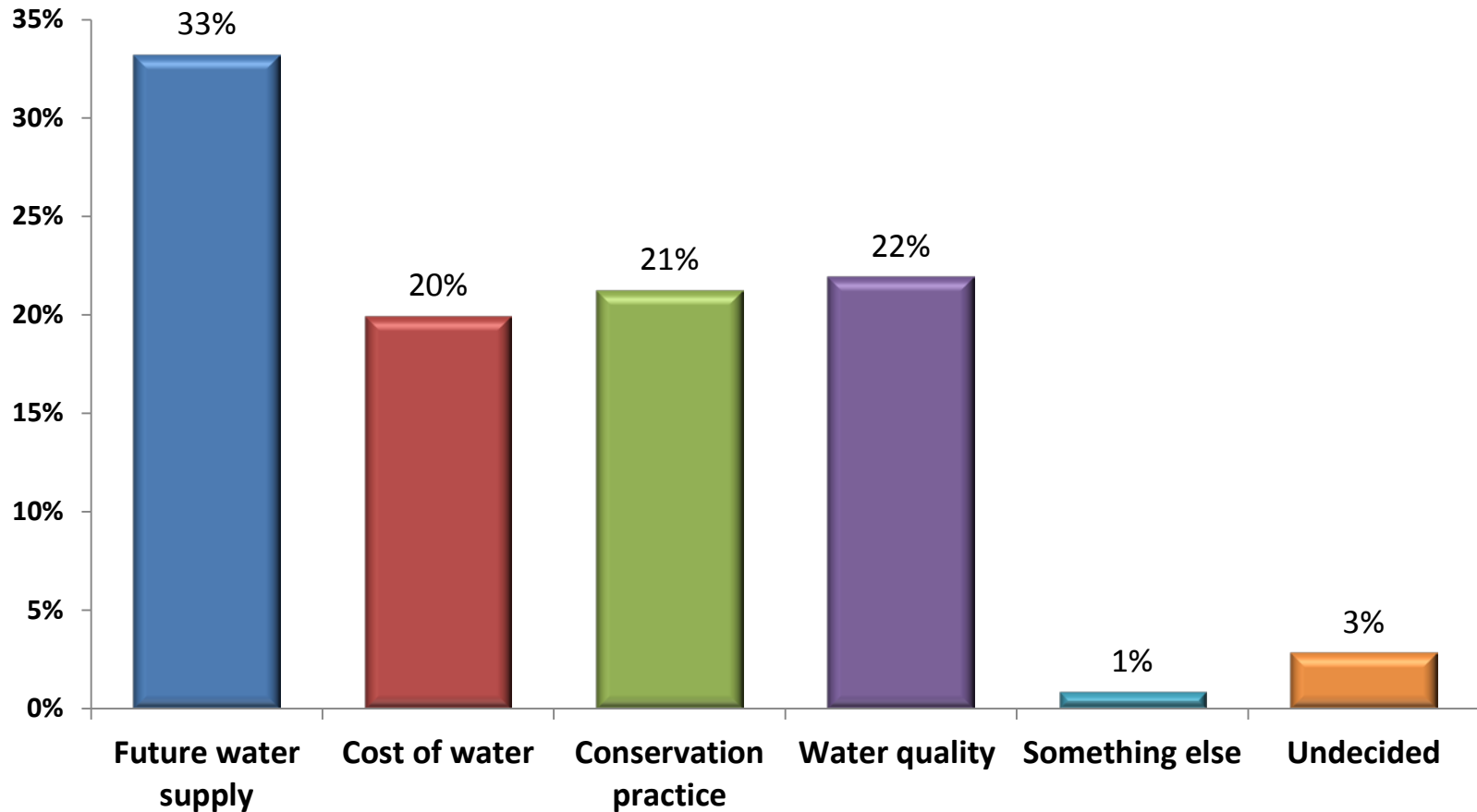


# 2012 Survey Parameters

- Survey conducted over one week period in September
- Total of 58 survey questions
- 602 interviews conducted (402 telephone surveys, 200 online surveys)
- Diverse mix of ethnicity, age, gender, education, and income:
  - 58% white
  - 27% African-American/Black
  - 15% Hispanic/Mexican-American/other
  
  - 35% of respondents over 65 years old
  - 34% of respondents were 45 to 64 years old
  - 28% of respondents 44 years old or younger

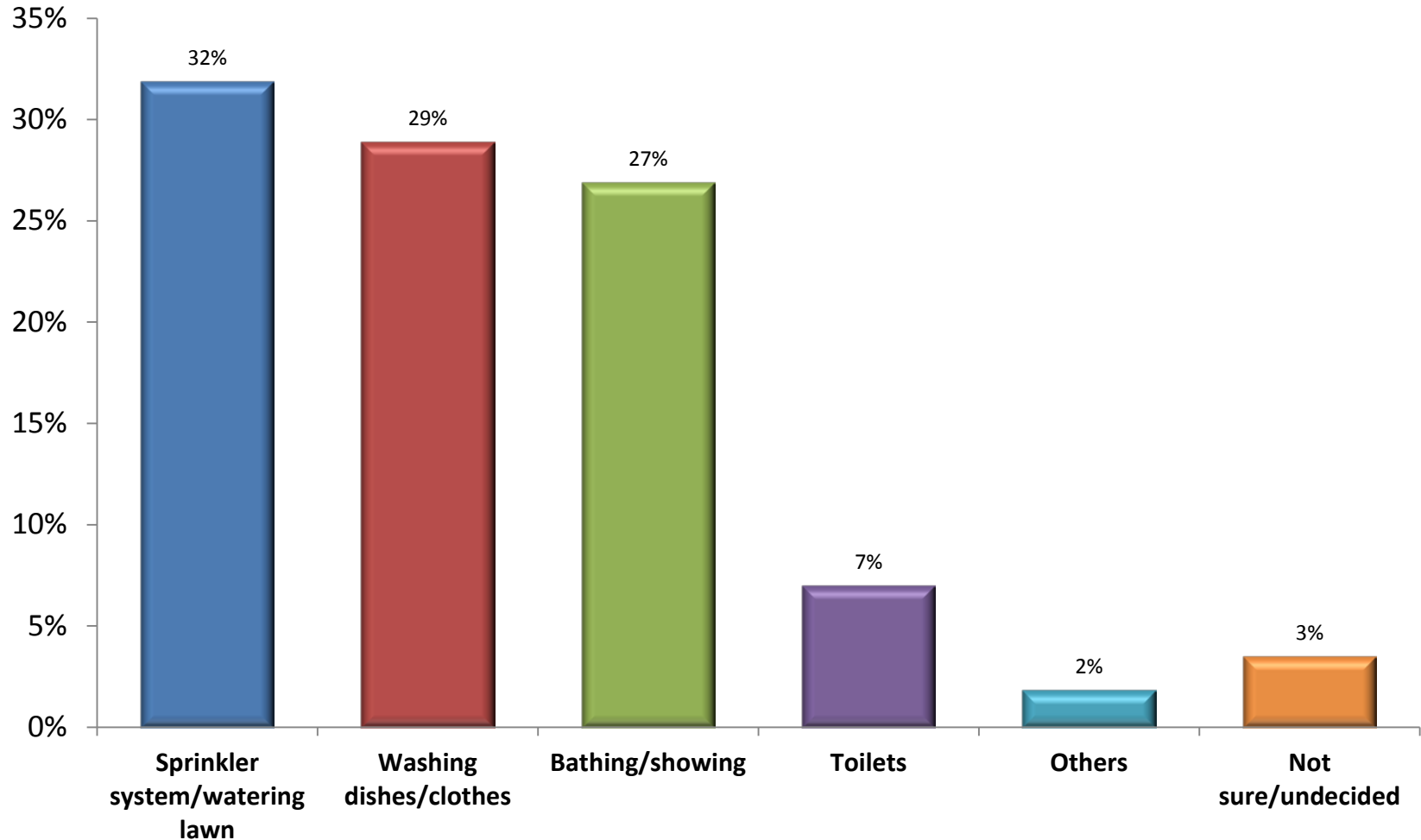
# Single Most Important Water Issue

Which of the following do you feel is the single most important water-related issue facing your area of Dallas today?



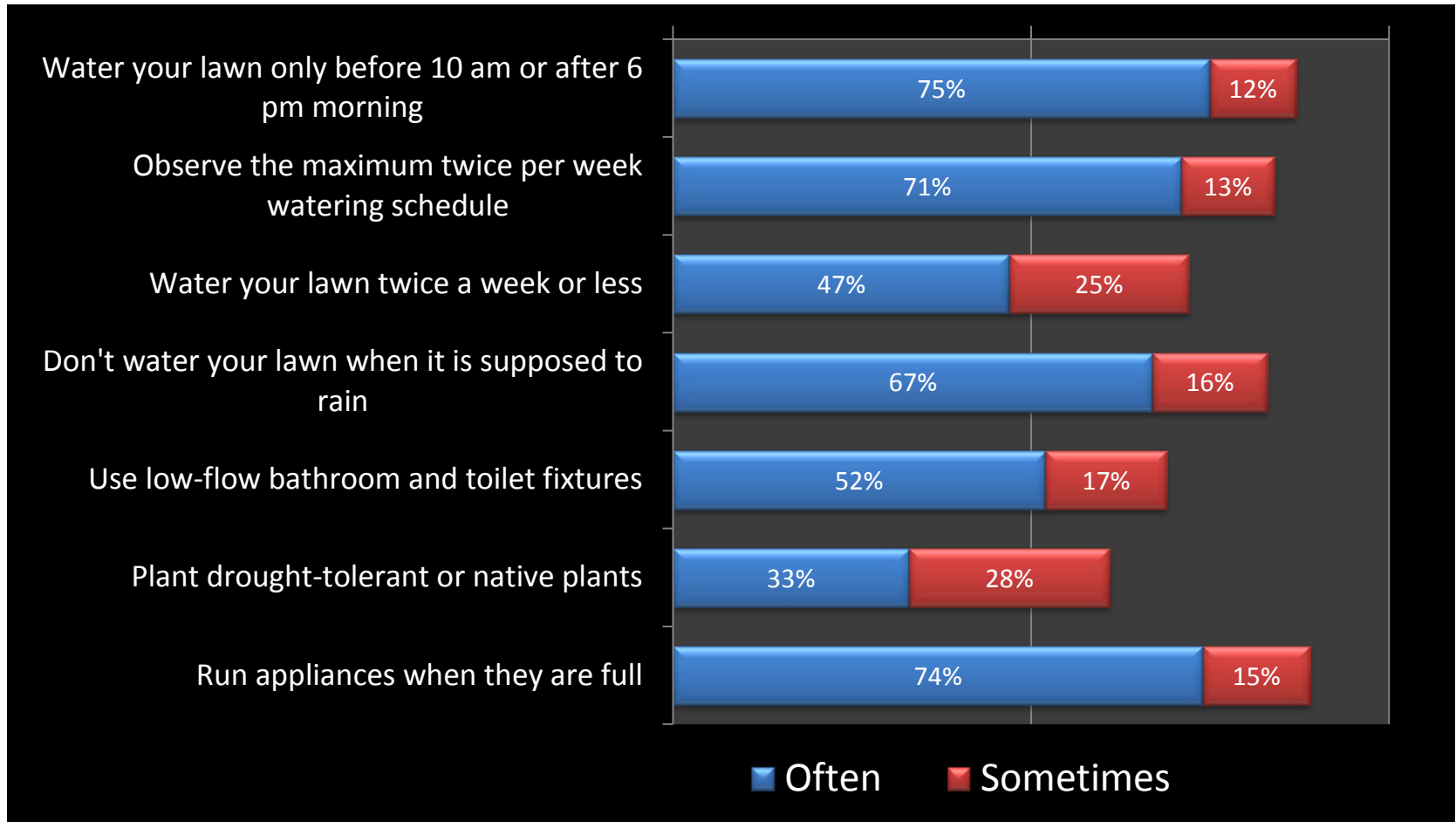
# Perception of Residential Water Use

Which of the following accounts for the largest percentage of water use at your residence?



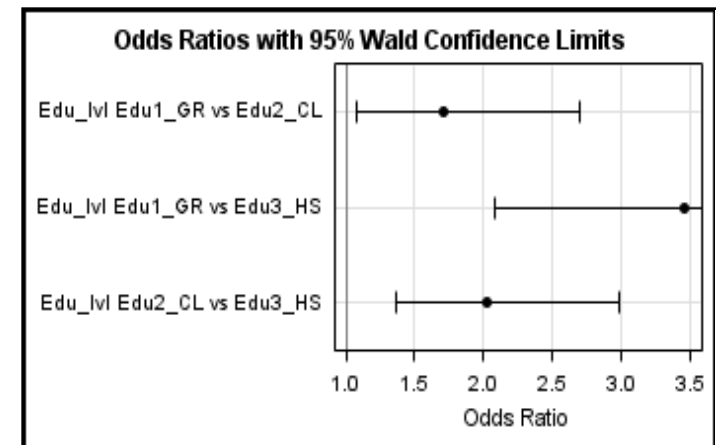
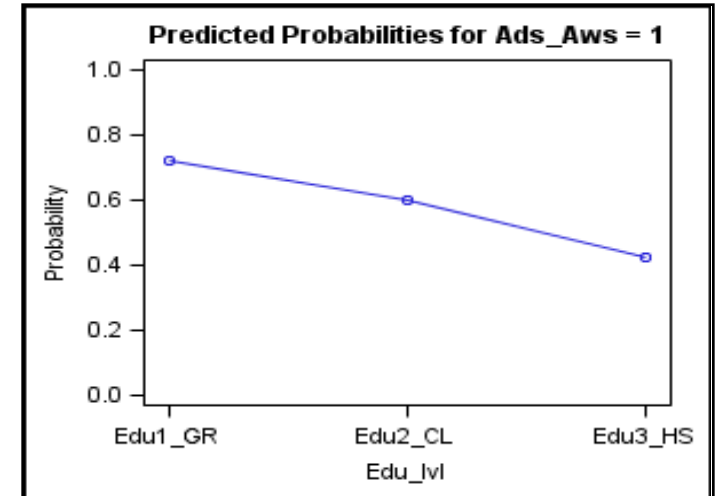
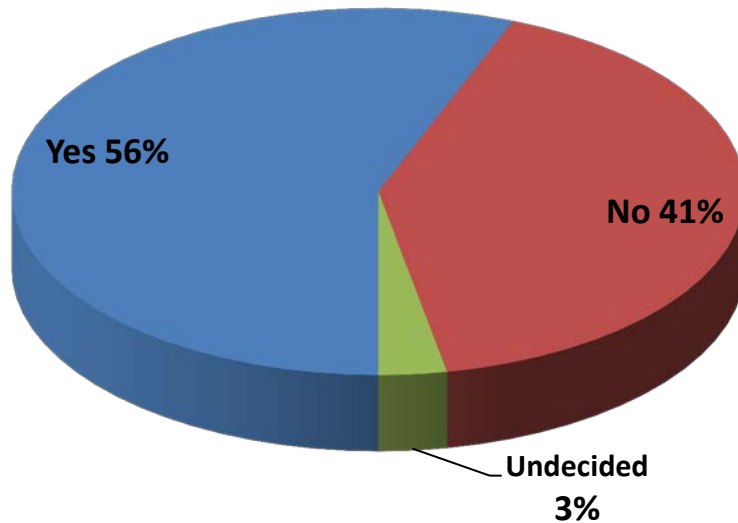
# Water Conservation Actions Taken

Do you take these water conservation actions?



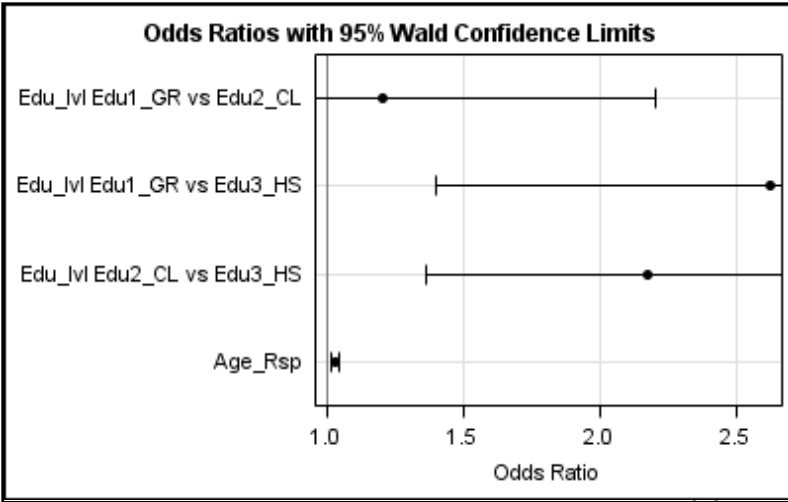
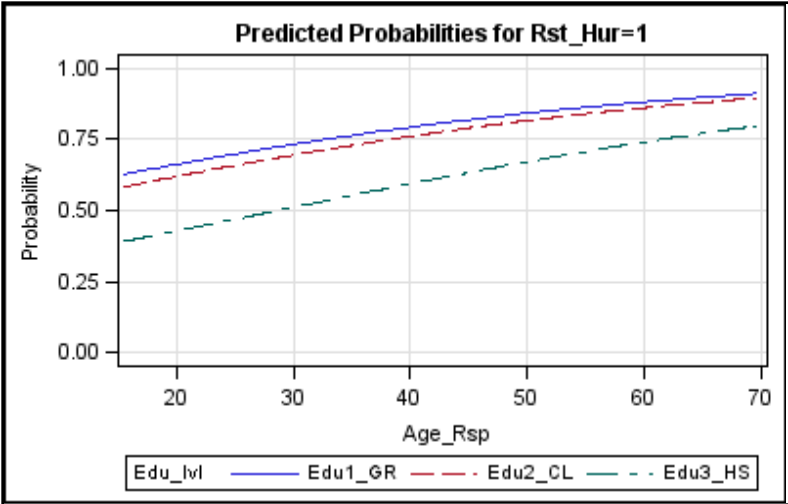
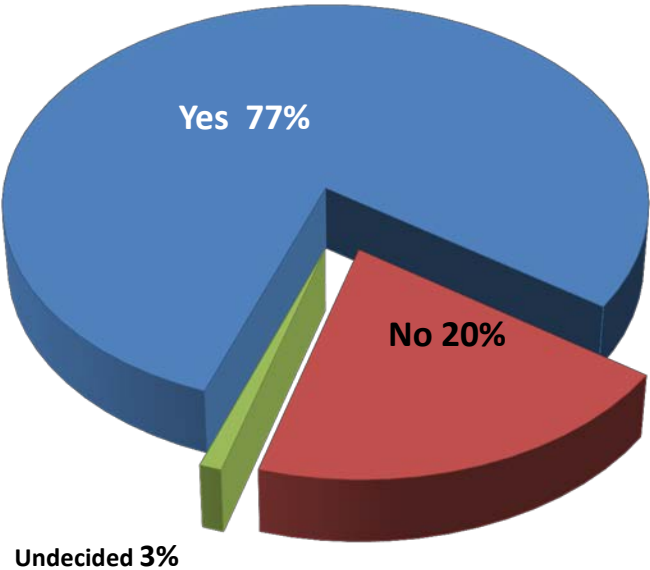
# Advertising Campaign Awareness

Have you seen, read or heard any advertisements or public service message recently related to saving water or water conservation?



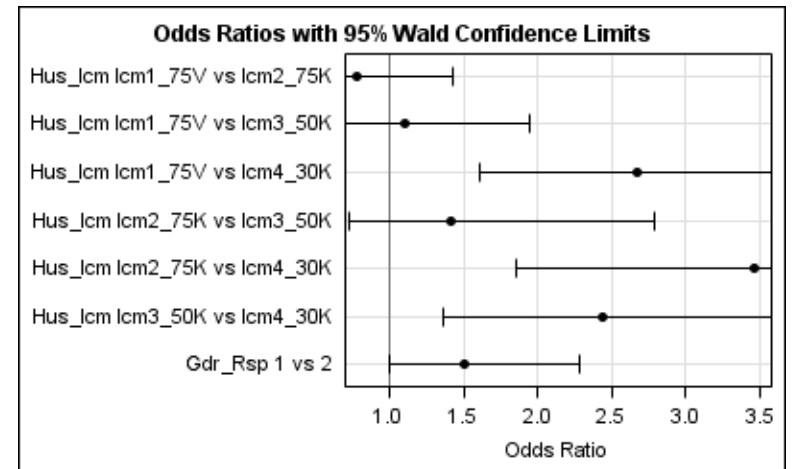
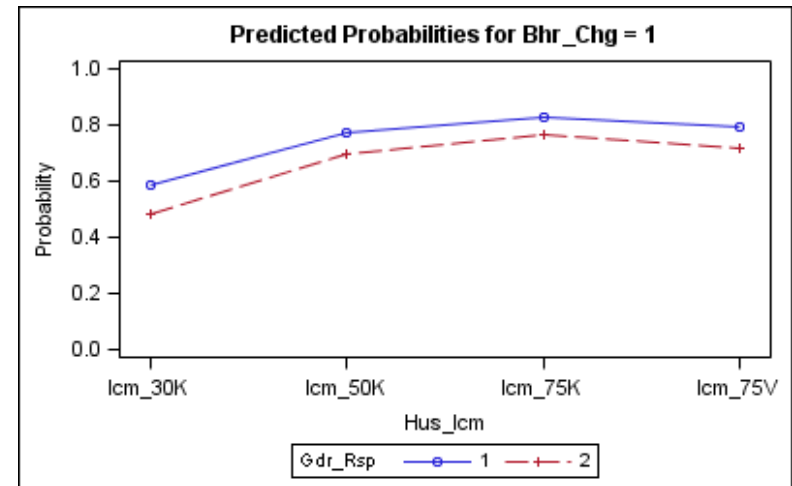
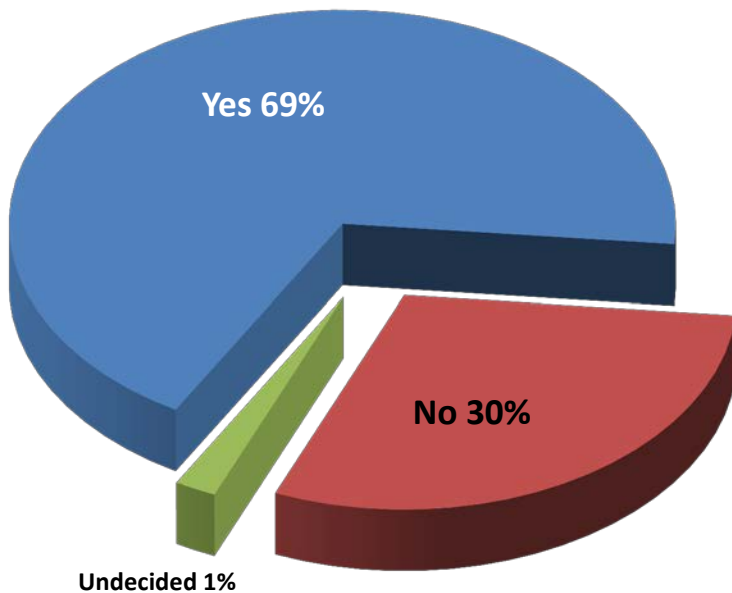
# Ordinance Awareness

Have you heard, seen, or read anything lately about the City of Dallas prohibiting the watering of lawns between the hours of 10 a.m. and 6 p.m. from the months of April to October?



# Perceived Behavioral Changes

Over the past few years, have you changed your behavior as it relates to water use as a result of what you have read, heard or seen from public service watering guideline messages and educational tips?



# Survey on Twice-Weekly Watering Restrictions

- Frequency of drought conditions and future supply shortages drive home the need to strengthen lawn and landscape watering guidelines
- Twice-weekly watering requirements can reduce outdoor water use by up to 16%
- Permanently adopting twice-weekly requirements will further extend Dallas' current water supplies







# Twice weekly watering schedule now permanent

City ordinance changed on April 23, 2012.

## City of Dallas Maximum Twice Per Week Watering Schedule

### Last Digit of Address

0, 2, 4, 6 or 8 (even numbers)

1, 3, 5, 7 or 9 (odd numbers)

No address number

### Watering Days Allowed

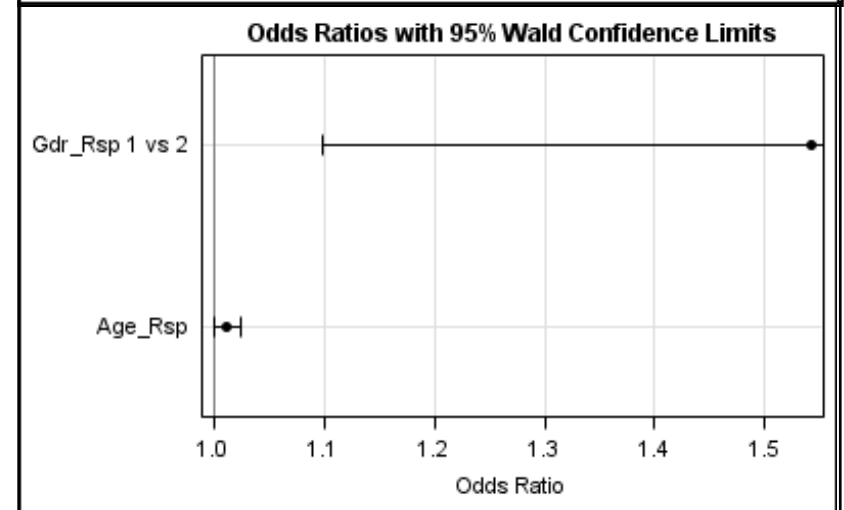
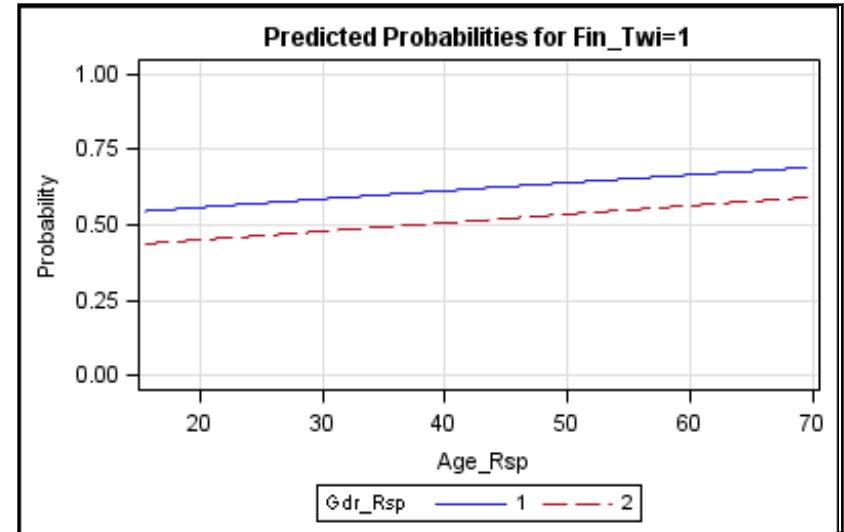
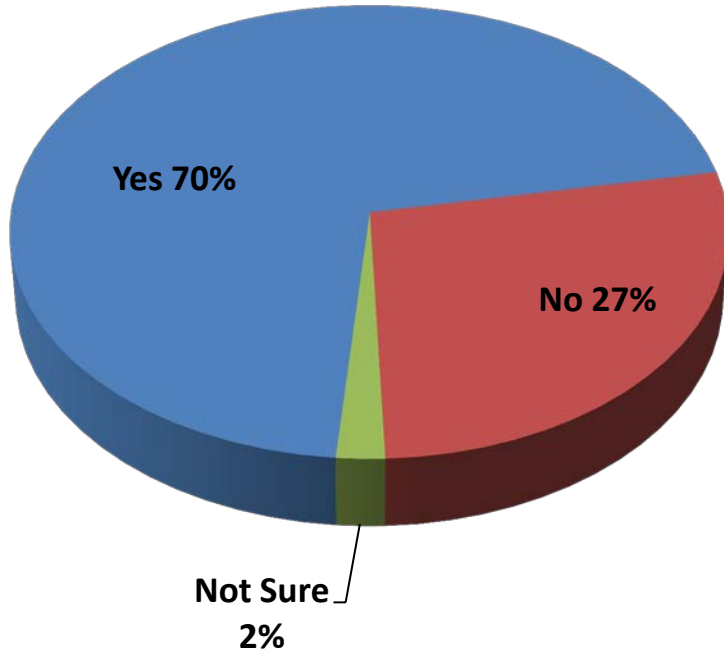
Sundays and Thursdays

Saturdays and Wednesdays

Sundays and Thursdays

# Twice-Weekly Watering Restriction Campaign

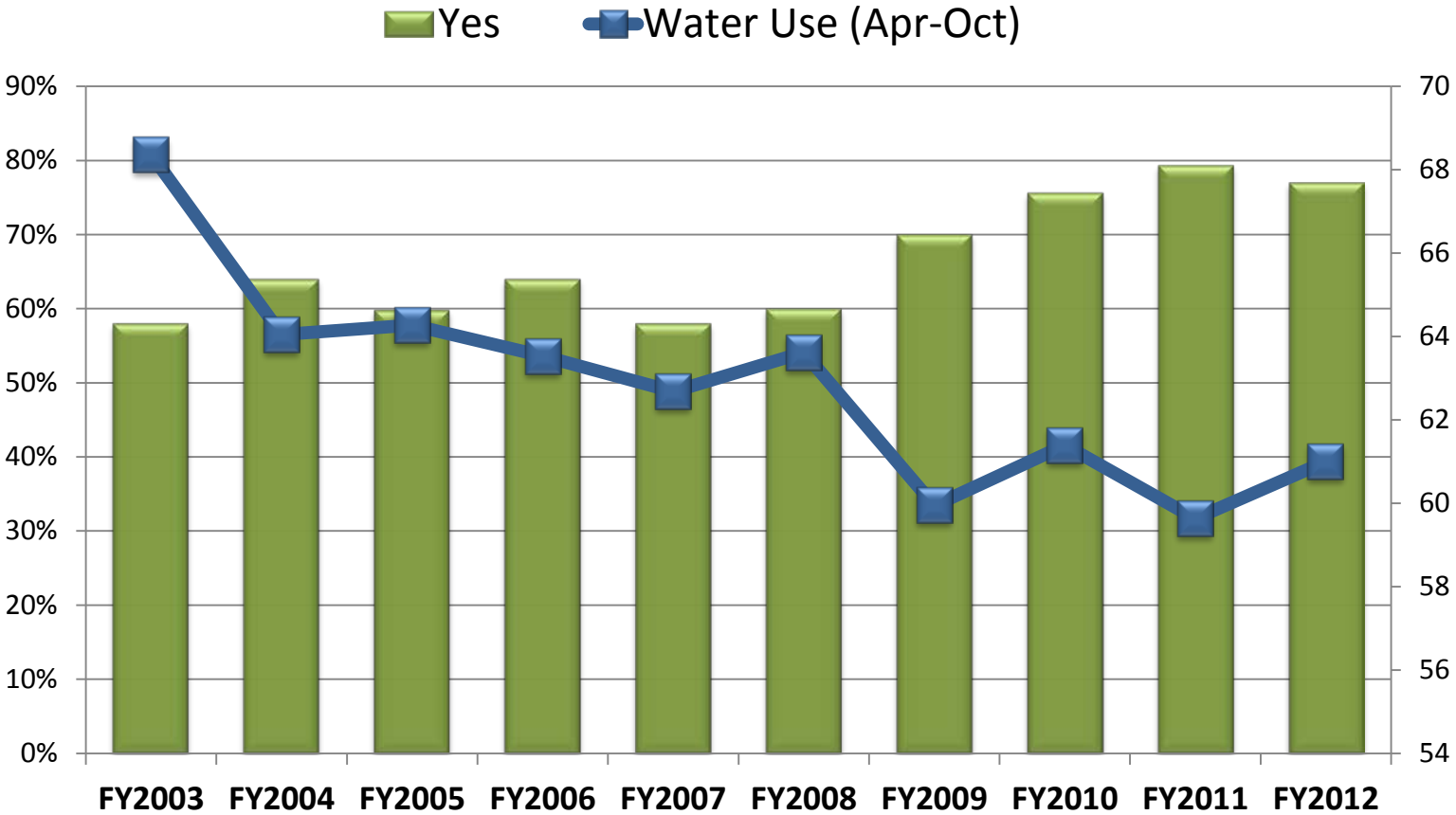
Have you heard, seen, or read anything lately about the City of Dallas mandatory no more than twice per week watering schedule?



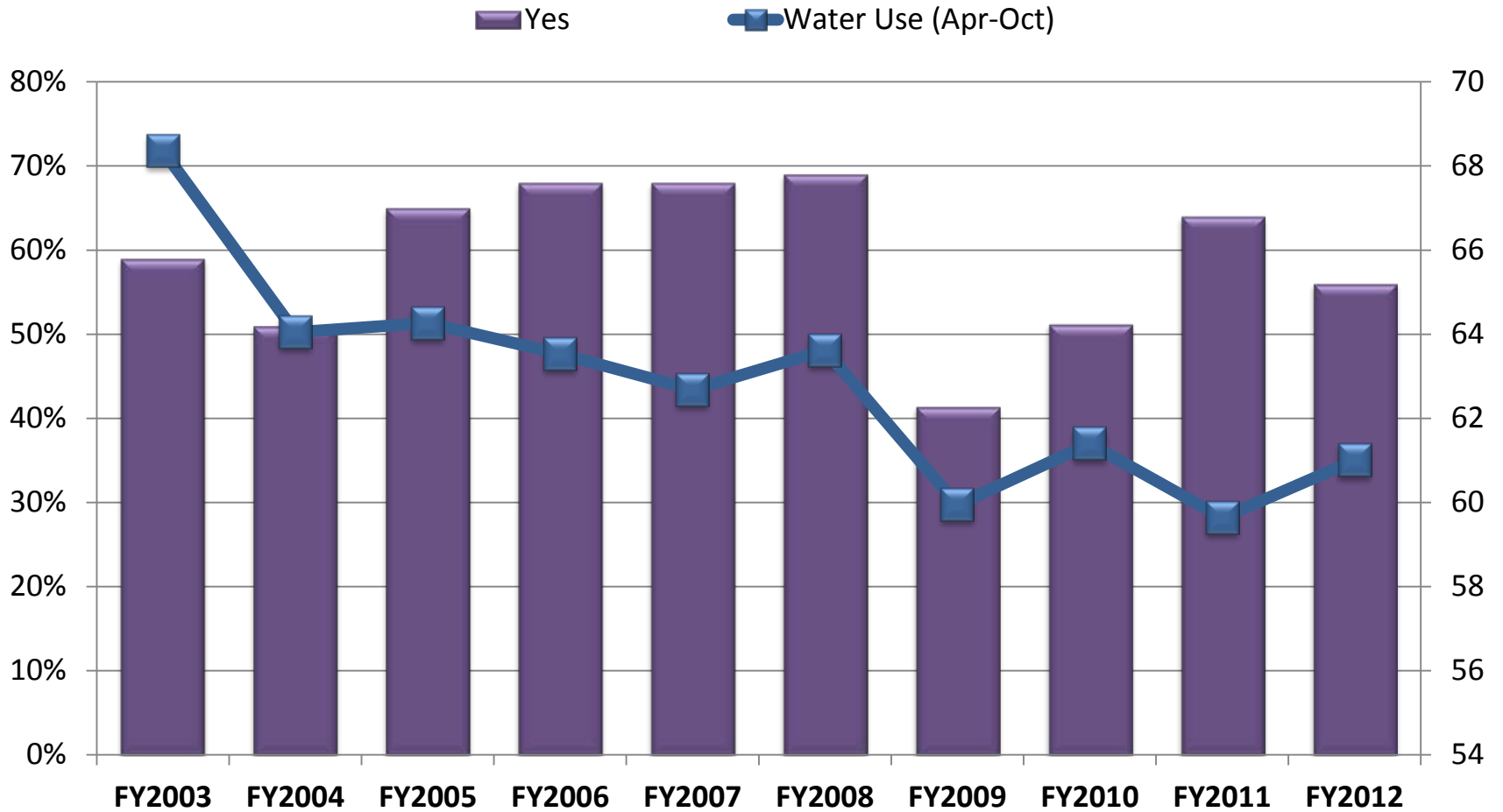
# Measuring the Results

- Based on 10 annual surveys
- Association between water demand and public information awareness
- Three primary indicators
  - Attitudes
  - Perceptions
  - Behavioral changes

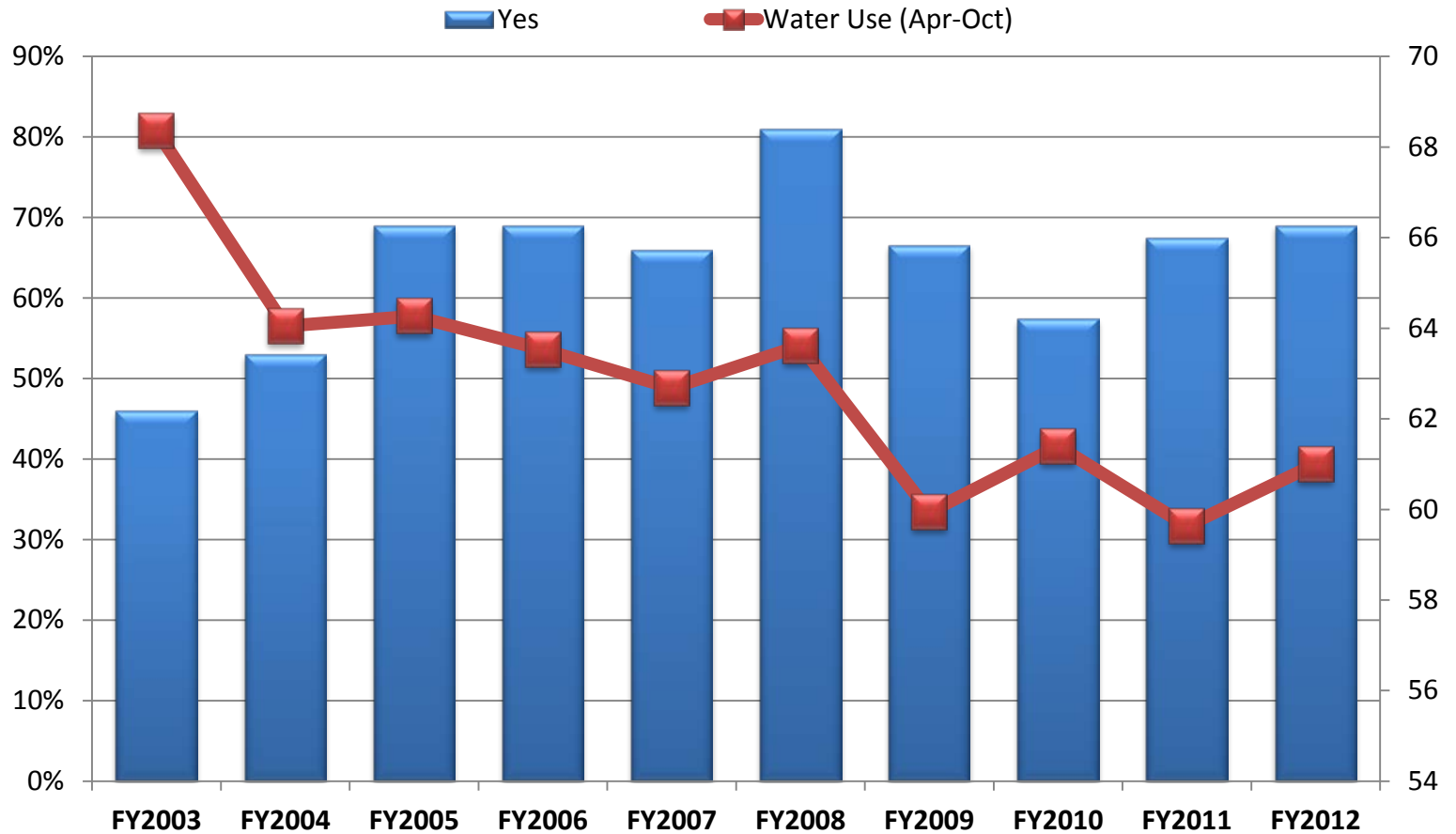
# Ordinance Awareness vs. Water Use



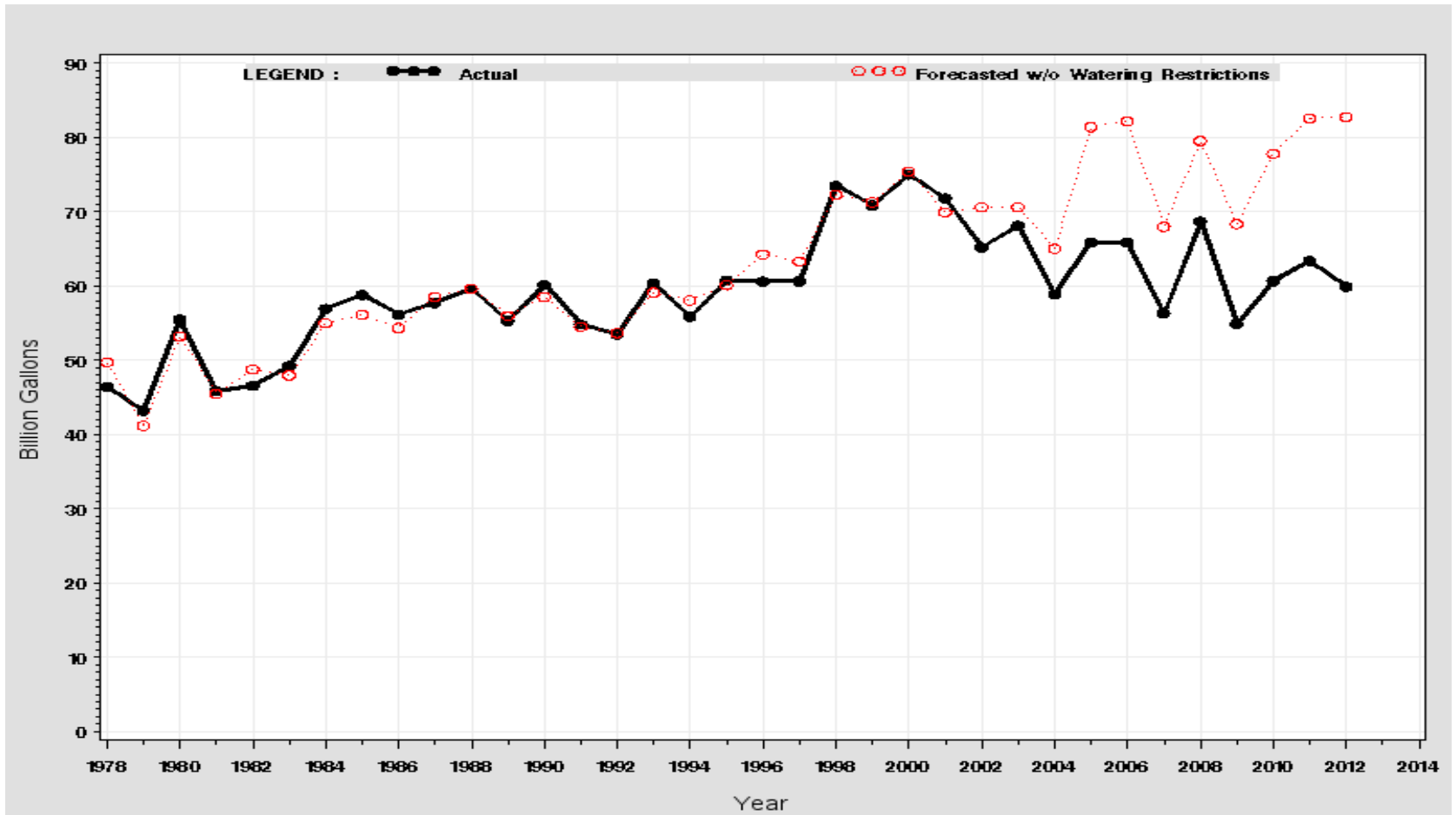
# Advertising Recall vs. Water Use



# Reported Behavioral Changes vs. Water Use



# Water Consumption Trends & Savings



- **141 BG of estimated water saved over last 11 years since 2002**

# Summary

- The campaign has increased public awareness of the watering ordinance from an average 60% in 2003 to 77% in 2012; general conservation information from an average 59% in 2003 to 64% in 2011. This knowledge has significantly affected customers' actions as evidenced by reported behavioral changes from an average 46% in 2003 to 69% in 2012
- Water savings was estimated 141 BG over last 11 years . The analysis indicates that this reduction has been significantly associated with the behavior changes encouraged through the public awareness campaigns
- This study provides a toolbox for water entities to evaluate the effectiveness of the public awareness campaign on water use regulations and other conservation programs





# THANK YOU!

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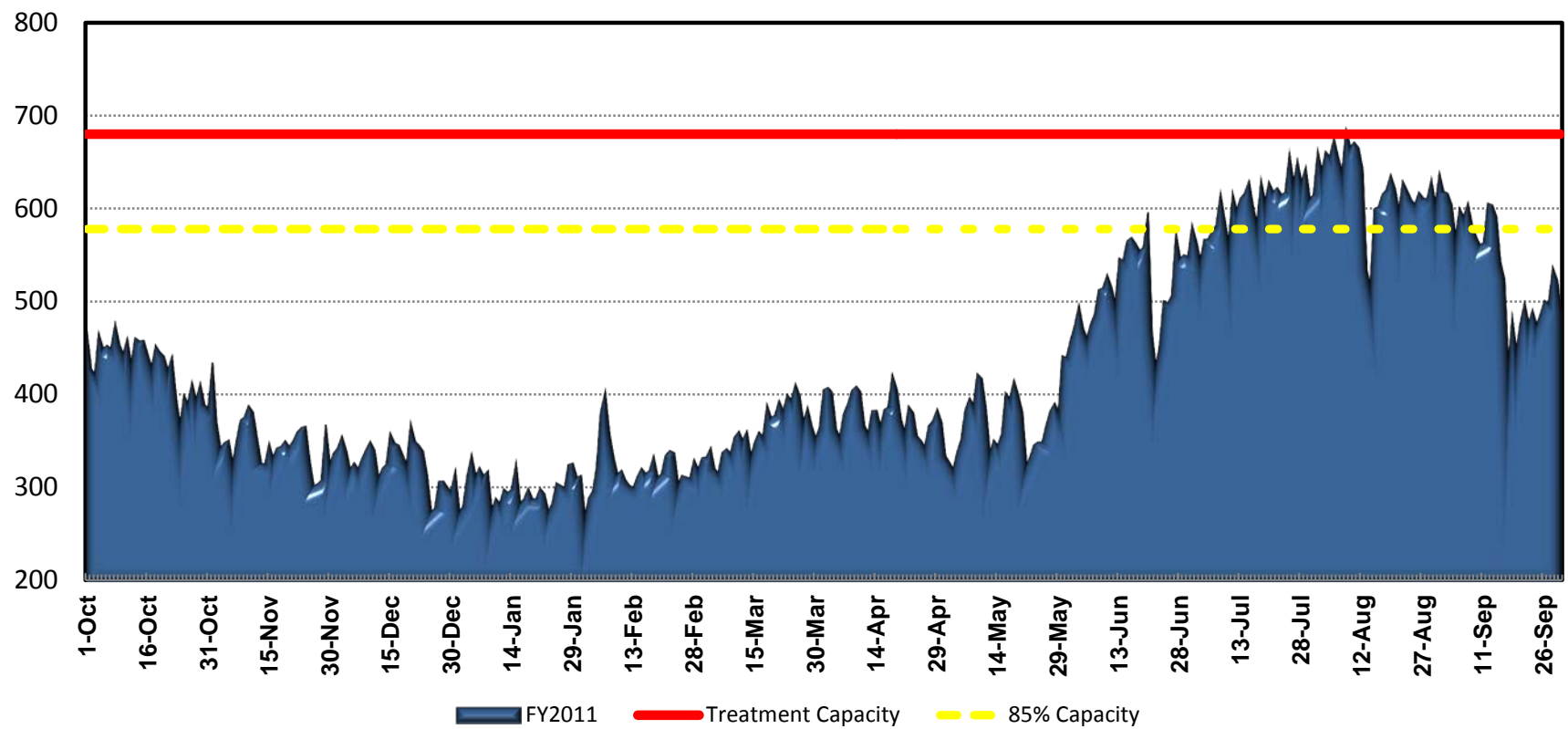
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# Dallas Water Demand in FY2011



**Treatment capacity temporarily reduced to 680 MGD due to ongoing construction at one of our water treatment plants**

# Water Consumption Trend

(April – October)

