

Professor Mary Pettenger

Very nice
50/50

Progress Report #2

The past couple of weeks have been very busy with regard to this project. Having a solid foundation of research, I contacted Megan Haberman and John Wilkins to pitch my proposal about distributing reusable water bottles at new student orientation to. Before meeting with them, I created a proposal sheet including various reasons why they should support my proposal. I included economic, environmental, and university incentives backing my plan. I met with them on May 11 and pitched my idea to them, of which they were very responsive. They expressed interest in the idea, but noted that the budget for new student orientation is not big enough to include an action like this. However, they made a few suggestions as to where I should turn next. They suggested I turn my efforts towards university housing, and propose that new students be given these water bottles as gifts when they move in to the residence halls. I was also advised to look into the possibility of grants, either through the WOU Foundation or through President Weiss. Though I was pleased with their positive attitudes toward my proposal, I also was a little discouraged at how many more hoops I will have to jump through to make this happen. Thus, the number of people I will have to consult with about this proposal is one barrier I have been facing.

In addition to my meeting with Megan and John, I also coordinated with classmates about our awareness events. I suggested we table in the WUC for three days to spread awareness of our issues. I then requested a table in Werner for Tuesday, Wednesday, and Thursday of this week. Unfortunately, there were no tables available on Tuesday, but we were approved a table on Wednesday from 10am-2pm and Thursday from 11am-2pm. This process of being approved to table was a lot more difficult than

I initially thought. I have tabled for clubs before, so I thought I knew the process pretty well. But since this event is for a class instead of a club or organization, I had to meet with a member of the WUC staff ✓ to explain what the table would be used for and why we need it. However, I eventually was approved for a table, so I was excited about that. ☺

As further research, I also watched the documentary, Tapped. This film explains the issues with ✓ the bottled water industry, and why the privatization of water is and will continue to be a huge problem. I learned a lot from this film about the lack of regulation of bottled water (as opposed to tap), the health hazards of both plastic bottles and the bottling plants themselves, and about the environmental impacts of both the production of and the disposal of plastic bottles. I also watched a short video entitled "The ✓ Story of Bottled Water" (by the same person who created "The Story of Stuff"), and learned about what happens to the bottles when they are disposed of. I was surprised to learn that many of the plastic bottles that are recycled end up in India, where they are not recycled, but downcycled, instead. This knowledge emphasizes the point that recycling is not enough — reducing consumption is the key to good! solving the issue of waste. This is exactly what my campaign has as its goal: to reduce (and hopefully eventually) eliminate the consumption of bottled water on campus.

Lastly, I created a trifold display for the awareness campaign, which presents some of the research I have done with regard to bottled water and plastic waste. Creating this poster was another barrier I had to overcome, since I struggled with a way to make it visually appealing and enticing as well as informative and persuasive. I worked for many hours to make this display, and I am very pleased with how it turned out. My hope is that, when I am tabling, it will draw people's attention and hopefully will convince them to give up the bottle and go back to tap.

This Wednesday and Thursday, I will be tabling in the WUC, and then after that, within the next couple of weeks, I hope to contact University Housing and set up a meeting with them about my water bottle proposal. Ideally, before this term is over, I would really like to pitch my proposal to housing and

get it approved, but I am not sure how far along in this process I will be able to make it this year. Since this is an issue I am really passionate about, I am very interested in continuing my efforts throughout the summer and next year, so that I will eventually see my efforts come to fruition.

So far, I have spent 38.5 hours on this project. A more detailed time log is recorded below.

DATE	TIME SPENT	TASKS COMPLETED
April 12	2 hours	Worked on preliminary research and Initial Design assignment
April 13	3 hours	Worked on preliminary research and Initial Design assignment
April 21	1 hour	Emailing/contacting WWU's Students for Sustainable Water Club and WOU's Environmental Club asking for support and advice
April 21	3 hours	Research and Timeline and Assessment Measures assignment
April 24	2 hours	More research, and writing Residence Halls Survey
April 27	1 hour	Research (on cost of buying water bottles in bulk)
April 27	2.5 hours	Research (on economic and environmental benefits of tap over bottled water)
April 28	1.5 hours	Research (on economic and environmental benefits of tap over bottled water)
April 28	2 hours	Progress Report #1 assignment
May 3	2.5 hours	Created the Proposal Worksheet, a document summarizing the research I have done and laying out incentives for the Student Activities Coordinators to consider when making a decision about my proposal
May 6 & 7	2 hours	Emailing/coordinating with classmates for awareness campaign, requesting a table, meeting with WUC staff about the table
May 8	2 hours	Watching and reflecting on the documentary <i>Tapped</i> as further research
May 11	1 hour	Meeting with Megan and John for water bottle proposal
May 11	4 hours	Working on display for the awareness campaign
May 12	6 hours	Putting together the display for the awareness campaign
May 12	1 hour	Progress Report #2 assignment
May 13	2 hours	Tabling in the WUC for awareness campaign

Documentation/Proof of Actions:

Info for trifold:

COST

- The average cost of tap water in the United States is about 2/5 of a cent per gallon²
- The average cost of wholesale bottled water in the United States is about \$1.22 per gallon²
- The average human drinks about 16,000 gallons of water in their lifetime⁵

- $16,000 \times \$1.22 = \$19,520$ for a lifetime's supply of bottled water (for drinking)
- $16,000 \times \$0.004 = \64.00 for a lifetime's supply of tap water (for drinking)

QUALITY

- 40% of bottled water (including Coke's Dasani and Pepsi's Aquafina) is really just filtered tap water¹⁰
- Tap water is regulated by the EPA and covered under the Safe Drinking Water Act⁴
- The EPA is required to send out reports and inform the public about the safety of each region's tap water⁴
- Municipalities are required to test their drinking water multiple times every day¹⁰
- The FDA is responsible for the regulation of bottled water
 - According to the documentary, *Tapped*, only one person at the FDA is responsible to oversee the regulation of all bottled water in America, and she has other responsibilities in addition¹⁰
 - The FDA only has control over bottled water that travels across state borders (interstate commerce), even though "most bottled water is produced in state and consumed in the state"¹⁰
 - The public largely does not have access to water quality reports of bottled water companies, and bottled water companies are not required to perform certified lab tests or report violations of quality standards¹⁰
 - The FDA does not regularly test or receive reports about water quality of bottled water companies¹⁰
- Taste: To demonstrate the psychological influence of advertising on the taste of tap vs. bottled water, I invite you to watch Penn & Teller's water bottle survey:
<https://www.youtube.com/watch?v=YFKT4jvN4OE>
 - Participants tested, critiqued, and compared various "kinds" of water, which all were, unbeknownst to the participants, actually filled from the restaurant's water hose

ENVIRONMENTAL IMPACTS

- About 17 million barrels of oil were used in the production of bottled water (excluding oil used for transportation of these bottles) in 2006, which is enough oil to fuel 1 million cars⁹
- It takes about 3 liters of water to produce a single liter of bottled water⁹
- The recycling rate across the United States for disposable water bottles is only about 23%, meaning that over 2 million tons of plastic become waste every year due to the production of disposable water bottles⁶
- What happens to things that are thrown away? What does "away" really mean?
 - "Recycled"? According to a YouTube video called "The Story of Bottled Water," shiploads of recycled bottles go to India, to be downcycled (turned into lower quality products which will later become waste)¹¹
 - Landfills – can (and eventually all of them will) leak and pollute groundwater. Plastic in landfills take about 450 years to decompose, but plastic IS NOT BIODEGRADABLE. Plastic breaks down into smaller and smaller pieces until it becomes a dust, which is harmful to

ecosystems and all species' health. Furthermore, decomposing plastic emits noxious chemicals, such as bisphenol A (BPA), polluting the air and surrounding areas³

- Incinerators – Burning plastic (and waste, in general) emits a number of extremely toxic chemicals, such as lead, mercury, dioxins, and furans. "Incineration does not eliminate waste; it simply redistributes toxic chemicals into the air and produces another form of waste (ash) to be landfilled"³
- The Ocean – Much of the waste accumulated by disposable water bottles ends up in the ocean. Because of water flow and ocean currents, most of this debris has accumulated and gathered together, forming what is known as The Great Pacific Garbage Patch.⁸ Unlike plastic on land, plastic in the ocean breaks down very quickly, into microplastic, polluting the ocean with harmful chemicals as it does so.¹ This microplastic acts like a sponge to other harsh chemicals in the ocean. This means that when marine animals mistakenly ingest this "plastic soup," they are also ingesting chemicals which not only poison them, but all the animals that feed on them, including humans⁸

HEALTH

- Due to chemical leaks of the plants, ground water can be heavily contaminated by the production of PET plastic bottles¹⁰
- People living near bottled water industrial plants suffer from more cases of cancer, birth defects, and lung and other diseases than the rest of the population due to toxic exposures¹⁰
- Plastic bottles themselves can secrete toxins into the water they are holding
 - In one study comparing tests of bottled water coming from straight off the shelves versus tests of bottled water sitting in a car for one week, the bottles left sitting in the car were found to contain Styrene (a cancer causing agent which also can produce adverse reproductive effects) and 3 different types of phthalates (which disrupt reproductive processes)¹⁰

¹Barry, Carolyn. (2009). Plastic Breaks Down in Ocean, After All – And Fast. *National Geographic*. Retrieved from <http://news.nationalgeographic.com/news/2009/08/090820-plastic-decomposes-oceans-seas.html>

²Boesler, M. (2013). Bottled Water Costs 2000 Times As Much As Tap Water. *Business Insider*. Retrieved from <http://www.businessinsider.com/bottled-water-costs-2000x-more-than-tap-2013-7>

³Broude, Sylvia (2012). The Problems with Waste. *Toxics Action Center*. Retrieved from <http://www.toxicsaction.org/problems-and-solutions/waste>

⁴EPA. (2012). Prevention, Control, and Reduction: Plastics. *United States Environmental Protection Agency*. Retrieved from http://water.epa.gov/type/oceb/marinedebris/prevention_plastics.cfm

⁵HowStuffWorks (2015). Water. *HowStuffWorks*. Retrieved from <http://science.howstuffworks.com/dictionary/geology-terms/water-info.htm>

⁶Mangor, J. (2009). All Bottled Up. *Faces*, 25(7), 33-35.

⁷MakillHeru (2012). *Penn and Teller Water Bottle Survey* [YouTube video]. Retrieved from <https://www.youtube.com/watch?v=YFKT4jvN4OE>

⁸National Geographic. (N.d.). Great Pacific Garbage Patch. *National Geographic*. Retrieved from <http://education.nationalgeographic.com/education/encyclopedia/great-pacific-garbage-patch/?ar a=1>

⁹Pacific Institute. (2007). Bottled Water and Energy Fact Sheet. *Pacific Institute*. Retrieved from <http://pacinst.org/publication/bottled-water-and-energy-a-fact-sheet/>

¹⁰Soechtig, Stephanie (Producer & Director), & Lindsey, Jason (Director). (2009). *Tapped* [Motion Picture]. United States: Atlas Films.

¹¹Storyofstuffproject (2010). *The Story of Bottled Water* [YouTube video]. Retrieved from <https://www.youtube.com/watch?v=Se12y9hSOM0>

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Mangor, J. (2009). All Bottled Up. *Faces*, 25(7), 33-35.

Pacific Institute. (2007). Bottled Water and Energy Fact Sheet. *Pacific Institute*. Retrieved from <http://pacinst.org/publication/bottled-water-and-energy-a-fact-sheet/>

Dave McDonald - mcdonald@wou.edu
LD VP for Enrollment Services → proposal for giving
Residence Hall students
water bottles

President Weiss - vickersl@wou.edu
LD down to set up an
appointment → grant to
fund water
bottles

Tammy Love - love.t@wou.edu
LD Director of Giving → WOU Foundation
(grant to fund water bottles)

→ Set up chart of prices (1200 students - 2000 students)

Megan Haberman: 

Water Bottle Proposal 2015

Proposed action: *Purchase customizable reusable water bottles to hand out at WOU's new student orientation each year, to discourage the use of bottled water and reduce plastic waste on campus.*



Environmental Incentives:

- 32 million tons of plastic were produced in the U.S. in 2012, and the amount of plastic in the municipal solid waste stream has increased from 1% in the 1960s to nearly 13% today (EPA).
- About 2.7 million tons of plastic are used to create disposable water bottles every year, and although these bottles are recyclable, the recycling rate across the United States for disposable water bottles is only at about 23% (Mangor).
 - That means that over 2 million tons of plastic become waste every year due to the production of disposable water bottles.
- It is estimated that in 2006, the manufacturing of bottled water emitted more than 2.5 million tons of carbon dioxide into the atmosphere (Pacific Institute).
- It takes about 3 liters of water to produce a single liter of bottled water (Pacific Institute).
- About 17 million barrels of oil were used in the production of bottled water (excluding the oil used for transportation of these bottles) in 2006 (Pacific Institute).
- Thanks to the Safe Drinking Water Act and regulations on tap water imposed by the EPA, tap water is, in most cases, equally as clean and safe as bottled water in the United States (EPA).



Economic Incentives:

- Twenty(+) -ounce reusable bottles can be purchased in bulk at less than \$1.00 per bottle.
 - www.discountmugs.com , www.inkhead.com , www.branders.com , www.anypro.com , www.4imprint.com
- Students can save massive amounts of money by drinking tap water instead of bottled.
 - According to howstuffworks.com, the average person drinks about 16,000 gallons of water in their lifetime.
 - Business Insider states that the cost of bottled water is approximately \$1.22 per gallon, and tap water costs around \$.004 per gallon.
 - $16,000 \times \$1.22 = \$19,520$ for a lifetime's supply of bottled water (for drinking).
 - $16,000 \times \$0.004 = \64.00 for a lifetime's supply of tap water (for drinking).



University Incentives:

- Most of the bottles that can be purchased in bulk are also customizable, which can serve as advertisement for WOU.
- Sustainability is an important part of WOU's identity, and advocating for the use of reusable water bottles instead of disposable water bottles would improve WOU's reputation regarding sustainability.
 - Visit <http://www.wou.edu/student/wuc/Sustainability.php> to view the Werner University Center's Sustainability Page.