

Mentality of Tap Water Versus Bottled Water

The mentality Rutgers students have of their tap water being dirty and undrinkable, and the convenience and superiority of bottled water.

Tag Words: Tap Water; Dirty; Bottled Water; Water Filters; Plastic Waste; Economical

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Summary

Our mission is to convince students living within Rutgers University of the benefits of using water purifiers or a cheaper alternative. We hope that through an investigative survey, we can determine why students have a preconceived notion that tap water is always contaminated and try to reverse it. We want to show people that with the use of water filters tap water is just as safe, and tastes just the same as bottled water. In the processes we want to reduce plastic water bottle waste, and prove that water filters can be an easier, cheaper, healthier way to enjoy water.

Video Link

Mentality of Tap Water Versus Bottled Water: <http://www.youtube.com/watch?v=NrEkqlapM70>

The Issue: Tap Water

The Everyday Choice and an Introduction to Change (Stephanie)

You know that feeling of disgust, that feeling you get when you are thirsty, have an empty glass in your hand and coldly stare at your tap in the bathroom/kitchen sink. You think, “I could never drink that dirty water. Bottled water is better.” You instead choose to spend extra money on that 24-pack of water bottles.

Such thoughts may filter through most people’s minds everyday. Millions of Americans prefer bottled water to running tap for a number of reasons. Common reasons for people’s dissatisfaction with drinking tap water are media. Companies that sell commercial bottled water have convinced many that bottled water is more pure and cleaner than regular running tap water. While this may in fact be true, people have logical reasons, such as bottled water is more pure, tap water is “dirty”, and water filters are expensive. Are any of these thoughts true? If they are, are water filters really so expensive that no one would use them in place of millions of water bottles a year? We seek to prove that water filters can meet and even surpass bottled water quality, and in turn, will save people hundreds of dollars in bottled water and plastic bottle waste.

The Truth about Tap water and the Bottled Water Hype (Stephanie and Joanne)

(Stephanie) In a 2009 article published for the New York Times, it was reported that 20% of the nations drinking water treatment systems have violated key provisions of the Safe Drinking Water Act (cite here). Nearly 49 million have reported cases of high levels of arsenic, other carcinogens, and heavy metals. Why is this so if bottled water is thought to be more “purified” than tap water? In many cases, some bottled water contains regular tap water that has not been purified in any way, so in reality, you are simply paying for the convenience of water at hand, and not healthier water at all! Even if the water has gone through a rigorous purification process, the bottled environment that it is stored in is not airtight enough to prevent bacteria from entering the bottle. It has also been found that one material used to make the plastic bottle is particularly harmful to humans, a chemical called bisphenol-A or BPA (EYE, 2009). This chemical, once taken into the human body, mimics the effects of estrogen, is an endocrine disruptor. With each bottle of water you drink, you may be drinking this chemical that has leached into the water from the bottle itself.

(Stephanie) Just manufacturing the bottles alone relies on fossil fuels, and the plastic itself allows for the leaching of the chemicals into the water as time passes (Bottled Water, 2010). The equivalent of 54 barrels of oil used in comparison to the energy it takes to bottle water, which measured up to 1.5 million cars fueled in 2007 (FWW, 2010).

(Joanne) The Environmental Working Group did a study on the chemicals and bacteria found in or on 10 well known brands of bottled water. Every water bottle they tested contained some chemical contamination. Since FDA regulations are weak in this area, bottled water is subjected to the same environmental contamination, if not more, than tap water. We’ll leave it up to you to decide if these chemicals are more or less dangerous than the ones found in some tap water, and unlike tap water, you can’t filter your plastic water bottle. Below is a complete list of the agents found by the Environmental Working Group:

Disinfection byproducts were found in 4 brands

Chemical	Number of Brands	Range of Detections, ppb*	Average of Detected Values, ppb*
Total Trihalomethanes	4	4.4 - 37	21
Chloroform	4	3.8 - 31	15
Bromodichloromethane	4	0.6-13	4.5
Bromoform	1	0.8	0.8
Chlorodibromomethane	1	3.7 - 8.2	5.4
Haloacetic Acids			
Dichloroacetic acid	2	2	2
Trichloroacetic acid	1	2	2

*ppb = parts per billion (micrograms per liter)

Fluoride was found in 5 brands

Chemical	Number of Brands	Range of Detections, ppm*	Average of Detected Values, ppm*
Fluoride	5	0.15-1.07	0.67

*ppm = parts per million (milligrams per liter, mg/L)

Fertilizer Pollution was found in 6 brands

Chemical	Number of Brands	Range of Detections, ppm*	Average of Detected Values, ppm*
Nitrate (Nitrogen as N)	6	0.1 - 1.7	0.51
Ammonia (Nitrogen as N)	1	0.12	0.12

*ppm = parts per million (milligrams per liter, mg/L)

Drugs and drug breakdown products were found in 3 brands

Chemical	Number of Brands	Range of Detections, ppt*	Average of Detected Values, ppt*
Acetaminophen	2	1.1 - 1.3	1.2
Caffeine	1	51	51
1,7-Dimethylxanthine (breakdown product of caffeine)	1	10	10

*ppt = parts per trillion (nanograms per liter)

Synthetic chemicals were found in 9 brands

Chemical	Number of Brands	Range of Detections, ppb*	Average of Detected Values, ppb*
Acetaldehyde	4	0.6 - 36	9.7
Hexane	4	0.2 - 0.8	0.55
Toluene	4	0.5 - 2.9	1.5
2-Methyl-1-propene	3	0.3 - 0.6	0.47
3-Methyl pentane	3	0.3 - 0.8	0.47
Isobutane	3	2.3 - 13.3	7
Methylcyclopentane	3	0.7 - 1.3	0.9
Octane	3	0.2 - 4	1.7
3-Methyl heptane	2	0.4 - 0.6	0.5
Cyclohexane	2	0.4 - 1.3	0.73
Decane	2	0.6 - 1.5	0.93
Heptadecane	2	0.3 - 1.2	0.75
(Z)-13-Docosenamide	1	1.2	1.2
1-Hexene	1	0.2	0.2
Hexadecanamide	1	0.7	0.7
Hexadecane	1	0.5	0.5
Methyl cyclopentane	1	1.3	1.3
Naphthalene	1	0.3	0.3
Nonadecane	1	0.4	0.4
Nonanoic acid	1	0.4	0.4
o-Hydroxybiphenyl	1	1.0	1.0
Tetrachloroethene	1	0.5	0.5

* ppb = parts per billion (micrograms per liter)

Bacterial contamination was found in 4 brands

Bacterial Type	Number of Brands	Range of Detections	Average of Detected Values
Heterotrophic Plate Count	4	1-480 CFU*/mL	121 CFU/mL
Total Coliform	1	1 MPN**/100mL	1 MPN/100mL

*CFU, colony-forming units; **MPN, most probable number of microorganisms.

Radioactivity contamination was found in 7 brands

Radioactivity Type	Number of Brands	Range of Detections, pCi/L*	Average of Detected Values, pCi/L
Gross Beta	7	1.8-5.8	3.7
Radium-228	1	0.6 +/- 0.7	0.6 +/- 0.7
Strontium-90	1	0.5 +/- 0.4	0.5 +/- 0.4

*pCi/L = picoCuries/liter

(All tables obtained from the Environmental Working Group)

Impact on water bottle use (JT)

Bottled water has become a huge contributor to landfills in the US. Along with water bottles being sent to landfills, their transport and production are producing thousands of tons of global warming pollution. Plastics are made out of petroleum, which is a diminishing resource and should be conserved. While almost all plastics are recyclable, according to the EPA, only 6.8% of plastic generation actually gets recycled (US EPA 2009). Even though a percentage is recycled, recycling is still a business; if the recycled plastic bottles aren't in demand by manufacturers, they get increasingly stock piled in warehouses.

While soft drinks and juices are a source of plastic bottles, water bottles are actually the largest growing area among beverages with consumption doubling from 10.5 gallons per capita to 22.6 gallons per capita from 1993 to 2003 (Llanos 2005). This number will continue to increase. What's even more surprising is the actually the increase in amount of water bottles sold. In 1997 3.3 billion water bottles were sold, but in 2002 15 billion water bottles were sold (Llanos 2005). In 5 short years the amount increased 450%.

Out of all these plastic bottles 40 million bottles a day get thrown in the trash or littered (Llanos 2005). In California alone, more than a billion water bottles are thrown in the trash every year (Life Tips 2010). This number is outrageous, but extremely believable. How many times do you see water bottles on the side of the road while driving or walking to class? While the amount of cigarette butts I see are decreasing, the amount of water bottles seems to keep growing. If people

aren't doing the responsible thing and recycling their plastic water bottles they should do the better thing and start using water filters and reusable water bottles.

One water filter can remove 300 plastic water bottles from landfills. The use of water filters and reusable water bottles will increase source reduction, which will greatly reduce the amount of waste, and energy used, in creating individual use plastic water bottles. If we can decrease the amount of water bottles sold per year by half and assume the ratio of purchased to recycled is proportional we can decrease the amount of bottles thrown in the trash to 20 million a day (or 7.3 billion a year). If we increase knowledge about recycling water bottles, we could further decrease this number. A combination of education and tap water usage as drinking water could greatly decrease the amount of waste produced by plastic water bottles. From the petroleum used and pollution produced in their manufacturing, to the litter on the ground, all these things could be reduced by the use of simple water filters.

How the water filters work (Stephanie and Joanne (Picture)):

Installing your water filter is easy, but slightly variable for each different brand name. Basic parts to water filters include filter cartridges, filter cups, and possibly an adaptor, which is needed only if your faucet threads are on the inside of your faucet. Basic water filters are installed usually by unscrewing the faucet aerator, inserting the filter cartridge into the filter cup, clicking into place, and screwing on the entire system to the faucet head. Any other extra pieces or steps (depending on both the faucet and filter type) depend on the brand that's selling them. Common brands that sell faucet water purifiers are PUR, Brita, General Electric Aquasana, and Waterpik.



(This figure was obtained from a Brita Water Filter package)

What harmful substances may be in your tap water? (Stephanie)

Water that contains waste, pesticides, and other harmful substances, must always go through a commercial purification system for the health of the public. This is a process that involves heavy chlorination. While this rids the water of bacteria and viruses, the residual chlorine will remain in the water, and may lead to certain human health problems (IWC, 2010). This is not the only substance though, that may still be floating in our tap water.

You would think that already-purified water would otherwise be safe to drink from that tap. However, starting with the pipe that the water runs through, your water can be full of lead and copper, both heavy metals that can cause many illnesses, along with other harmful pollutants (DWQR, 2010). A complete list of water utilities systems in New Jersey recorded these pollutants that were found in the areas listed below:

System	Population	Chemicals tested	Chemicals found	Chemicals exceeding health guidelines
NJ American Water Company	217,230	169	45	23
United Water- New Jersey	253,045	179	40	22
New Jersey American - Elizabethtown	609,387	178	40	19
Vineland Water & Sewer Utility	33,000	115	34	18
Collingswood Water Depart	20,000	117	29	18
Ramsey Water Dept	16,653	115	38	18
Sparta Twp Water Utility - Lake Mohawk	15,726	98	28	17
Southeast Morris County Mua	67,657	178	39	17
Moorestown Water Dept	19,000	95	26	17
Garfield Water Department	29,786	115	31	17
NJ American Water Company - Atlantic Div	87,154	113	30	17
Hawthorne Water Department	21,000	117	33	16
Lakewood Twp Mua	17,201	93	26	16
Lacey Twp Mua	26,240	115	29	16
South Brunswick Twp W Di	35,000	117	31	16
Perth Amboy Water Department	43,000	118	25	16
Pennington W Dept	2,600	115	25	16
Paulsboro Water Department	6,200	90	25	16
Livingston Twp Div of Water	27,391	115	27	16
Gloucester City W Dept	12,600	118	26	16

Many of the contaminants that on this list that have exceeded the health standards are contaminants that can be found as easily in bottled water as it can in tap water. One such contaminant group is polychlorinated biphenyls (PCBs). PCBs can increase one's risk of getting cancer in life, and can alter skin tone and appearance (EPA, 2010). Toluene, which is a discharge

from petroleum factories, can cause liver damage at a small concentration of 1 mg/L. These two contaminants are organic chemicals, but many other chemicals, including these two, may very well be lurking in your bottled water, and at many times the concentrations as would be pouring from your tap! *E. coli* is a type of coliform bacteria that may be found in bottled water. The reason is because there are much fewer quality inspections performed at bottled water facilities than at water treatment plants (EPA, 2010). Just manufacturing the bottles alone relies on fossil fuels, and the plastic itself allows for the leaching of the chemicals into the water as time passes (Bottled Water, 2010).

Water filter brands and their costs (Joanne)

There are dozens of brands of water filters on the market and finding the right one for you may seem too difficult of a task to take on. Most people just purchase the most popular or most advertised water filters, but this isn't a good idea. People should try to learn what contaminants are in their drinking water source, and which water filter can help remove these contaminants at an affordable cost.

Several brands can filter more contaminants than others, but the brands that filter smaller more difficult contaminants tend to cost a great deal more. Most water filters remove chlorine. Chlorine is often used to sanitize water in water treatment plants, and causes the water to mildly smell and taste like a swimming pool.

Waterfiltercomparisons.com has created a list of the top ten brands of water filters on the criteria of initial product cost, purification ability, and lifetime costs of the water filter. This is a great comparison of current water filters. The replacement costs for filter cartridges, and the cost per gallon are extremely beneficial when trying to decide which water filter is best for you and your family.

According to this list, at a price of 9.6 cents per gallon, Aquasana is the most affordable home water filter. More importantly, it also filters out almost all common contaminants.

Below is the list that waterfiltercomparisons.com has prepared:

Brand	Aquasana	Aqua-Pure	Brita	Brita	Culligan	eSpring	Everpure	GE	Kenmore	PUR
Model Number	AQ-4000	DWS1000	Faucet Filter	Pitcher Filter	SY-2300	100188	H-54	Smart Water GXSV10C	Deluxe 38485	Pura FM-3000
Retail Price	\$99.99	\$349.95	\$34.95	\$24.95	\$159.99	\$577.20	\$369.99	\$139.99	\$149.99	\$49.95
Replacement Cartridge Cost & Capacity	\$48.00 / 500 Gal.	\$79.99 / 625 Gal.	\$20.00 / 100 Gal.	\$7.70 / 30 Gal.	\$50.39 / 500 Gal.	\$173.30 / 1320 Gal.	\$100.99 / 750 Gal.	\$80.00 / 540 Gal.	\$49.00 / 500 Gal.	\$20.00 / 100 Gal.
Per Gallon "Cost Of Use"	9.6 cents Per Gal.	13 cents Per Gal.	20 cents Per Gal.	25 cents Per Gal.	10 cents Per Gal.	13.1 cents Per Gal.	13.5 cents Per Gal.	11 cents Per Gal.	9.8 cents Per Gal.	20 cents Per Gal.
Total Cost For 1 Year 1000 gals.	\$147.99	\$349.95	\$214.95	\$273.91	\$210.38	\$750.50	\$229.90	\$199.99	\$198.99	\$229.95
Removes Chlorine	YES 99%	YES 97%	YES 99%	YES >75%	YES 97%	YES >96%	YES >87%	YES 97%	YES 99%	YES 98%
Removes Lead	YES >99%	YES 95%	YES 99%	YES 93%	YES 95%	YES 99%	YES 98%	YES 98%	YES 92%	YES 96%
Removes Cysts	YES >99.99%	YES >99%	YES >99%	NO	YES 99%	YES >99%	YES >99%	YES >99%	NO	YES >99%
Removes THMs	YES >99%	YES 92%	NO	NO	YES 95%	YES >99%	NO	YES 95%	YES 99%	NO
Removes VOCs	YES >99%	YES 92%	NO	NO	YES 95%	YES >99%	NO	YES 99%	YES 95%	NO
Removes Lindane	YES >99%	YES >99%	YES 99%	NO	YES 99%	YES >99%	NO	YES 99%	YES 99%	YES 97%
Removes Alachlor	YES >98%	YES 98%	YES 99%	NO	YES 98%	YES 99%	NO	YES 98%	YES 95%	NO
Removes Atrazine	YES >97%	YES 97%	YES 92%	NO	YES 97%	YES >88%	NO	YES 97%	YES 97%	YES 96%
Removes Benzene	YES >99%	YES >99%	YES 96%	NO	YES 99%	YES >96%	NO	YES 99%	YES 83%	NO
Removes TCE	YES >99%	YES >99%	YES 99%	NO	YES 99%	YES >96%	NO	YES 99%	YES 98%	NO
Removes MTBE	YES >93%	NO	NO	NO	YES 90%	YES >96%	NO	NO	NO	NO

(Chart obtained from waterfiltercomparison.com)

Does the water filter do what you expect it to do? (Stephanie)

The results that you expect from any tap water filtration system vary from system to system. Scientifically speaking, there is no mechanical process that guarantees 100% efficiency, but that does not mean that tap water purifiers are a waste of time and money.



One article from TIME Magazine, brought up the fact that some filters may only remove harmless inorganic chemicals like sulfur (which is present in all environments and is not toxic to humans at the levels they currently reside at) and improve water taste; essentially, this type of filtration does nothing (Gorman, 1996). Even the ones that do filter out pathogens like giardia and cryptosporidium (bacteria that attack weakened immune systems, causing bowel discomfort) may not remove the pathogens with the same efficiency as time wears on. Some filters run by a

reverse-osmosis system, where heavy metals and bacteria pass through a semi-permeable membrane and left behind while newly cleaned water flows through (Gorman, 1996). The membrane must be changed periodically, as it becomes blocked up as the heavy metals and bacteria collect. This process in particular, though very efficient, costs around \$750. Some people cannot afford such a pricey system, and so a filtration system of lesser value may be less efficient. All these factors add up to the expected value of the tap water filter itself. So are you really getting your money's worth with a tap water filtration system when trying to consume clean water and keep your body healthy?

In general, yes, whether you are buying a tap water filtration system for \$20 or upwards of \$700, you will get more than just your money's worth from investing in this method of drinking water. In terms of the environment, the volume of water that a tap water filter can clean, can equal or even exceed the volume of water in hundreds of plastic bottles. Therefore you will be reducing plastic waste. You will also never be paying for overpriced water again, since the tap water filter would be filtering the virtually "free" water running through your home everyday. Your body and your health is certainly worth the investment and getting a tap water filtration system would definitely be a first step in the right direction.

Rutgers Universities Bottleless Initiative (Joanne Theisen)

Rutgers University is leading an initiative to become a water bottleless campus. They are installing Elkay's EZH₂O bottle filling stations in a campus center and the Werblin Gym as a pilot study with plans of expansion. The units cost \$1,400 to \$2,500 and filter replacements cost \$125.00 each. This project is still in its preliminary stages of testing and more results and data will be available in the future.



The Service Project: Survey

(JT) It is a common trend that people do not trust the water coming out of their tap as safe to drink, which causes them to go buy prepackaged bottled water. We want to help people understand that their tap water is safe to drink, and with the addition of a water filter, is as safe, if not safer than bottled water. Before this is done, we needed to quantify the amount of people that don't trust their tap water, and why this may be. Is it because they don't know where their water comes from? Is it something to do with them thinking Rutgers tap water may be dirtier than their tap water at home? Maybe people just don't know about water filters and their benefits. We wanted to figure out the root of the problem, and get people to understand that bottled water is expensive and wasteful so they should start trusting their tap water.

Survey:

The survey was passed out and collected by Stephanie Queirolo and then graphed and analyzed by Joanne Theisen.

Do you currently buy bottled water your primary drinking water source at Rutgers?

Do you drink tap water at Rutgers?

If not, Why?

Do you drink tap water at home?

If not, Why?

Do you know where your tap water comes from?

At home:

At Rutgers:

Do you know what a Brita tap water purifier is?

Do you trust water filters to filter out the contaminants that are in your tap water?

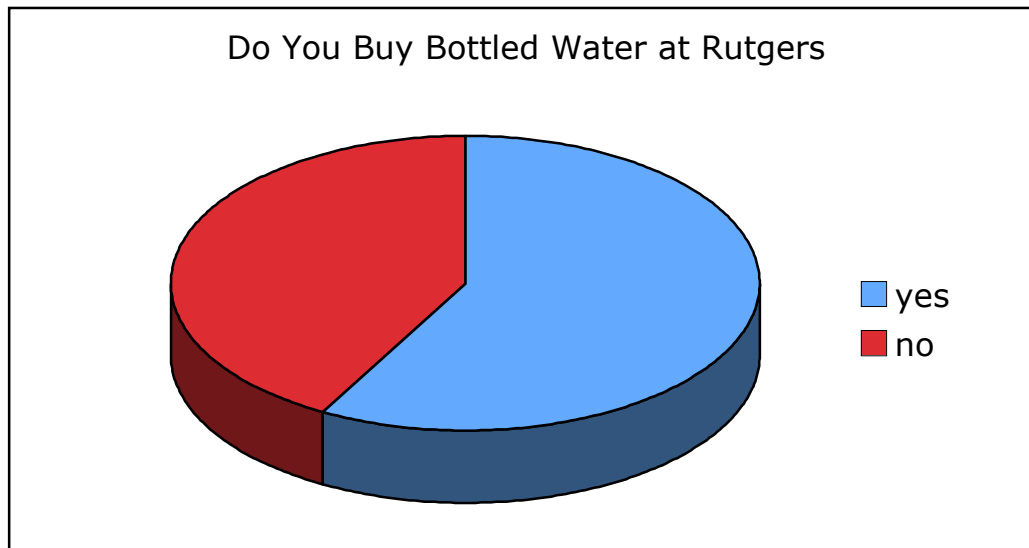
Would you be willing to pay for one in your apartment/dorm?

If yes, what is the maximum you would pay?

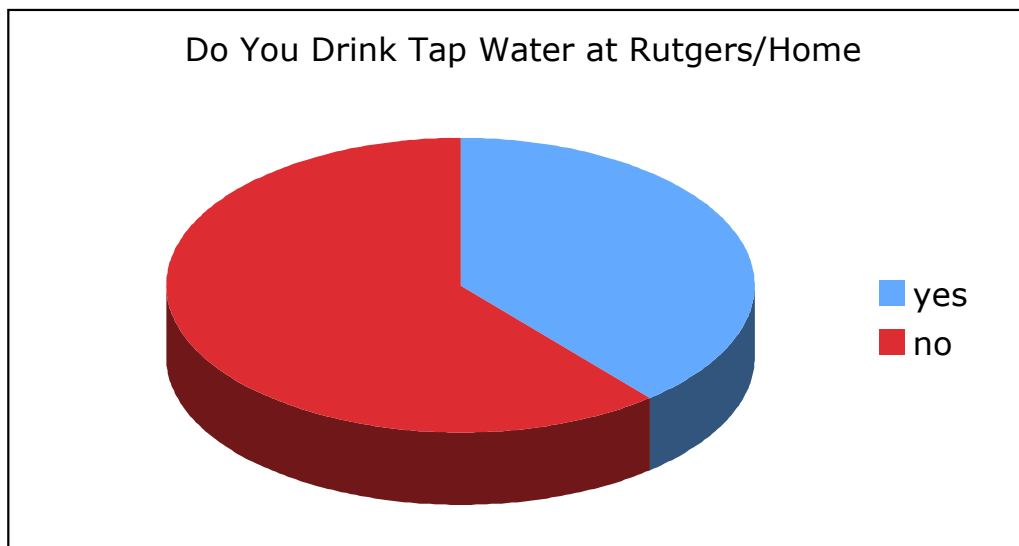
If you had a water filter would you stop buying bottled water?

What Rutgers Students Think (JT)

The results we obtained from the surveys, around Rutgers University New Brunswick, were somewhat expected in some areas and somewhat surprising in others. We expected the amount of students that buy bottled water at Rutgers to be much higher. Only 58% of the students claim to purchase bottled water at Rutgers. Although this does not account for the students that buy bulk bottled water at home, from Costco for example, and bring it to Rutgers.

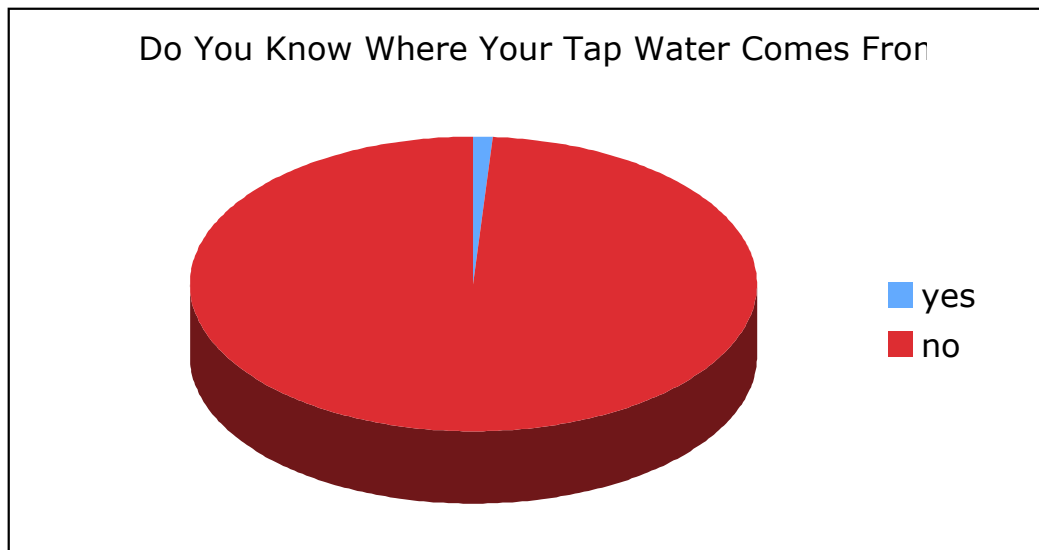


As expected the amount of students that drink tap water, 39%, is lower than the amount of students that do not. The percentage of students that drink tap water needs to increase which can be done when giving them proper knowledge and understanding of water filters and their benefits.

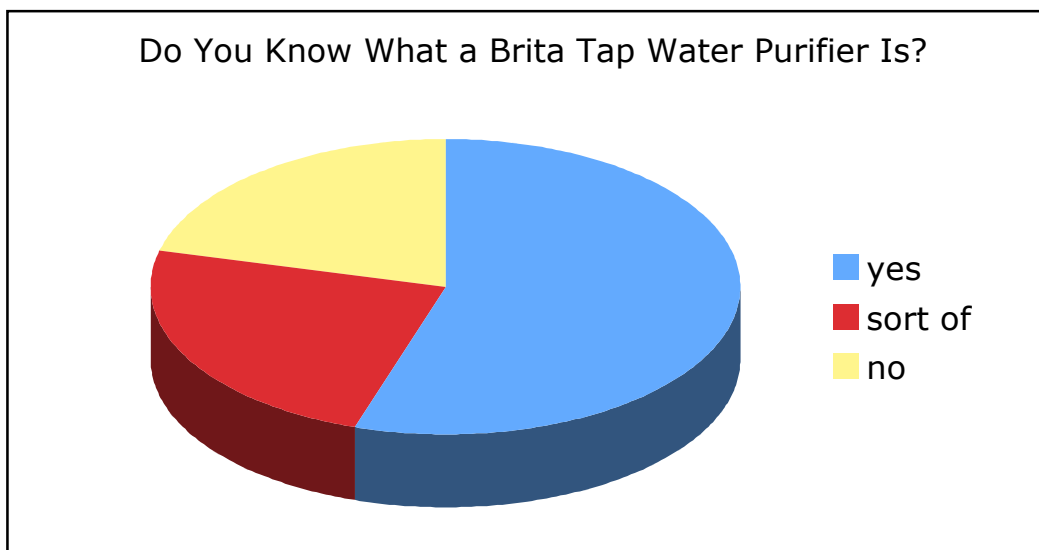


Although the reason students may not be drinking tap water is because they don't know where it's coming from. Only 1% of the students surveyed knew where their tap water originated. It is fairly easy to determine what your water source is. All you need to do is call any number on your

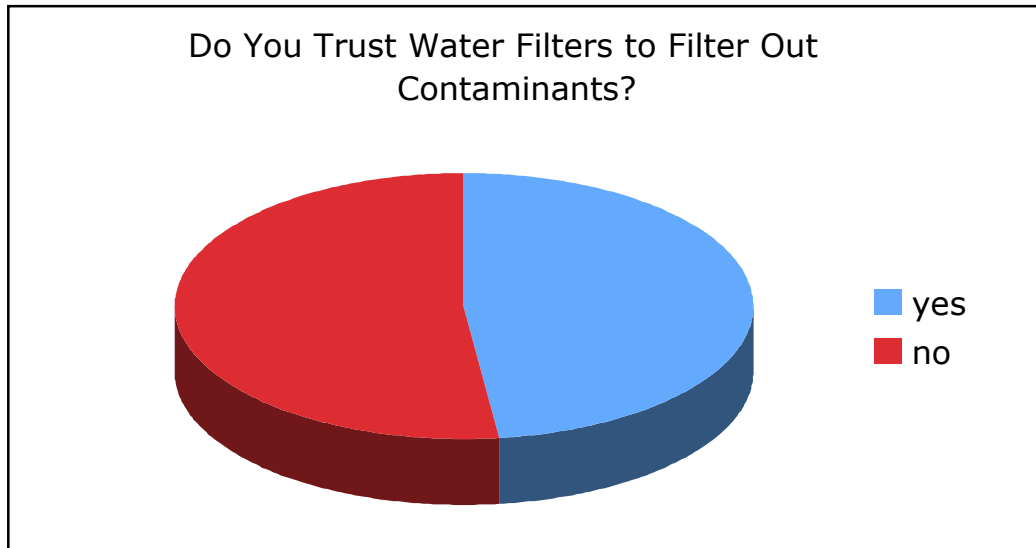
water bill and they will have that information for you. If your water company has a website, you can also check there to find this information.



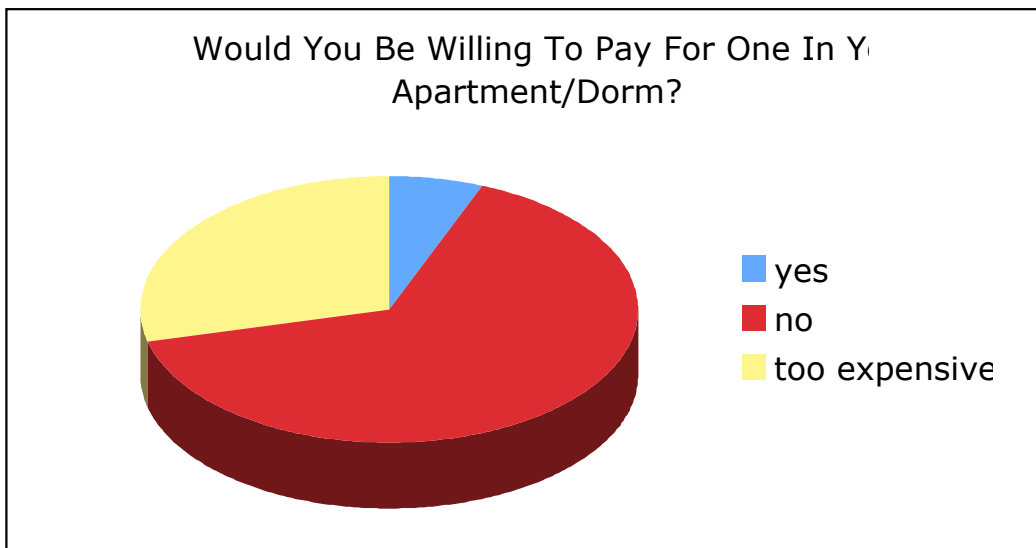
Only 55% of students know what a water purifier is, which is surprising given the amount of advertisement on television water filters receive. We expected this number to be much higher.



Since many students weren't aware of what a water filter actually is, it is not surprising that a majority, 52%, of students do not trust a water filter to actually clean their water of contaminants.

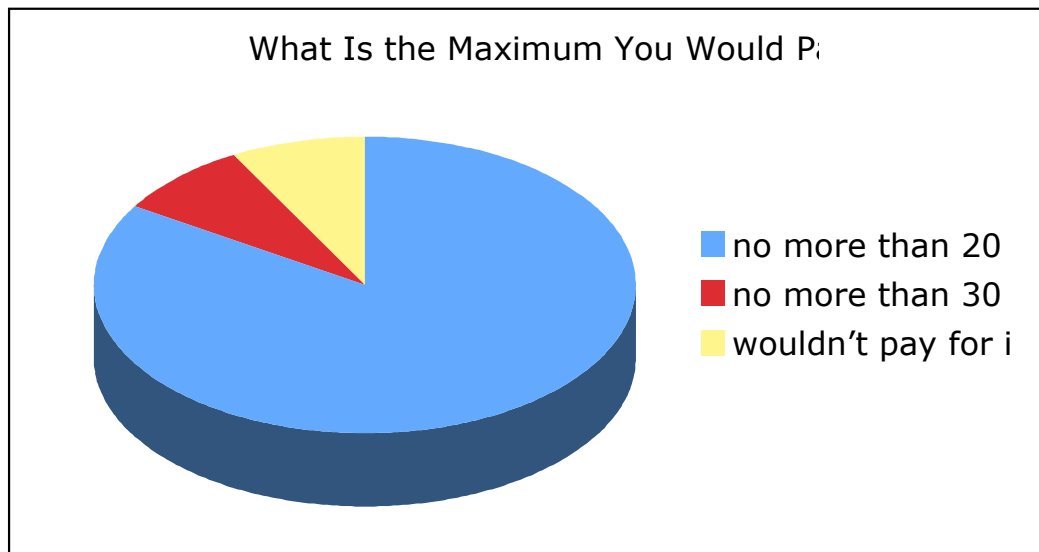


The amount of people willing to pay for a water filter in their apartment or dorm was not surprising to us. Out of everyone surveyed 94% of students said they would not pay for a water filter (no or too expensive). So even though 48% of students believe the water filter will make their drinking water safe, and 39% of students do drinking tap water, they still do not want to dish out the money to actually pay for a filter. This makes sense since college students are usually strapped for cash as it is, and if they already have a comfortable way of obtaining drinking water (either straight from the tap or bottled) they probably wouldn't want to change their routine, especially if it costs money.

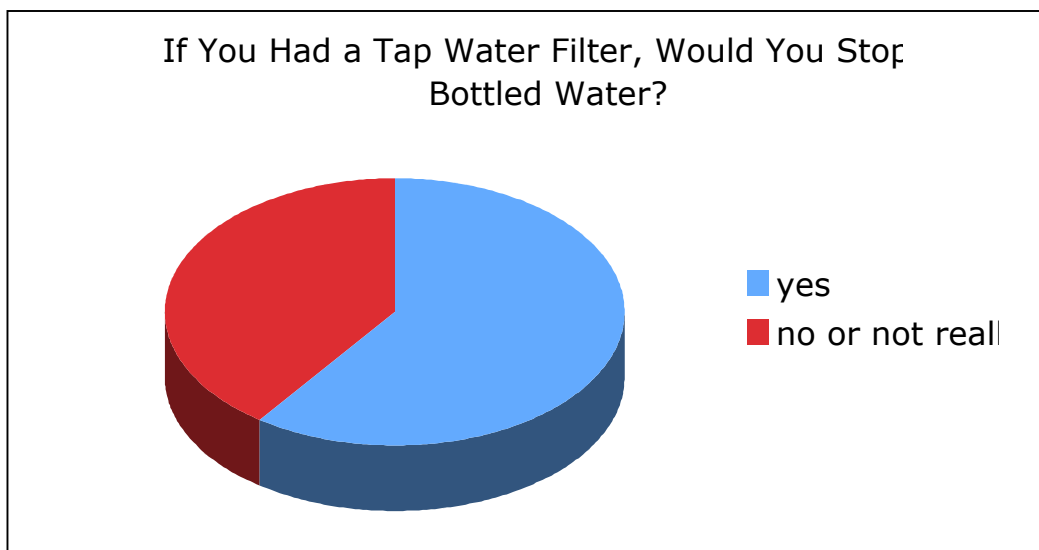


If the students had to pay for a water purifier 84% would not pay more than \$20, 8% would not pay more than \$30, and another 8% would refuse to pay for one. This makes it difficult to install water filters around campus for individuals because they usually cost more than \$20. But if people had roommates, this cost would decrease because only one would be needed per dorm

sink. Also, if they were purchased in bulk there could be a discount given by the filter manufacturers.



The amount of students that would still buy bottled water, even if they had tap water filters, 60%, is much higher than we estimated. This could be linked to students not believing the water filter would actually filter out the contaminants, or it could be because students are so used to buying bottled water they don't want to stop.



The results of this survey showed us that education on water filters and water sources is the best way to change people's minds about bottle water use versus tap water filters. Even with all the television ads out there on water filters and their benefits the information needs to be spread farther and wider.

Getting the Word Out (JT)

After obtaining all the surveys and analyzing the results I wrote out a proposal for installing water filters in NJ College and University campuses. I sent this proposal/information to a number of environmental departments, purchasing departments, or environmental student organizations:

- Berkley College Project GreenPath
 - ProjectGreenPath@berkeleycollege.edu
- Monmouth College Living Green
 - occs@monmouth.edu
- Montclair State Gotta Be Green Organization
 - gottabegreenorg@gmail.com
- NJ Institute of Technology Environmental Purchasing Department
 - tmeierdierck@njheps.org
- Centenary College Environmental Group
 - environment@centenarycollege.edu
- Ramapo Green Sustainable Project
 - Submit an Idea webpage submission
- Rowan ruGreen Initiative
 - RUGreen@Rowan.edu
- Saint Peter's Moving Forward Project
 - jbredehft@spc.edu
- Drew Sustainability Portal
 - calfone@drew.edu
- Stevens Green Initiative
 - lbrunell@stevens.edu
- Fairleigh Dickinson University Purchasing Department
 - stadler@fdu.edu
- Kean University Purchasing Department
 - gthorn@kean.edu
- Brookdale Community College GreenBookdale
 - khammond@brookdalecc.edu
 - jepiscopia@brookdalecc.edu

We are hoping these colleges will listen to us and educate themselves and their students on the benefits of water filters/purifiers and consider installing them in their dorms, campus centers, and buildings.

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Editorials

Water: The Limited Unlimited Resource

By Joanne Theisen

Submitted to the Rutgers Targum on October 26th and Published in the October 29th issue.

Almost every living thing on this planet needs water, including the over six and a half billion humans. The only problem is that we use and wastewater at such a high rate that our surface and groundwater sources can't replenish themselves. Out of all the water on Earth only 2.5% is fresh potable water. Of that 2.5% only 20% is accessible, leaving a mere 0.5% as fresh water we can use. This leaves us with a resource that is perceived as unlimited but is quickly decreasing by greed and misuse.

There are one billion people on the planet that don't have access to safe clean drinking water. Thousands of people in developing and underdeveloped countries die each week because of dirty water related illness. What would you do if there weren't drinkable water coming out of your sink, or stocked in your grocery store? You have access to as much clean water as you could ever possibly want just gushing out of your sinks tap. This is a luxury and people treat it as commodity they deserve.

When people think and act as if water is an unlimited resource they end up wasting more than they should. Eventually we are going to run our aquifers and surface waters dry and there will be nothing anyone can do to find new sources of potable water. If people think gasoline is expensive, they're in a world of surprise when a gallon of water starts to cost more than twenty dollars. This isn't an "Oh, this will only happen thousands of years from now, I don't need to worry about it" issue. This will affect your grandchildren and their children. The depletion of water is happening right now, and it is not stopping.

Right now green is trendy, so be green. Reduce the amount of water you waste, and only use what you need. Instead of bringing one-time use bottled water to class use a reusable bottle with water from filtered tap water. When you brush your teeth don't leave the water running, and try to minimize your time in the shower. Small things can really make a difference if everyone pitches in and does their part. You can make a better, healthier life for your children and grandchildren.

Is that Bottled Water really worth it?

By Stephanie Queirolo

Submitted to Targum on October 28th

Are you one of the students who carry around that Aquafina water bottle everyday? Are you scared of drinking the campus tap water because it may be "dirty"? Proof of the paranoia that tap water is less clean than bottled water can be seen everywhere, especially college campuses such as Rutgers. Among the students, arguments are made that bottled water is more pure, filtered more efficiently than commercial purification systems, and simply tastes better. I

can respect the taste part, but check the facts. There are many ways that tap water is a better alternative to that heavy bottle of water in your backpacks.

According to Green Lifestyle Magazine, some bottled water may actually contain simple tap water, unfiltered. Yes, not all bottled water has been purified. The misconception about bottled water is that it is “cleaner” than tap water, but the truth is that bottled water is a mere convenience for when the water fountain is out of reach. As for the claim that bottled water is clean, did you know that bottled water contains microorganisms and bacteria that are 100 times over the permitted limit for consumption! While the levels of bacteria aren’t quite high enough to cause a disease, it may pose a risk for pregnant women, infants, and the elderly.

Finally, think of the money you are wasting by buying that industrial pack of water bottles! Yes, I said waste. The tap water flowing from your sink is virtually free, making bottled water (which costs approx. \$5 a gallon) 500 times more expensive, according to John Stossel of ABC News. People assume that because bottled water has a higher price than tap water, it has the money’s worth of filtering. Also, think of the amount of plastic waste that piles up after consumption! In 2007, the amount of energy needed to bottle water could have powered 1.5 million cars for a year, adding 2.5 million tons of carbon dioxide to the air. Think about that the next time you go to buy that 24-pack of water bottles.