



## WATER LITERACY CAMPAIGN

A team of students in Environment 391 surveyed 100 fellow students in Fall 2010 to determine their level of “water literacy,” then developed ideas for a Water Literacy Campaign for the Water Semester from January through April 2011.

Here are the long versions of the “10 Facts You Should Know About Water” and “10 Things You Can Do To Protect Water Resources.” Shorter versions will appear across campus and on the [watersemester.com](http://watersemester.com) website throughout the Water Semester.

### 10 FACTS YOU SHOULD KNOW ABOUT WATER

#### **1. Your life depends on water**

Up to 60% of your body is water! Depending on your size and activity level, you should ingest about 2.4 liters of water per day through liquids and food.

<http://ga.water.usgs.gov/edu/propertyyou.html>

In fact, ALL life on Earth depends on water. Liquid water is a universal solvent, a mediator of life's chemical reactions, and the only substance on Earth that exists as a solid, liquid, or gas under natural conditions.

<http://www.astrobio.net/interview/453/water-the-molecule-of-life>

#### **2. You drink the Huron River**

Approximately 85% of Ann Arbor’s municipal drinking water comes from the Huron River. Wells provide the other 15%.

Ann Arbor’s tap water is tested over 150,000 times per year and is highly regulated by the Environmental Protection Agency. It is tested for over 280 potential contaminants, although most have yet to be found.

[www.a2gov.org/government/publicservices/water\\_treatment](http://www.a2gov.org/government/publicservices/water_treatment)

### **3. When it comes to water, what goes around comes around**

There is no “away” when it comes to water. What you pour down the drain, spread on your lawn, or flush down the toilet will sooner or later end up back in the Huron River or in our ground water.

[http://www.a2gov.org/government/publicservices/waste\\_water\\_treatment/Pages/default.aspx](http://www.a2gov.org/government/publicservices/waste_water_treatment/Pages/default.aspx)

The Water Cycle describes how water is continuously in movement on, above, and below the surface of the earth.

<http://ga.water.usgs.gov/edu/watercycle.html>

### **4. Freshwater is the ultimate limited resource**

Most water on Earth is not available for human use: only 3% of Earth’s water is fresh and less than 1% of freshwater is available for human use.

<http://ga.water.usgs.gov/edu/earthwherewater.html>

Most freshwater is locked in ice and snow. Humans depend on precipitation over land that collects in rivers, lakes, and groundwater.

Cunningham, et al. *Environmental Science: A Global Concern* (2007).

### **5. There is a global water crisis**

What’s the crisis? Rapid human population growth and changes in global distribution of water are stressing many of Earth’s water systems. Consequently, availability of clean freshwater is dwindling in many parts of the world.

<http://www.nature.com/nature/focus/water/>

Human-caused redistribution or contamination with disease organisms or toxins make water unavailable or unusable, and add to the global water crisis. The global water crisis is rapidly becoming one of the top environmental and societal problems of the 21<sup>st</sup> century.

Cunningham, et al. *Environmental Science: A Global Concern* (2007).

### **6. The U.N. states that clean water is a basic human right**

Recognizing that about half the world’s population lacks access to clean water and/or sanitation, the U.N. passed a resolution on July 28, 2010 stating that clean water is a basic human right.

<http://www.un.org/News/Press/docs/2010/ga10967.doc.htm>

- 884 million people do not have access to safe drinking water.
- 2.6 billion people do not have access to a basic toilet.
- Diarrhea due to contaminated water kills more young children each year than HIV/AIDS, tuberculosis and malaria combined.

[http://www.unicef.org/childsurvival/media\\_56847.html](http://www.unicef.org/childsurvival/media_56847.html)

### **7. Tap water meets your drinking needs**

Municipal tap water undergoes much more rigorous and frequent testing than bottled water. It tastes great too! Ann Arbor tap water is a frequent winner of the regional Michigan water tasting competition.

[http://www.epa.gov/safewater/wot/pdfs/book\\_waterontap\\_full.pdf](http://www.epa.gov/safewater/wot/pdfs/book_waterontap_full.pdf)  
[www.a2gov.org/government/publicservices/water\\_treatment](http://www.a2gov.org/government/publicservices/water_treatment)

### **8. Some water is hidden: You consume more than you drink!**

You never actually see the vast majority of the water you use. This “virtual water” is consumed in the manufacture and distribution of most products. Everyday items and energy use consume an enormous amount of water.

- It takes 1321 US gallons of water to make 500 sheets of paper
- It takes 18 US gallons of water to grow 1 apple
- It takes 689 US gallons of water to make 1 gallon of beer
- It takes 2,900 US gallons of water to produce one quarter pounder hamburger (just the meat)
- Natural gas requires 0.1 US gallons of water per kilowatt hour, about 1¼ ounces of water for every hour you burn a 100W light bulb.
- Oil requires 1.01 US gallons per kilowatt hour, about a tenth of a US gallon of water for every hour you burn a 100W light bulb.
- Biomass energy consumes about 67 US gallons per kilowatt hour, nearly 7 US gallons of water for every hour you burn a 100W light bulb.

<http://environment.nationalgeographic.com/environment/freshwater/embedded-water/>

### **9. Disposable water bottles waste water and energy**

It takes 3 liters of water to make about 1 liter of bottled water. It also requires about a quarter of a water bottle of oil to produce, transport, and dispose of a single bottle of water.

A single-use bottle can be recycled, but most will end up in landfill.

[http://www.pacinst.org/topics/water\\_and\\_sustainability/bottled\\_water/bottled\\_water\\_and\\_energy.html](http://www.pacinst.org/topics/water_and_sustainability/bottled_water/bottled_water_and_energy.html)

## **10. All life depends on oceans, lakes, rivers, and wetlands...working together**

Healthy oceans, lakes, rivers, wetlands – components of the water world – are essential for all living organisms.

Human activities are degrading every component of the water world, impacting all living organisms. Ultimately, continuing human existence depends on healthy ecosystems.

Cunningham, et al. *Environmental Science: A Global Concern* (2007).

## **TAKE ACTION!**

### **10 THINGS YOU CAN HELP PROTECT OUR WATER RESOURCES**

#### **1. Know where your water comes from . . . and where it goes**

Wherever you live, take time to become familiar with where your water comes from, if the source is sustainable, and how it must be treated before you drink it.

#### **2. Understand and minimize your water footprint**

Visit this site (<http://environment.nationalgeographic.com/environment/freshwater/water-footprint-calculator/>) to calculate your impact on freshwater resources. Make a plan to reduce your footprint. It takes 1,800 gallons per day to support the average American, more than twice the average for the rest of the world's population.

Visit this site (<http://environment.nationalgeographic.com/environment/freshwater/top-ten/>) to find 10 things you can do to reduce your water footprint.

#### **3. Drink tap water**

Most U.S. tap water is safe. Let's maintain what we have! Ann Arbor's water is highly touted as some of the cleanest and tastiest in the nation.

#### **4. Don't leave home without your reusable water bottle**

Be an example for others to follow and let your bottle advertise your care for the environment. Get a reusable water bottle to fill from taps and water fountains. Save money, save energy, save materials!

#### **5. Reduce, reuse, and recycle—this saves water!**

Reduce your hidden water use. Download songs instead of buying CDs, stream movies instead of buying DVDs, frequent thrift shops to give and to buy, get bulk food to reduce packaging, only take what you will eat at meals ...

#### **6. Eat lower on the food chain—eat more plant products**

Substantially more water is needed to get meat from pasture to plate than plant sources. Eating lower on the food chain saves water.

#### **7. Save energy – this also saves water**

Saving energy saves water. Turn off lights, unplug your computer, TV, and stereo – don't be a power and water vampire! Drive at the speed limit, don't be a lead-foot and gun the engine or slam on the brakes, service your car regularly, check your tire pressure, car pool, ride your bike more, walk more, ride the bus ...

#### **8. Don't pollute**

Improper disposal of prescription drugs, household cleaners, pet waste, automobile oil, etc. often results in ground and surface water contamination and jeopardizes drinking water. Visit this site for more information about proper waste disposal practices:  
<http://www.hrwc.org/take-action/homeowners/>

#### **9. Encourage others to take action to protect water resources**

Show your friends and family how to save and protect water resources.

#### **10. Get involved**

Discover more during the Water Semester ([watersemester.com](http://watersemester.com)). Take action!