

Algonquin's Water Conservation Plan



McHenry County Groundwater
Protection Task Force
April 12, 2011

Presentation Outline

- Focus on water conservation
- Will expand to other topics
 - Coal tar
 - Phosphorous fertilizers
- Ideas and concepts can be transferred to other educational outreach efforts

The Problem



- Good size lots (18,000 S.F.)
- Nice Incomes
- Lots of Landscaping
- Homeowner's water their expansive lawns and landscaping - A LOT

2003

Million Gallons Of Water Used Per Day

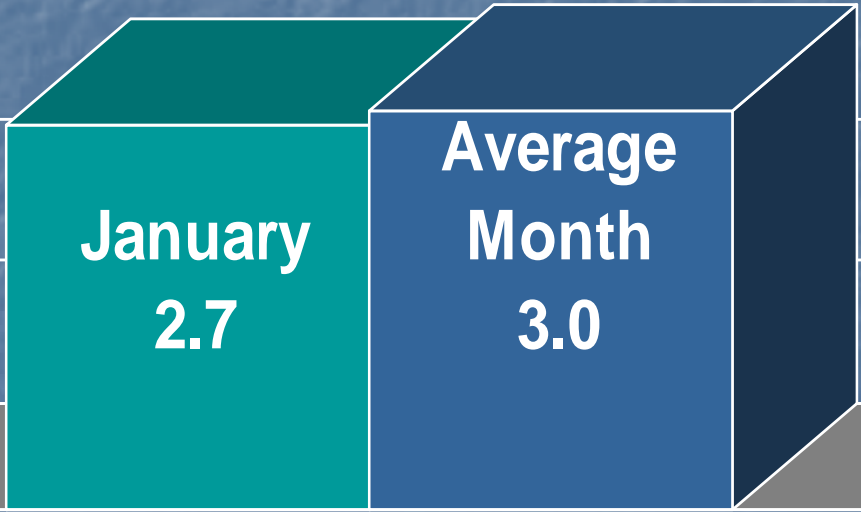
7
6
5
4
3
2
1
0



2003

Million Gallons Of Water Used Per Day

7
6
5
4
3
2
1
0



January
2.7

Average
Month
3.0

2003

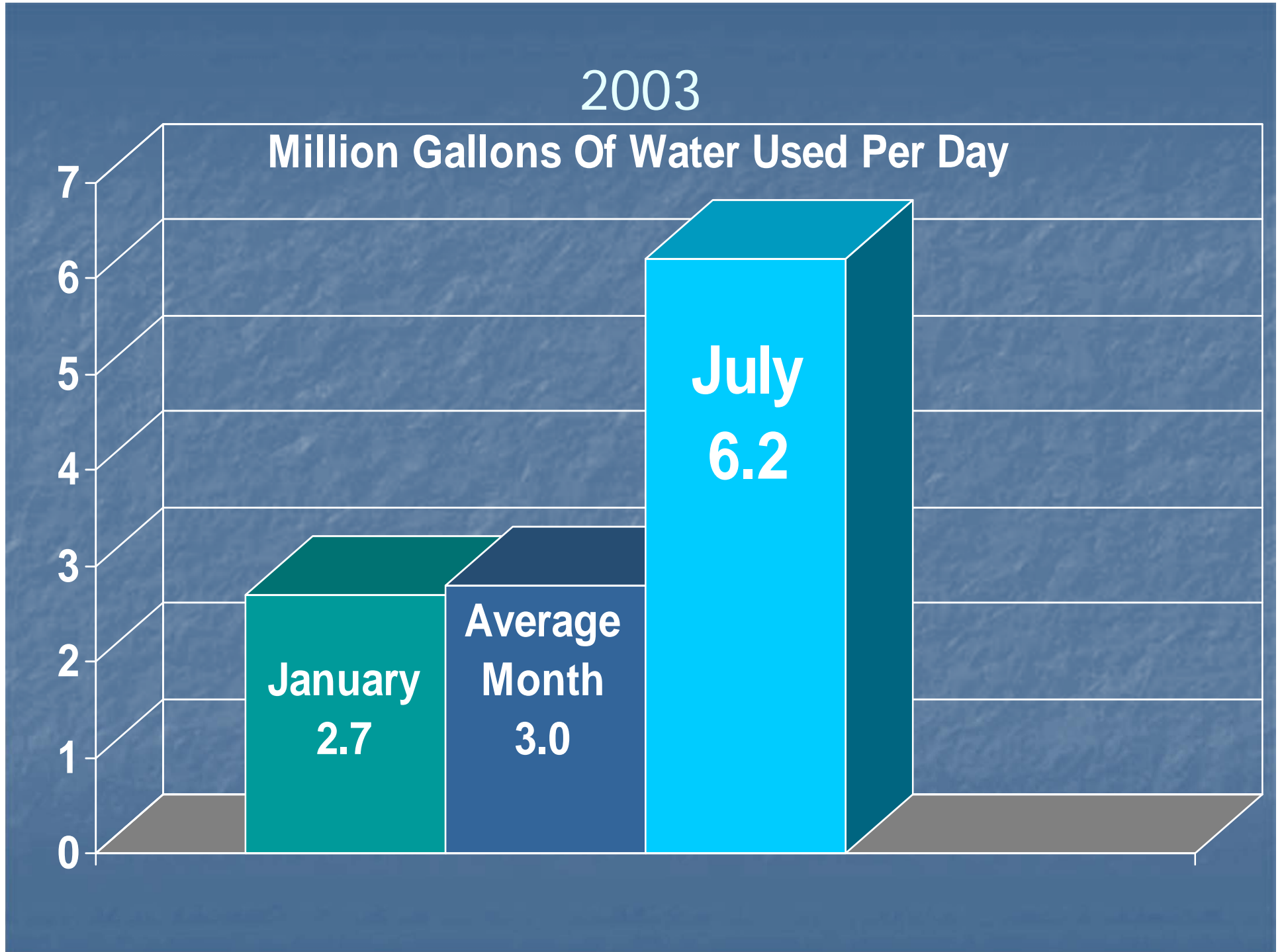
Million Gallons Of Water Used Per Day

7
6
5
4
3
2
1
0

January
2.7

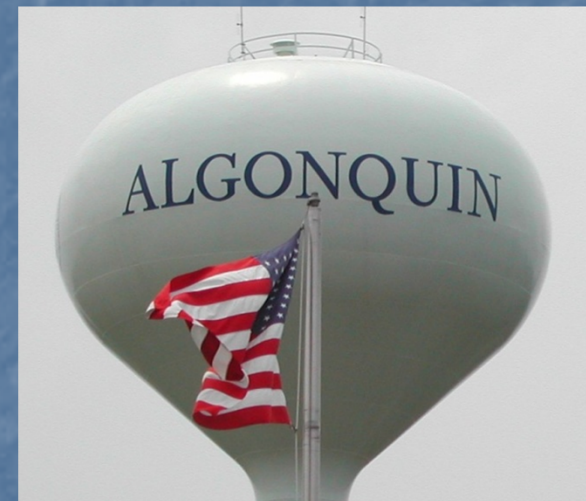
Average
Month
3.0

July
6.2



Extreme Seasonal Water Usage Created Problems

- Placed significant strain on our existing wells, water treatment plants, pumps and storage facilities, and more critically, our shallow aquifers
- Close to Maximum Sustainable Capacity
- Pumps could not keep enough water in elevated storage tanks
- Dangerously close to losing water pressure which would inhibit our ability to provide adequate fire protection



Extreme Seasonal Water Usage Short Term Solutions

- Made outside water use restrictions absolutely necessary
- Required significant capital upgrades to water facilities

Water System Upgrades 2004-2006

- 4 new wells (3 shallow installed, 1 deep proposed)
- Expansion of Existing Water Treatment Plant (under design)
- New Elevated Storage Tank (planned)
- New Water Treatment Plant (planned)
- Total cost – Over \$8 million dollars

Addressing Long Term Situation

- Could continue expanding our production, storage and distribution facilities
- However, the strain on our existing wells and the aquifers would ultimately be too much
- Deep water option solves capacity needs, but creates barium issues at our wastewater plant

Establishing a Program

- Water conservation program idea started with Community Development Department
- Received approval from Village Manager
- Village Board directed staff to create a Water Conservation Plan
- Needed buy-in from all Village departments—created a committee to create water conservation program

Water Conservation Program

- Needed to completely change the mindset of residents and business owners regarding their use of water and understanding of a groundwater dependent municipal water system

Water Conservation Program

Main Components:

1. Outside Water Use Restrictions
2. Public Outreach – Heavy Emphasis On Education
3. Village Operations
4. Enforcement Measures
5. Seasonal Water Rates

Water Conservation Program Outside Water Use Restrictions

Four Different Water System
Status Levels

Water Conservation Program

Outside Water Use Restrictions

Green – “Conservation”

- Outside landscape irrigation is allowed every day, but only before 9:00 AM and after 6:00 PM
- It doesn't matter what season it is, we really don't want property owners watering during the middle of the day

Water Conservation Program

Outside Water Use Restrictions

- Yellow** – “Even/Odd” –
Outside landscape irrigation is allowed every other day, but only before 9:00 AM and after 6:00 PM
- Change to yellow status in June (date set by President with advice from staff)



Water Conservation Program Outside Water Use Restrictions

Orange – “Even/Odd Mornings Only”

- Outside landscape irrigation is allowed every other day, but only before 9:00 AM

Water Conservation Program Outside Water Use Restrictions

Red – No outside water usage at all

Water Conservation Plan Public Outreach

- Public Outreach Included A Marketing Campaign – Logo and Slogan



“Every Drop Counts”

Water Conservation Plan Public Outreach

- Water Brochures – mailed to every resident each May. Describes outside watering restrictions, surcharge rates, conservation ideas.
- Door Hangers – left at properties where property owner's were constantly watering

Water Conservation Plan Public Outreach

- Refrigerator magnets



Water Conservation Plan Public Outreach

- Business Education – Direct mail piece – emphasized irrigation system timing and encouraged use of drought tolerant plants

Water Conservation Plan Public Outreach

- Elementary School Presentations
- All elementary schools in Village or where Algonquin students in attendance
- “Every Drop Counts”
- Where water comes from, how Village’s water system works, and how to conserve water
- Provided every student with a trinket



Water Conservation Plan Public Outreach

- Poster Contest
- “Who Can Save The Most Water” Contest
- Most unique water conservation technique contest – down spouts into rain barrels, sump pump discharge to sprinkler



Water Conservation Plan Public Outreach

- Village Voice Mailbox/Email Messages
- Village newsletters and communications
- Village website
- Village events
- Press Contact
- Reverse E-911 Message



Water Conservation Plan Village Operations

- Train all staff
- Limited Watering Of Village Plant Materials
- Use tree bags
- Planted native, drought tolerant perennials



Water Conservation Plan Village Operations

- Added “Water Conservation” bumper stickers on all Village vehicles
- Added water status magnets to select Village vehicles



Water Conservation Plan Village Operations

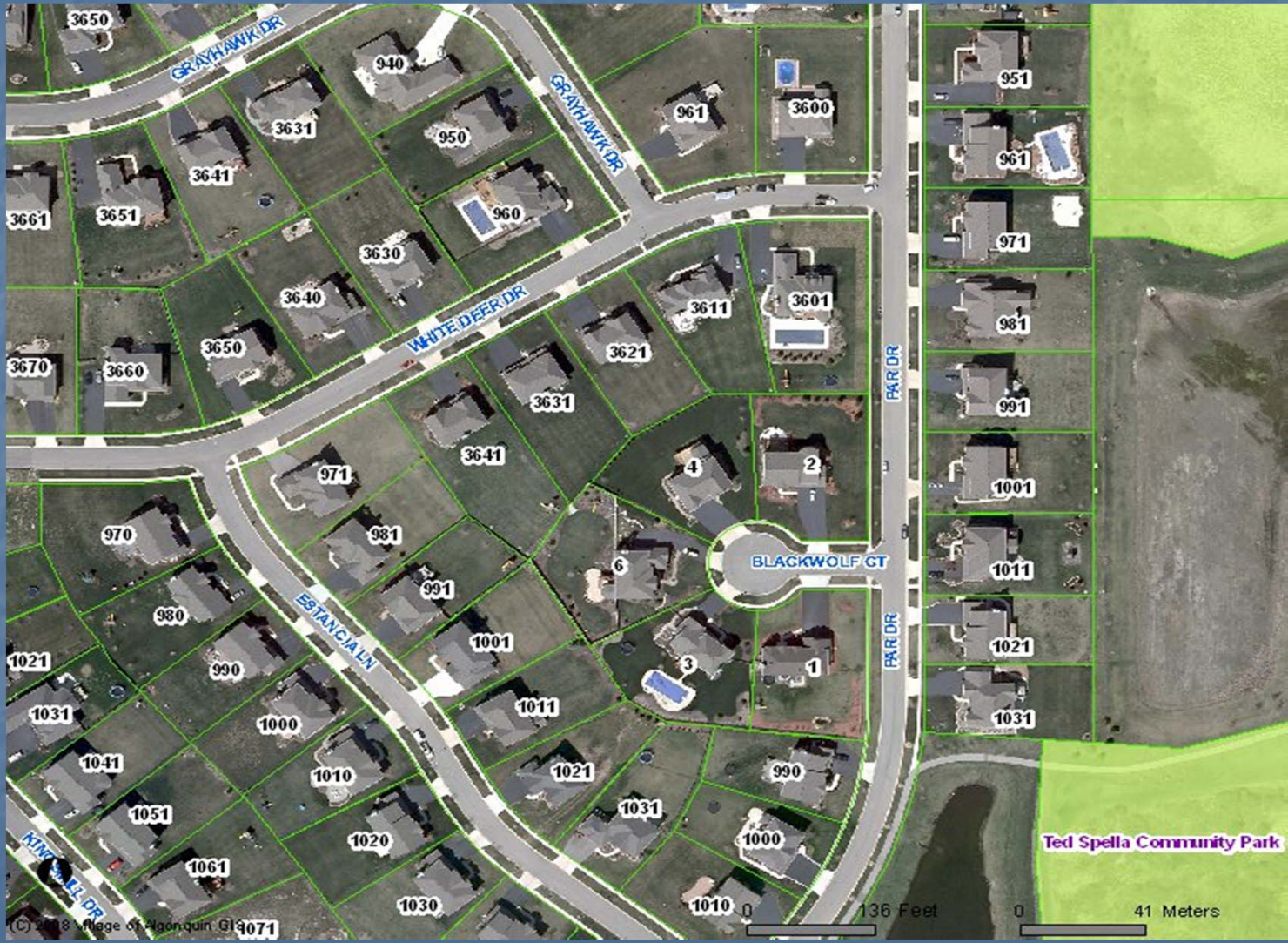
- Free Effluent Program – Village wastewater treatment plant offered landscaping contractors to fill up their tanker trucks with effluent. Helped keep newly planted trees and shrubs alive.



Water Conservation Plan Enforcement Measures

- Hired Seasonal Enforcement Staff
- Expanded staff's ability to write citations
- Adopted Zero Tolerance policy for violators – Tickets \$100
- Encouraged community enforcement
- “Narc On Your Neighbor”
- Centralized complaint handling
- Use Aerial Photography as a great tool

Not Rocket Science



Water Conservation Plan

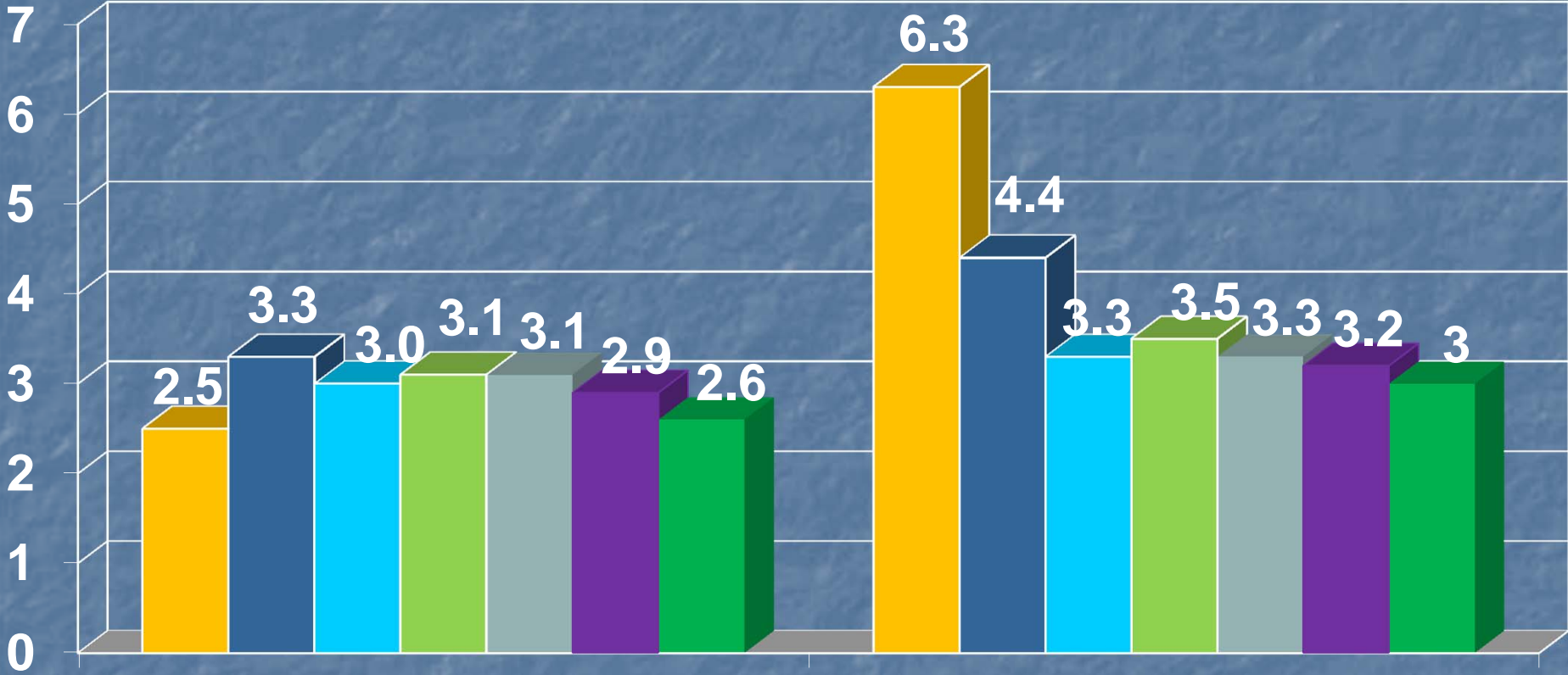
Seasonal Water Rates

- As a monetary incentive for our residents to conserve water, we have a surcharge water billing rate during June, July and August.
- Normal water billing rates apply for homeowners that use up 18,000 gallons of water a month or less
- Any usage above 18,000 is billed at triple the normal rate
- Only 8.7% paid a surcharge
- Great way to target those who waste water

Water Conservation Plan Was It Effective?

- Greater awareness was definitely accomplished
- More drought tolerant plants prevalent in community
- Rarely see sprinklers on every street

Million Gallons Of Water Used Per Day

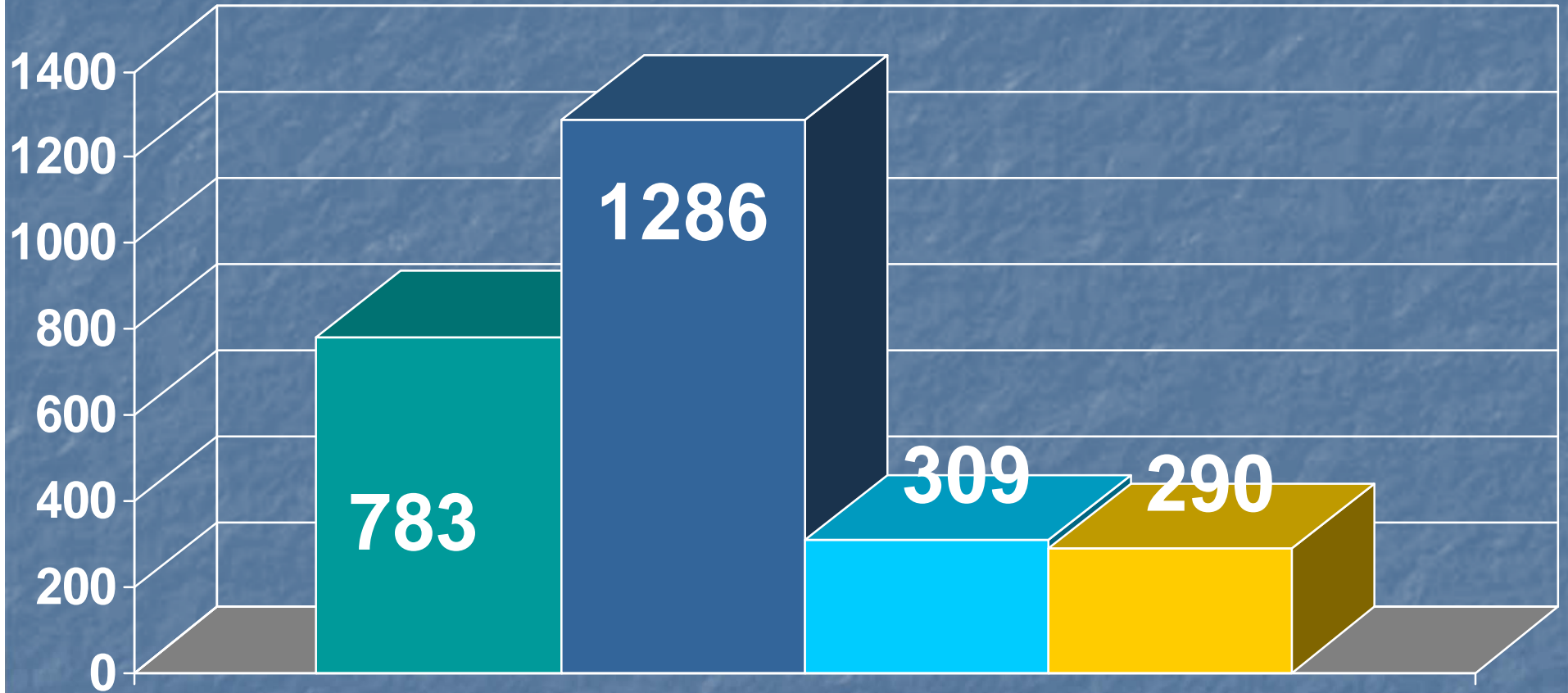


Average Month

July



Did Surcharge Rates Work?



Surcharge Rate Payers

2004 2005 2006 2007

Water Conservation Plan

What mistakes did we make?

- Try not to change your use restrictions – i.e. new colors, times, etc.
- Don't restrict all outside water usage
- Be consistent with enforcement
- Be ready for success

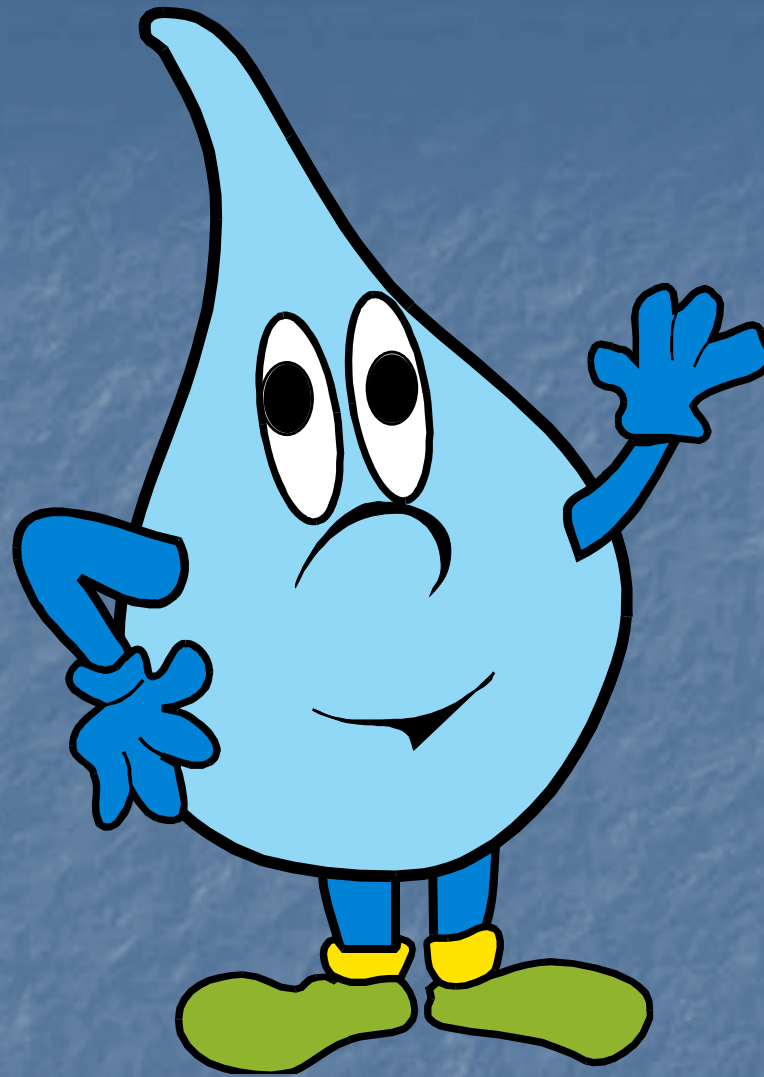
Water Conservation Plan

Key things to remember

- Must have support from all levels, especially elected officials
- Strongly recommend team approach with implementation done by all departments
- Education very important, can't just "lay down the law"
- Lead by example

Water Conservation Final Thoughts

- Water shortages are real
- Significant regional matter
- Aquifers don't know jurisdictional boundaries
- The sooner you create and implement a water conservation plan the better!
- Happy to share our plan and experiences.



“Every Drop Counts”