



Conservation Outdoor Usage Challenge

July 23, 2009

Rates Advisory Committee

Topics

- Drought Management vs. Conservation
- Recent GPCD Trends
- New Home Trends & Irrigation
- Solutions

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Drought = Mandatory Demand Reductions

Drought demand management is:

- In response to special conditions to obtain immediate cut-back
- Primarily targets discretionary usage
- Mandatory
- Staged to reflect severity of situation
- Often inconvenient for customers
- Temporary

STAGE 2

Drought Restrictions

Aquifer Level Trigger **> 650ft.**

640s

630s

San Antonio Water System uses drought restrictions, established by city ordinance, to proactively manage the region's water resources.
Stage Two Restrictions begin when the Edwards Aquifer level drops to 650 feet mean sea level at the monitored well.

- ▶ All restrictions from Stage One remain in effect, unless added to or replaced by Stage Two rules.
- ▶ **Landscape watering** with an irrigation system, sprinkler or soaker hose is allowed **only once a week from 3-8 a.m. and 8-10 p.m.** on your designated watering day, as determined by your address.
- ▶ **Watering with drip irrigation** is permitted any day, but only between 3-8 a.m. and 8-10 p.m.
- ▶ **Watering with a hand-held hose** is allowed any time on any day.
- ▶ **Use of fountains, waterfalls, or other aesthetic water features** — outdoors or indoors — is prohibited, unless a variance has been granted for 100 percent non-potable water use.
- ▶ **All non-public swimming pools** must have a minimum of 25 percent of the surface area covered with evaporation screens when not in use. Inflatable pool toys or floating decorations may be used for this purpose.
- ▶ **Washing impervious cover** such as parking lots, driveways, streets or sidewalks is prohibited. Health and safety exceptions to this rule may be requested from SAWS in writing.
- ▶ **Residential washing of vehicles** or other equipment is allowed only on assigned watering days and times. A hose with an automatic shut-off nozzle or bucket of five gallons or less may be used. Water should not be allowed to run into the street.
- ▶ **The use of commercial car wash facilities** is allowed any day.
- ▶ **Operators of golf courses, athletic fields and parks** must submit a conservation plan to SAWS. For requirements, contact SAWS at 704-SAVE. Golf courses, athletic fields and parks may not irrigate between 10 a.m. and 8 p.m.
- ▶ **Hotels, motels and other lodging** must offer and clearly notify guests of a "linen/towel change on request only" program.

The use of treated wastewater or recycled water is a defense to prosecution under these rules. Stage Two restrictions continue until there is an announcement in the newspaper that Stage Two has been canceled or that Stage Three is in effect.

WATERING SCHEDULE	
Last Digit of Street Address	Watering Day
0 or 1	Monday
2 or 3	Tuesday
4 or 5	Wednesday
6 or 7	Thursday
8 or 9	Friday

No watering on weekends with a sprinkler, soaker hose or irrigation system. Areas without a street address, such as medians and neighborhood entryways, water on Wednesday.

And don't forget to follow these year-round rules:

- Water waste is prohibited at all times. This includes lawn watering overruns and runoff.
- Restaurants may serve water only on request (to reduce dishwasher).
- Charity car washes allowed only at commercial car wash facilities.

For more information:

- www.saws.org/drought
- conserve@saws.org
- 210-704-SAVE

San Antonio Water System • 2800 U.S. Hwy 281 North • P.O. Box 2449 • San Antonio, TX 78298-2449
210.704.7297 • www.saws.org

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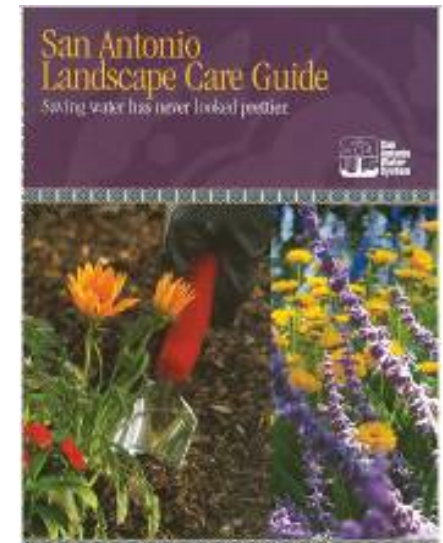
Conservation = Continuous Improvement

- Conservation is:
 - Set in place to meet long-term water management goals
 - Targets all water users
 - Year-round
 - Measures begin as voluntary (can become rules over time)
 - Often provides improvements in quality of life
 - Requires innovation, analysis, evaluation, and change



Kick the Can

It's a great ways to save money and water.



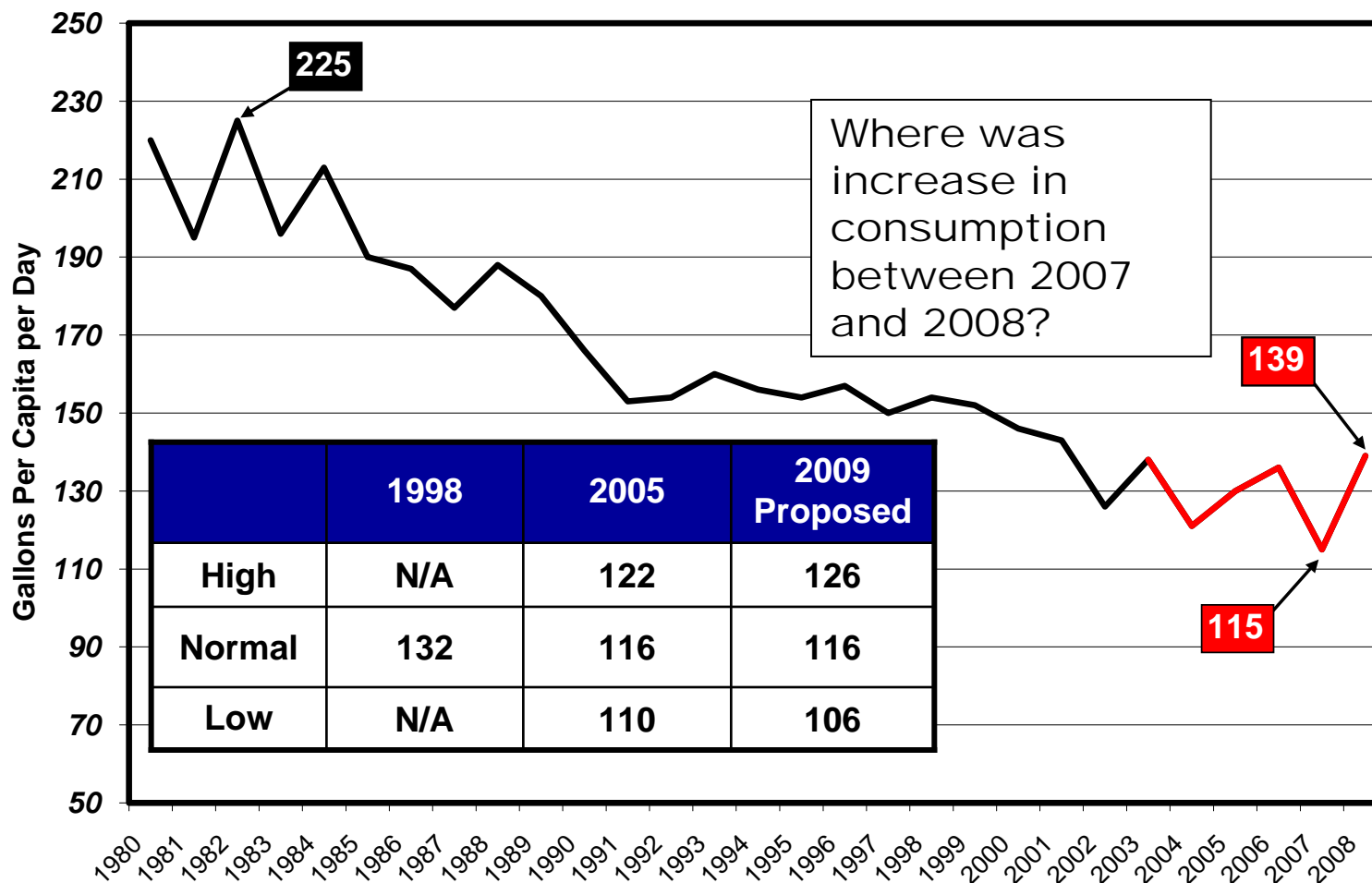
Conservation

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GPCD Trends:

Why more extreme swings recently?

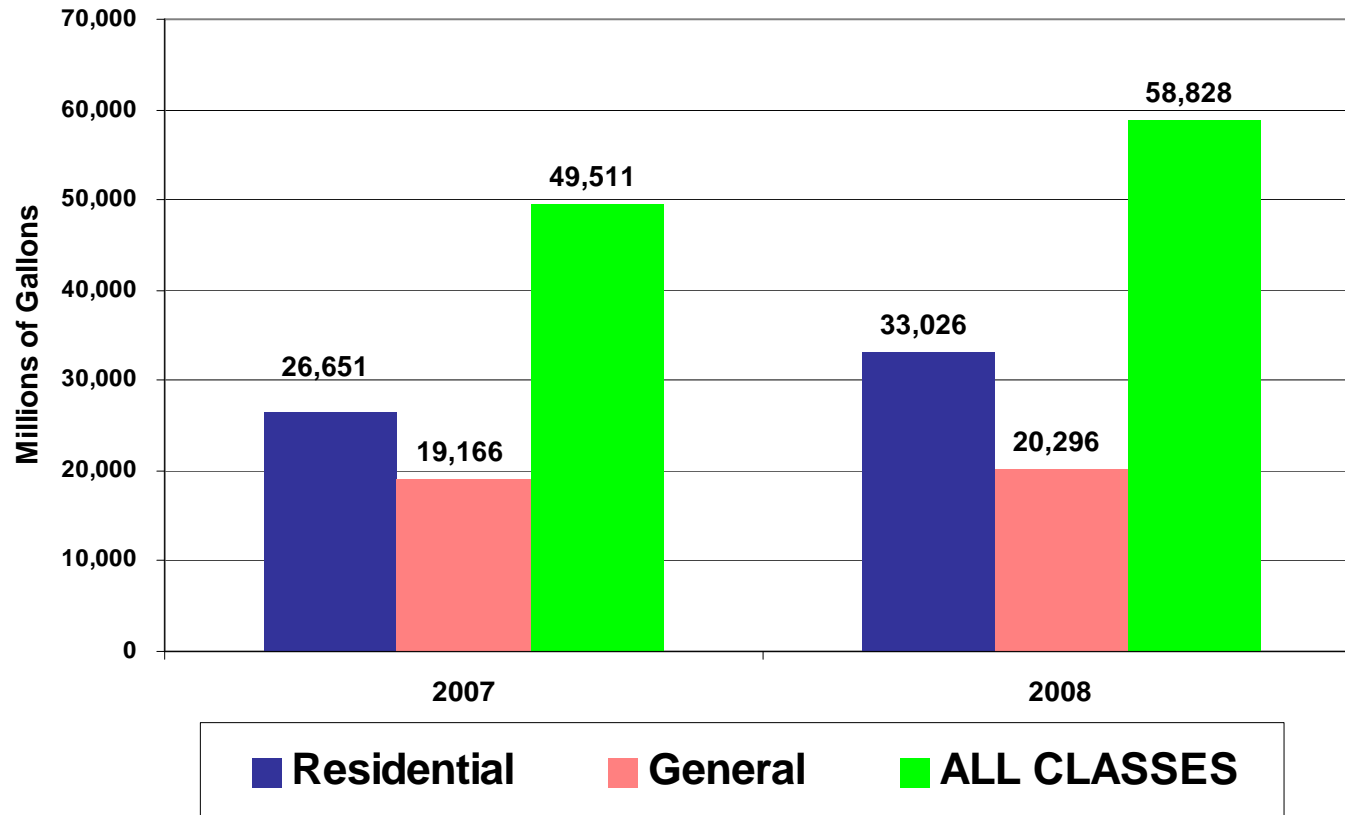


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2007 to 2008 Consumption Increases



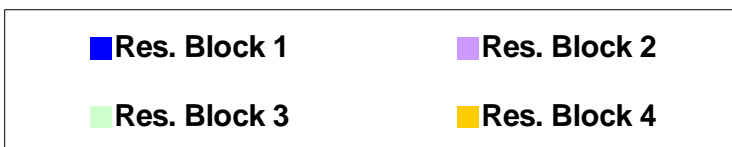
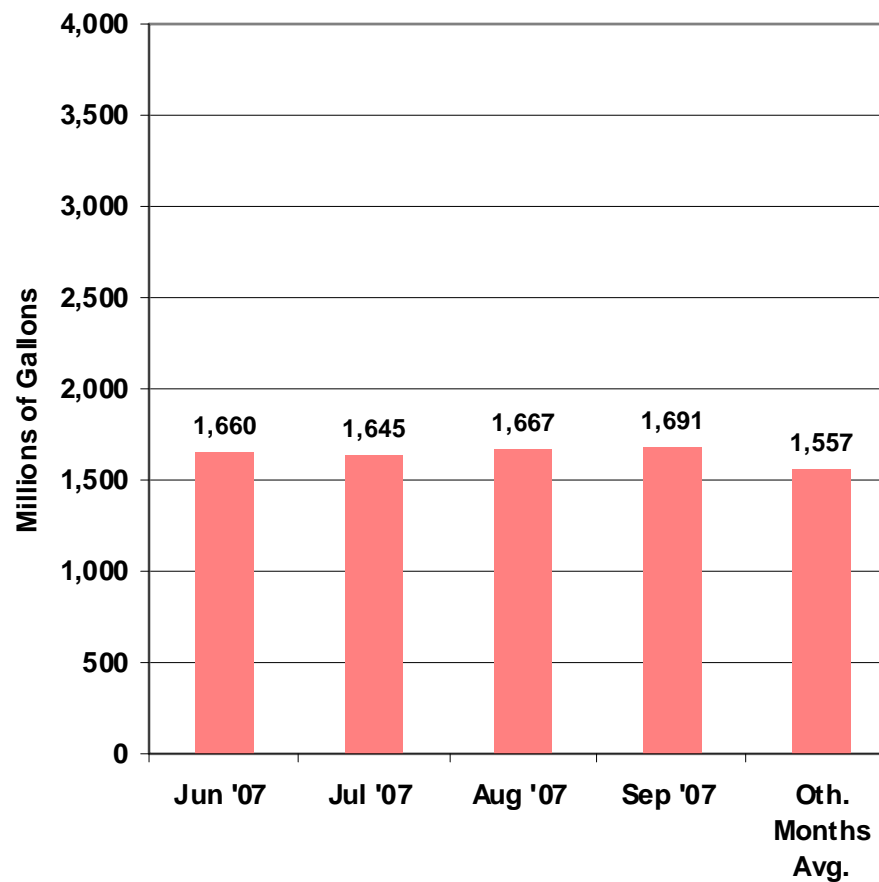
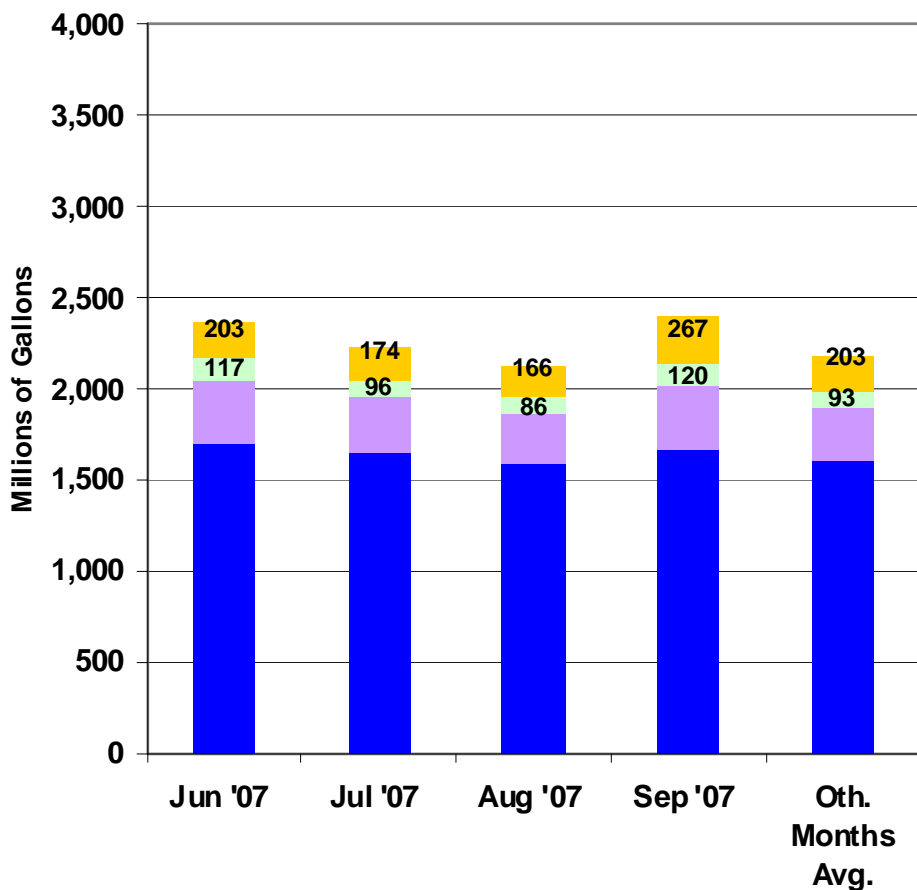
- Residential increased 23.9%
- General increased 5.9%
- All Classes increased 18.8%

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2007 Water Consumptions



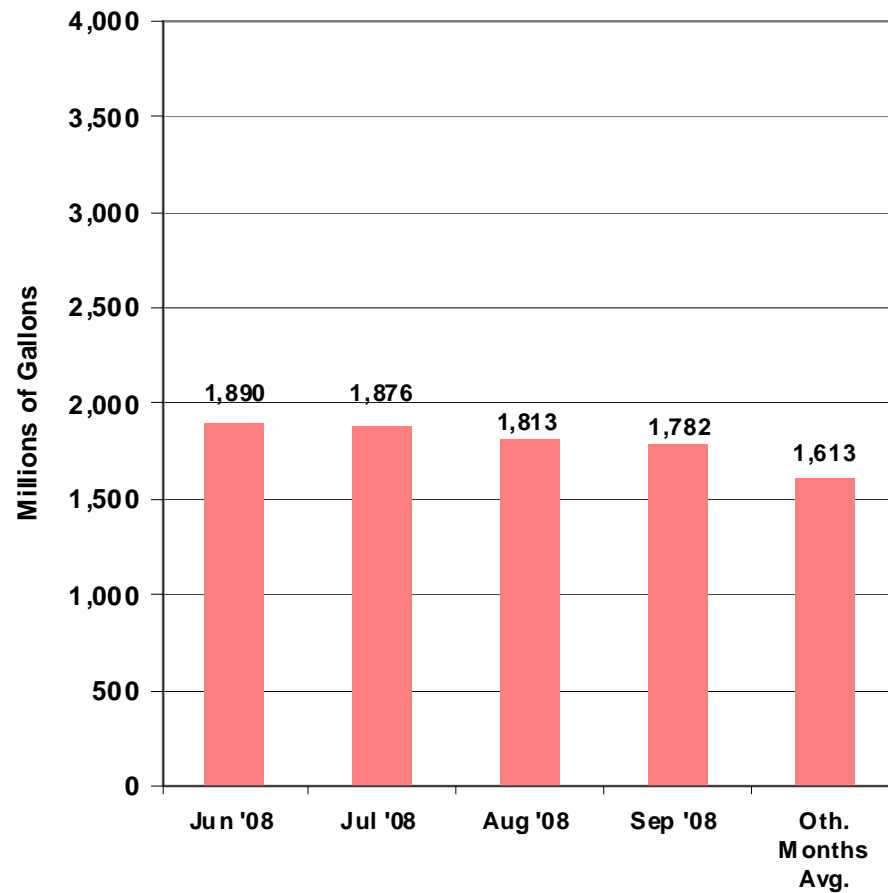
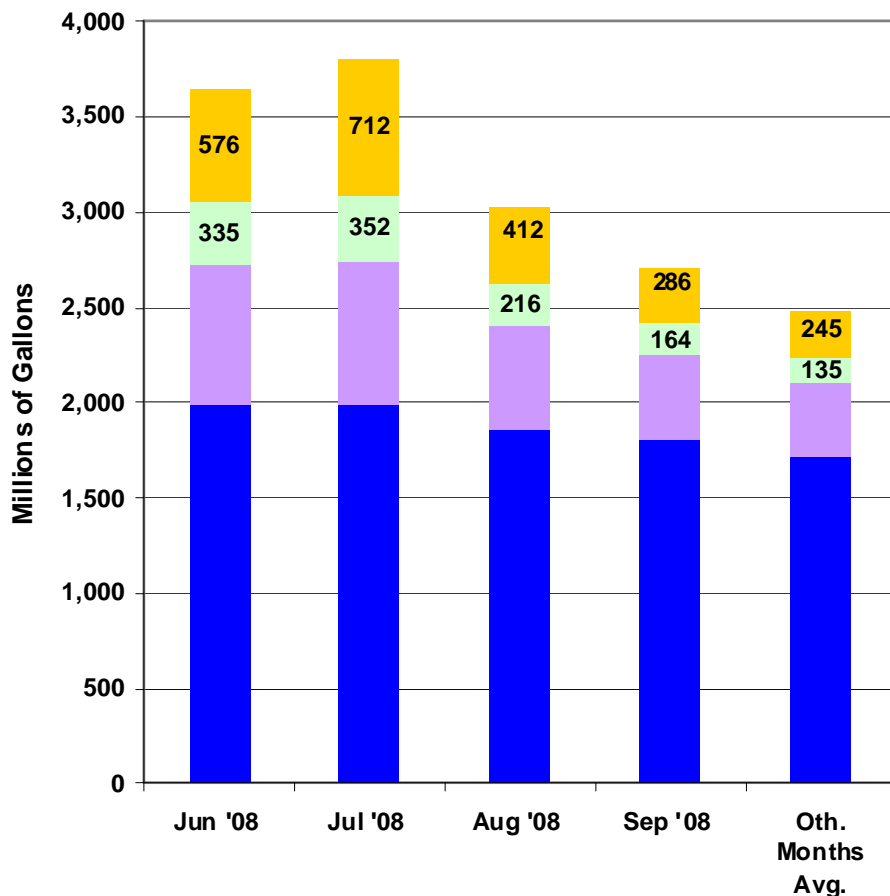
Total 2007 Consumption (All Classes): 49.5 Billion Gallons

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2008 Water Consumptions



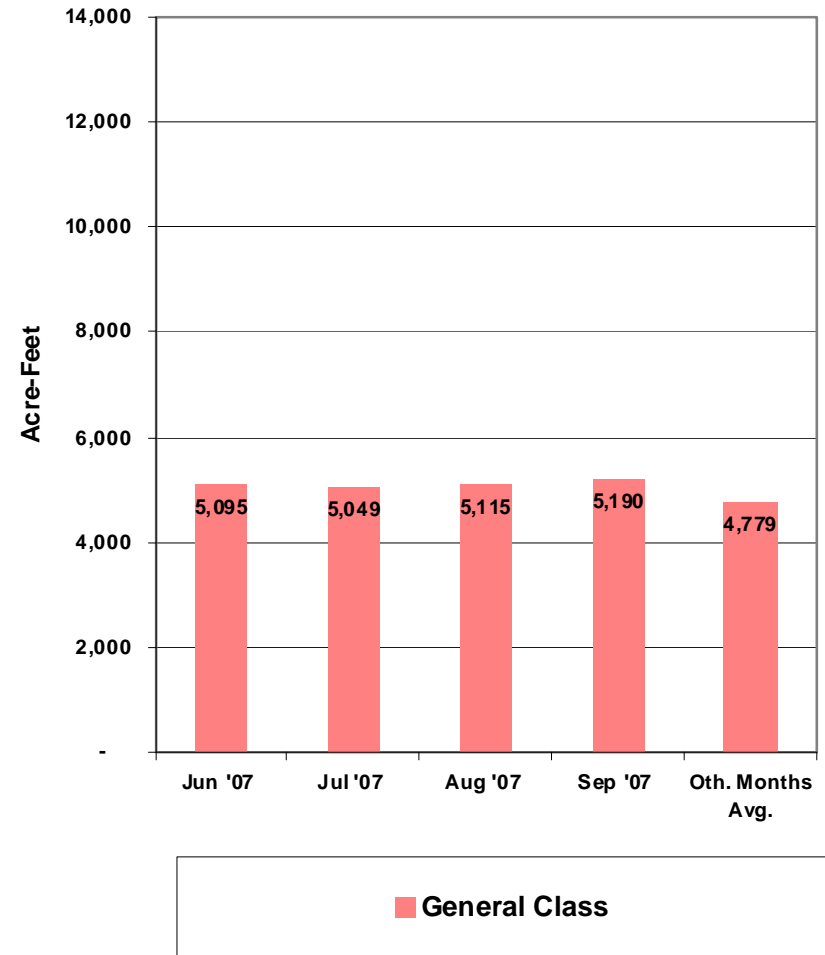
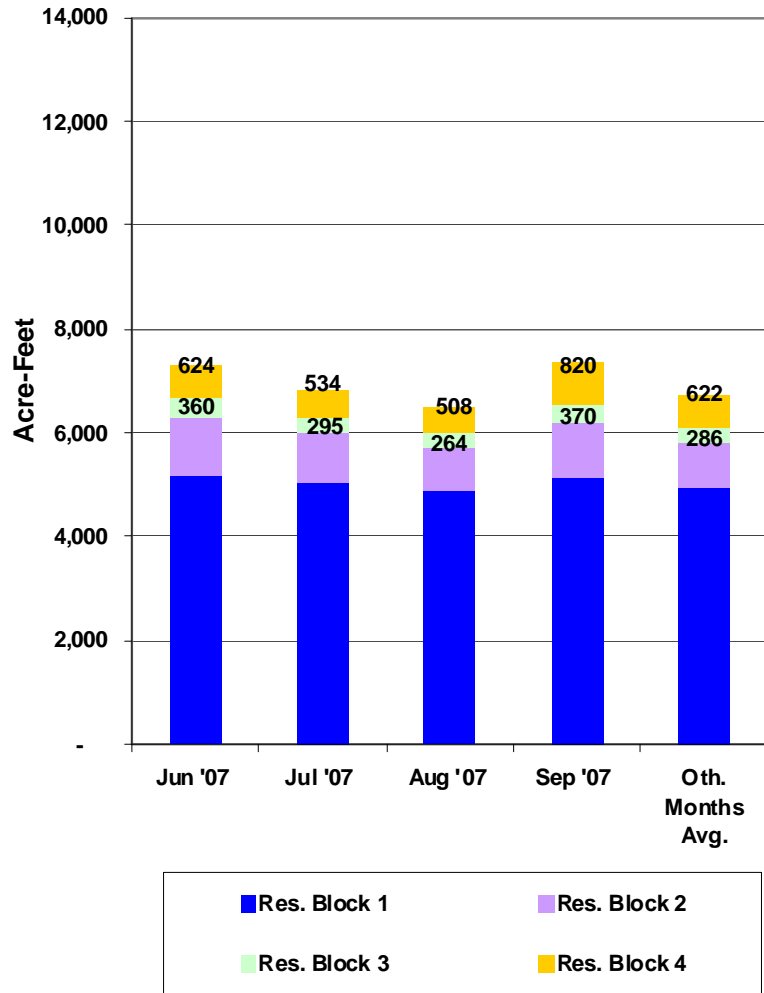
Total 2008 Consumption (All Classes): 58.8 Billion Gallons

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2007 Water Consumptions (acre-feet)



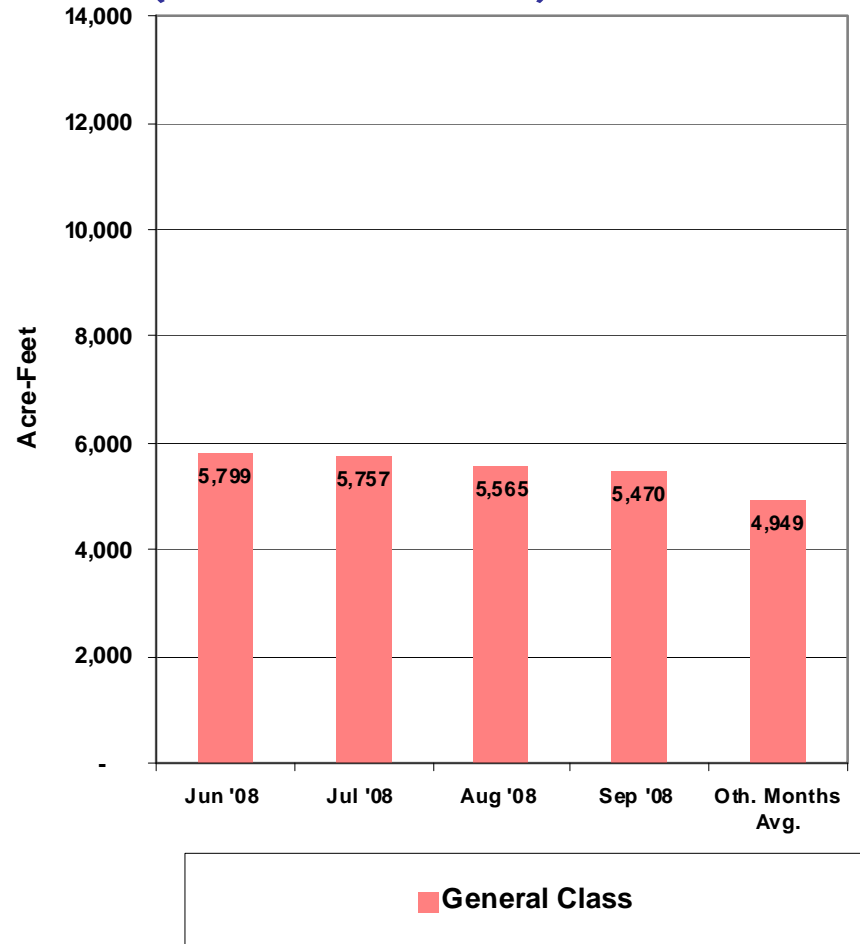
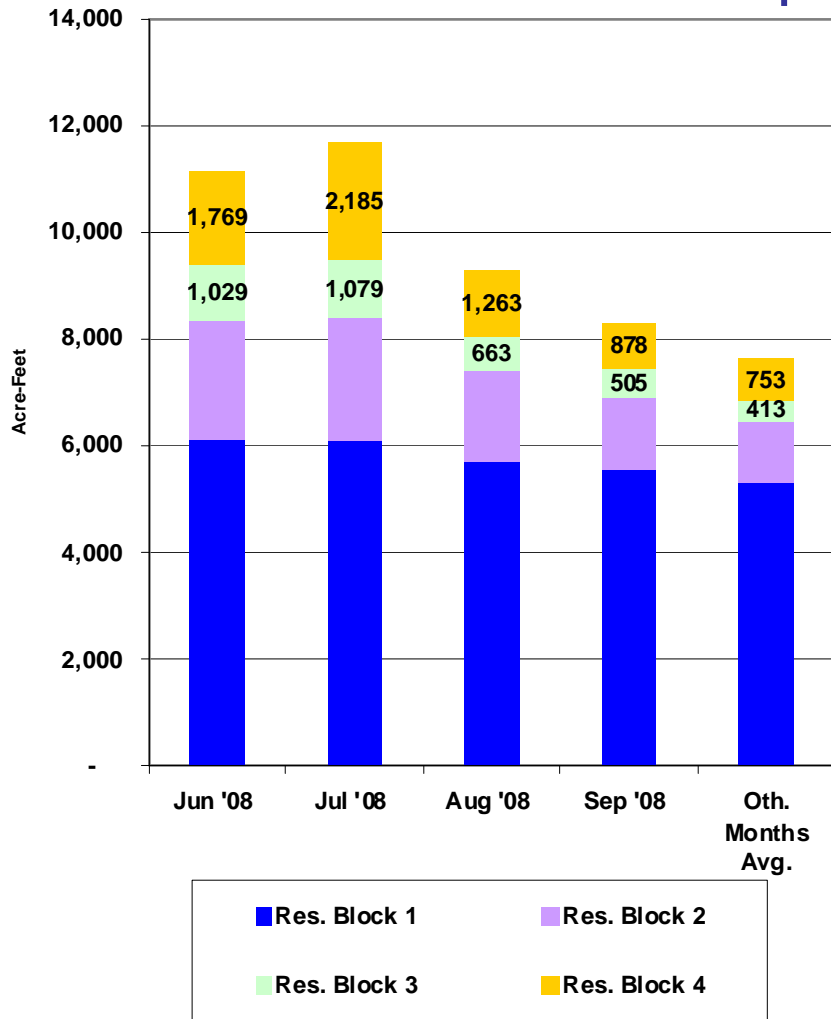
Total 2007 Consumption (All Classes): 151,910 AF

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2008 Water Consumptions (acre-feet)



Total 2008 Consumption (All Classes): 180,451 AF

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Consumption Patterns

- During dry years more water is sold for outdoor irrigation
 - Through irrigation meters
 - Through residential meters; especially in 3rd and 4th block
- Even in very wet months there is still discretionary consumption in the top two blocks residential
- How much does this matter? Is it significant?

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Reduction of 10%

- 2007 Reduction of 10% in 3rd and 4th block usage would have resulted in:
 - 359.7 million gallons
 - 1,103.9 acre feet
- 2008 Reduction of 10% in 3rd and 4th block usage would have resulted in:
 - 609.3 million gallons
 - 1,869.9 acre feet

Why This Pattern Now?

- Irrigation systems make it easy to use a lot of water very quickly
 - An average irrigation cycle uses 2,000 gallons each time it is run
- Irrigation twice per week can negate all savings gained from the most efficient fixtures available
- San Antonio is not alone: trend with irrigation even worse in other cities
 - New homes with irrigation have been shown to use more water than older homes even when lot sizes are smaller on new homes.

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Solutions?

- There is no silver bullet answer:
 - Home owners often over-water WaterSaver/xeriscape landscapes
 - “Smart” irrigation controllers are too generous in water application
- We need to motivate a change in irrigation settings
 - Even at 4th block rates it costs only about \$10 to run an irrigation cycle for 2000 gallons
- How to motivate change?

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Outdoor Water Usage Programs

Three Parts to Strategy:

1. Education & Outreach

- Events, Workshops, E-Newsletter, Free Landscape Consultations, Irrigation Consultations, Master Gardener/ Botanical Gardens partnership, Media Campaigns

2. Reasonable Regulation

- Drought tolerant turf, soil under turf, irrigation quality standards, water waste prohibition, watering hours

3. Financial Incentives: rebates & rates

Financial Incentives; Outdoor

- Rebates
 - For landscape/irrigation design that may save water
 - Have learned to hold back full rebate until customer demonstrates savings from appropriate irrigation habits
- Rates
 - Underscore need to move to better design
 - Motivate customers to move to more appropriate irrigation schedule
 - Need more to pay attention to what they water, when and why
 - Example; nearly all customers water all parts of the yard with irrigation when only part of it needs it

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Concluding Remarks

Options rejected during water supply planning to cope with increased irrigation usage:

- A. Obtain even more water supply at high cost
- B. Regulate outdoor usage heavily all of the time

Option Proposed:

1. Increase customer education and incentives to change landscapes and watering habits
2. Increase other conservation strategies in other sectors to maximize other permanent savings
3. Have rates that encourage WaterSaver landscapes that need less irrigation

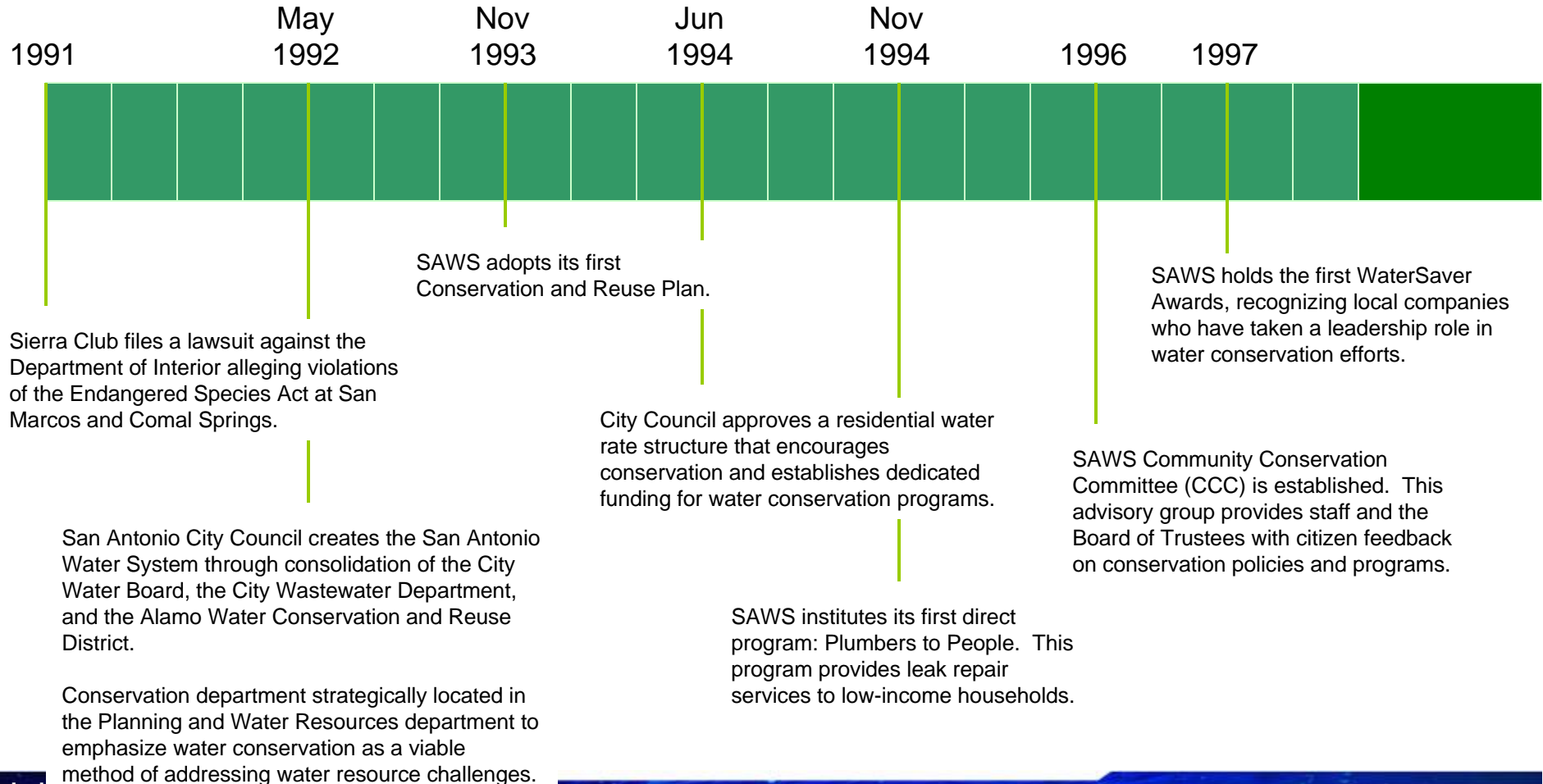


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History of Conservation

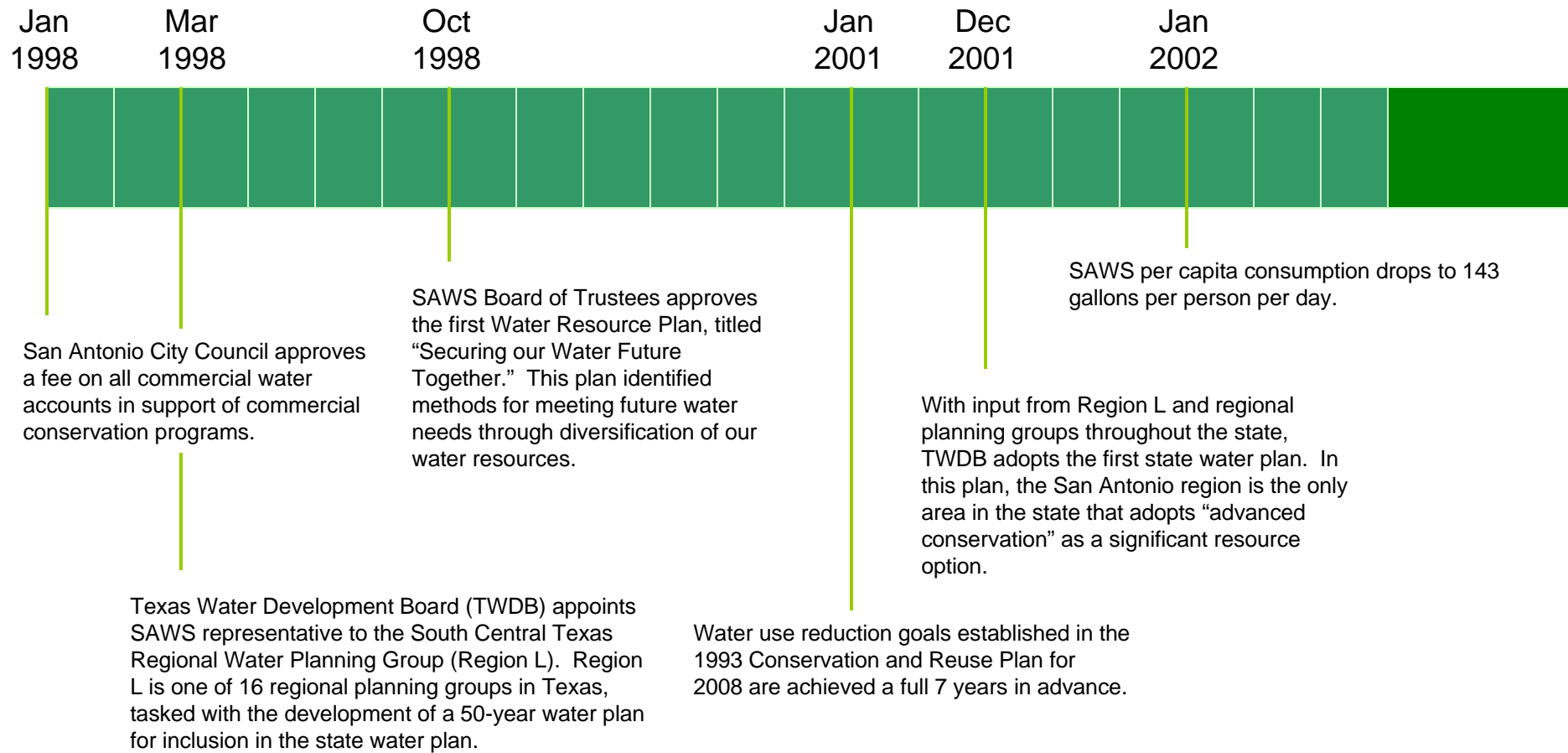


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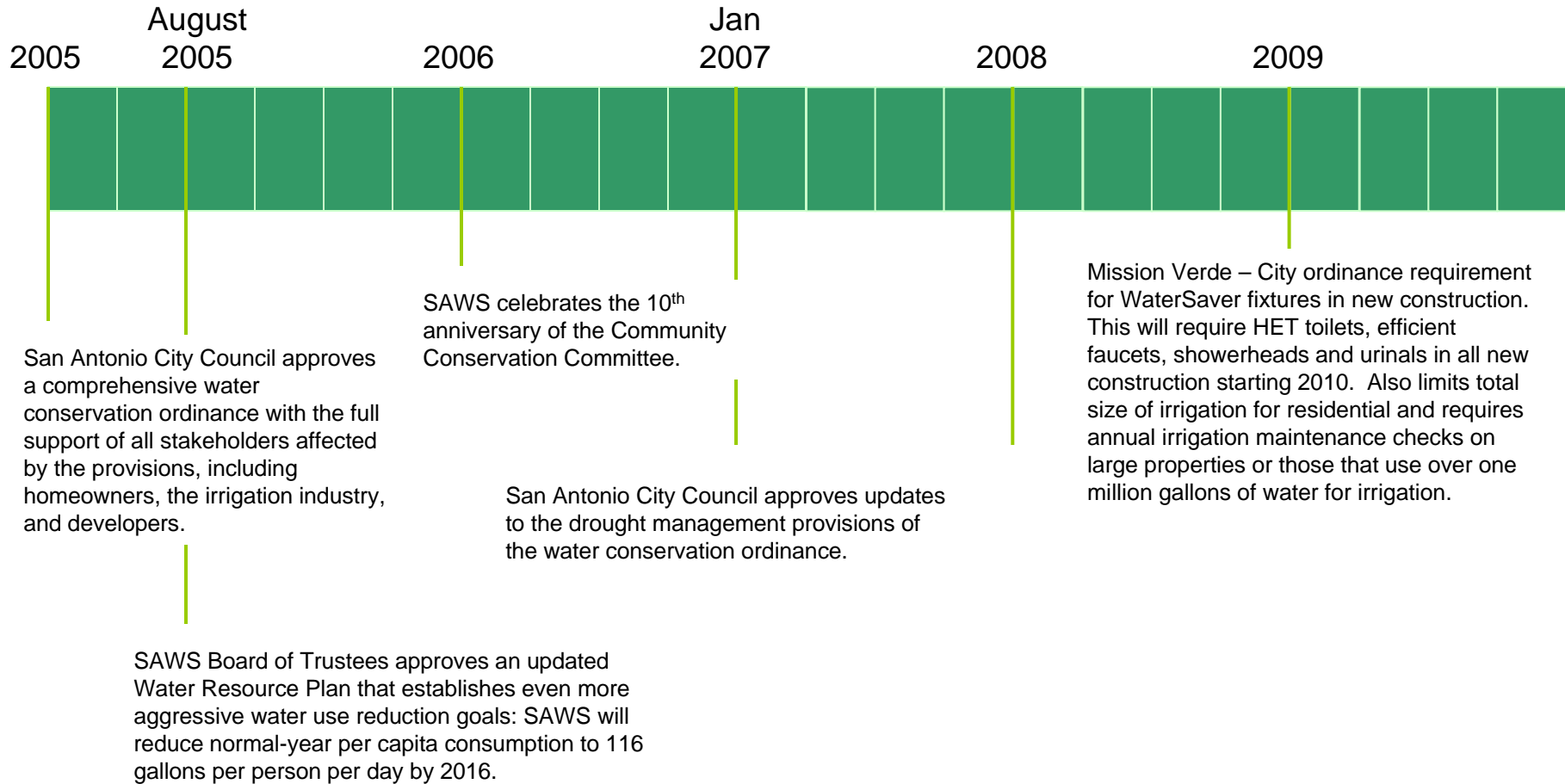


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History of Conservation



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