


Saving Money at the Tank

Water Conservation at WWU

By Bob Sabie and Travis Mabee



Overview

- Goals/Objectives
 - Importance to WWU
 - Case Study
 - Procedures
 - Recommendations
 - Future Work
 - Acknowledgements
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- A blue background with a central water droplet creating concentric ripples. The droplet is positioned in the lower right quadrant of the slide, and its ripples spread outwards across the bottom half of the image. The background is a gradient of light blue to white at the top.

Goals

- Conserve water
- Strengthen staff/student relationships
- Education



Objectives

- Test and install Conservacaps
 - Retrofit trial run
 - Monitor efficiency

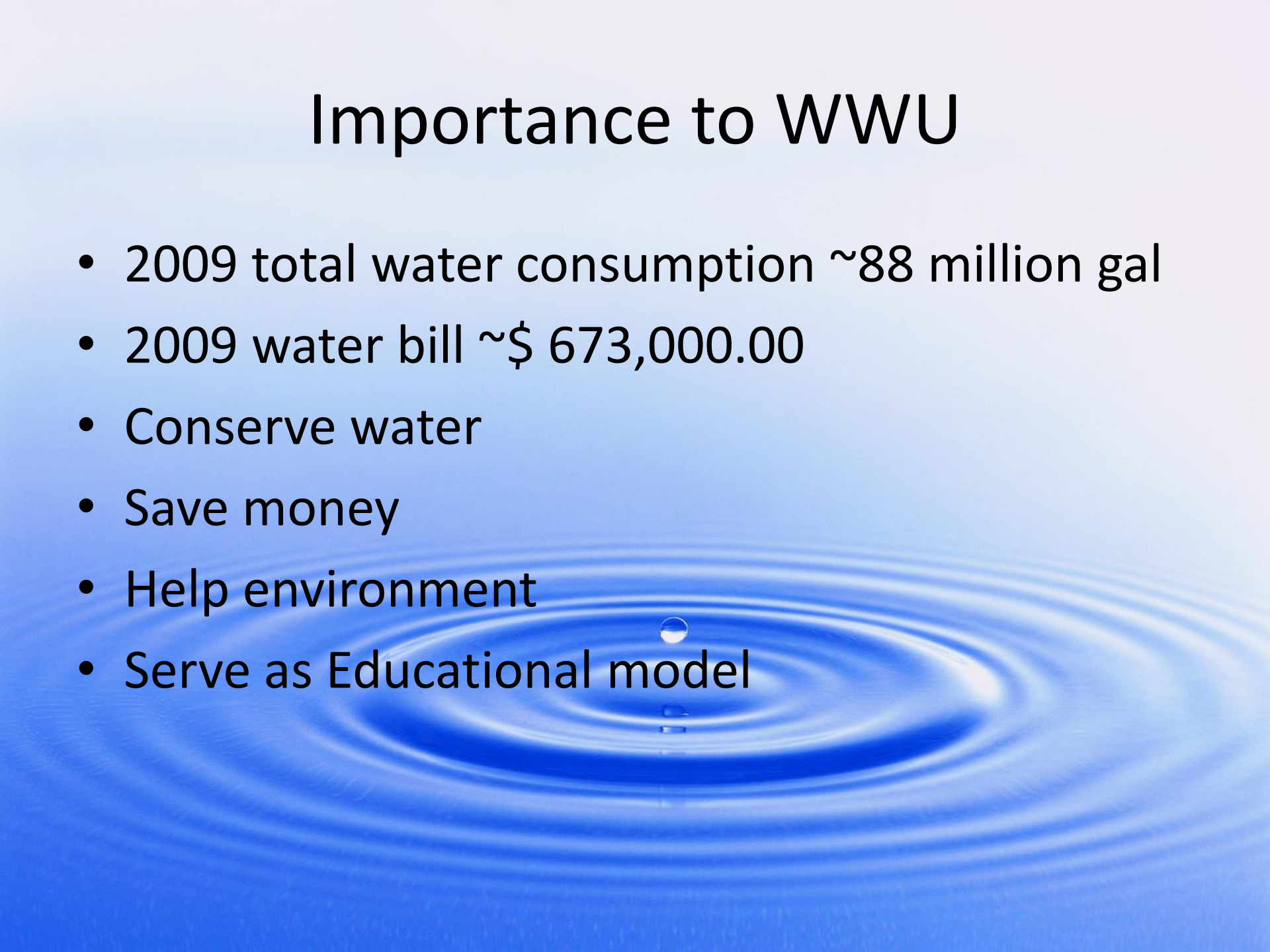


- Survey of WWU academic building fixtures

FIXTURE USAGE IN GALLONS PER FLUSH

	OLD	NEW	RETROFITTED
Toilets	3.5-4.0	1.6	2.75-3.25
Urinals	2.5-3.5	.5-1.0	1.75-2.75

Importance to WWU

- 2009 total water consumption ~88 million gal
 - 2009 water bill ~\$ 673,000.00
 - Conserve water
 - Save money
 - Help environment
 - Serve as Educational model
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- The background of the slide is a gradient of light blue. In the lower half, there is a central image of a single water droplet falling onto a surface, creating a series of concentric ripples that spread outwards. The droplet is at the top center of the ripples, and the ripples are most prominent in the lower right quadrant.

Case Study

Ferris State University

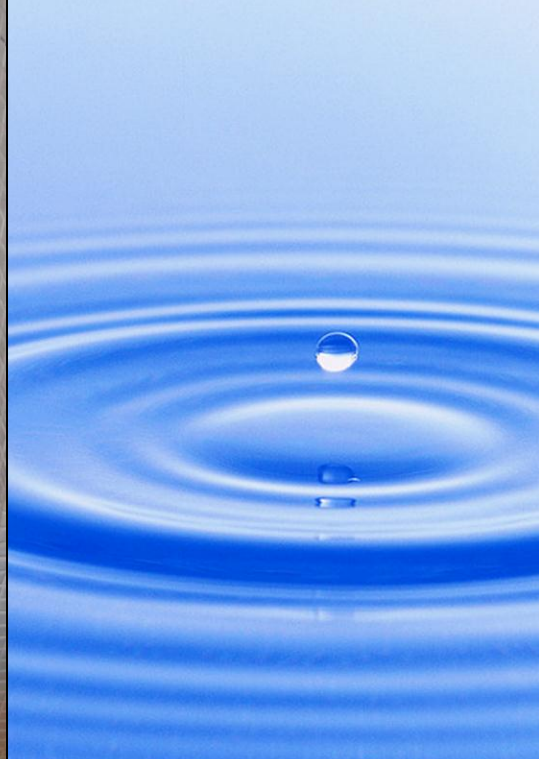
- 146 pre 1971 Sloan Flushometers using a min. of 3.5 GPF.
- Retrofitted all toilets with new Sloan repair kits (\$ 12) and Conservacaps (\$ 13).
- Results:
 - Saved an average of 38,000 gal of water per month.
 - Saved ~ \$3700.00 a year.
 - Cost of retrofit was \$3,650. Return on investment ~ 1 yr.

Procedures

- Hand held Ultrasonic Flow Meter



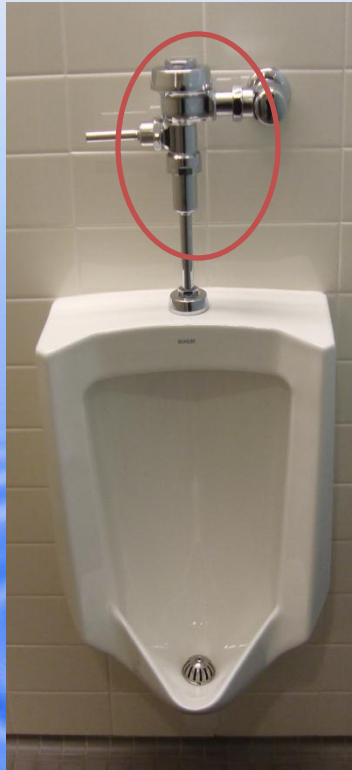
Conservacap



Flushometers



Biology Building



Academic West



Environmental
Studies



Carver Gym

Flushometers



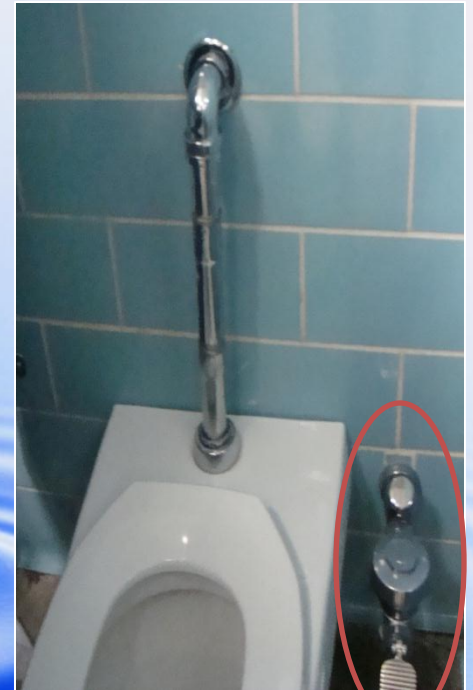
Academic West



Carver Gym



Carver Gym



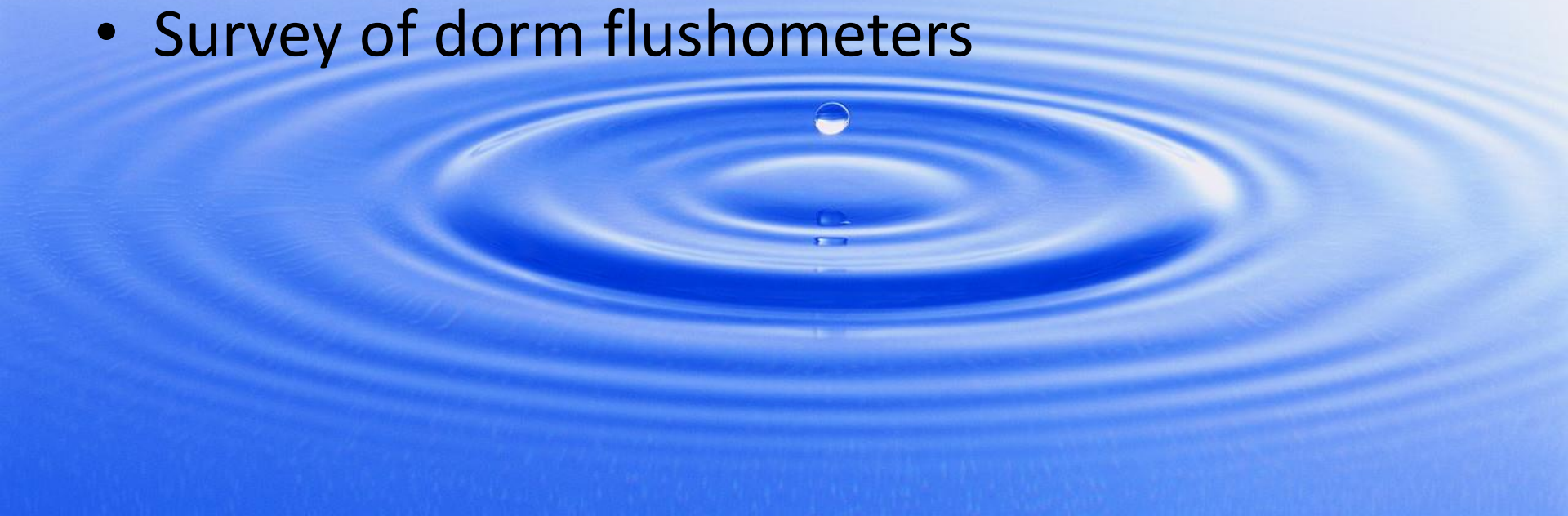
Carver Gym

Recommendations

- Test efficiency of pilot Conservacaps
- Retrofitting 176 toilet flushometers and 60 urinal flushometers
 - Potentially saving 350,000 gallons of water per year
 - Cost to retrofit ~\$5,700.00 (including labor)
 - Potentially saving \$3300.00 per year after paying off initial investment

Future Work

- Updating old flushometers with new water efficient flushometers
- Study of gray-water use for new WWU buildings
- Survey of dorm flushometers



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