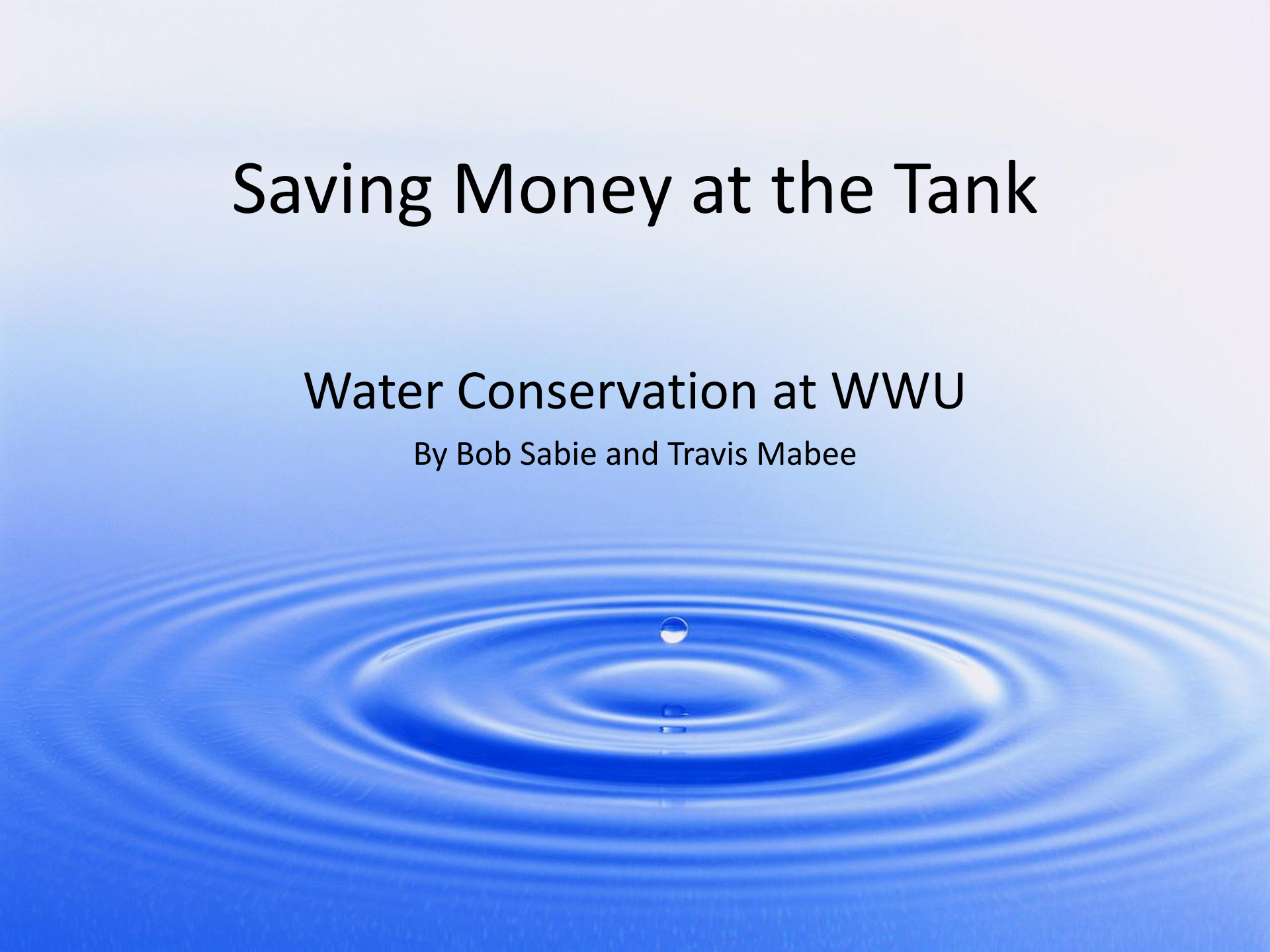
Saving Money at the Tank

Water Conservation at WWU

By Bob Sabie and Travis Mabee



Overview

- Goals/Objectives
- Importance to WWU
- Case Study
- Procedures
- Recommendations
- Future Work
- Acknowledgements

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

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.

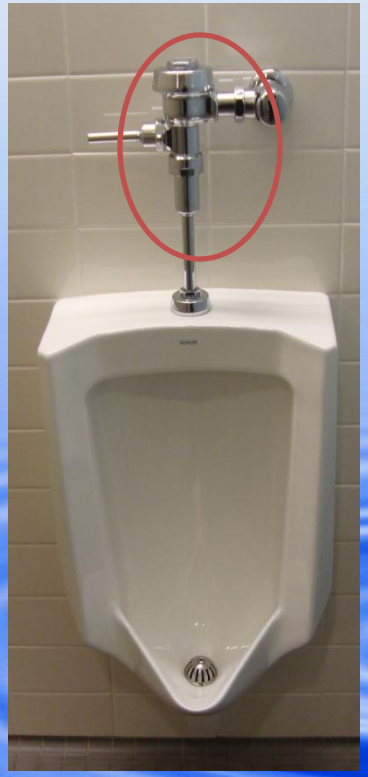
Procedures

- Hand held Ultrasonic Flow Meter

Conservacap

Flushometers

Biology Building



Academic West

Environmental Studies

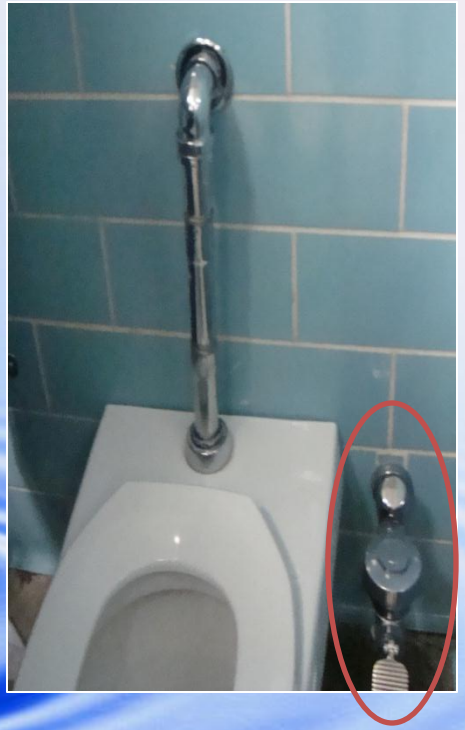
Carver Gym

Flushometers

Academic West

Carver Gym

Carver Gym



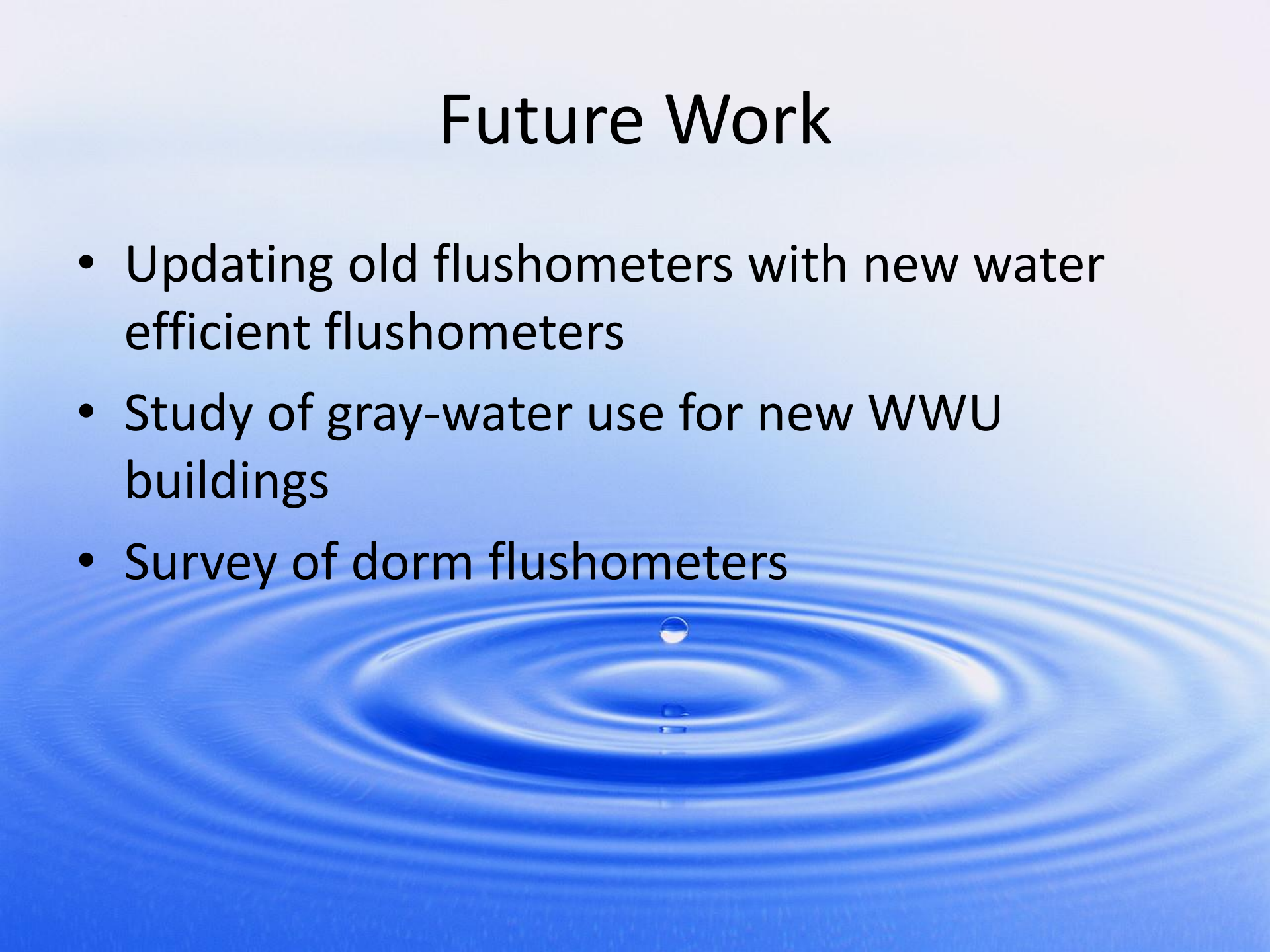
Carver Gym

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



Acknowledgements

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