

Centennial's Water Budget Based Rate Structure

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CENTENNIAL
WATER AND SANITATION DISTRICT



Water Rate Goals

- Structured to encourage conservation
- Equity and fairness between customers
- Revenue-neutral, & revenue stabilizing
- Easily understood: credible
- Flexible
- Achieve high level of conservation with or without droughts



Rate Structure

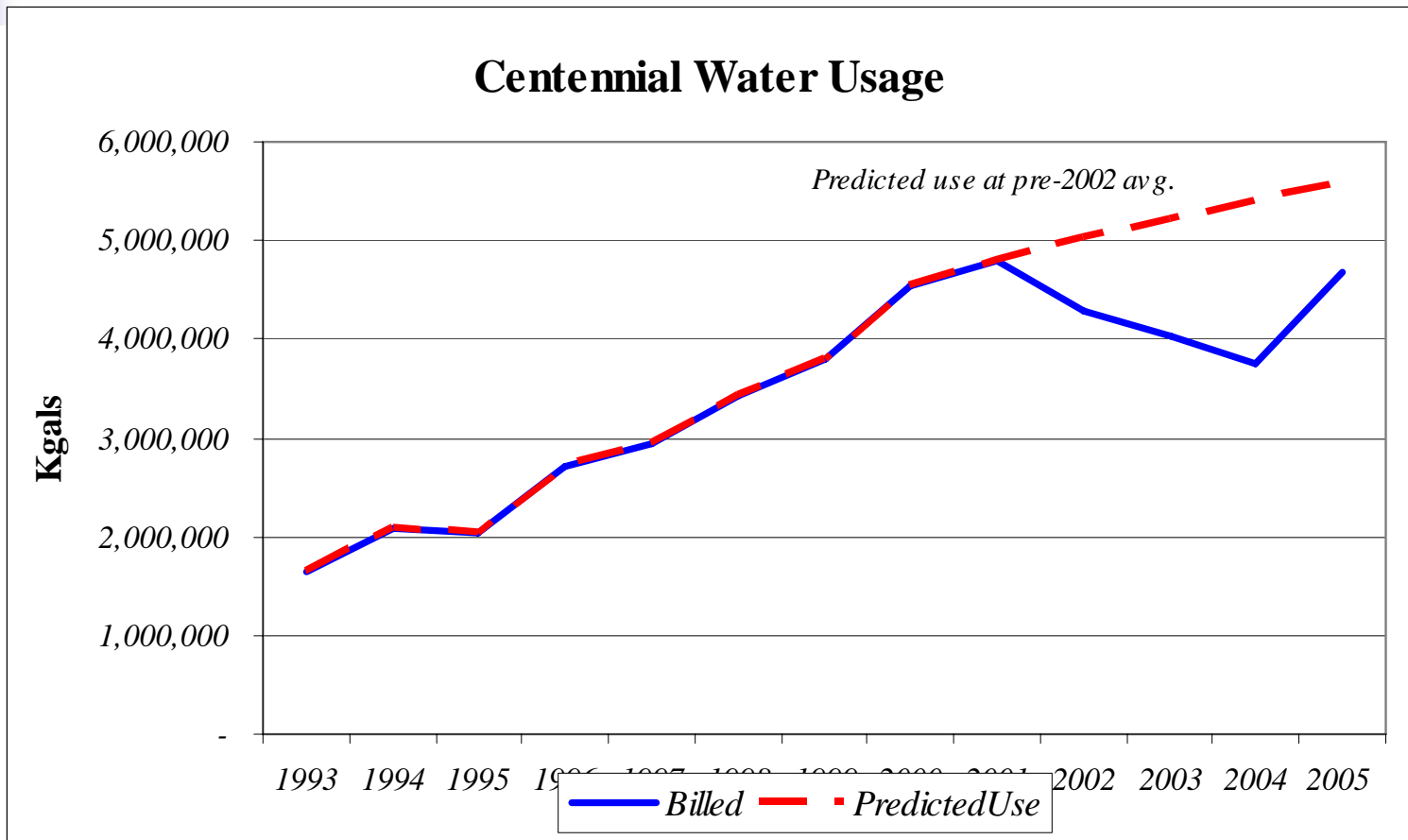
- Two Components:
 - Base fixed rate
 - Variable consumption rate
- Bi-Monthly billing for residential;
Monthly for commercial
- “Water Budgets” determined for each customer: residential, commercial, Metro



2006 Water Rates

% of Water Budget	Cost per 1,000gal
Up to 100%	\$ 2.30
101% to 120%	\$ 3.45
121% to 140%	\$ 5.20
140%	\$ 7.80

Water Usage



Water Savings Results



<u>Year</u>	<u>% Use Reduction</u>
2003	18-20%
2004	31 %
2005	24 %
Average:	25 %



History

- Before 2002 2 tiers
- 2002 3 tiers
- 2003 to Sept Adopted budget approach
- 2003 after Sept Relaxed tiers; reduced rates
- 2005 Rate increase
- 2006 Rate increase



Water Rate Structure before Adopted Budget Approach

Base: \$9.90

\$2.15* first 15,000 gallons

\$2.55 above 15,000 gallons

*per 1,000 gallons



Water Rate Structure Changes

2003 Drought Rates

2006 Rates

% of Budget \$/Kgal

% of Budget \$/Kgal

Base: \$25.00

0%-105% --- **\$2.00**

0%-100% --- **\$2.30**

106%-115% --- **\$4.00**

100%-120% --- **\$3.45**

116%-125% --- **\$8.00**

121%-140% --- **\$5.20**

125% + --- **\$16.00**

140% + --- **\$7.80**



Approach: Residential

How the Individualized Water Budget is Calculated:

- Outdoor
 - Lot size x Average Irrigated Area
 - Based on 27" of outdoor water use per year
- Indoor
 - Based on 65 gpcd for family of 3
 - 6,000 gallons per month

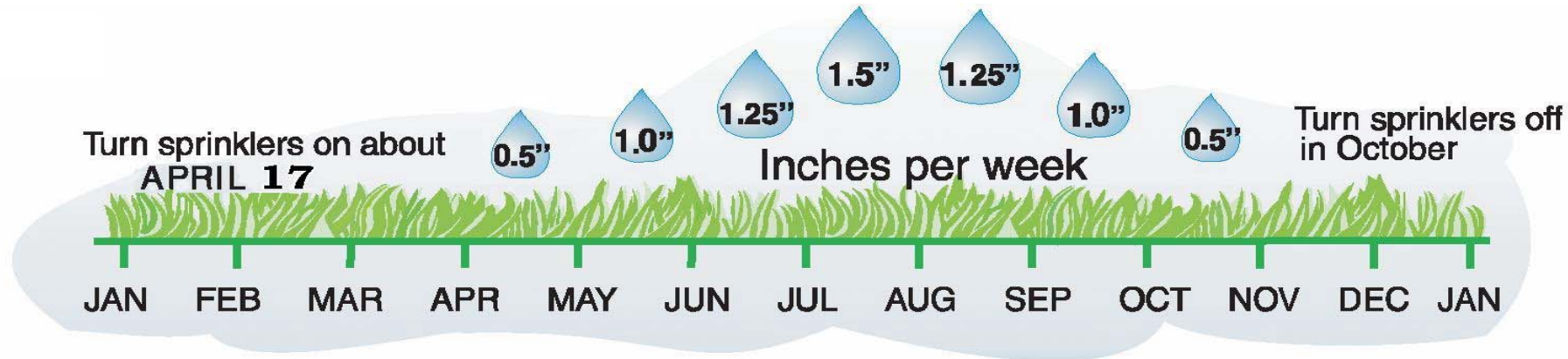


Approach: Commercial

- Request actual irrigated acreage: give lower budget until get response
- Base indoor use on historic use (considering changing to size of meter)
- Use 27" per year for outdoor irrigation

Water Budget Distribution

27" for the Irrigation Season

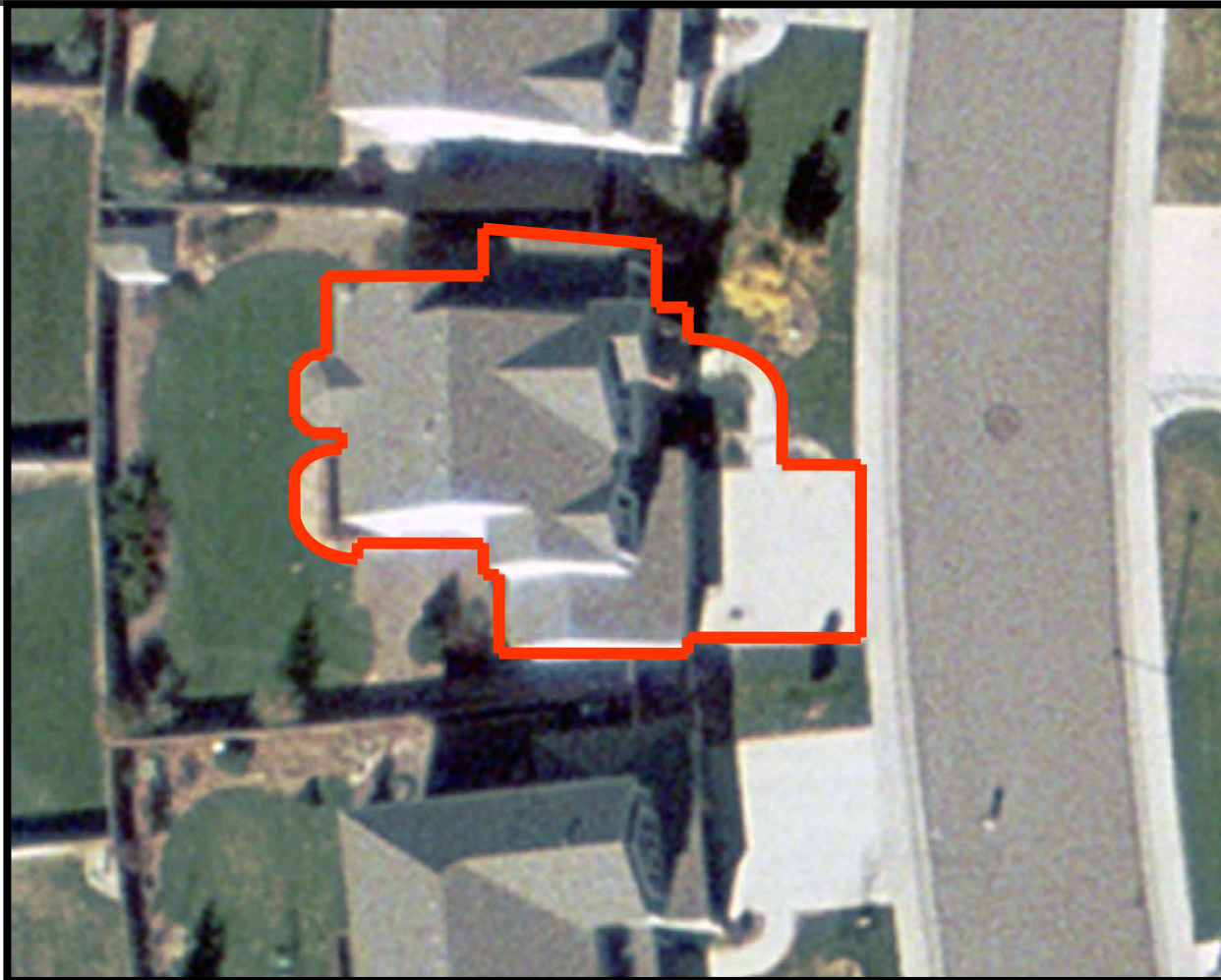




Baseline Needs:

- Lot sizes: from county records
- Irrigated areas for residential: average from numerous measurements: 45%
- Seasonal ET: from nearby weather stations
- Computer billing capability: made modifications to existing software

Irrigated Area Measurement Example





Outdoor Water Budget Example

July-August (peak months)

Gross lot size: 8,100 sq ft

Irrigated area: $8,100 \times .45 = 3,646$ sq ft

Total irrigation application: 11.00"

Outdoor use:

$(11.00"/12") \times 3,646$ sq ft = 3,342 cu ft

$\times 7.48$ gal/cu ft = 25,000 gallons



Total Budget Example

July-August – Residential

- Indoor:

Avg. Indoor Use 12,000 gal

(65 gpcd x 3 peo. x 30 x 2)

- Outdoor:

25,000 gal

Total water budget:

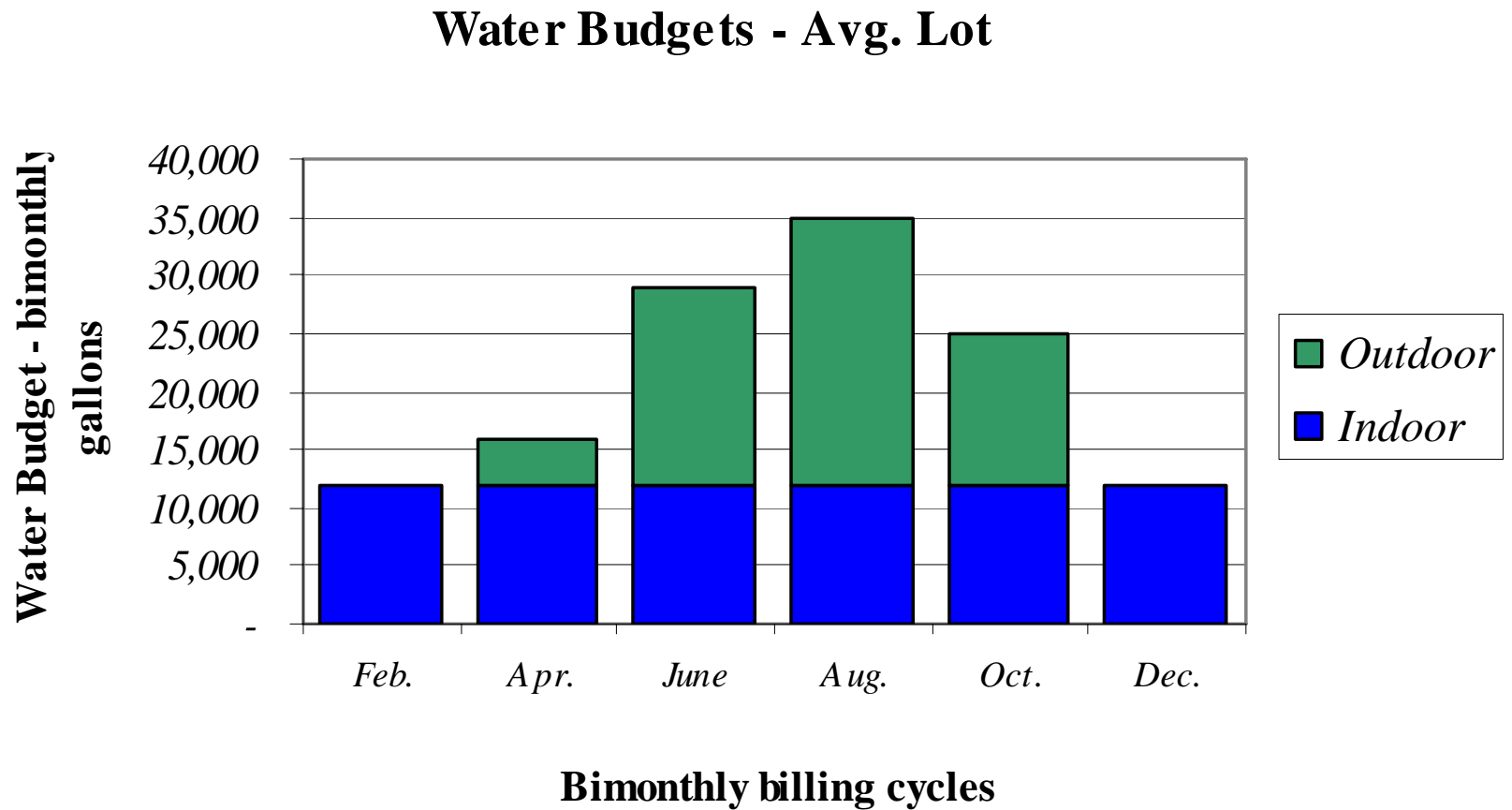
37,000 gal



Example Expenditures

Bimonthly Billing Cycles - Usage in Kgals					
		Water	Actual		Usage
Irrigation Season		Budget	Usage	% of WB	Charges
Normal Customer		32	31	97%	\$ 68.20
Moderate Overuser		32	37	116%	\$ 86.90
High Use		32	49	153%	\$ 147.95
Very Excessive Use		32	62	194%	\$ 262.25

Budget Example Over Entire Year





How do people know their budget? From their water bill.

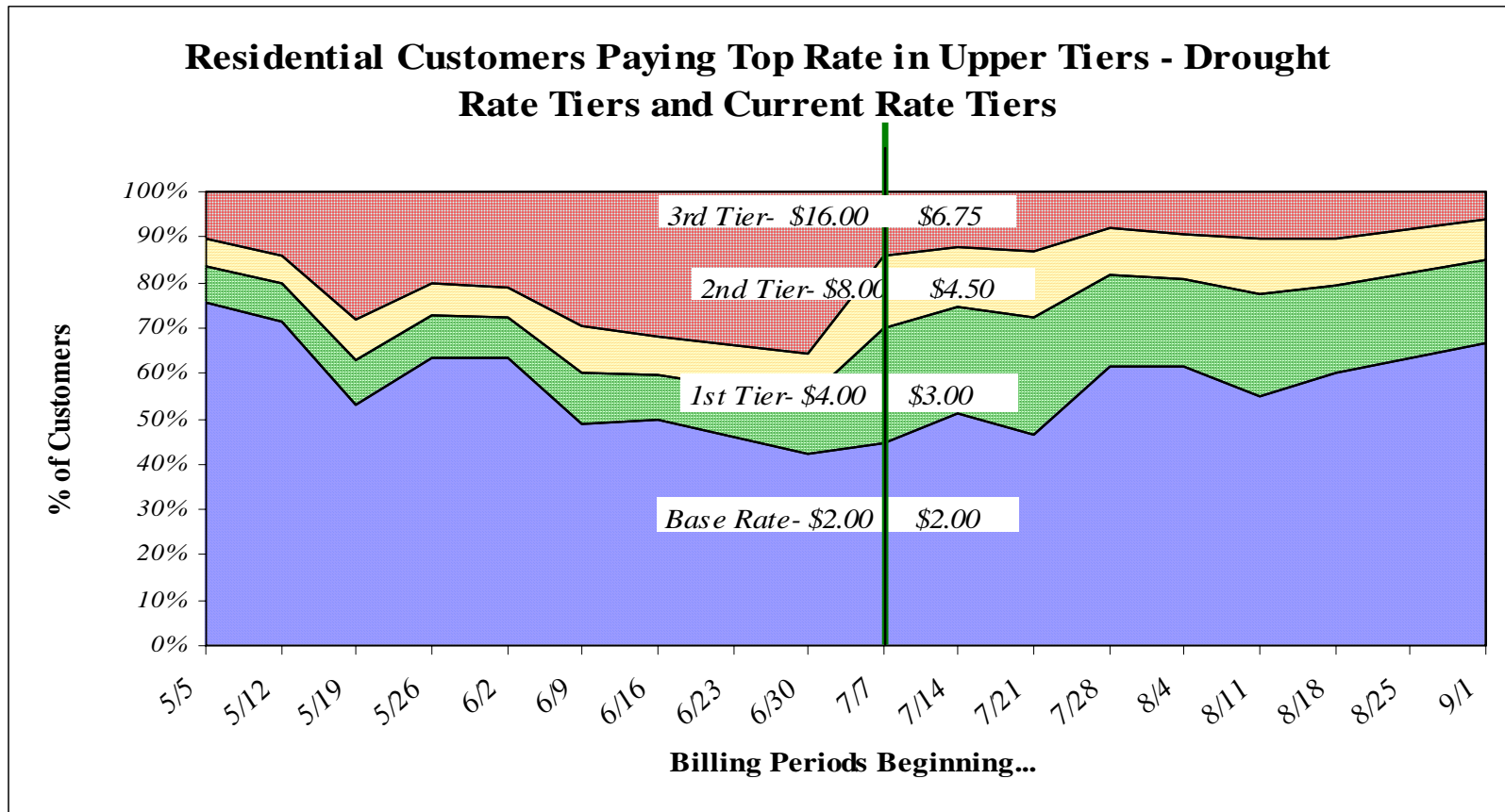
- Water bill conveys this information:
 - Current period water budget
 - Current period water usage from meter readings
 - Your next period water budget
 - Usage for same period last year
 - How bill has been calculated



Customer Communication

- *Pre-irrigation season bill inserts*
- *Local newspaper coverage*
- *Community events*
- *Website information*
- *New customer packages*
- *Workshops and public meetings*
- *Postcard mailing to each customer*

Program Education Effect :2003

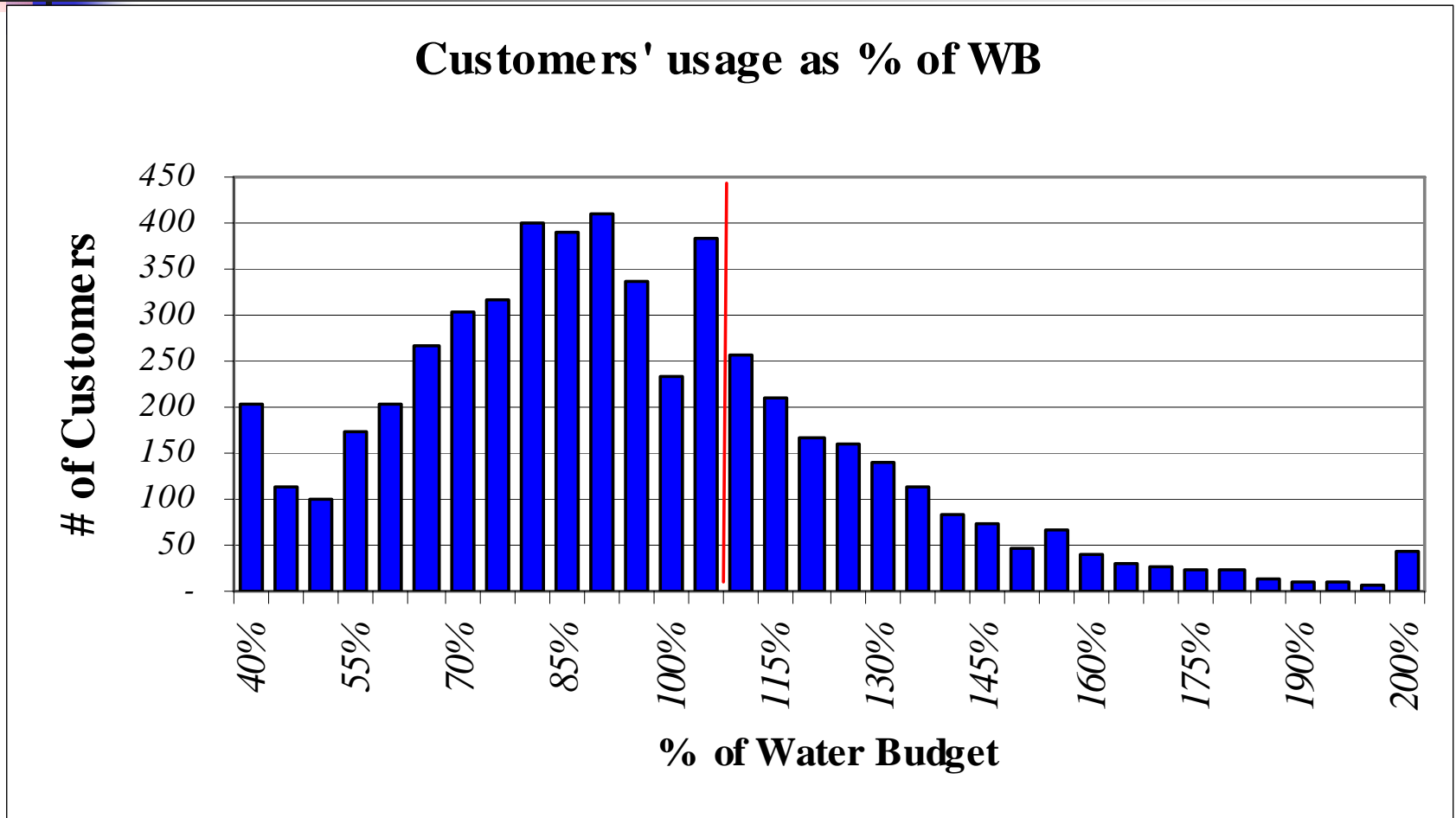




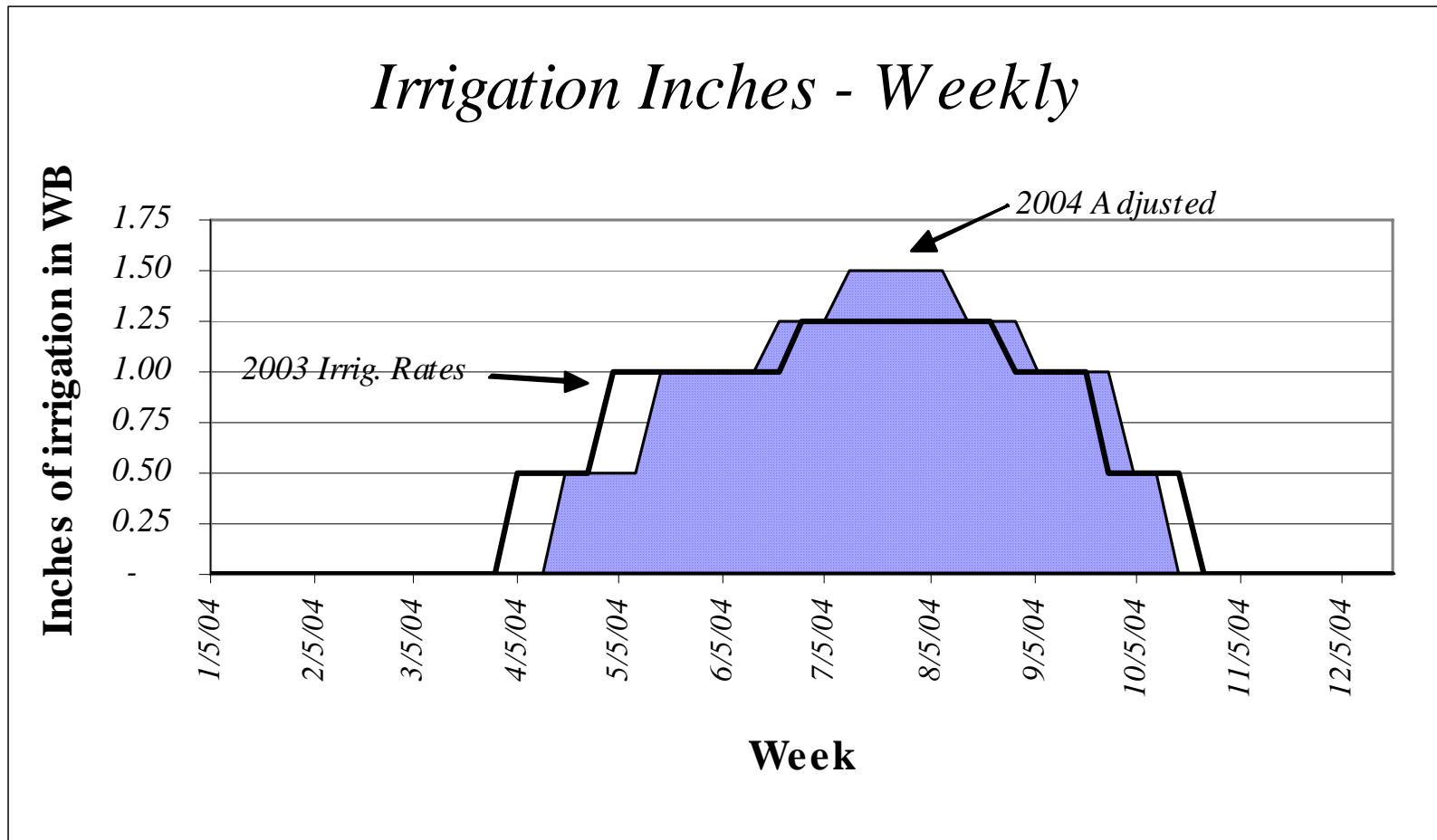
Mid-Course Adjustments

- Add more persons: sign an affidavit
- Add waiver for new landscaping: in spring and fall can water more for 3 weeks
- Add 1,000 gallon outdoor wintertime use
- Adjust irrigation rates
- Adjust “width” of tiers

Example of Data for Tier Adjustments



Irrigation Rates Adjustments



Complimentary Conservation Measures

- *Mandatory Water Conservation Measures*
 - *No Watering from 10 a.m. to 6 p.m.*
 - *All wasteful water practices, such as allowing excess water to flow in street gutters and neglecting to repair leaks, are prohibited.*
- *Violation Policy*

■ <i>First Offense</i>	<i>Warning</i>
■ <i>Second Offense</i>	<i>Letter and Warning</i>
■ <i>Third Offense</i>	<i>\$100 added to water bill</i>
■ <i>Fourth Offense</i>	<i>\$250 added to water bill</i>
■ <i>Fifth Offense</i>	<i>\$500 added to water bill</i>



Benefits of Budget Approach

- Rewards customer efficiency
- Discourages water waste
- Stabilizes revenue
- Equitable, understandable
- Preserves choice (i.e. can water more if want to)
- Effective at conserving water with or without a drought
- Incentive to change landscaping approach



Questions?
