

Perceptions of water use and water systems

Shahzeen Z. Attari

sattari@indiana.edu

<http://mypage.iu.edu/~sattari>

Indiana University Bloomington
School of Public and Environmental Affairs

Overview

Work completed

Understanding effective actions and perceptions

The Water Short List

- What are effective actions to decrease residential water use?

(Inskeep and Attari, Environment, 2014)

Perceptions of water use

- Most effective behavior?
- Accuracy of perceptions?

(Attari, Proceedings of the National Academy of Sciences, 2014)

The water short list

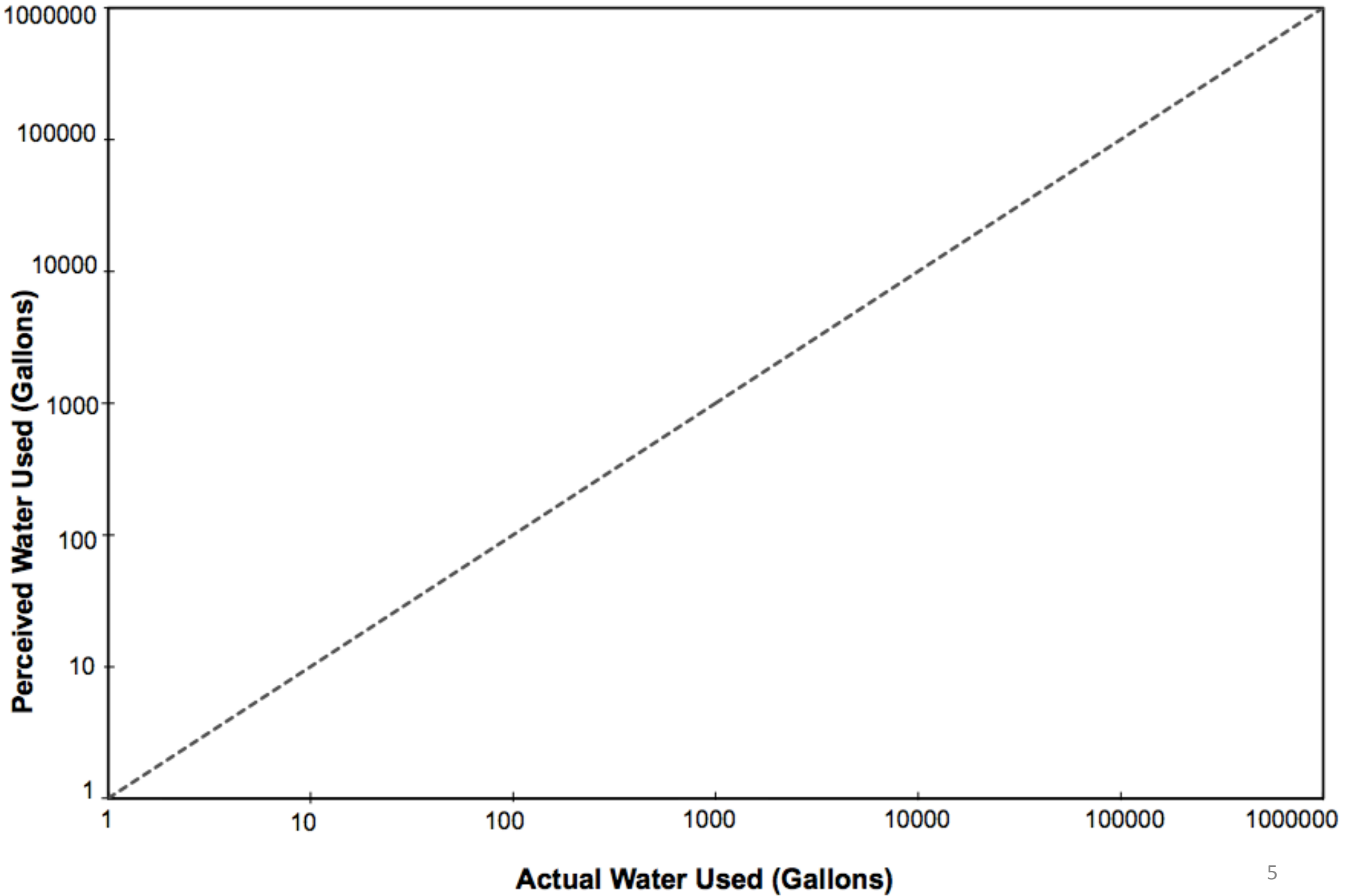
The five most effective actions to save water indoors:
(excluding leaks)

Action	Savings
installing low-flush toilets	19%
using a water-efficient clothes washing machine	17%
reducing shower time to an average of 5 minutes	8%
washing full loads of clothes	8%
reducing toilet flushes by 25%	7%

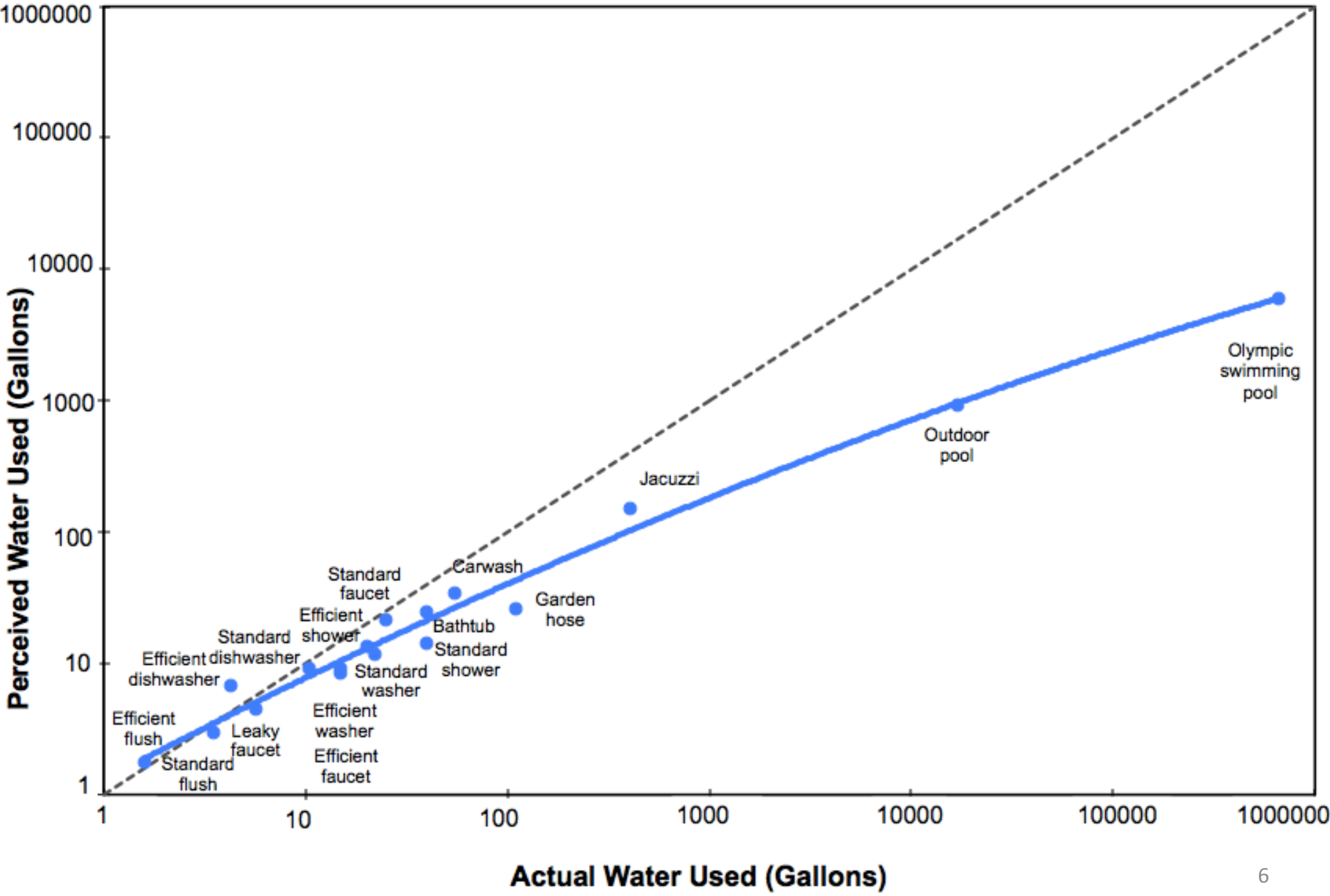
Behaviors perceived “most effective” to conserve water

Behaviors	Percentage of participants
Shorter showers	43%
Turn off water while doing activities (not including brushing teeth)	10%
Turn off water while brushing teeth	7%
Conserve water or use it efficiently	5%
Do less laundry or full loads of laundry	4%

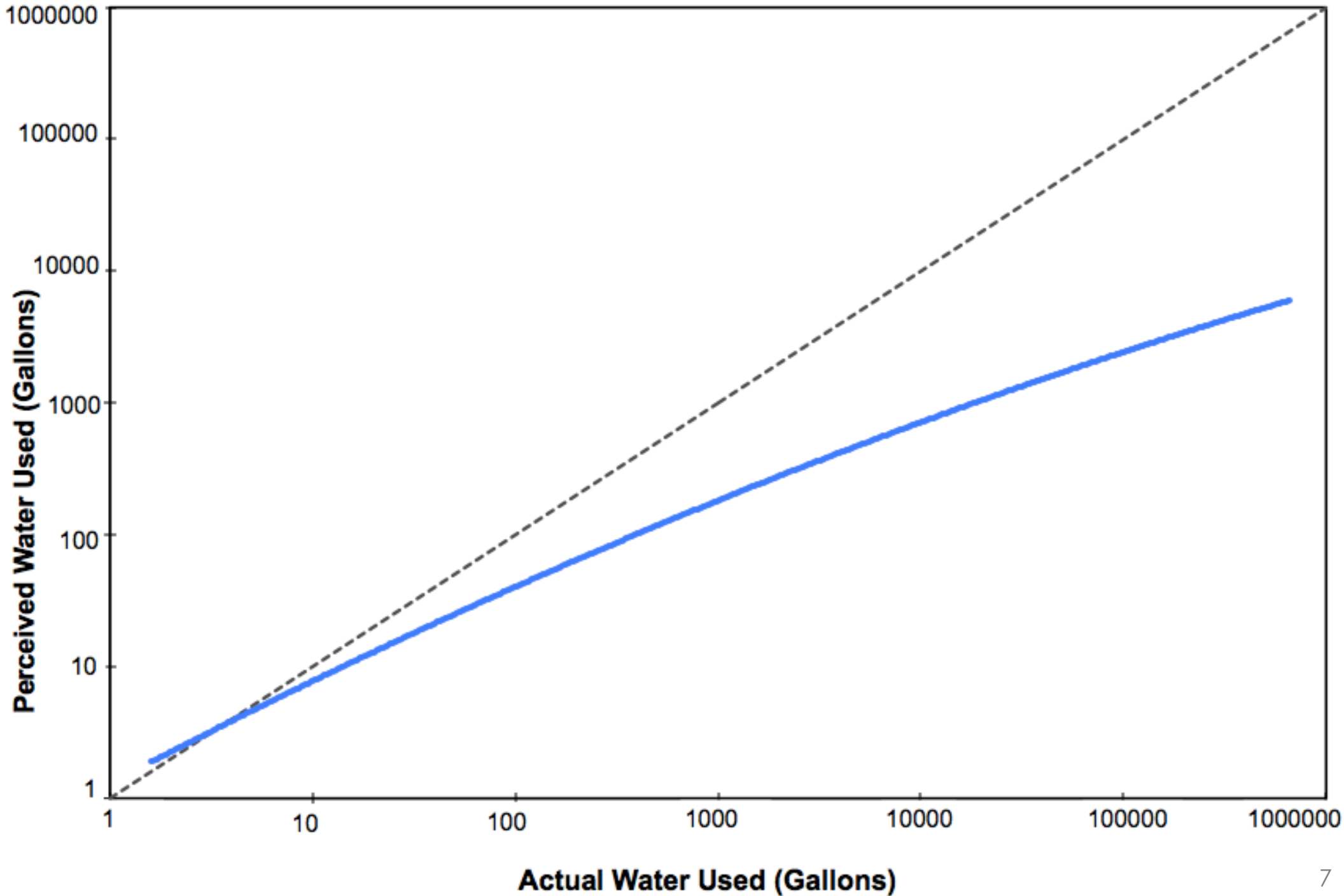
Perceptions of water use



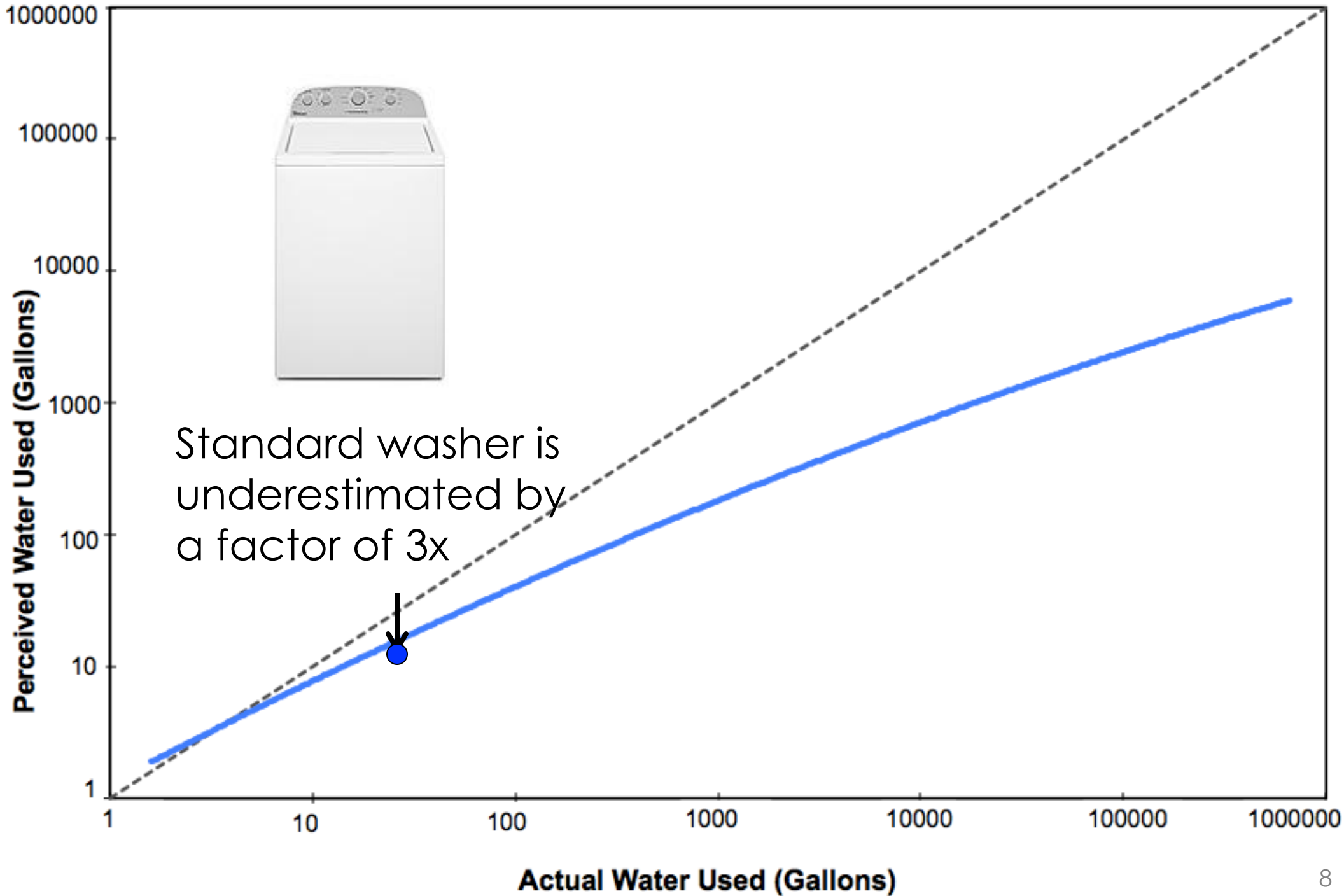
Perceptions of water use



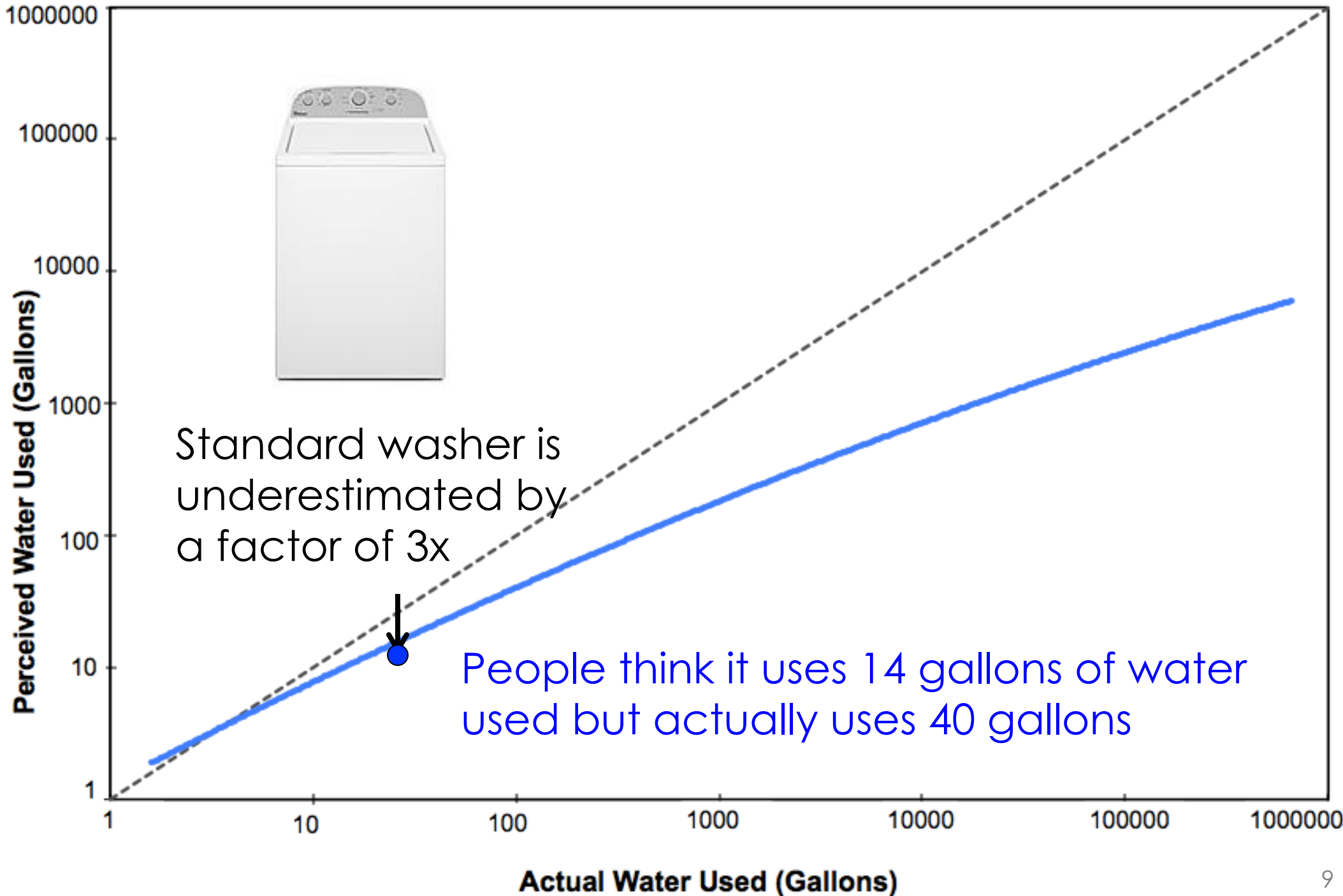
Perceptions of water use



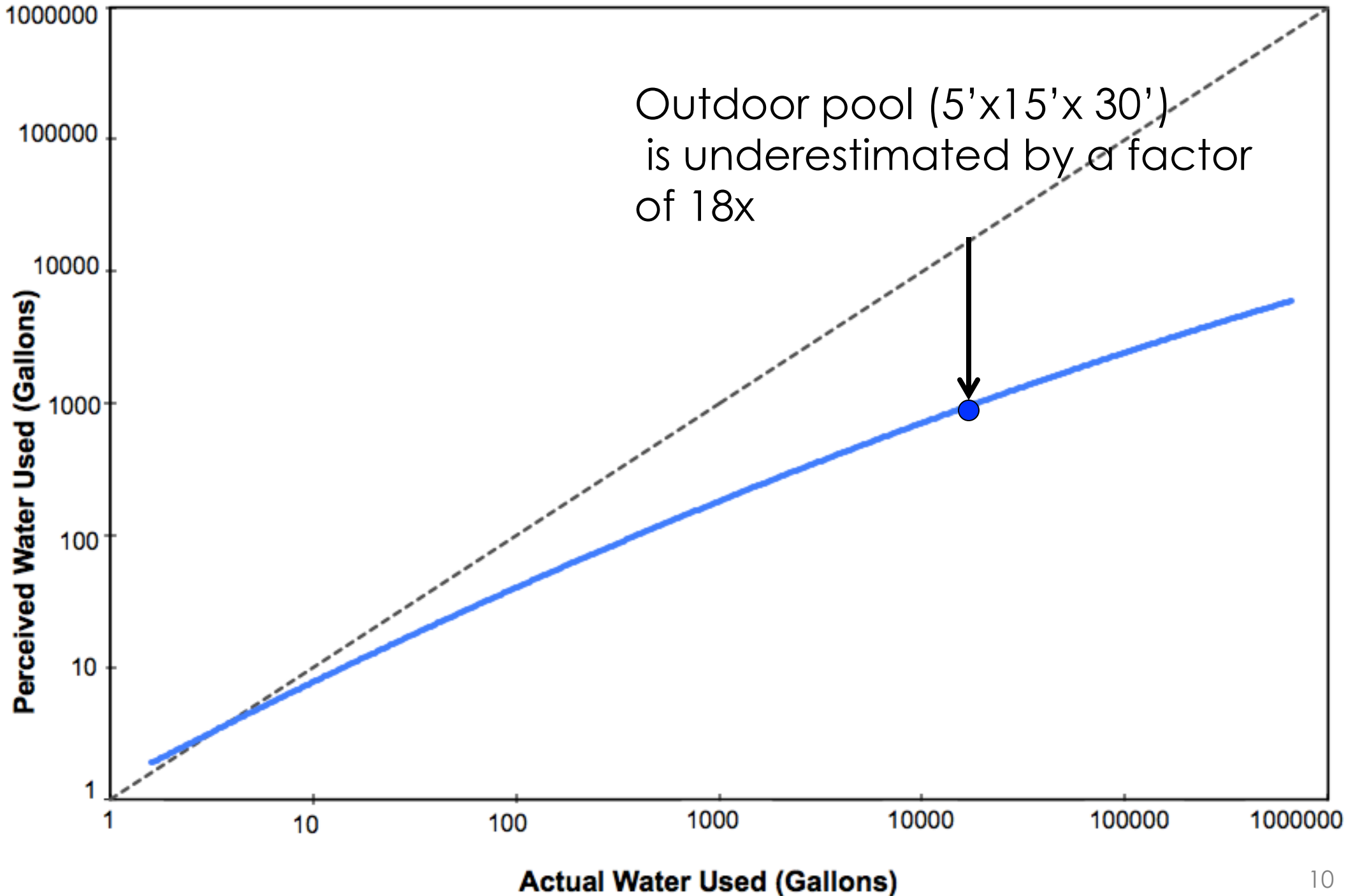
Perceptions of water use



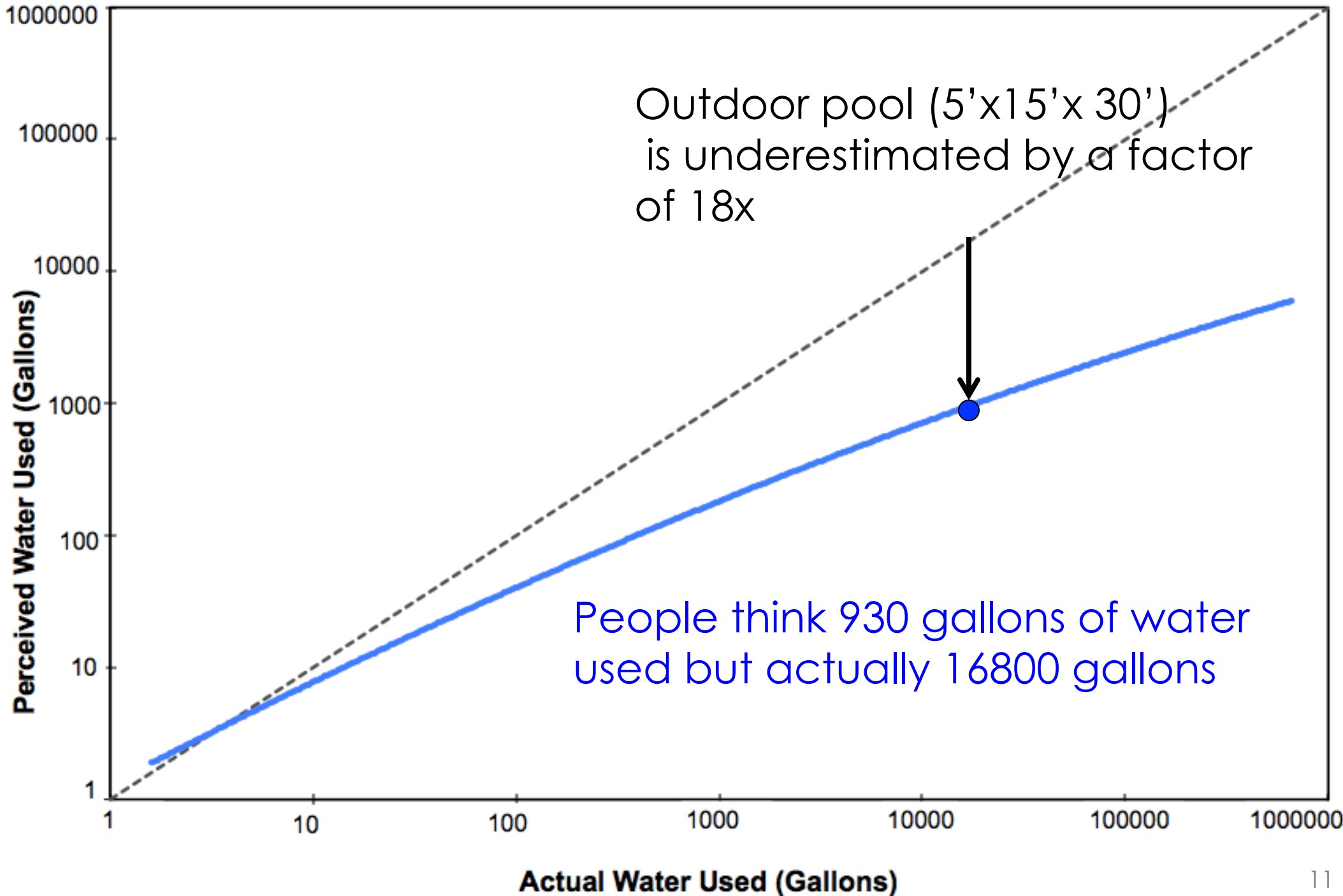
Perceptions of water use



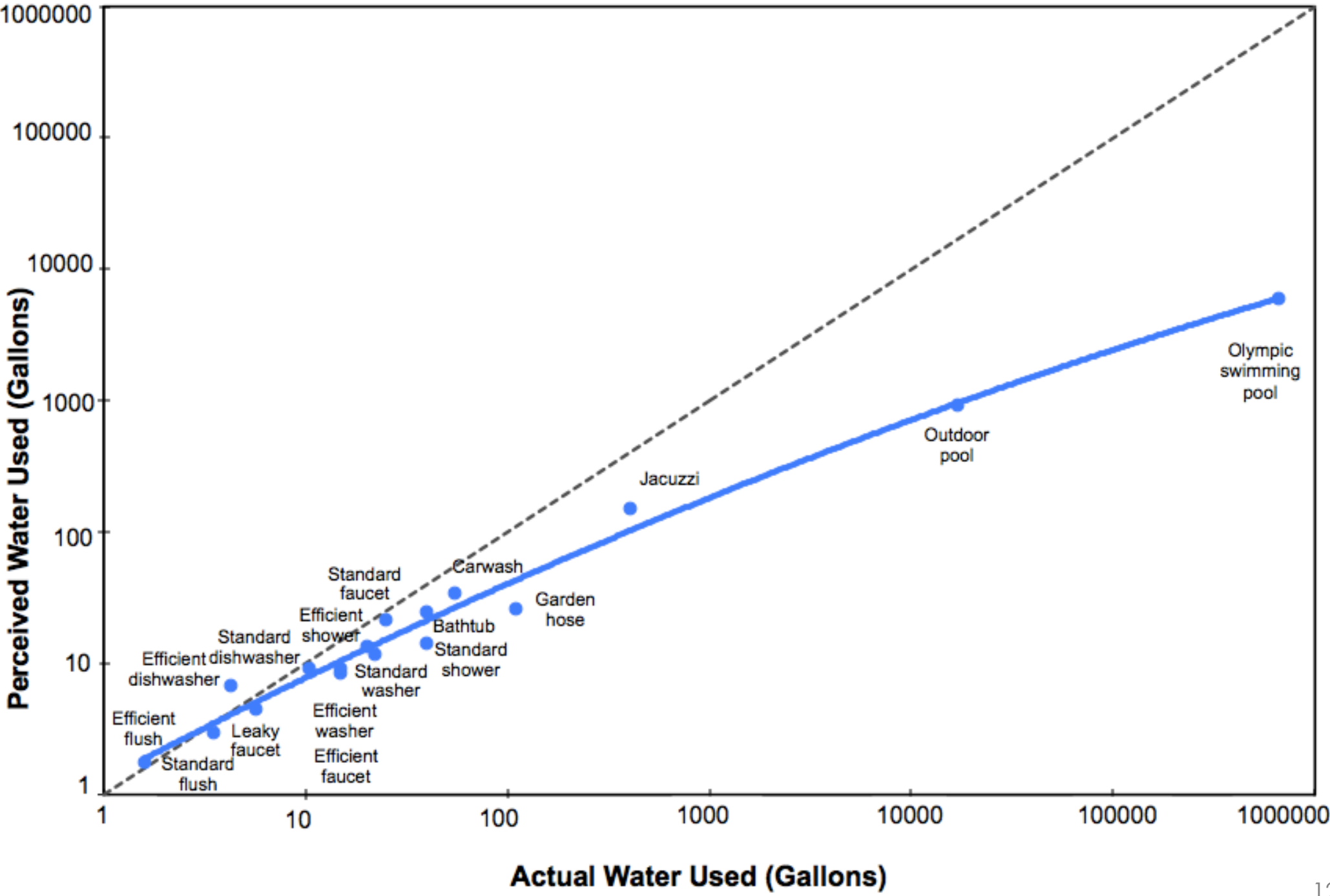
Perceptions of water use



Perceptions of water use



Perceptions of water use



Bad News

- Participants think curtailment activities are most effective rather than efficiency activities (in contrast to what we identify in the water short list)
- Perceptions of water use suffer from severe underestimates

Working project:

Systems thinking of potable water delivery to homes

- Asked students (undergrads and grads) to **draw** out the entire system of water delivery and treatment
- Usable data from 500 students

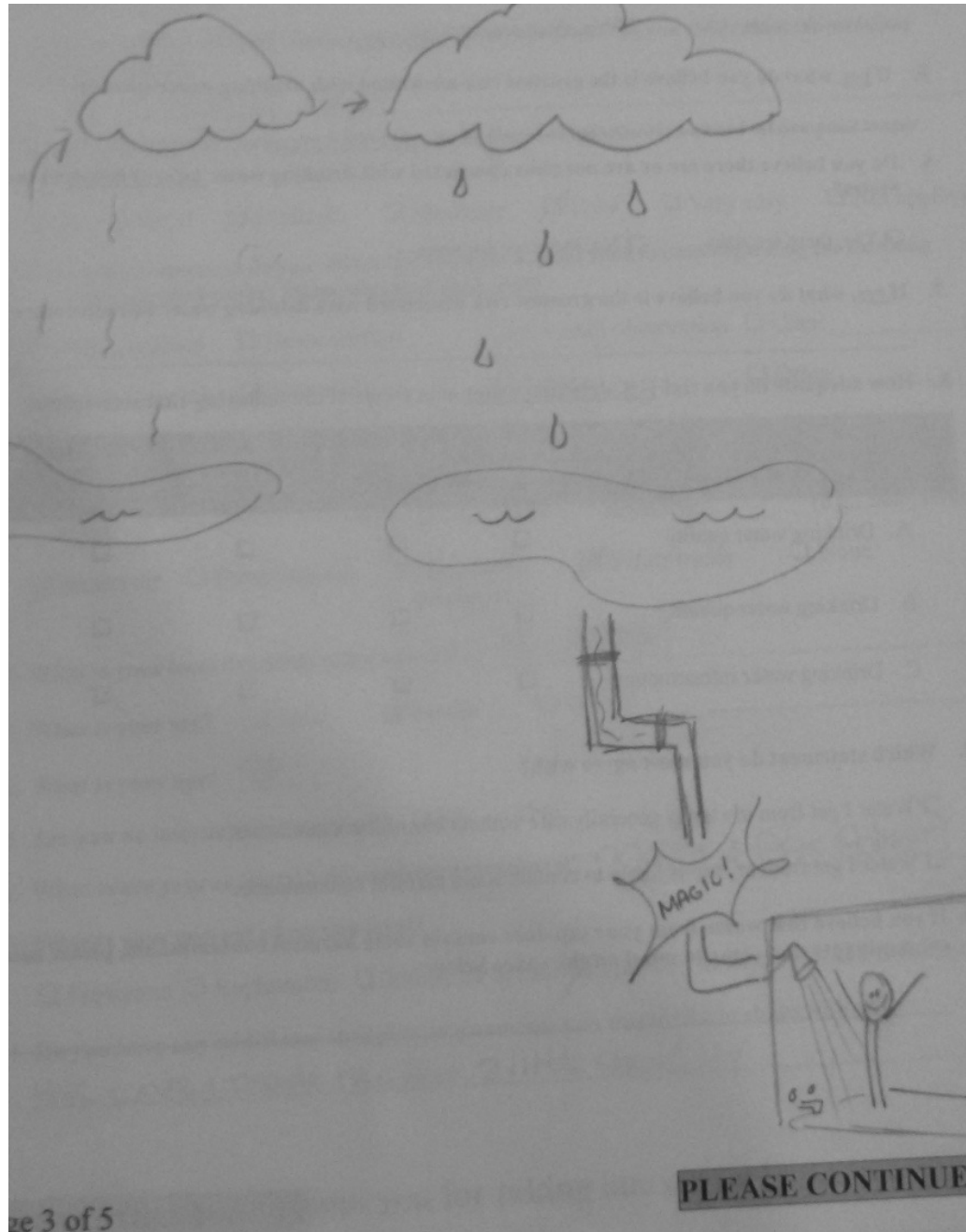
Survey Question

Please **draw a diagram** illustrating your understanding of the processes by which clean water reaches the tap in the average home in the United States.

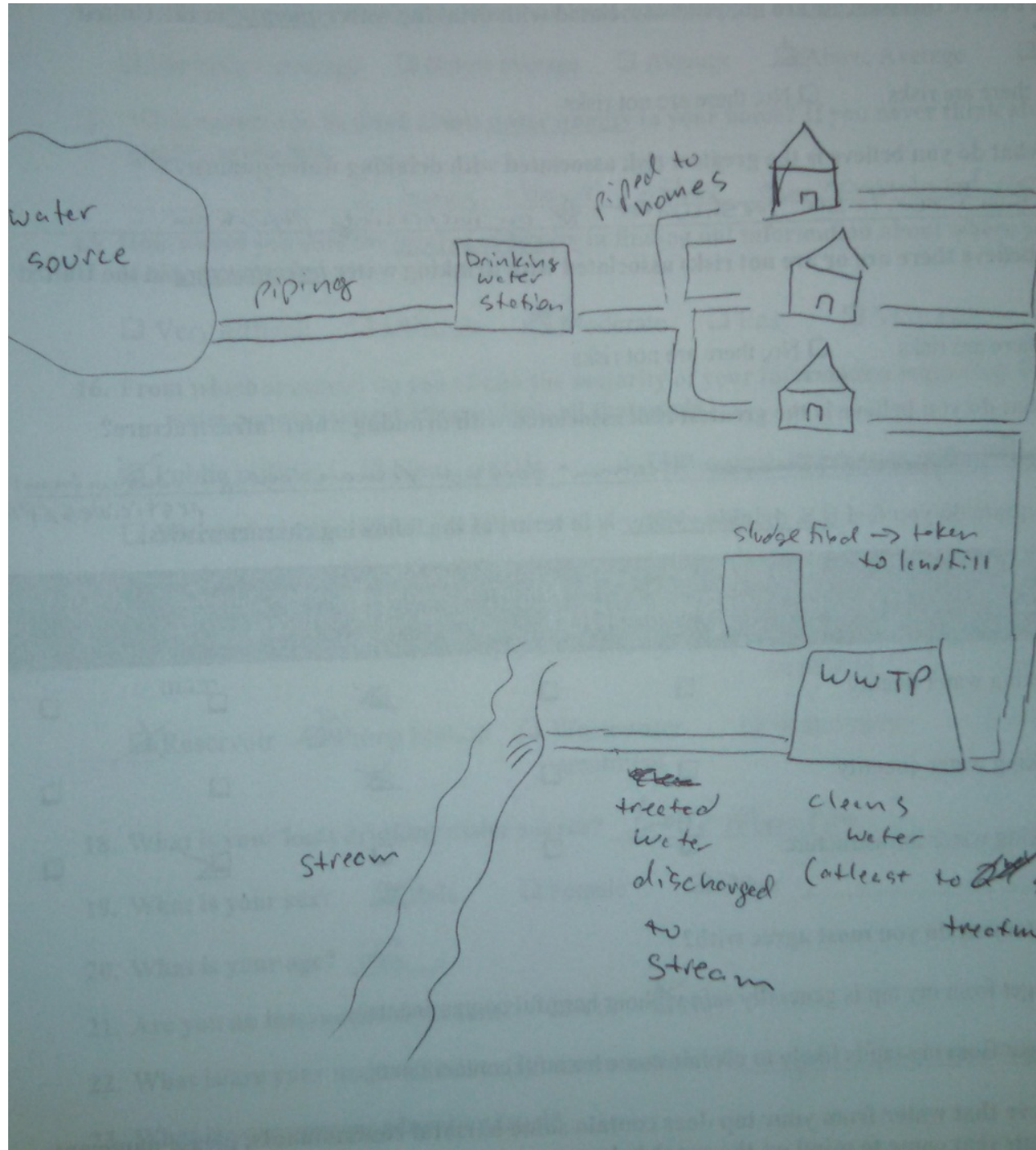
Please draw how water reaches the home **from its original source(s)** and is then **returned to the natural environment.**

Show all of the processes that the water goes through. You are encouraged to label your drawing and add any explanations you believe will help convey your understanding of the water system.

Magic



Good diagram

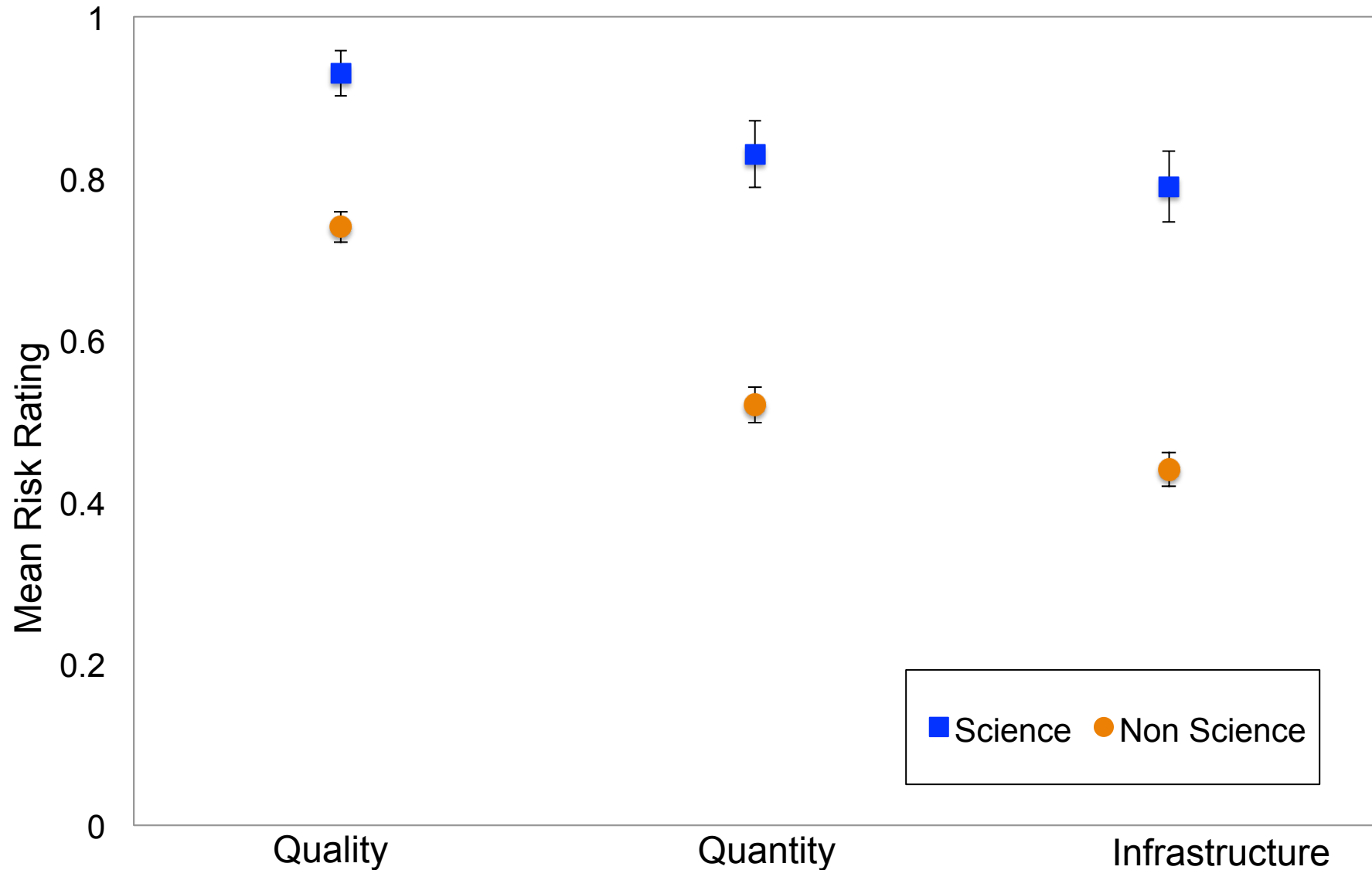


Preliminary Findings

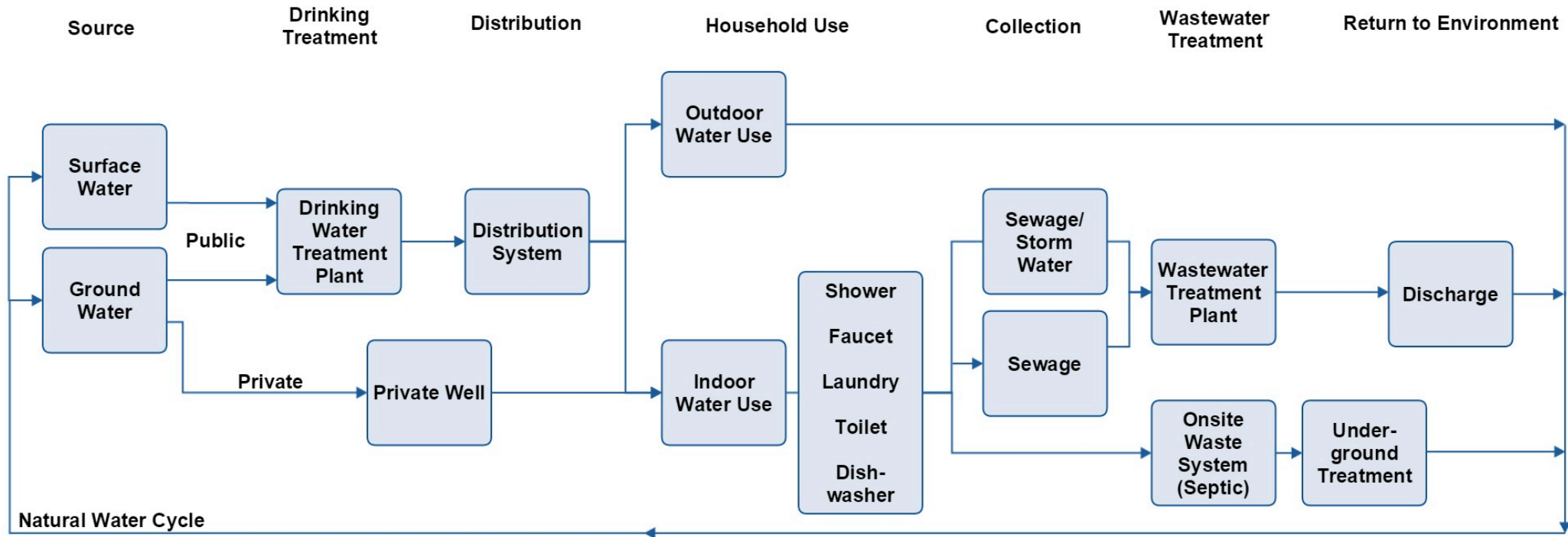
- 1 in 5 students had untreated water return to natural environment after use
- 1 in 5 students indicated filtration as the only form of drinking water treatment before household consumption
- 297 students (65%) did not draw a water treatment plant
- 40 students (9%) treated drinking water treatment and wastewater treatment the same

Risk Perceptions

Do you believe there are risks associated with...



Actual System Diagram



(Work in progress)

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S | P | E | A

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Sustainability