W.B.W Rutgers- (Without Bottled Water) Replacing
Campus Water Bottles

The Harms of Bottled Water at Rutgers University

Tag Words: Rutgers aluminum bottles, RU canteens, RU ban of water bottles

Authors: Karen Hidalgo, Aleksandra Mallon, Anton Matveev with Julie M. Fagan, Ph.D.

Summary

It is necessary to limit or terminate the usage of water bottles at University Campuses. The issue of concern is that plastic bottles are not eco-friendly and are marketed as if water bottled is better than filter water or tap water. Our group’s objective is to convince Rutgers University to purchase Brita filters for all dormitory rooms. In addition, we will also demonstrate how using the eco-friendly canteen is a safer and better alternative to bottled water because you can refill and reuse it. Ultimately we want to restrict the usage of bottled water at Rutgers.
The Issue: Bottled Water

Introduction
Over 60,000,000 plastic bottles a day are disposed of in U.S. landfills from bottled water use. Other than the direct impact of 30 billion plastic bottles a year being disposed of in U.S. landfills alone, bottled water negatively impacts our environment in many other ways. 17 billion barrels of oil are used each year to produce the 30 billion plastic bottles, producing some 2.5 billion tons of carbon dioxide pollution. It takes three times the amount of water to produce the bottle as it does to fill it. Not to mention the pollution from transporting heavy loads of bottled water all over the World! Adding in transportation, the annual energy resources used on bottled water production and distribution comes to over 50 million barrels of oil, the equivalent to run 3 million cars for a year. And for what benefit?
Hundreds of millions of dollars are spent each week by bottled water companies to create the perception that bottled water comes from some magical pristine mountain spring or pure underground aquifer.
The plain truth is that most bottled water is little more than tap water in a bottle. The Federal regulations (FDA) that govern the quality of bottled water only apply if it is transported across state lines, and only require it to be "as good as" tap water, not better. 60-70% of bottled water companies bottle and sell the water in the same state to avoid Federal purity standards, thus avoiding complying with basic health standards, such as those that apply to municipally treated tap water! There are no assurances or requirements that bottled water be any safer or better than tap water.
The U.S. FDA says: "Companies that promote bottled water as being safer than tap water are defrauding the American public."

Ban of Bottled Water at University Campuses:

Washington University in St. Louis
Faculty, students and staff on Washington University in St. Louis' Danforth, North and West campuses no longer can find bottled water in vending machines or at most campus eateries. Because of concerns about the environmental impact of bottled water, Washington University ended sales of the product in January (though because of contractual obligations, two venues will sell bottled water until March 15), and administrative offices no longer offer bottled water at events and meetings.

University of Portland
With the assistance of student groups and the Presidential Advisory Committee on Sustainability, Bon Appétit, the University’s food service provider, made the decision to stop selling disposable plastic water bottles at The Cove, a University café, in all campus vending machines and at concessions stands at athletic events, and to discontinue use in catering services on campus.
"It’s something we need to do,” said Bon Appétit general manager Kirk Mustain. “It’s a goal that is attainable, and water is becoming a key issue worldwide. Sustainability is important on our campus and for Bon Appétit.” University of Portland is the first school in the West Coast to eliminate disposable plastic water bottles and joins over 20 schools nationwide in this rising movement. Students, faculty and staff are encouraged to drink tap water and use reusable water
The University of Portland takes seriously its commitment to being a good steward of the planet,” said University President Rev. E. William Beauchamp, C.S.C. “This will not only reduce the amount of waste generated on our campus but will help focus attention on the critical issues of sustainability and water rights.

Statistics comparing RU and UP

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<thead>
<tr>
<th></th>
<th>Rutgers</th>
<th>Portland</th>
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<tbody>
<tr>
<td>Students</td>
<td>36,041</td>
<td>3,537</td>
</tr>
<tr>
<td>Graduates</td>
<td>28,031</td>
<td>2,997</td>
</tr>
<tr>
<td>Postgraduates</td>
<td>8,010</td>
<td>540</td>
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Effects of Bottled Water/ Health Effects:

The researchers from Goethe University sampled 20 brands of bottled water packaged in plastic and glass bottles and found that 78 percent of the samples packaged in plastic bottles had high amounts of chemicals called "endocrine disrupters," compared with 33 percent of those bottled in glass. I was surprised to learn that even the spring water bottled in glass containers had these chemicals, so I called on an expert to tell me why. "Birth control pills, hormone therapy medications, and a host of contaminants can all get into our water supply, and we haven't figured out a way to affordably filter them out," explains Patricia Hunt, a geneticist and reproductive biologist at Washington State University who is well versed on the new study.

I was hoping she'd calm me down, but instead she got me a bit more nervous, thinking that there's simply no way to avoid endocrine disrupters in my beverages, short of living on freshly squeezed orange juice. Still, she says, it's a safe bet to say that drinking out of plastic water bottles is worse than drinking out of glass or metal ones. (She herself totes a metal canteen around with her for water on the go.) After all, the study also found that mollusks—yes, snails—reproduced more heartily when they were placed in water-filled plastic bottles as opposed to glass ones. "Who knew that mollusks love estrogen?" observes Hunt. "It's a truly interesting study." Sure, interesting. And scary? "Oh, yes, scary, too."

Another study conducted by laboratories from Environmental Working Group (EWG), one of the United States leading water quality laboratories also found contaminants in bottled water. 38 contaminants in ten brands of bottled water, which were purchased in various states, were found to have pollutants from common urban wastewater to pollutants like caffeine and pharmaceuticals. Known carcinogenic and cancer-causing byproducts from tap water distributors included heavy metals and minerals including arsenic and radioactive isotopes, fertilizer residue and a broad range of industrial chemicals as well as chlorinated compounds. Four brands were also contaminated with bacteria.

Within the past year of two Nalgene was large producer in polycarbonate plastics and after much public debate took their popular sports bottles off the shelves and replaced them with BPA-free bottles. BPA is a known additive to plastics to harden and improve the clarity of their appearance. “In laboratory tests, trace BPA exposure has been shown to disrupt the endocrine system and trigger a wide variety of disorders, including chromosomal and reproductive system abnormalities, impaired brain and neurological functions, cancer, cardiovascular system damage, adult-onset diabetes, early puberty, obesity and resistance to chemotherapy.” Therefore, we suggest aluminum canteens or to look for the BPA-free products with a number 7 recycling sign.
as alternatives to plastic bottle usage or even plastic sport bottle usage.

**Rutgers University Budget:**
The average cost avoidance/Rutgers Green Purchasing Program does an evaluation on its tons of steel cans was aluminum and cost that was avoided and save due to recycling glass and plastic. Rutgers could save a lot more if we helped eliminate the use of plastic saving even more money.

**Bottled Water vs. Filter Water:**
Switching from bottled water to home water filtration is one of the fastest, easiest and most impactful steps we can take to save money and help the planet!
The facts are clear:
Home water filtration offers better quality water than bottled.
Home water filtration is 1/10th the cost of bottled.
Home water filtration is far more convenient, "Pure water on tap!"
Home water filtration is virtually pollution free!
"Therefore, while much tap water is indeed risky, having compared available data, we conclude that there is no assurance that bottled water is any safer than tap water." -- The Natural Resources Defense Council

Another aspect that many Americans do not take into account is the amount of money that is spent on consuming bottled water. Last year American’s paid $12 billion to drink 9 billion gallons of bottled water, and yet tap water is held to much higher and more strictly regulated standards. The only things that vary from each municipally treated water plant were the fluorine and chlorine that was added and this varied in slight amounts. The huge difference is what we pay in price. “The typical cost of a gallon of bottled water is $3.79 – 1,900 times the cost of a gallon of public tap water.”
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<tbody>
<tr>
<td>Bottled Water</td>
<td>No</td>
<td>No</td>
<td>1/week</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Carbonated or Seltzer Water</td>
<td>No</td>
<td>No</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>None</td>
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</tbody>
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No
Yes
No
Yes
Yes
Hundreds/month
Yes
Yes
Yes
1/quarter
(limited waivers available if clean source)
Yes
Yes (though limited waivers available if clean source)
Yes
Yes
Yes
Yes
Small Town Tap Water (using a well)
No
(though new rule in 2002 will require if needed)
Yes
20/month
No
(unless subject to surface contamination)
No
1/quarter (waivers available if clean source)
Yes
Yes (though waivers available if clean source)
a. FDA requires state or local approval of bottled water sources, but there is no federal definition or control of what may be a bottled water source; the FDA "approved source" requirement thus has been called a "regulatory mirage."
b. Big city refers to city system serving 100,000 people or more. A big city using only wells would have to comply with all requirements noted for a surface water-supplied city, except that if its wells were not under the influence of surface water, it currently would not have to disinfect, filter, or test for Cryptosporidium, Giardia, or viruses. A new rule for such groundwater-supplied systems must be issued in 2002, which may require some cities using wells to disinfect or filter and do additional microbial monitoring.
c. The Safe Drinking Water Act Amendments of 1996 require states, subject to EPA guidelines, to train and certify operators of all public water systems. EPA's rules to implement this provision are required to be issued by February 1999.
d. Small town refers to a town of 20,000 people. Such a small town using surface water would have to comply with all the same requirements noted for a large city using surface water, except the monitoring frequency for coliform would be 20/month, and there currently are no Cryptosporidium, Giardia, or virus monitoring requirements for small towns.

Source: NRDC 9
Alternatives to Bottled Water
The best alternatives have been selected as best suitable for the use on the Rutgers, The State University campuses as follow. Brita filters provide various types of filter systems from household use to commercial use. The Rutgers dorms will be provided with household systems such as jug water filters or water filter dispensers. Furthermore, once installed, faucet filtration systems, will allow direct consumption of tap water. This filter system attaches easily to your faucet in minutes, with no tools required. In addition to providing dorms with filter systems, the campus will also adapt to the new no water bottles policy. Brita has advanced to also offer systems for commercial use such as filters for vending machines, dishwashers, coffee machines, steamers etc. The main source of water for students while outside their dorms will be vending machines designed by Brita with UV purification and a bottle sensor which the students can use to fill up their RU eco-friendly canteens. The vending machines also provide flavor-hinted waters which will allow an easier transition for the students. “The Brita filters have been proven to remove 98% of lead, as well as reduce sediment chlorine, copper, mercury, cadmium, and benzene, while leaving a healthy level of fluoride, a water additive in municipal tap water that promotes strong teeth. Plus, the Brita filtration system delivers clean, clear water at less than half the cost of bottled water or home delivery.”

<table>
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<tr>
<th>Filters</th>
<th>Estimated Price</th>
<th>Purchase Locations</th>
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<tbody>
<tr>
<td>Brita® Faucet Filtration System</td>
<td>$18.99</td>
<td>Local retailers (A&amp;P, CVS, Home Depot, BJ’s)</td>
</tr>
<tr>
<td>Brita® Pitchers</td>
<td>$10.99 (40 oz) - $31.99 (80 oz)</td>
<td>Local retailers</td>
</tr>
<tr>
<td>Brita® Water Vending Machines</td>
<td>$300</td>
<td>Professional Installation</td>
</tr>
</tbody>
</table>

We also contacted PUR Water Filter Company because we think their clean water system that supports children in Africa is effective.

Eco-friendly canteens such as Klean Kanteen can be used to insulate hot drinks for up to 6 hours, cold drinks for 24 hours and it’s available in various sizes starting at $15.
The Service Project

We wrote editorials addressed to three local media newspapers: Home News Tribune, Rutgers Targum, and NJPIRG. Our group also created a Facebook group and created a poll to increase awareness about the harms of bottled water usage at Rutgers University. In addition, we made numerous phone calls to RUPA, SEBO, Rutgers Athletic department, and Rutgers Foundation and Jan Promotions Vendor. We have formally spoken with Ms. Donna Howard from Rutgers Foundation, who suggested that we should purchase the Rutgers aluminum bottles/canteens from Mr. Jack Nagel from Jan Promotions. The Rutgers Foundation has already ordered 300 canteens and distributed them during a recent scholarship reception for Rutgers scholarship recipients. The 20 oz. red canteens with a white Rutgers logo cost $4.00 each. Mr. Jack Nagel welcomed the idea of Rutgers being more eco-friendly by using the canteens. Mr. Nagel is looking forward to doing business with Rutgers and offered us a fair discount as long as an order is placed within a reasonable time frame for next year.

Our group contacted Mr. Gerry Davis from the Rutgers athletic department, and he also welcomed the idea of giving free RU canteens to students during a football game or at other Rutgers special events.

References

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http://www.nrdc.org/water/drinking/bw/table1.html
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https://sakai.rutgers.edu/access/content/group/48b9c800-a003-444a-9e70-369d48744832/Handouts/Rutgers%20Green%20Purchasing%20_020110_.pdf
www.ewg.org
http://www.nrdc.org/water/drinking/bw/table1.html
http://www.brita.com/products/faucet-filtration/
http://www.brita.net/uk/facts_figures.html?L=1
http://products.howstuffworks.com/brita-water-cooler-ds1000w-water-filtration-device-review.htm
http://www.watercoolersdirect.com/vending/
http://www.nrdc.org/water/drinking/bw/table1.html
http://www.purwater.com/clean-drinking-water-for-you.html
Convenience and consumption are the two words that describe the United States in the 21st century. We build fast food restaurants into train stations so we do not have to go outside when switching trains. We create iPhones and laptops so we do not have to move from our bed to the chair. We even created bottled water, which can be easily brought anywhere. It is light, cheap, convenient but yet wasteful. University of Portland has already banned the use of bottled water on their campus and many others are following the initiative, such as Washington University in St. Louis, because of concerns about the environmental impact of bottled water.

Bottled water use contributes to United States landfills with over 60,000,000 plastic bottles a day and 17 billion barrels of oil are used each year to produce the 30 billion plastic bottles. Since, this produces about 2.5 billion tons of carbon dioxide pollution, which unfortunately does not take in consideration the transportation of bottled water worldwide, there must be an alternative. Banning all bottled campus water is a significant start and Without Bottled Water (WBW) will begin by targeting the University. Similarly to the University of Portland efforts, our program is designed to eliminate all bottled water consumption on New Brunswick/Piscataway campuses.
Ideally, WBW will promote replacement for bottled water by replacing it with readily available water fountains, Brita filters and vending machines provided in dorm rooms, shower timers, as well as eco-friendly University canteens given free of charge at campus events.

Anton Matveev is a School of Environmental and Biological Sciences junior majoring in Biological Sciences.

Aleksandra Mallon

2010, 2 April

Procter and Gamble
Procter and Gamble Plaza 1
45202 OH, Cincinnati

LETTER TO PUR
Department Dear Project

A group of students and I are working on a project to reduce Rutgers’s dependence on plastic water bottle usage across campus in New Brunswick that we make a huge faculty that either live or work on campus and we know/students 30,000. We have found that the benefits of using a filter vs. impact on the environment as a community bottled water greatly outweigh our current trends of usage and disposal both Rutgers and PUR could benefit from this. We believe that friendly as well as healthier project.

filters. We envision replacing vending machines with water dispensers that have filtered water dorms being offered stand. We ultimately see alone containers-attached on faucets and stand. Many large.ainers or facet attachments and buildings with the same option alone cont Louis and University of Portland have universities including Washington University of St. f implemented such programs and have seen great success in reducing waste as well quality o Twenty other universities have joined the movement and Rutgers would also like to become a part of being more sustainable

Feel free to contact us if you have any. We hope this idea is of interest to you as it is to us. project further with any of us questions or discuss the

Sincerely,

Aleksandra Mallon
March 24, 2010
Douglass Campus Office/Cook
Douglass College Student Development Center
DPO 27705
New Brunswick, NJ 08901
732-932-3281
LETTER TO NJPIRG:
Dear NJPIRG,

Under Julie Fagan’s supervision, three students have taken up a project to reduce dependence of plastic water bottle use on campus. This has been a growing trend at many Universities across the nation and we would like to see Rutgers get on board as part of this movement. The goal is to reduce and improve responsible use of water bottle use on campus. This requires education and breaking the stigma that bottle water is healthier than tap water. There is a lot of well documented research that points to chemical components of water bottles, such as Bisphenol A (BPA) and phthalates, plasticizers that make plastics clearer, more flexible and durable. These compounds and hundreds more are disruptive to normal neurological and physical development. Many studies have also compared tap and bottled water as having the same contaminants, often times bottled water having higher concentrations, yet companies are getting away with charging people for this water.

We want to educate and improve student health as well as conserve our natural resources and reduce our waste. We are working on contacting PUR for their support and supplying materials for the project. The filters would address major tasks such as, improving taste and chlorine and bacteria amounts in the water.

We envision filters being installed in dorms for everyday use and installed in major campus buildings at either water fountains or staff sinks. Other positive effect this project would have for the University would be its cut in budget expenditures in purchasing water and or reducing dependence on commercial suppliers. The typical cost of a gallon of bottled water is more than 1,000 times the cost of a gallon of public tap water. (www.ewg.org). This would be a huge step towards reducing waste at Rutgers and another toward being environmentally and health conscious.

Sincerely,
Aleksandra, Anton, Karen

EDITORIAL AND EMAIL TO HOME NEWS TRIBUNE:
Dear Mr. Grzella,

I hope you are doing well. My name is Karen Hidalgo. I am a Rutgers University and Edward J Bloustein School of Public Planning and Policy student working on a project to reduce waste by diminishing the use of bottled water and using eco-friendly canteens. Part of my project is to get the word out about this great pollution prevention measure. I want to thank you in advance for looking at the attachment which has the editorial I wrote.

If you have any questions feel free to contact me.
Respectfully,

Karen D. Hidalgo
Ronald E. McNair Scholar
Educational Opportunity Fund Program
Edward J. Bloustein School of Public Planning and Policy 2010
Rutgers University-Douglass College

Dear Mr. Grzella, March 30, 2010
The following is an editorial about the efforts to limit or restrict the use of bottled water at Rutgers University and its benefits.

The Ban of Water Bottles as Next Best Alternative
By: Karen Hidalgo
Rutgers University is collaborating with different student run organizations, the New Brunswick community, and filter water companies to ban the sell of bottled water on campus, as the university administration and students are bothered by the pollution produced by plastic water bottles.
Presumably, people may figure that bottled-water consumers will switch to tap water, as tap water is bottled water’s closest substitute. Some may think that bottled soft drinks are a closer substitute. Don’t people want the convenience of a container at their desk or on the go rather than an occasional drink at the water cooler?
This ban will not lead to substitution from bottled water to bottled soft drinks, since Rutgers University will offer the alternative of filter water in convenient easily transportable eco-friendly canteens.
This ban may well simply lead to substitution from bottled water to cool filter water maintain by the canteens, with reduction in pollution. People will not be substituting zero-calorie water with caloric carbonated beverages, so the ban will not help increase obesity among students and staff. Rutgers University and its collaborators are taking a great stand against bottled water intake. Not only is the University being environmentally friendly, but through the partnership with filtered water companies such as PUR, which donates clean water to developing countries in Africa. Millions of children die each year from diseases due to unsafe drinking water in the developing world. With every purchase of a PUR system, a portion of the proceeds will go to Children’s Safe Drinking Water Program.
Respectfully, Karen Hidalgo

LETTER TO RUTGERS ATHLETIC DEPARTMENT:
Hello Mr. Jeremy Davis,
Thank you for giving me the opportunity to explain our Rutgers service project, over the phone today. My name is Karen Hidalgo. I am working on a class project on ways Rutgers can be more eco-friendly by reducing the usage of plastic water bottles. I am sending you a formal proposal (classipedia) of the information my group and I have gathered about this topic. I look forward to speaking with you about more ways that we can actually get the Rutgers Athletic department to distribute aluminum or steel bottles to Rutgers students free of charge. This can be done either during a football game or any other special Rutgers events.
Thank you in advance. Please reply to this email when you have time so I know you received my contact information.

Respectfully,
Karen D. Hidalgo
Ronald E. McNair Scholar
Educational Opportunity Fund Program
EMAIL RESPONSE FROM CANTEEN VENDOR:
Karen - Pricing for the 20 oz. red aluminum water bottles with white copy

Qty. 2500  $3.45
      5000  $3.25
     10,000  $2.90

This is a delivered cost (to one location)
Lead time - approx. 6 weeks.
Plesae e-mail any questions. Thank you. Jack Nagel

Hello Mr. Davis,

This is the email I received from one of the vendors that the Rutgers Foundation uses. It explains the cost of the eco-friendly canteens. I spoke to you on the phone about the Rutgers Reducing Water Bottles Project. Thank you in advance for all your help. Can you please let me know whether you are interested in getting the word out to the Athletics department.
Respectfully,

Karen Hidalgo