

Drinking Water Survey Report

Environmental Studies Senior Seminar

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Introduction and Summary:

As part of a larger project to promote tap water at Vassar, the Environmental Studies senior seminar created an eight-question survey on drinking water. The purpose of the survey was to provide data on tap and bottled water consumption, drinking fountain usage patterns and users' perceptions of drinking fountains at Vassar. A URL link to the survey was sent out by the president of the Vassar Students' Association in an email to students on November 1st. The opportunity to win a gift card for use at a local restaurant provided an extra incentive for participation. By the end of the week, a total of 859 surveys had been completed.

The survey showed that students have varying perceptions of drinking fountains at Vassar. This is partly due to the fact that drinking fountains themselves vary greatly in design and quality. Regardless, the survey did provide valuable information on students' specific needs and priorities with regard to drinking fountains. Prominent among them are the need for increased flow, better taste, refrigeration and more drinking fountains in convenient locations. The last section of the report includes a list of recommendations to be taken into consideration by the Department of Buildings and Grounds, Dining Services and the College Committee on Sustainability.

Analysis of Survey Results

Drinking Water Sources: Tap vs. Bottled Water

The first question on the survey asked where respondents typically get their drinking water. The majority of respondents (69.1%) reported drinking from water fountains (including the dispenser at ACDC), while only 27.3% drank bottled water (from various sources). Meanwhile, 74.8% reported drinking from a bathroom sink (both with and without filter). Respondents were allowed to choose more than one option, which explains why the percentages add up to more than 100.

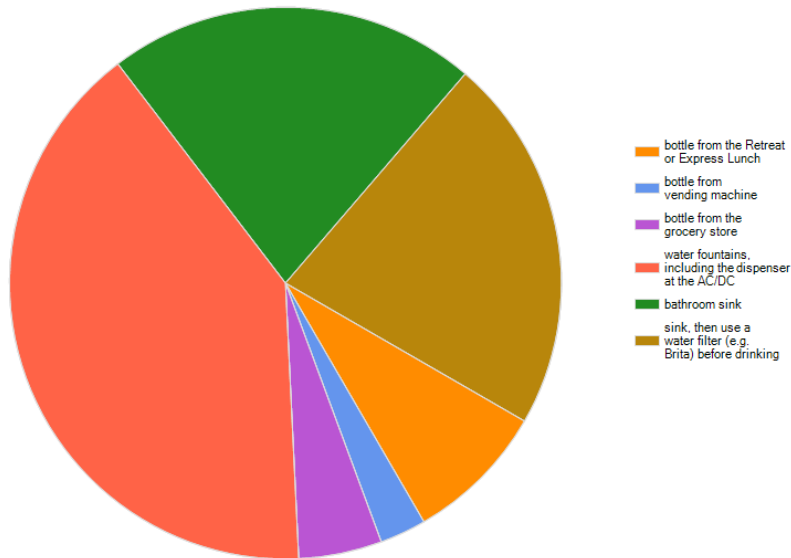
These numbers show that the majority of respondents (579 in total) are drinking fountain users, which means that they are familiar with drinking fountains on campus. Most importantly, it means that any recommendations and subsequent improvements that arise from this survey will be informed by the true needs and concerns of drinking fountain users.

The fact that 228 respondents are drinkers of bottled water means that these results can also yield important data on students' reasons for choosing bottled water instead or in addition to tap water.

Of the 64 respondents who chose 'other' as a source of drinking water, 29 reported drinking from a *kitchen* (not bathroom) sink in their dorm or senior apartment. Four of them specified that they boil or filter the water before drinking.

Chart 1: Drinking water sources

Where do you typically get your drinking water from? (you may select more than one)



Question number three addressed students' motivations for drinking bottled water. 77.9% of respondents answered 'N/A', which suggests that they are not consumers of bottled water. Otherwise, 'convenience' was the reason most often cited for drinking bottled water (15.3% of total responses), followed by 'water quality' (11.7%) and 'cleanliness' (10.4%). 'Temperature' was the least common response (3.6%). Out of the 19 respondents who chose 'other', six cited 'taste' as their main reason.

Locations and Frequency of Use

Question six listed all the different types of locations on Vassar's campus and asked respondents to identify the frequency with which they used drinking fountains in these locations. 54.8% of respondents reported making frequent use of drinking fountains in dorms (see table 1). The dorm is also the location from which the most respondents (34.2%) reported drinking 'multiple times a day'. Academic Buildings are the second most frequently used source of drinking water.

Table 1: Percentage of users making 'frequent use' of drinking fountains by location

	Frequent Use*
Dorm	54.8
Academic Building	54
ACDC	44.6
Gym	43.4
College Center	41.1
Library	36.4

*defined by author as sum of percentages for responses 'several times a day', 'once a day' and 'once every few days'

Concerns with Fountain Water

Question four asked about sources of concern with regard to fountain water. Respondents could choose from four categories 'cloudiness', 'metals', 'bacteria' and 'byproducts of chlorination'. 'Metals' was the category with the most affirmative responses (37.5%), while 'bacteria' had the least (32%). This is interesting when contrasted with open responses later on, among which can be found more concerns with cleanliness than with metals.

More than half of all respondents (51.9%) answered 'no' to concerns about 'cloudiness'. 'Byproducts of chlorination' was the issue respondents were least concerned about (41.1% answered 'no'), though it is important to also take into account that 26.3% of respondents answered 'I don't know' with regard to this issue. In general, the rate of 'I don't know' responses fluctuated between 12.9% ('cloudiness') and 26.3% ('byproducts of chlorination'), which suggests that there might be a need for more research and education efforts on the issue of Vassar water.

Perceptions of Drinking Fountains

In question five, respondents were asked to rate their perception of different aspects of Vassar drinking fountain water on a scale of 1 to 5. For the purpose of this analysis, options 1 and 2 have been grouped together to signify a 'bad' perception, while 4 and 5 have been grouped to suggest a 'good' perception. Option 3 stands alone to represent a neutral perception of fountain water.

Table 2: Perceptions of fountain water by category in percentages

	Bad (1/2)	Neutral (3)	Good (4/5)
Cleanliness	21.7	36.7	42.8
Temperature	20.0	31.5	49.3
Flow	25.1	32.1	44.1
Location*	33.2	29.7	39.8

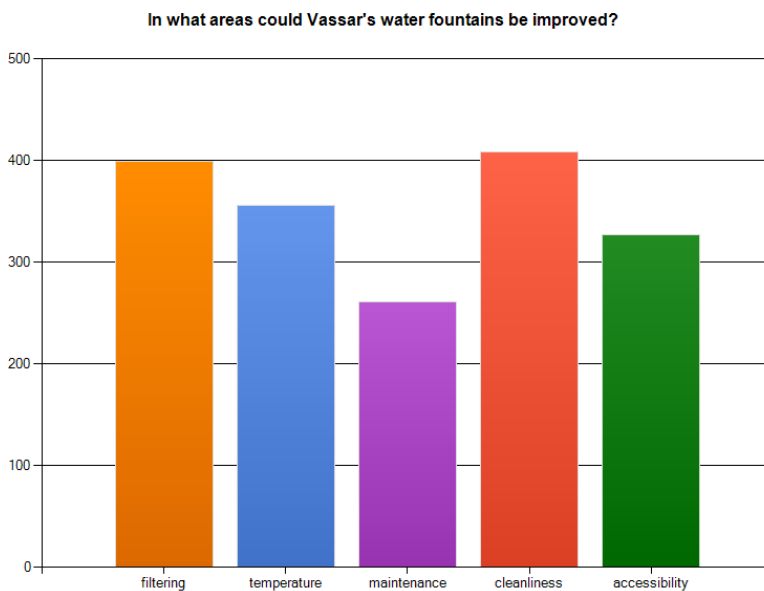
*defined in survey as "easy to find and well located"

The category respondents had the worst perception of was 'location' (33.2%), followed by 'flow' (25.1). Conversely, almost half (49.1%) of students seemed content with 'temperature'. The category most rated 'neutral', meanwhile, was 'cleanliness'.

Room for Improvement

Question 7 asked respondents to indicate what aspects of drinking fountains can be improved. 51.3% of respondents believe that cleanliness could be improved, while 50.1% said the same for filtering.

Chart 2: Areas of improvement by number of respondents



Eighty respondents also selected the option 'other' and added their own ideas for improvement (see table 3). Prominent among them is the desire for better flow (28 mentions), as well as the need for drinking fountains in Joss (10), better taste (10) and cleanliness (10).

Table 3: Ideas for improvement by frequency

	Frequency
Improve flow	28
Put drinking fountains in Joss	10
Better taste	10
Improve cleanliness	10
More drinking fountains	8
Install/Repair cooling systems	4
Make water less cold	3
Install bottle spouts	2

The last question asked for additional comments. Many respondents took the opportunity to express their most urgent concerns here, as well as suggest ideas for improvement. Table 4 shows these comments and ideas by frequency. Respondents also used this space to comment on specific drinking fountains, whether to report a problem or express their satisfaction. These can be found in Appendixes 1 and 2.

The most common request here was for drinking fountains to be installed in Joss (27), followed by a call for free drinking water to be made available in the Retreat again (16). The general concern about insufficient flow and cooling also figured prominently here. And although only one person asked explicitly for filtering systems to be installed, 11 respondents complained about “bad taste”, an issue that could be dealt with through filtration.

There was some contradiction with regard to temperature. 13 respondents complained that water from drinking fountains is not cold enough, while 7 others believed that the water is sometimes too cold.

Interesting suggestions arose from this section, such as the possibility of installing spouts for refilling water bottles (5 mentions altogether). Appendix 3 lists a selection of comments expressing frequent concerns and interesting suggestions.

It is possible that there is some overlap between the concerns voiced in the last question and those articulated in the comments section of question 7. Taken together, however, both sections provide a general idea of the most pressing issues to be addressed.

Table 4: Concerns and ideas by frequency

	Frequency
Put fountains in Joss	27
Bring back dispenser / fix faucet at Retreat	16
Insufficient flow	14
Not cold enough	13
Bad taste	11
Fountains not clean	7
Water too cold	7
Not enough fountains	5
More fountains in Davison	4
Better location/accessibility	3
Install bottle spouts	3

Conclusion and Recommendations

The above analysis shows that students at Vassar have varying perceptions of drinking fountains on campus. This has to do with the fact that respondents have different standards and needs, as well as the fact that Vassar water fountains themselves vary greatly in design and quality. Some of them have cooling systems, while others do not. Some of them are more likely to be clean than others. Likewise, some are easily accessible and well-located, but not all of them are. The purpose of this survey was to give us an idea of students' priorities and needs when it comes to drinking fountains so that we can focus our efforts and resources on addressing those first. It certainly has been helpful in that respect.

Below is a list of recommendations to ensure that students' concerns with regard to drinking fountains are addressed.

For the Department of Buildings and Grounds:

- Take note of specific comments in Appendixes 1 and 2. Substandard drinking fountains should be improved upon. Good fountains should be taken as examples of 'best practices' to be extended to drinking fountains elsewhere.
- Specifically address the issue of insufficient flow which is prevalent all over campus.
- Revise cleaning schedules to ensure that drinking fountains are sanitized regularly.
- Consider placing maps specifying the location of drinking fountains in each building.
- Inform students about what steps to take when a drinking fountain is damaged or deficient. This can be accomplished through any of the following strategies:
 - Signs next to drinking fountains
 - All-campus emails
 - Contacting house teams
- Maintain as many cooling systems as possible.
- Consider adding drinking fountains in Joss and Davison.
- Ensure that future building renovation plans include drinking fountains (at least one per floor) in prominent locations.
- Consider installing filters in select drinking fountains in order to address concerns involving taste and water quality.
- Consider additional improvements to facilitate the refilling of reusable water bottles (i.e. refill spouts, Brita filters in sinks).

For Dining Services:

- Assess the possibility of reinstalling the water spigot in the Retreat to allow easier access to cold, tasty drinking water and discourage bottled water consumption.

For the College Committee on Sustainability:

- Continue to monitor the quality of tap water at Vassar.

- Make information on water quality available to the college community through any or all of the following strategies:
 - Miscellany News articles
 - All-campus emails
 - Tabling
 - Forums

Appendix 1: Complaints about specific fountains

Location (Building, floor)	Problem	Frequency
Residential Houses		
Jewett (basement)	doesn't work, hard to find	
Strong (basement)	doesn't work	
Strong (1)	insufficient flow, bad taste	2
Strong (3 south)	tastes like rubber	2
Main (3 south)	insufficient flow	
Main (4 north)	unspecified	
Main (4 center)	lukewarm, bad taste	
Noyes (3)	not cold enough	
Noyes (4)	tastes like chlorine	
Cushing (2 west)	insufficient flow	
Lathrop (1)	in a dusty, cobwebby corner	
Lathrop (2 north)	unfiltered, no refrigeration, taps direct into the piping	3
Lathrop (4)	broken	
Lathrop general	dirty	3
Raymond (general)	unspecified	3
Academic Buildings		
Chicago Hall (basement)	doesn't work	3
New England (1st floor)	bad taste	
Rockefeller Hall	hard to find, dirty , insufficient flow, unfiltered, warm	11
Kenyon Hall (2nd floor across bathrooms)	bad taste	
Kenyon Hall (dance studios)	not cold enough	
Kenyon Hall (near volleyball courts)	insufficient flow	
Center for Drama and Film (3)	insufficient flow	4
Old Laundry Building	warm	
Olmsted Hall (3)	insufficient flow	
Library (1)	bad taste	
Skinner Hall (in front of music library)	bad taste, insufficient flow, warm	
Taylor Hall (2)	broken	
Other		
Athletic and Fitness Center (by the track)	needs maintenance	
Walker Field House (pool)	dirty	2

Appendix 2: Praise for specific fountains

Location (Building, floor)	Attribute	Frequency
Lathrop (3)	cold	
College Center (Retreat)	clean, good taste	3
Noyes (3)	cold, crisp	
Athletic and Fitness Center (gym)	clean, works well, good taste, accessible, cold	7
Skinner Hall	unspecified	
Walker Field House	unspecified	
ACDC	taste	3
Jewett general	temperature	5
Sanders Pysics	unspecified	

Appendix 3: Selected Comments by Topic

Concerns with drinking fountains:

“The ones in the college center which I normally use are pretty clean and the water tastes fine but they are pretty tucked away and those in other locations (for instance in Rocky) aren't as clean looking. I get nervous too that fountains and sink taps are not frequently sanitized and often avoid drinking from there during the winter for fear of getting sick.”

“The fountains just look old and decrepit. I'm so, SO morally opposed to water from plastic water bottles, so I would drink almost any tap water that even has a semblance of being clean, but I do have to muster courage every time I use a fountain on campus. If the water fountains were newer, the water cleaner/better tasting, and if they were more centrally located around campus, I'd be a much happier -- and more hydrated -- person.”

“People sometimes throw things in the fountain as if it were a sink drain causing disgusting clogging and bacteria to grow. People should be alerted that it is NOT a sink and maintenance should clean the fountain DAILY. I know the fountain is only cleaned every couple of weeks because the same NOODLES have been in my water fountain for 2.5 weeks now!!!”

“There really should be more water fountains around campus, especially in the dorms. In Cushing, for example, all the water fountains are on the east side of the building, but there are none in the any of the trans or west side hallways.”

“The water fountain Lathrop 2 North is absolutely abhorrent. It has no filter or refrigeration and is tapped directly into the piping, so calling it a "water fountain" is a bit of a misnomer, seeing as it is little more than a "sink in the hallway." Considering Lathrop is over 100 years old, the fact that I have to drink water directly out of its pipes is disgusting.”

Positive feedback and ideas to promote tap:

“I think that the water fountains are great. I think that there needs to be a push to popularize reusable water bottles and limit the availability of bottled water. there is no point to have bottled water when we have clean water available and reusable water bottles. perhaps we could have it only available in the Retreat but not in the express lunch line or the book store. maybe selling reusable water bottles in the retreat would also be helpful.”

“I think more people would drink tap water if there was a filtered faucet in dorm bathrooms (high enough up to fit a water bottle under). Even if it wasn't filtered, people would still use it more because they would be able to fit their bottle under it.”

“I generally really like Vassar's water fountains, although the low water pressure on some of them makes me question how safe (health-wise) it is to drink from them (in terms of touching my face/lips to surfaces). Other than that and the lukewarm temperature of some, I find them very accessible and use them very often. The best one is in the library basement.”

Research and Education:

“Although I haven't seen any real problems with cloudy water from the fountains I use, that's something that's easy to visually evaluate. I don't know anything about how the fountain water scores for metals and bacteria, and I have no way of knowing, besides the crude measure of taste. If there was some sort of standardized evaluation of Vassar's water or of particular fountains, with the reports released to the student body by e-mail, that information could improve confidence about the water's cleanliness, or alternatively improve our ability to protect ourselves from subpar water with filters or bottled water.”