

# This presentation premiered at WaterSmart Innovations

[watersmartinnovations.com](http://watersmartinnovations.com)



# Arizona Water Meter:

## A Comparison of Water Conservation Programs in 15 Arizona Communities

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# Arizona Water Meter – What



- 15 communities
- 7 criteria
  - Per capita use and trends
  - Water rate structures
  - Conservation measures
  - Ordinances
  - Funding
  - Water loss
  - Effluent use



# Arizona Water Meter - Why

- Assess state of the state
- Conservation as a viable alternative
- Learn from others = everyone benefits
- Expansion of WRA water program



# Participating Entities

- Variation w.r.t. size, location, ownership, demographics, and regulatory program

- Buckeye
- Chandler
- Mesa
- Peoria
- Phoenix
- Scottsdale
- Casa Grande (AWC)



- Tucson
- Sierra Vista (AWC)
- Safford
- Payson
- Clarkdale
- Prescott
- Lake Havasu City
- Yuma

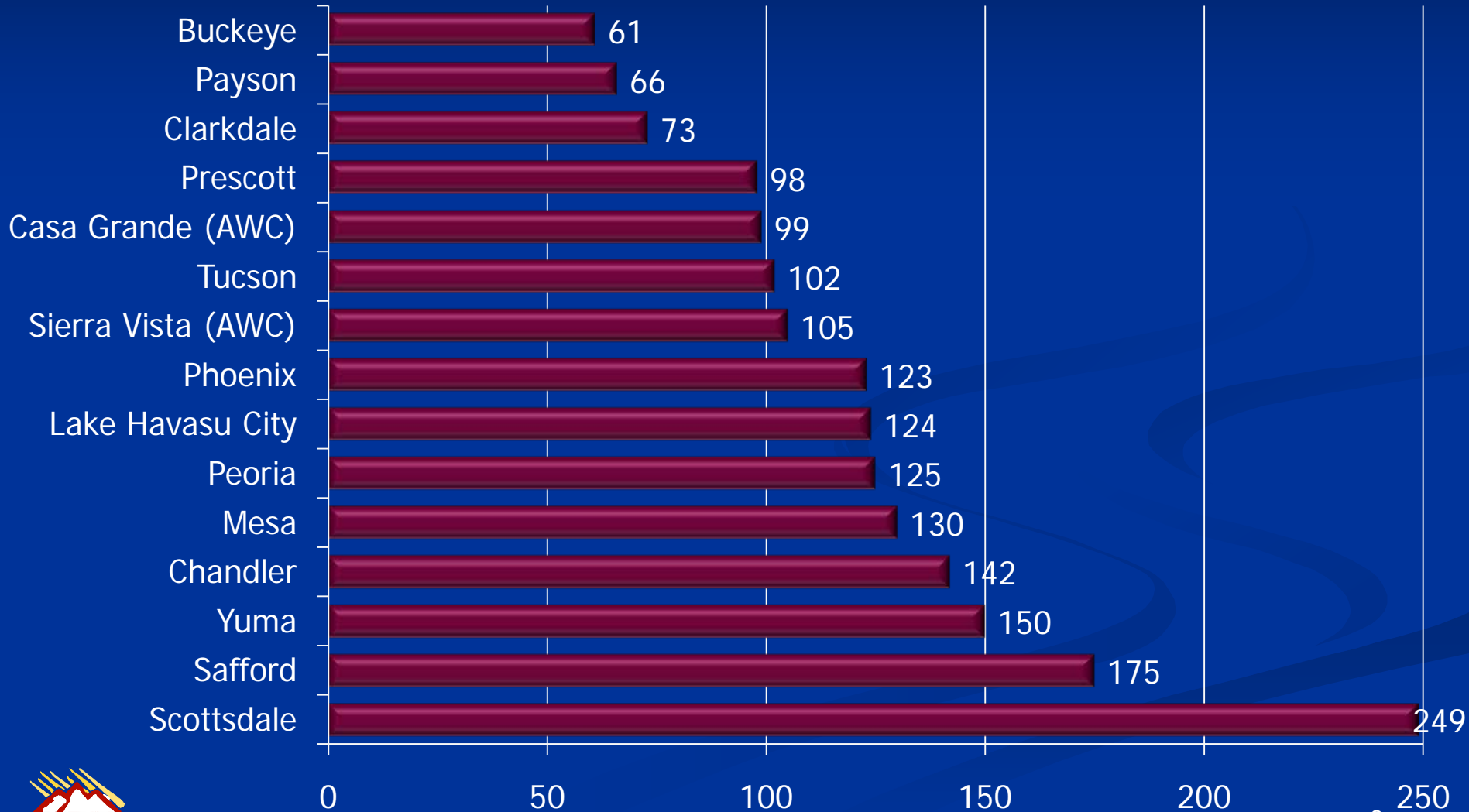


# Water Management in AZ

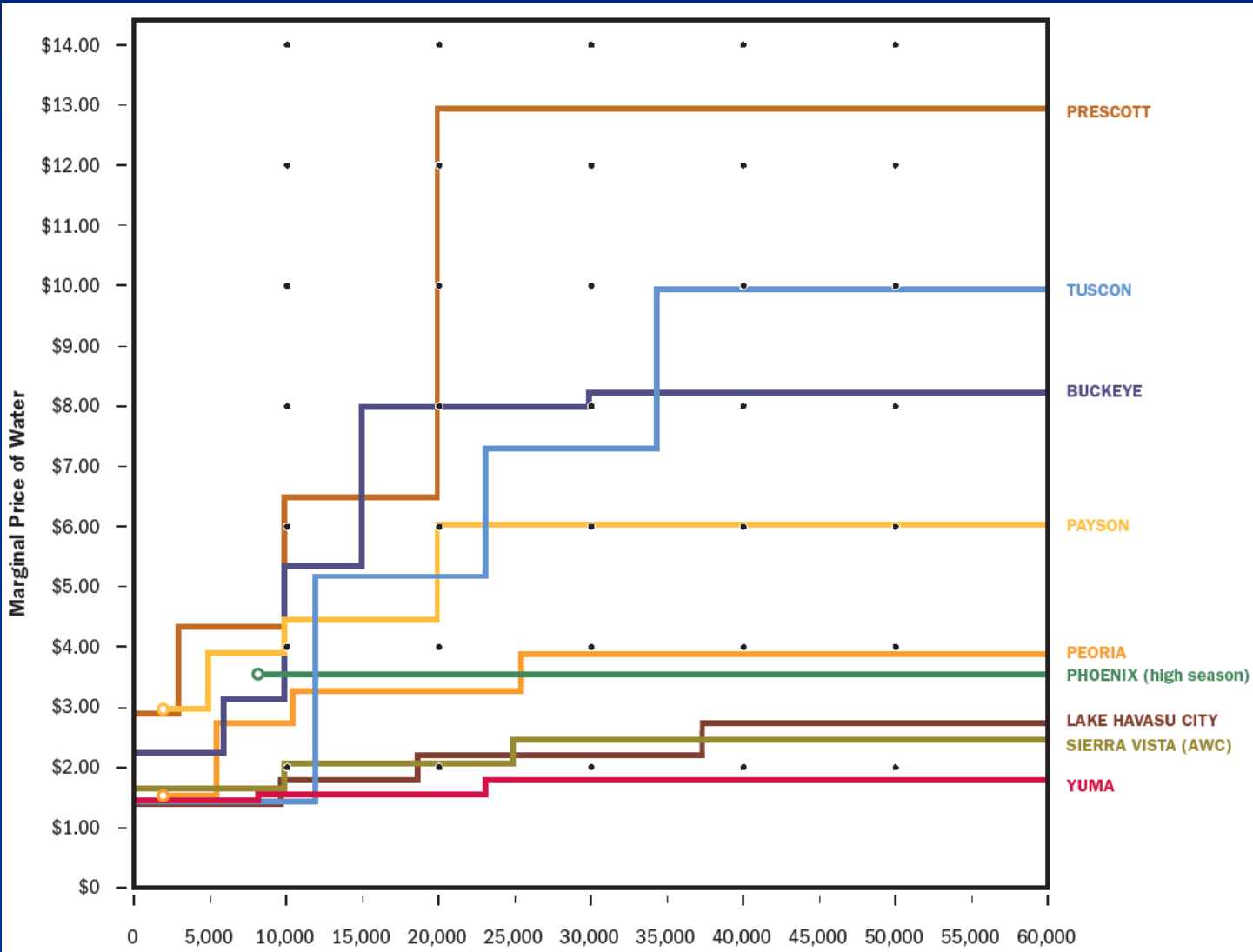
- Reliance on groundwater → subsidence, increasing pumping costs, sustainability?
- 1980 Groundwater Management Act
  - AZ Department of Water Resources
  - Active Management Areas (AMA)
  - Management Plans (e.g. TMP)
  - Regulatory Programs (e.g. MNPCCP)
- Constantly evolving



# SFR Per Capita Use

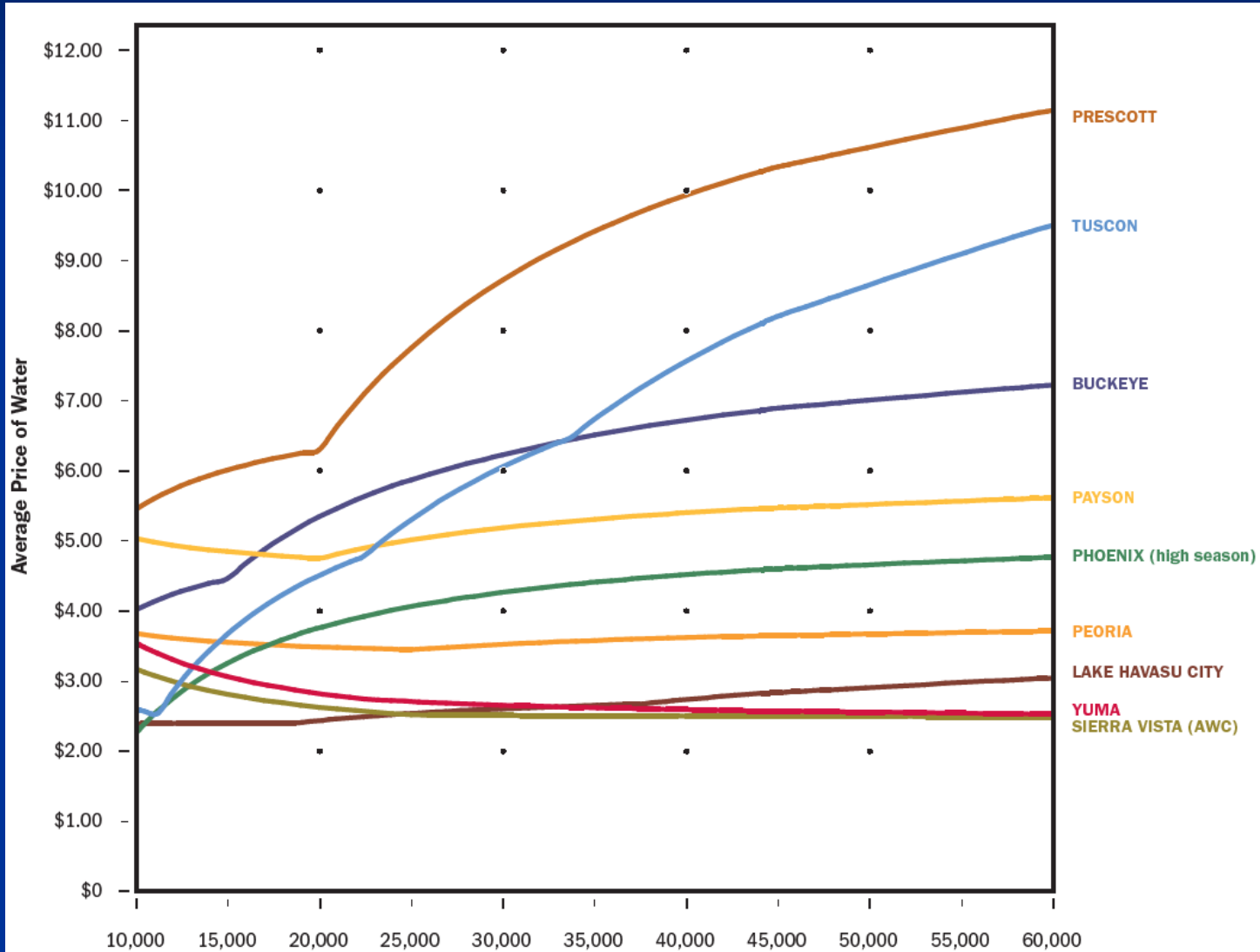


# Marginal Price





# Average Price

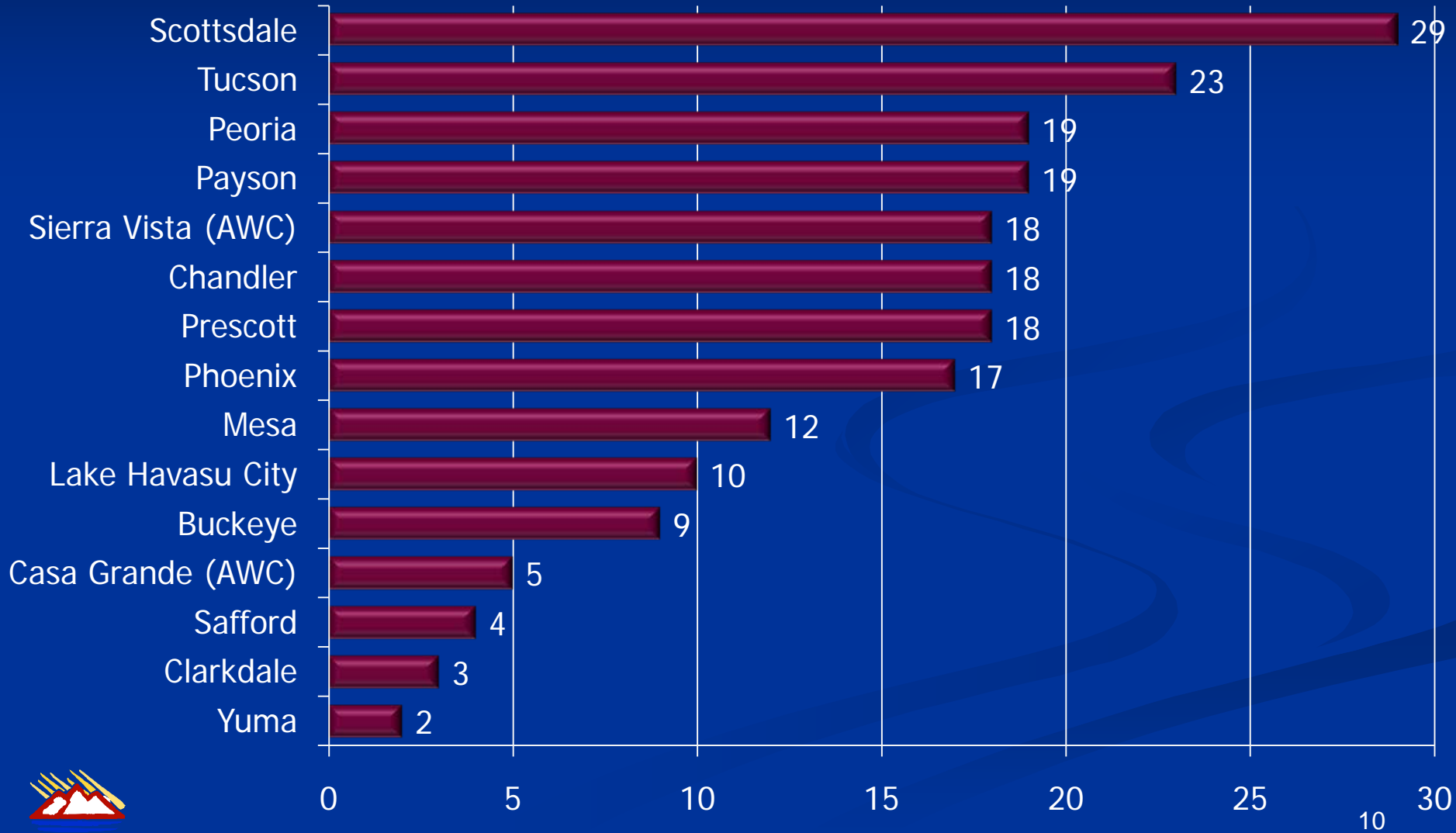


# Conservation Measures

- Most popular
  - Messaging and Youth Education (14 of 15)
  - Events and Audits (2/3<sup>rds</sup>)
- Mid-range
  - HET rebates
  - Landscape conversion incentives
- Underutilized
  - ICI measures
  - Large landscape incentives



# Conservation Measure Count

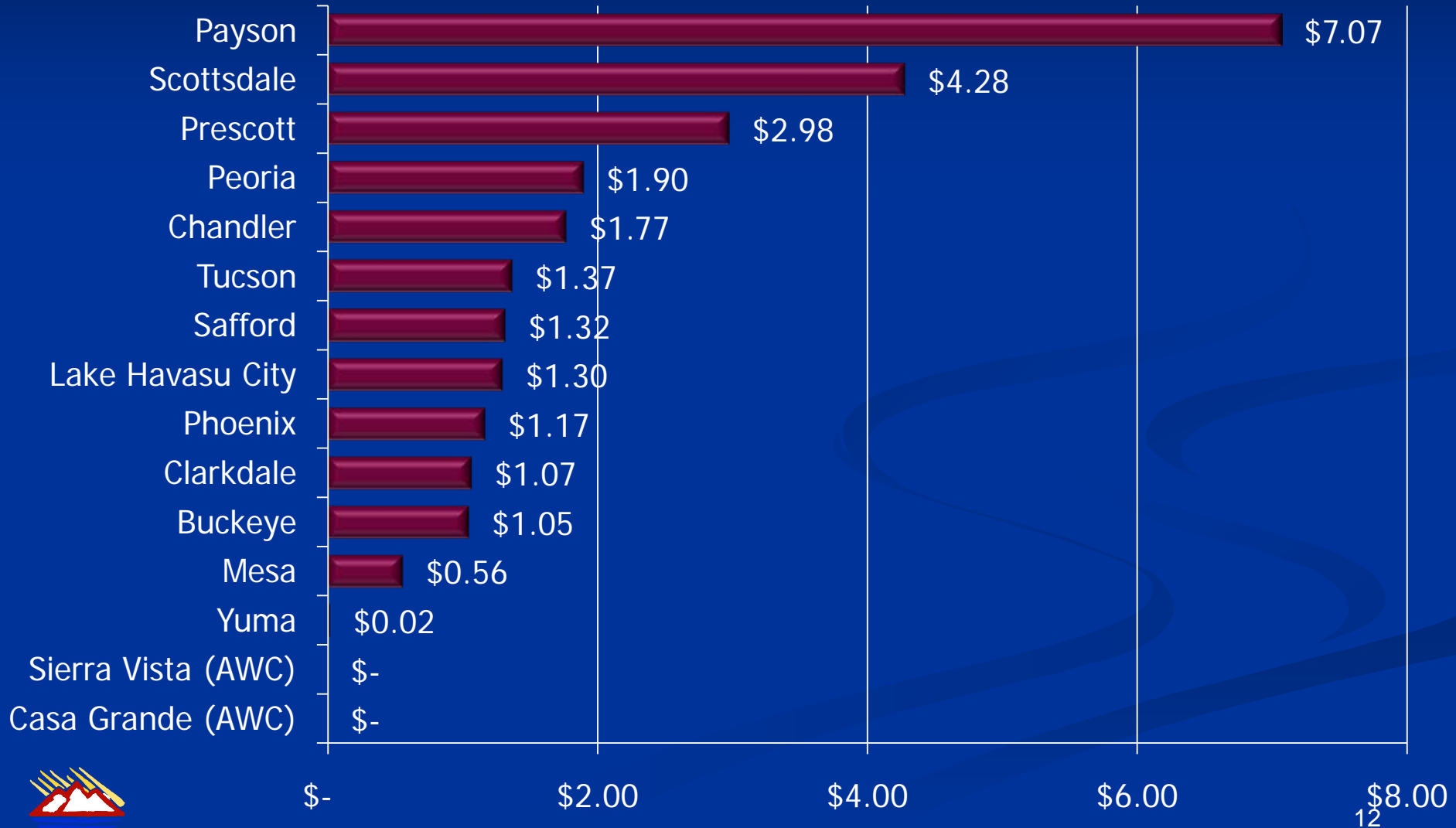


# Ordinances

- Water Features/Water Intensive Landscaping Limitations
- Landscape Watering Restrictions
- Low Water Use Landscaping Requirements
- Other Examples:
  - Planting new turf and expansion of existing turf areas is prohibited (Payson)
  - Golf course developments must generate a sufficient amount of effluent to meet irrigation needs of the golf course (Clarkdale)



# Funding



# Water Loss

- ADWR – 10% standard
- Leak detection
- Meter replacement
- Apparent lack of systematic accounting
  - E.g. AWWA/IWA Water Loss Methodology
  - Notable exceptions (Petra @ Peoria)



# Effluent Use

- 10 of 15 put 95% to use
  - Direct Use – irrigation, process water
  - Recharge
  - Exchange
- Regional partnership (SROG)
  - 60,000 AF to Palo Verde
- Implies need to focus on outdoor conservation measures?



# Scoring

- Consistent and transparent "snapshot"
  - Per Capita: SFR and system-wide trend
  - Rate Structure: avg. price and thresholds
  - Conservation measures and assessment
  - Ordinances
  - Funding
  - Water Loss
  - Effluent Use





# Scoring – SW Trend

- System Wide Potable Per Capita Trend
  - 15 points if adjusted 2008 system wide potable use decreased 10% or more since 2003
  - 12 points if use decreased 5-10%
  - 9 points if use decreased 0-4%
  - 6 points if use increased 0-15%
  - 3 points if use increased more than 15%



# Scoring – Cons. Measures

- Number of Measures (8 points max)
  - 0.25 points for each specific conservation measure
- Assessment of measures (7 points max)
  - 0.50 points for each assessment of a conservation measure



# Scoring – Water Loss

- Water Loss
  - 10 points for the city with the lowest water loss in 2008, each subsequent city receives one less point
  - 1 point guaranteed if water loss is less than 10%
  - 0 points if water loss is greater than 10%



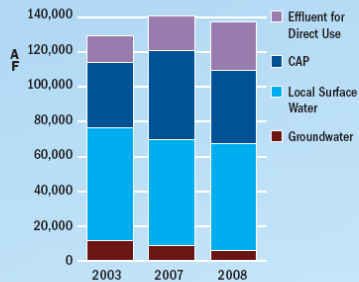
# Snapshots

## Snapshot: City of Mesa



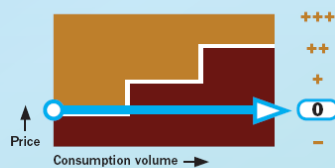
Service Area Population 46,988  
Total Budget \$ 60,245,000

### Water Sources



### Rate Structure

Structure: 3-Tier Increasing Block  
Average Price Curve: 0



### Per Capita

#### SINGLE-FAMILY

2003: 17

2008: 13

#### SYSTEM-WIDE

2003: 18

2008: 16

### Scoring

#### Per Capita

SFR GPCD

SW Trend

Rate Structure

Slope

Thresholds

Conservation

Number

Assessment

Ordinance

Funding

Water Loss

Effluent Use

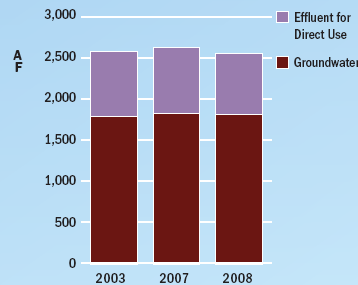
Total Points

## Snapshot: Town of Payson



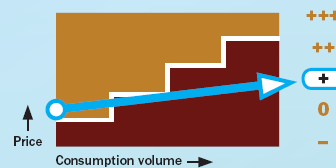
Service Area Population 17,682  
Total Budget \$ 3,829,000

### Water Sources



### Rate Structure

Structure: 4-Tier Increasing Block  
Average Price Curve: +



### Per Capita Water Use Gallons per Person per Day (GPCD)

#### RESIDENTIAL USE

2003: 68 gpcd

2008: 66 gpcd

#### SYSTEM-WIDE POTABLE USE

2003: 91 gpcd

2008: 83 gpcd

### Scoring

#### Per Capita Water Use

SFR GPCD 10

SW Trend 9

#### Rate Structure

Slope 10

Thresholds 3

#### Conservation Measures

Number 5

Assessment 2

Ordinances 13

Funding 5

Water Loss 1

Effluent Use 3

Total Points 61

### Recommendations

- Start outdoor rebate program to balance strong outdoor ordinances.
- Improve conservation price signal by decreasing monthly fee and increasing



# The "Top Drop" ?

- Come and find out October 14<sup>th</sup>
- Desert Botanical Gardens
- My personal invitation to you



# Questions & Comments

"Arizona Water Meter"

will be released October 14<sup>th</sup> in Phoenix, AZ

and posted shortly thereafter at:

[www.westernresourceadvocates.org/azmeter](http://www.westernresourceadvocates.org/azmeter)

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