

# Conservation of Measures – Water Savings beyond Useful Life

USDA-CSREES National Water  
Conference: Research, Extension and  
Education for Water Quality and  
Quantity

Presented by:  
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# Program Summary

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# Program Summary

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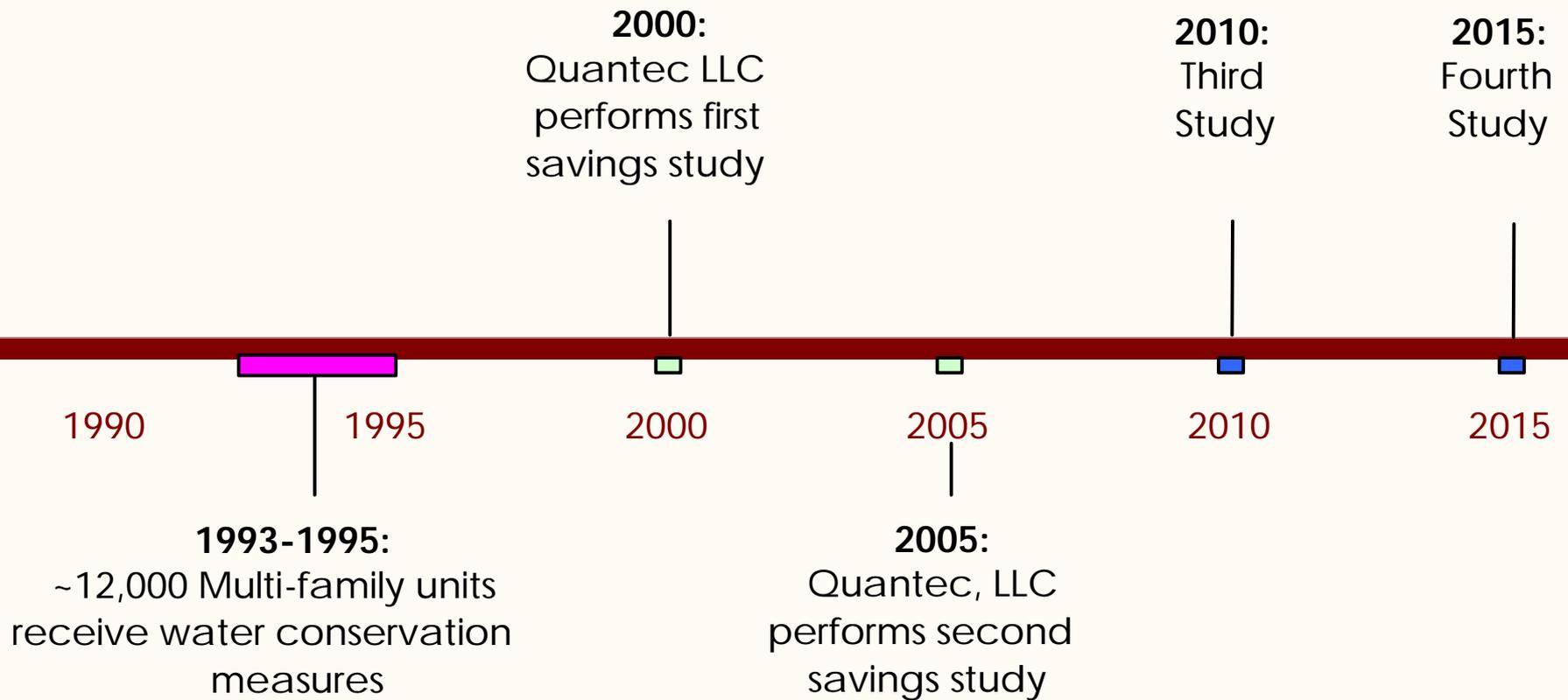


- 1.0 acre foot = 325,851 gallons
  - The equivalent of about 2 households
- 277 acre feet = 90,260,727 gallons
  - That's about 550 households each year



x 277

# Program Summary



# Program Summary

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## Data Collection

- Manufacturer
- Model
- Labeled flow rate
- Actual flow rate (MicroWeir)
- Number of people in each unit



# 2000 Evaluation



## Persistence of Water Savings for Multi-Family Units

		95% Confidence	
Total Savings	87,239,984	Low	High
Original Contract Estimate	90,400,860	81,716,451	92,763,517
Realization Rate	97%	90%	103%

# 2005 Evaluation

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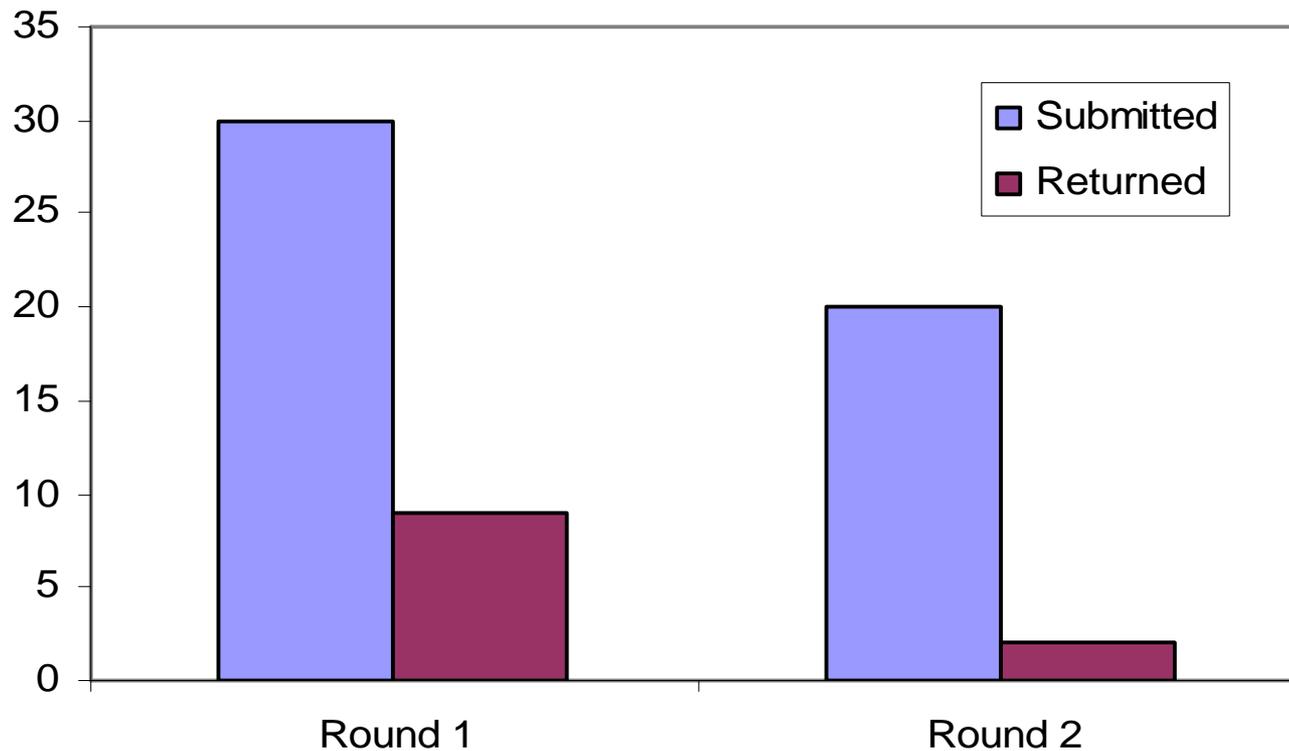


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# 2005 Evaluation: *Site Visits*



## Making the Connection



# 2005 Evaluation:

## *Site Visits*

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## **Scheduling – Concerns**

- “How old is this project?”
- “I can tell you right now there aren’t any installed anymore”
- “What state are you based out of?”
- “Why would an electric company install showerheads?”
- “What’s in this for me?”

# 2005 Evaluation:

## *Site Visits*

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## **Scheduling – Pitfalls**

- Security concerns
- Inability to accept compensation
- Lack of compelling reason
- Timing of the site visits

# 2005 Evaluation: *Site Visits*



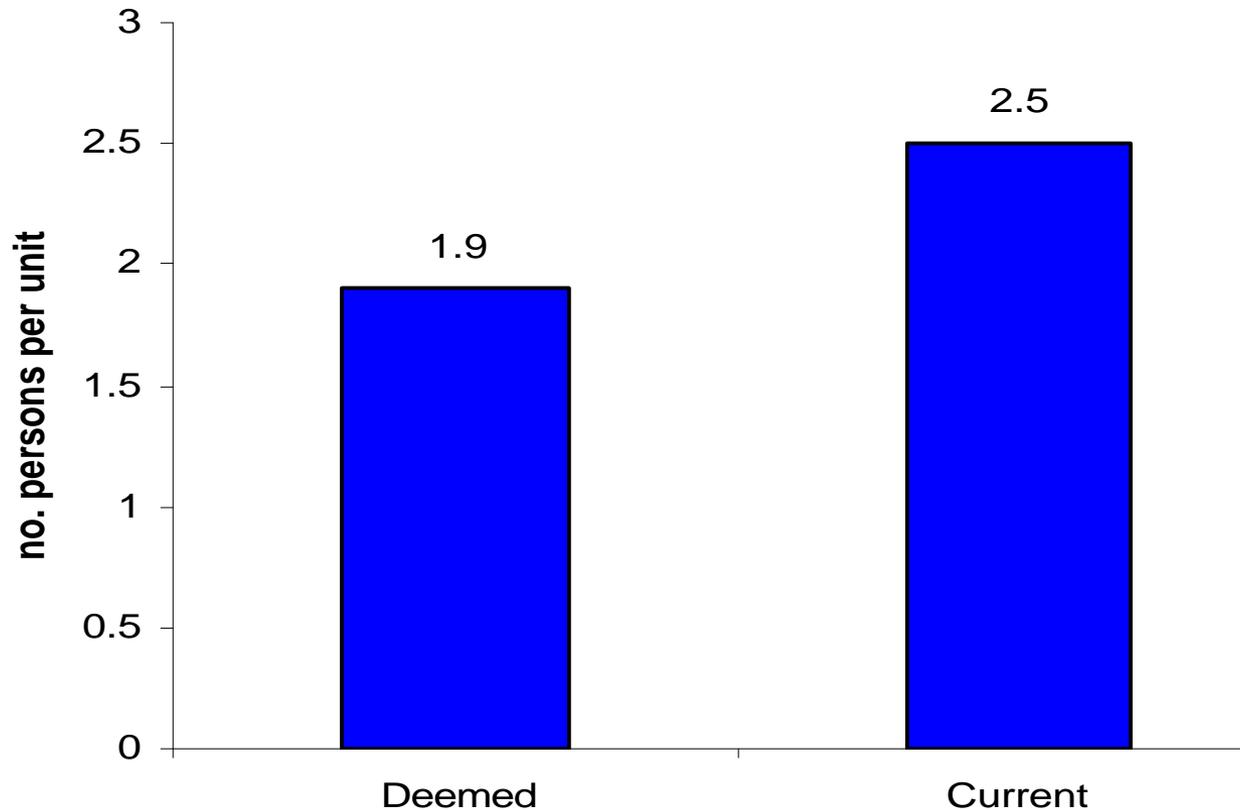
## On-Site Procedure



# 2005 Evaluation: *Findings*



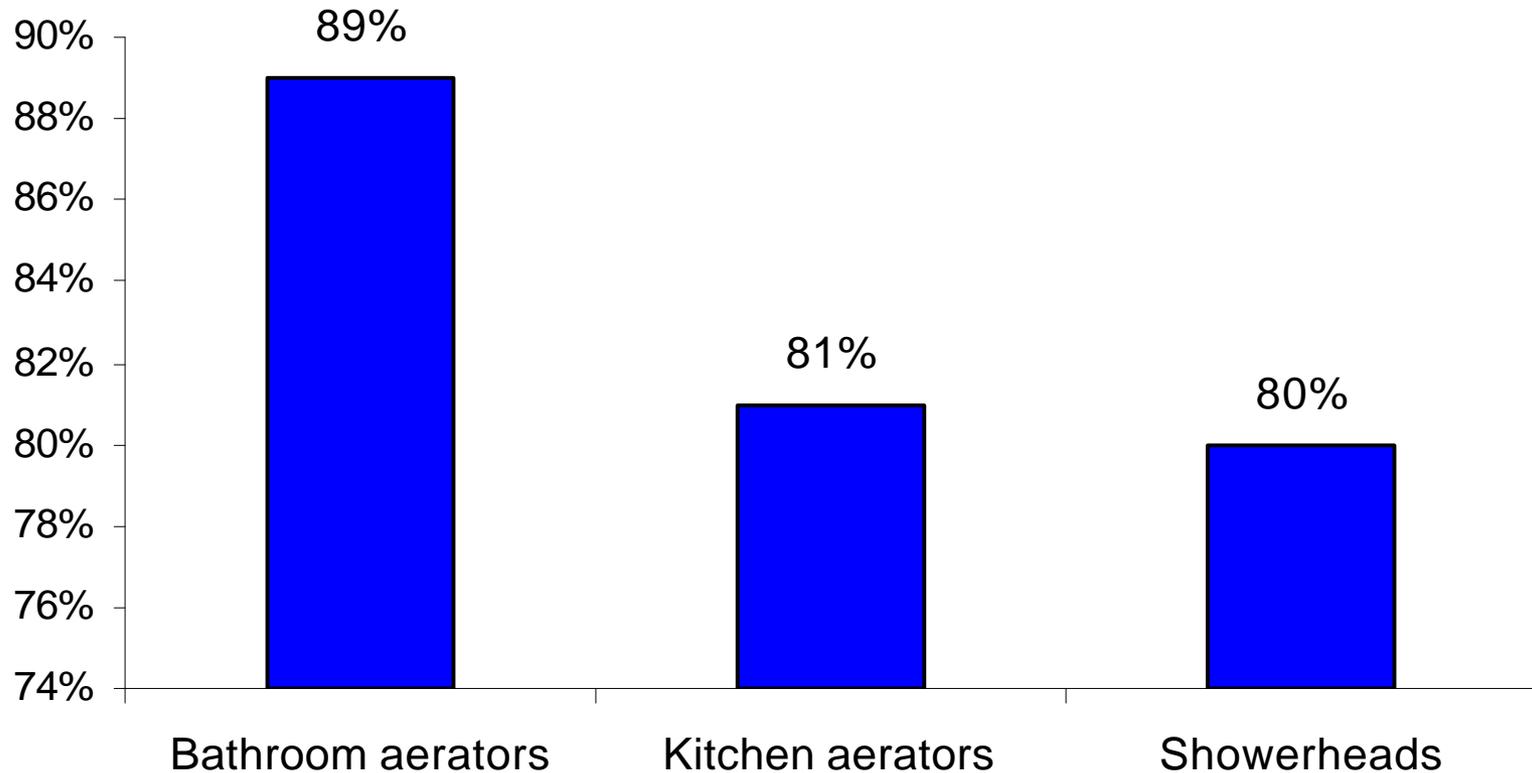
## Tenant Demographics



# 2005 Evaluation: *Findings*



## Water Measures at 2.5 gpm or Lower



# 2005 Evaluation:

## *Findings*

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## Original Method for Calculating Savings

$[Aerator\ Savings * Persistence + Showerhead\ Savings * Persistence]$

$$* \left[ \frac{Occupancy}{4} \right]$$

# 2005 Evaluation:

## *Findings*



## Revised Method for Calculating Savings

	Flow (gal/min)	Aerator Savings (gal/year)	Showerhead Savings (gal/year)
Program Deemed, Aerator & Showerhead	2.5	3,360	18,000
Metered, Aerator	2.1	4,228	- - -
Metered, Showerhead	2.4	- - -	18,728

# 2005 Evaluation:

## *Findings*

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## Revised Method for Calculating Savings

$$\left[ (\text{aerator savings of 4,228 gallons} + \text{showerhead savings of 18,728 gallons}) * 8,910 \text{ units} \right] * \left[ \frac{2.5}{4} \right]$$

# 2005 Evaluation:

## *Findings*



## Program Statistics

	Water Savings (gal/year)	Occupancy (people/unit)	Aerator Flow (gpm)	Shower-head Flow (gpm)
Contract Goal	90,400,860	1.9	2.5	2.5
Year 2000	87,239,984	2.1	2.2	2.0
Year 2005	120,013,710	2.5	2.1	2.3

# 2005 Evaluation: *Conclusion*



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# Thank you!

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