

D. Fresh Water Conservation

1. Introduction: Water conservation refers to reducing use of fresh water, through technological or social methods. The goals of water conservation efforts include:

- **Sustainability** – To ensure availability for future generations, the withdrawal of fresh water from the ecosystem should not exceed its natural replacement rate.
- **Energy Conservation** – Water pumping, delivery and wastewater treatment facilities consume a significant amount of energy.
- **Habitat Conservation** – Minimizing human water use helps to preserve fresh water habitats for local wildlife and migrating waterfowl, as well as reducing the need to build new dams and other water diversion infrastructure.

Water used at UW Oshkosh is from Lake Winnebago, one of the largest lakes in the world. Thus, the campus does not have a major sustainability issue in terms of water supply. However, the water used at UW Oshkosh is processed by the City of Oshkosh to drinking water standards, an expensive process given how little of the water use is for human consumption. Thus, there is also a **financial benefit** to water conservation measures that provides a major incentive to conserve on the use of municipal drinking water to flush toilets, bathe, clean, and irrigate plants.

2. Goal: To reduce overall water consumption levels by 50% from 2000 levels by 2012.

3. History

a. 2000-2001: Water conservation measures:

- (1) Replaced 1,005 older 4.18 gallon per flush (gpf) toilets with 1.6 gpf toilets.
- (2) Installed low-flow faucet restrictors on sinks throughout the campus.

These efforts resulted in savings of over **11 million** gallons per year.

b. 2004-5: Replaced natural grass football field at Titan Stadium with an artificial grass surface that requires no irrigation. This effort resulted in an estimated savings of **0.85 million** gallons per year.

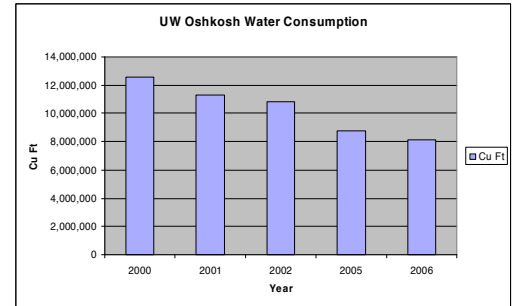
c. 2005-6: Water conservation measures

- (1) Retrofitted water-cooled systems at Blackhawk Commons, Scott and Gruenhagen with air cooled equipment
- (2) Replaced 63 older 4.18 gpf toilets with 1.6 gpf toilets
- (3) Installed 5 waterless urinals

These efforts resulted in savings of 6 million gallons per year.

4. Results

a. The cumulative effect of these efforts resulted in a **35%** drop in water consumption between 2000 and 2006. . These improvements now save UW Oshkosh over \$100,000 per year in water costs. In 2000, annual water consumption for the campus was 12,559,490 cubic feet. In 2006, that annual consumption level dropped to 8,143,000 cubic feet. The graph below illustrates this achievement:



5. Action Plan:

In order to meet the stated goal of reducing water consumption by 20% from 2006 levels by 2012, the following additional steps should be taken:

Initial Consideration:

- *Review, verify and update campus audit data. Identify the campus facilities with the highest fresh water consumption per square foot.*
- *Provide water usage feedback and education to campus users.*

Within Three Years

- *Publicize and encourage student, faculty, and staff to report water waste on campus.*
- *Install next generation waterless or low flow urinals in appropriate locations throughout the campus. It is estimated that each waterless urinal eliminates the consumption of over 45,000 gallons of water annually.*
- *Install the next generation of low flow toilets throughout the campus. Extreme low flow/dual flush toilets are now being manufactured that utilize less than 1.3 gallons per flush.*

Future Consideration (Five years or greater):

- *Plan and plant landscaping so that water for irrigation may be acquired from storm water basins or ponds rather than using municipal drinking water.*
- *Reduce irrigation needs through landscape design, composted mulch, and other programs designed to conserve water in places where municipal drinking water is the only available water source.*