

# Feet to the Fire: H2O Seeking Solutions

## *Opinion Survey for All New Students*

### INTRODUCTION

There can be little doubt that the availability of clean freshwater is a major issue facing the planet. The reduction of non-polluted freshwaters is posing major threats to ecosystems around the world. The socio-politics of access to and control of freshwaters are manifest in controversies across the globe, including but not limited to the United States, Ghana, the Middle East, and China. The reduction of potable freshwaters is further exacerbated by the reduction of rain over terrestrial ecosystems because of global warming. (The quantity of rain is actually increasing but it falls more prevalently over oceans than over land).

People living in the United States use more water per person than citizens of any other country. We use more than 631,000 gallons per person per year. Compare this value with the per capita values from the United Kingdom (329,000 gal/yr), Canada (540,000 gal/yr), or China (186,000 gal/yr). Each person living in the United States uses directly and through consumption, on average, 168 gallons of water per day!

In this survey, we ask you to identify what you think are the sectors of our society that most threaten the availability of freshwater (THREATS). Also, from the perspective of someone living in the United States (even if just recently arrived), we ask you to think about what are the most important ways to conserve freshwater (ACTIONS). At the Common Moment tomorrow night, we will embody the results from the Class of 2013 in a graph into which we will collectively dance.

### THREATS

**Which sectors outlined below threaten the availability of freshwater the most?** Please rank in order of importance: 1 most important, 2 intermediate and 3 least important (you must put down only one number 1).

#### **Industrial and Energy Sector**

RATING \_\_\_\_\_

In this sector, we consume 105,119 gal/person/yr. We don't always think about the water it takes to produce the goods or energy that we use. For example, it takes more than 2,000 gallons of water to produce a tire. An entire automobile uses 36,500 gallons of water. One ton of steel takes 62,600 gallons of water. A ton of cement only requires 1,360 gallons of water.

#### **Agriculture and Forestry Sector**

RATING \_\_\_\_\_

This sector includes the production of food as well as forestry products. In the United States, it takes on average 385,582 gallons of water per person per year to produce what one person consumes in both food and agricultural products. There is some debate but the estimates of the amount of water that it takes to produce a pound of beef range from 1,500 to 2,500 gallons of water. A pound of chicken, however, requires only 287 gallons! Vegetables and fruits require much less water to process. An apple takes on average 18 gallons and an orange takes 13 gallons, respectively. It takes 37 gallons of water to produce a cup of coffee, while it takes only 9 gallons to produce a cup of tea. In order to produce a foot-long wooden board, it takes 5.4 gallons of water.

#### **Domestic Use Sector**

RATING \_\_\_\_\_

This category contains all the water that we use in our daily living, such as washing, watering lawns and cleaning. On average, we use 57,303 gallons per person per year in the United States. Normal toilet bowls use 6 gallons for each flush. Most sinks output water at a rate of 5 gallons per minute. So if you wash your face and brush your teeth in 10 minutes with the water flowing, then you have used 50 gallons of water. Normal showers output 3.8 gallons of water per minute, so a 10-minute shower uses 38 gallons of water. Hand washing dishes uses 20 gallons, on average, whereas an energy star rated dishwasher uses only 4 gallons of water. Watering lawns and gardens may consume hundreds of gallons of water for each application.

## ACTIONS

Currently, the reduction of water availability is leading to competition and increased charges. To support our habits in the United States, significant amounts of freshwater from other countries are used for crops and products imported into the US – more than 4,650 billion gallons per year. This amount of water is then taken away from other potential uses. There are instances of droughts and crop deaths in India because of water used for the US bottled-water market. Should freshwater be only for those who can pay? Life cannot exist without water. Should freshwater be treated as a commodity or as a fundamental right of existence?

**What are the most important actions we can undertake to reduce water consumption in the United States?** Please rank in order of importance: **1** most important, **2** intermediate and **3** least important (you must put down only one number 1).

### Industrial and Energy Sector

RATING \_\_\_\_\_

We should use fewer products and less energy, more recycled materials, and more locally made products. (Remember more than 2,500 gallons of water to produce one gallon of gasoline.)

### Agricultural and Forestry Sector

RATING \_\_\_\_\_

We should consume much less beef (less than 1 lb per month) and reduce our intake of animal products in general. We need to eat more vegetarian foods and locally grown foods where possible. We should use recycled paper and forestry products and try to wear clothes for a longer period. (It takes only 101 gallons of water to produce a pound of cotton or wool whereas more than 500 gallons per pound of synthetic fabrics.) We should eliminate bottled water from campuses, houses and schools and drink filtered tap water.

### Domestic Consumption Sector

RATING \_\_\_\_\_

We should not run the shower, the faucet or sink continuously while washing or brushing our teeth. We should encourage our families to change to lower water plants in lawns and gardens. We should not wash our cars. We should invest in energy-star dishwashers and clothes-washing machines (savings of more than 10 times the amount of water per usage). We should not consume bottled water.

Thank you for your participation, and we will see you tomorrow night at 7:30pm on Foss Hill!

