

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com





10K



**Rain
Barrels**



**The Ultimate
Conservation Tool**



State Agency part of the Texas A&M University System

Water Conservation and Efficiency

Irrigation Technology, Landscape and Irrigation Check-ups and audits, Residential and Commercial water use surveys, Rainwater harvesting, Landscape Design and site planning, Educational programs

Watershed Planning and Management

Stakeholder participation, Data collection and analysis, Modeling, Economic analysis, BMP education

Water Quality

Stormwater management, Rainwater harvesting, Low impact development, BMP testing and application analysis

Texas A&M AgriLife Water University



How do we know?

**We've made 11,896
Rain Barrels**

**Saving
27.5 MILLION GALLONS
of Potable Water a year**

Rain Barrels – The Ultimate Conservation Tool



Water Conservation Programs

- High Efficiency Toilet Replacement
- Smart Controllers
- Rain/Freeze Sensors
- Turf or Landscape Replacement
- WaterSense Labeled Products
- Irrigation Audits/Check-ups
- Washer Rebates

Rainwater Harvesting?

- Too expensive
- Hard to calculate savings
- Is it safe

Water Conservation BMPs

**When we turn on the
faucet clean, fresh,
potable water flows out**



Why “Selling” Water Conservation is Hard

**“We wont
run out of
water It
has to rain
sometime”**

**“You can
buy it at the
store”**

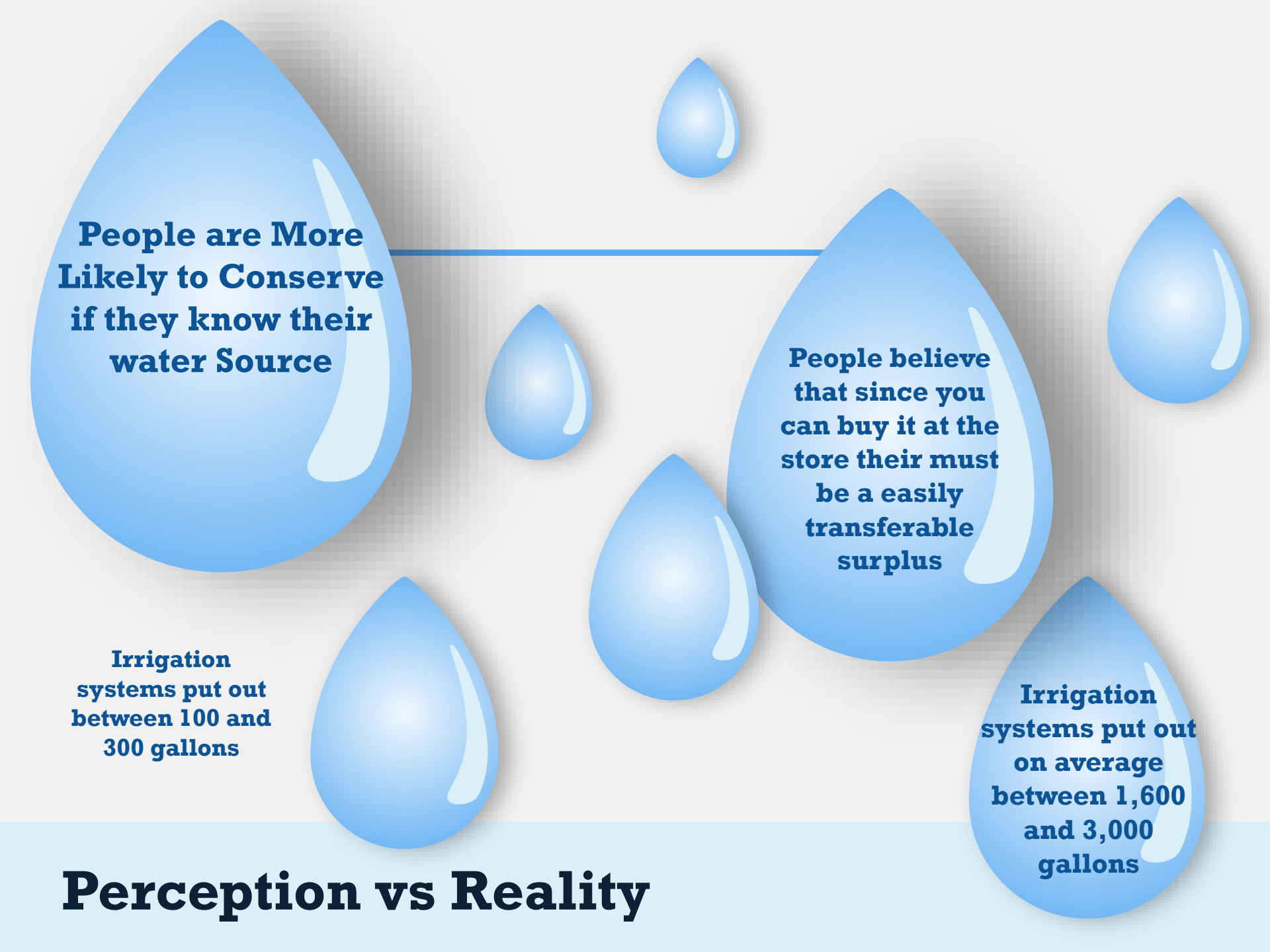
**“Conservation
is a ploy to sell
more to
customers”**

**“It’s
raining why
can’t I
water my
Yard”**

**“If I pay for
it I should
be able to
do as I
please”**

**“The city
waste more
water than I
do”**

What we hear from customers?

An infographic featuring several blue water droplets of various sizes on a light blue background. A horizontal line connects two large droplets. The text is arranged around these droplets, with a title at the bottom. The text is as follows:

People are More Likely to Conserve if they know their water Source

People believe that since you can buy it at the store their must be a easily transferable surplus

Irrigation systems put out between 100 and 300 gallons

Irrigation systems put out on average between 1,600 and 3,000 gallons

Perception vs Reality

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Perception vs Reality



Lake vs Barrel




Rainwater Harvesting – the process of

- Capturing
- Diverting
- Storing

Why Harvest Rainwater

- Reduces demand on municipal water supply
- Makes efficient use of a valuable resource
- Reduces flooding, erosion, stormwater runoff and surface water contamination
- Saves Money

What is Rainwater Harvesting?



You can collect .6 gallons of
water per square foot of
roof area per 1" rainfall

2,000 sq. foot roof X 1" rain
= 1,200 gal. water

1,200 gal. X 36" rainfall per
year= 43,200 gal/yr

Rainwater Collection



Dallas, TX

- 36" rain year
- 42 rainfall events with more than $\frac{1}{4}$ inch

Typical downspout collects from 400 sq.ft of roof

- **2,310 gallons year**

Rainwater Collection – 55 Gallon Barrel

Average Home North Texas

Average North Texas Home

40 X 120 Lot
2,200 sq ft home
2,600 sq ft landscape

6 Zones

2,250
Sq ft
Turf

Irrigation

60 Spray heads
2.5 gal/min
150 gal/min

20 minute run time
3,000 gallons

350
Sq ft
Beds

On average
50% or all
irrigation
water is
wasted

Most people
water two to
four times a
week

6,000 to 12,000
gallons week

Calculating Irrigation Demand

**55 gallon
rain barrel**

**91 emitters
@ .6 gal/hr**

**1,100 feet of
inline drip
tubing**

**90 point
source drip
emitters**

**200 square
feet of
planted
beds**

**Water 5
potted
plants for
10 weeks**

Rainwater Distribution



WaterSense Labeled Home – 1,000 gallons

1,000 Gallon Collection System

7 Zones

**WaterSense
Labeled Home**
Irrigation System

**5 Inline
Drip Zones**

416 emitters
.6 gallons/hour

250 gallons/hour

670 Gallons
applied to
landscape per
week (1 inch)

**2 Spray
Zones**

28 Heads
Multi Stream Heads
.5 gal/min for 30 min

430 gallons

Calculating Irrigation Demand



Our Rain Barrel Program

DRILLING HOLES

Create a 5" – 6" hole on lid using
drill, Jig saw, or Drywall Saw



DRILLING HOLES

Create 1 3/4" hole on side using hole bit for bulk fitting and faucet.



Installing $\frac{3}{4}$ " Faucet

Wrap Teflon tape around pipe threaded end of faucet and install in bulk fitting. (Twist to the right)

**You can add Caulking between the bulk head fitting and the barrel as an added water seal.*



Installing Netting

Apply caulk around lid hole and place netting over hole working caulk outward spreading all over netting in contact with lid.

**You can drill holes around lid lip for drainage.*






The Addiction

A light blue water drop graphic with a white highlight on the right side, containing the text "Water Has Value".


**Water Has
Value**

A light blue water drop graphic with a white highlight on the right side, containing the text "You must be efficient".


**You must
be efficient**

A light blue water drop graphic with a white highlight on the right side, containing the text "Conservation is Key".

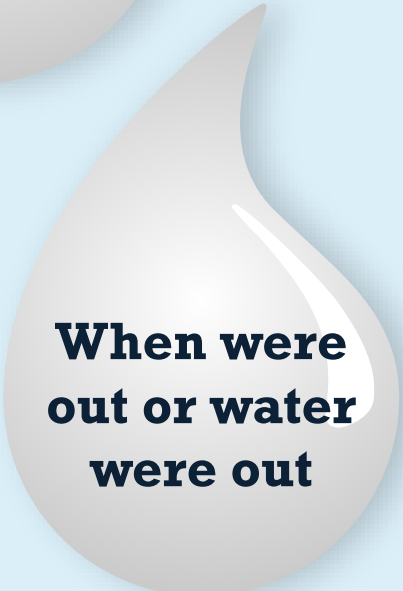
**Conservation
is Key**

A light blue water drop graphic with a white highlight on the right side, containing the text "Must prioritize its use".

**Must
prioritize
its use**

A light blue water drop graphic with a white highlight on the right side, containing the text "Water is not an unlimited resource".

**Water is not
an
unlimited
resource**

A light blue water drop graphic with a white highlight on the right side, containing the text "When were out or water were out".

**When were
out or water
were out**

What people who harvest rainwater learn



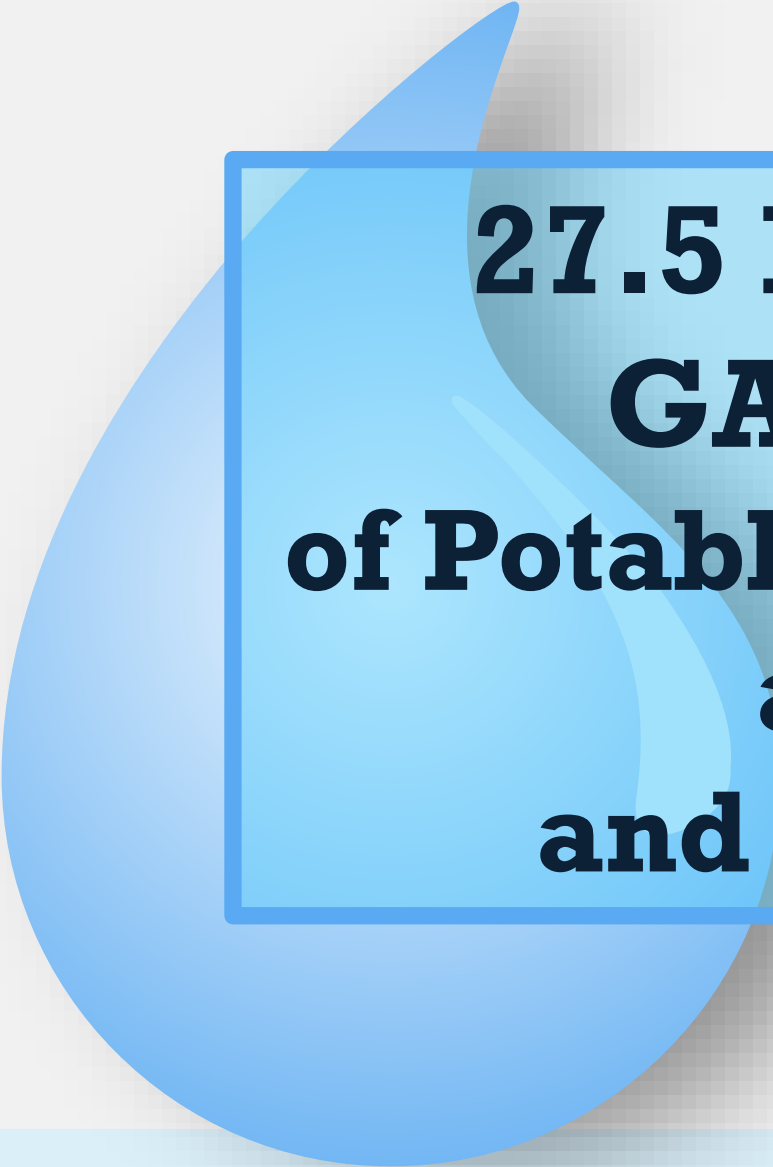
The Outcome

- 80% more likely to install drip irrigation
- More likely to install native and adaptive plants
- More likely to reduce turfgrass area
- Use 40% less water outdoors on average

Rainwater Harvester's



Rain Barrels The Ultimate Conservation Tool



**27.5 MILLION
GALLONS
of Potable Water Saved
a Year
and Counting**

Rain Barrels The Ultimate Conservation Tool

The logo for Water University, featuring the words "WATER" and "UNIVERSITY" in a bold, white, serif font. "WATER" is positioned above "UNIVERSITY", and both are set against a light blue background that is part of a larger graphic of water droplets.

**WATER
UNIVERSITY**

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