

## **Plastic-Free Skidmore? A Feasibility of Reducing the Purchasing and Use of Single-Use Plastics on Skidmore College's Campus**

### **Abstract:**

Our year-long research investigated the feasibility of Skidmore College becoming a plastic-free campus, in collaboration with student interns working with the non-profit OCEANA.

with sustainable alternatives in a typical (non-COVID) year. After doing a literature review of the global implications and impacts of plastics, we conducted action and archival research on campus, such as participating in a plastic clean up and discussion, as well as studying a dining hall invoice and calculating per-item costs of several commonly-used plastic items. We also conducted semi-structured interviews with the larger college community and regional stakeholders, and distributed a college campus survey to over 210 respondents to gauge student perceptions about single-use plastics on campus. Overall, we determined that going plastics-free would provide multiple positive benefits for Skidmore College, including positive optics, economic savings of \$115-175 per 1000 uses per item replaced with alternatives, and positive contributions to regional waste management and Skidmore's Sustainability goals. This transition is supported by Skidmore's Student Government Association, which passed a plastics-free resolution to help reduce single-use plastics on campus. We conclude by suggesting several recommendations that the college can adopt, such as having plastics items by request only, implementing the Sustainability Office's --which is currently being drafted replacing single-use items with compostable, wooden, and/or reusable alternatives, and continued communication between campus community mem research and student support should be invested in

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## **1.) Introduction:**

While most people are familiar with The 3 R's: Reduce, Reuse, and Recycle, recycling is often considered the last option, although at times, feels like the only option---which is why the practice is broken in the United States. In the 1990's, China was bringing cargo ships into the US with goods for sale, and empty plastic water bottles were loaded onto returning cargo ships and thus, the U.S. recycling market expanded. However, in 2018, China's economy evolved and instituted a new plan called the *China National Sword Initiative*: only purchasing spotless plastic items, perfectly sorted, and accepting 24 fewer types of materials. The recycling market shriveled up, and negatively impacted U.S. recycling markets. The fossil fuel industry is losing a tremendous amount of market share thanks to the emergence and increasing prevalence of renewable energy sources. Now, the fossil fuel industry has resorted to Plan B: copious plastic production, followed by melting plastics and turning them into fuel (Beyond Plastics, 2020).

Plastic is the salvation of the fossil fuel industry. Regaining and maximizing profit within the fossil fuel industry means nothing more than changing the polluting vessel; instead of fueling cars, like other fossil fuel consumptive things, the fossil fuel industry is turning fossil fuels into single-use plastic. A larger problem persists: single-use plastic remains pervasive and degrades human and environmental health. Thus, we encounter a resolution to the daunting question: What is the efficacy of individual action and productivity of collective consciousness? If collective demand can influence and ultimately change the polluting vessel (from vehicle fuel to single-use plastics), we can assume a similar response from the fossil fuel industry when we reject the consumption of single-use plastics. If the fossil fuel industry sustains, what will the next polluting vessel be changed to? Will the response be more elusive and less tangible? Will the market for single-use plastics shrivel up? Before we can answer these questions, we must create the conditions for a reality that prompts such considerations on Skidmore's campus. Increased individual awareness on campus among students, staff, and professors can facilitate pro-environmental behavior on and off campus. Skidmore's collective consciousness behind the plastics-free initiative does not exist inside a vacuum; it's origins are derived from the institutional scale. Colleges and universities around the nation have catalyzed this initiative, and their existence inspires institutions like Skidmore -itiinstitutions vacu

destruction of ecosystems, food chains, and species. Every single piece of plastic produced still exists on Earth.

Since 1967, global plastic production has risen from around 2m tonnes a year to 380m tonnes (Geyer, 2017). Figure 1 shows global primary plastics production (in millions metric tons) according to industrial use sector from 1950 to 2015.

waste generation (in million metric tons) by industrial use sector from 1950 to 2015.

Unfortunately, of the 6.3bn tonnes of plastic waste produced since the 1950's, only 9% has been recycled and another 12% incinerated; the rest has been landfilled or scattered throughout the oceans and natural environment. Often, as with disposable coffee cups, drink bottles, plastic wrappers, plastic utensils, and other packets that account for much of the plastic produced in Europe and America, are used for one-off indulgence (single-use plastics). In normal conditions, plastic simply accumulates in the environment, much as carbon dioxide does in the atmosphere. The oceans have been identified as a common pool resource that are susceptible to degradation and over exploitation. In our modern "plastic era" plastic debris in the marine environment has become as much a "commons" and a "tragedy" as is the very oceans they reside in. It is now estimated that 8,300 metric tons of plastic have been produced by humans since the 1950s, and if these rates continue, 12,000 metric tons will be in the natural environment by 2050 (Geyer et al., 2017). 80% of plastic in oceans is sourced from litter, and currently only 8.5% of plastic in the United States is recycled. In the next 8 - 9 years, there will be one pound of plastic for every three pounds of fish in the oceans. Plastic waste can have a negative effect on people, animals, and ecosystems. When plastic waste ends up in the oceans, marine wildlife suffer, throughout the world.



production and demand. Oceana, a national nonprofit organization in the U.S., is attempting to help reduce plastic waste in oceans by promoting plastic-free movements across the country, such as the Break Free from Plastics Pledge ([Oceana, 2020](#)).

The purpose of this qualitative Action Research is to better understand the social, political, and economic feasibility of Skidmore banning or reducing the prevalence of single-use plastics on campus. Our research also works to better understand if having Skidmore College go “plastic-free” would offer a variety of other benefits, none of which are exclusive or limited to Skidmore College’s campus and property itself. Further, our research hopes to present these outcomes to Skidmore College and the community so that possibly, new policies and procedures can be realized, in order to bolster campus sustainability initiatives in relation to procurement and the management of plastic solid waste.

### 2.1 Arguments for Single Use Plastics Reduction: Sustainability and Human Health

Changes in purchasing and the extent of use of single-use plastics by Skidmore College could possibly make the college campus a more sustainable enterprise, as it would be reducing a large component of worldwide waste streams. Plastic material specifically makes up a sizable part of the municipal solid waste stream in the United States, an estimate being 10% by mass (Barnes, 2009). However, this number is probably much higher, due to a higher use of plastic materials used for packaging in recent years, in addition to increases in the number of plastic bags and single-use items as a result of safety precautions for COVID-19. Additionally, while plastics make up only a small portion of the entire waste stream in weight, they take up a large portion in volume (Thompson, 2009). Therefore, shifting from single-use plastics to reusable containers, bags, etc. would not only reduce the amount of municipal solid waste being generated on campus and in traditional waste streams, but it would contribute to the campus sustainability goals by adding more reusable and multi-use materials to campus.

On the other hand, reducing the amount of plastics used by Skidmore College would greatly contribute to improving local environmental and human health, as well as larger environmental systems, such as the world’s oceans. Plastic contamination of natural environments can be found across a wide range of terrestrial and aquatic ecosystems. Plastics have long lifespans, are persistent in their environments, provide vehicles for invasive species, break down into microplastics, and can attract other pollutants as they decompose (Barnes, 2009; [Oceana, 2020](#); Thompson, 2009). Most of these plastics end up in the world’s oceans and shores, in some cases making up 50–80% of all the oceans’ and shorelines’ waste (Barnes, 2009). As plastics degrade and make their way into bodies of water and the world’s oceans, they float, are washed ashore, and are in either case eaten by fish and other aquatic animals, causing various injuries, health complications, and death to wildlife (Barnes, 2009; Thompson, 2009; Zaman, 2011). In addition to the harm this causes these organisms, the plastic they have ingested bioaccumulates in their bodies and tissues, working its way up the food chain until it reaches humans in highly concentrated forms (Zaman, 2011). Plastic production and pollution have a wide variety of known and unknown adverse health effects on humans. Toxic chemicals such as Phthalates and Bisphenol A (BPA) can leach from plastics, such as bottles and other food-grade plastic containers. These toxins have been linked to human health complications such as testicular, prostate, and breast cancers, potential neurological disorders, premature and still-born births, and other birth defects (Zaman, 2011; Thompson, 2009). Subsequently, reducing the



college's use of these plastics will, in turn, reduce the amount of plastic pollution and detrimental health effects that impact human and natural environments.

## 2.2 Economic Benefits:

Shifting to reusable containers and discarding single-use plastics can potentially have a large effect on the College's finances and make economic sense. By running cost-benefit analyses of single-use plastics vs multi-use alternatives for Skidmore College at multiple levels, it is possible to determine if Skidmore College can save money by switching to alternatives. In addition to the sheer amount of plastics used on campus, and the plastic waste that Skidmore accumulates, the current fulfillment economy promises to generate more plastic waste and increase costs for waste disposal. Therefore, switching away from this waste and economy could have positive financial benefits in the future (both short and long-term). According to Langloss, this can be used not only as incentive for investment into reusables, but also the saved money can be funneled in other projects, such as financial aid or work-study programs, among others. As a result, potential savings from ending purchases of single-use plastics can be used to benefit multiple programs in, around, and off campus (personal communication, October 1, 2020).

Meanwhile, shifting away from single-use plastics has the additional advantage of ending Skidmore's reliance on an unsustainable and unstable technology and market. From a production standpoint, limited fossil fuel reserves, landfill capacity, and single/short use of plastics makes the continued use of plastics in their current capacity unsustainable and non-perpetual (Thompson, 2009). Additionally, with the recent import restrictions of China, (one of the world's largest plastic waste importers and recyclers), on the recycling market, it is estimated that 111 million metric tons of plastic waste will be displaced by 2030 (Brooks et al., 2018.) Continuing to rely on this non-marketable product can have dire economic consequences in the long-run, and it is best that Skidmore, along with other colleges that have already done so, consider reducing or ending the purchasing and use of plastic in light of these policies.

## 2.3 Local Policy Impacts and Changes:

Whereas part of our project and research is directed to better understand the benefits to Skidmore College itself, our research works in partnership with OCEANA, to direct local policy towards removing plastics to help the environment (Oceana, 2020; B. Langloss, personal communication, October 1, 2020). If Skidmore College goes plastic-free, then it will have a large impact on plastic purchasing and management policies for other colleges and civil society organizations, and has the potential for other co-commun ux

problems on the environment, global health, and the impacts of COVID-19 on the plastics problem. Furthermore, we looked at various campus initiatives that have been done in the past in order to reduce their reliance on plastic products, to varying degrees of success. In compiling an extensive literature review, we can acknowledge previous work that has been done in these areas, address their findings, and state with purpose what it is we hope to add to the existing body of literature by completing our capstone research project.

### 3.1 Global Plastics Abundance and Environmental Health:

Barnes' "Accumulation and Fragmentation of Plastic Debris in Global Environments" (2009) is an often-cited text that provides a key background to the global plastics problem. This paper details the effect of plastics on global environments, mainly aquatic, ocean, and coastal areas, opening up with the line:

"One of the most ubiquitous and long-lasting recent changes to the surface of our planet is the accumulation and fragmentation of plastics. Within just a few decades since mass production of plastic products commenced in the 1950s, plastic debris has accumulated in terrestriMMM



### 3.2 Plastic in Politics

One of the largest areas of study in the global environmental plastic problem is in marine environment research; where most plastics end up. While discussed previously by authors such as Barnes (2009) and Thompson (2009), Whitehouse and Murkowski (2017) takes the approach that marine debris is one of the few environmental issues of the modern era that has broad bipartisan support for action in the United States Congress. The Environmental Caucus' made significant legislative progress in recent years,

administration would insist on having financially solvent polluters pay the major share of cleaning up hazardous waste sites. This position was “anathema to most Republicans, who preferred to have the public pick up rather substantial costs of cleanup.” Representative Gephardt followed, insistent on keeping the peace and calling for “the regular order, including committee consideration” so as to prevent leadership-driven initiatives to end-run Congress (Hilley, 2008, p.32-33). We should prepare for the ideological disparities between Skidmore College/Saratoga Springs (Dem) and the NY-19 District (Rep) when considering the potential policy implementation following Skidmore’s plastic-free initiative.

The behavioral response of consumers--or lack thereof--elicited by the Portuguese plastic carrier bag tax is valuable to note. A study by Martinho et al. in 2017 provides research on plastic bag taxes which may be an option for Skidmore if they cannot go plastic free completely. The results demonstrated a reduction of plastic bag consumption and an increase of reusable plastic bags. However, the consumption of garbage bags increased. The tax had no effect on consumer’s perceptions of litter in the ocean or the negative impact of plastic bags, and instead the tax was agreed upon but also considered extra revenue to the State. The methods were face-to-face surveys conducted near shops, and some of the questions on the surveys may be useful to include in our surveys regarding plastic consumption. Consumers’ behavior is important because if consumers do not want to go plastic free, then it is difficult to go plastic free.

The intertwining of governments and markets is nothing new, but only in the past century have there been noted environmental externalities of this phenomenon. Wen et al.’s study on “Reverse logistics” (2010) looks exclusively at governments and enterprises that choose whether or not to engage in “reverse logistics” that is, reducing, reusing, recycling, repairing, and other operations that increase use, utility, and materials, with a focus on the Chinese economic system. The paper uses various figures and variables to describe the costs/benefits of governments choosing whether or not to punish or fine entrepreneurs, and whether or not those entrepreneurs choose to recycle. The conclusion is that with a higher potential fee or punishment for choosing not to recycle, more businesses will choose to recycle, and demonstrably, the number of fines/punishments enacted will decrease: “So the effective implementation of government laws and regulations can promote the recycle of products packaging” (Wen et al, 2010, p.4). In theory, if a large enough penalty or potential negative effect is held over participating parties, they can be encouraged to reduce plastic use with minimal actual enactment of those penalties.

### 3.3 Role of COVID-19

Silva (2020) writes, since COVID-19, an increase in single use plastics has occurred. At national and regional levels, plastic reduction has been disrupted by COVID-19. More than 40% of the total production of plastics are single use plastics (SUPs). Since July 2018, 127 countries implemented legislation which targeted SUPs. Bans, restrictions on the manufacture, production, importation, and retail distribution have been some of the policies enacted. Environmental taxes, waste disposal fees or charges, and extended producer responsibility measures are some other plastic reduction policies. However, since COVID-19, reusable containers and bags have brought concerns over cross contamination which have led to withdrawals of SUP bans and fees. Masks have been required in over 50 countries, and disposable masks have increased in production. Cleaning microfibre wipes, disposable feet protection, head caps and cuffs, protective plastic films have all increased in production to avoid contamination by air droplets. Redesigning

plastics and making them bio-based is one solution to the plastic problem during COVID-19. Reusable masks, bags, and other alternatives may lead to less plastic waste. Fees, taxes, and bans on SUPs should remain intact.

According to Hale (2020), single use plastics end up in aquatic ecosystems and result in wildlife mortalities. In medical facilities, single use plastics such as gowns, syringes, and gloves provide protection from infection. The debate between the virus can impact people from surfaces and whether the virus does not live on surfaces exists. Supporters of COVID-19 infecting others through the surfaces propose to lift restrictions on single use plastics because of the health and safety of others. Human-to-human contact would be more likely to spread the COVID-19 than infrequently handled reusable grocery bags, and paper bags is a solution which may be safer than single use plastic grocery bags.

Riccardo (2014) introduces a framework for the integrated design of a food packaging and food distribution network. A sustainable and efficient eco-design solution is provided and compared with traditional single use packaging. The remainder of the paper includes a literature review of studies on sustainability in packaging design and selection, includes a conceptual framework for designing food packages, includes analyzed scenarios and cost benefit analyses, and includes further research. The paper uses a life cycle assessment methodology to evaluate the carbon footprint of packages in the network. Sensitivity analysis is used to determine how drivers and parameters (RPC lifespan, washing rate, waste disposal treatment, network geography) change the environmental and economic impacts.

Ross and Evans (2003) provides a very in-depth view of the exact energy components and inputs that go into creating plastic-based food packaging. Taking a LCA of a type of plastic packaging used by Email Ltd, an Austrian Refrigerator company, the authors look at energy inputs (such as fossil fuels) and waste potential for the various components needed for the packaging, as well a proposed additional component that can be used to increase durability and reusability (high-impact polystyrene (HIPS)). The authors conclude that plastic-based packaging (as opposed to paper and other packaging) can have significant reductions in waste generation and overall energy inputs (more so with HIPS.) Additionally, recycling plastic products can reduce overall energy inputs and waste generation while reusing the



The project implemented by the Caradine-Taber study aims to reduce plastic waste of the Grab n' Go food service at St. Mary's College of Maryland by stopping the usage of plastic bags and by replacing plastic utensils with compostable wooden utensils. Although on a smaller campus scale compared to all of Skidmore going plastic-free, this study does not analyze the economic prospects of eliminating plastic from the university-setting. However, it does offer insights on the misleading biodegradability of PLA plastics (an alternative to single-use plastics) and the steep cost of this alternative (almost double the cost of petroleum-based products).

Marsh (2007) aligns the mission of a plastic-free initiative with that of the EPA. The EPA considers source reduction the best way to reduce the impact of solid waste on the environment because it encompasses using less packaging, designing products to last longer, and reusing products and materials. The study specifies ways that Skidmore could incorporate more of a regulatory approach (more upstream than the existing recycling program): the inclusion of lightweighting packaging materials, purchasing durable goods, purchasing larger sizes (which use less packaging per unit volume) or refillable containers, and selecting toxic-free products.

Berman (2015) states how single use plastic water bottles significantly contribute to the waste stream; Americans use approximately 50 billion plastic bottles each year, 38 billion of which end up in landfills (Berman, 2015). When compared with sugar-sweetened bottled beverages, single-use plastic water bottles provide a healthy alternative. "According to independent research by the Beverage Marketing Corporation, approximately 73% of the growth in bottled water consumption in recent years has come from those who previously drank caloric drinks, such as soft drinks, juices, and milks" (Berman, 2015, p.1). This study looked at how the removal of bottled water at the University of Vermont and the implementation of a minimum healthy beverage requirement affected the amount of bottled beverages purchased, the healthiness of the beverage choices, and calorie, u -sweetblks" (Berman,



groups interested in improving their social situation or condition” (p. 195). Daymon and Holloway explain that action research is “develop[ing] best practice as well as contribut[ing] to new knowledge about professional communication” (p.111). We will be collaborating with Oceana and other stakeholders to understand the design of a plastic free campus and how a plastic free campus is perceived among students, administrators, and other interviewees.

Our research works to better understand the harms that single-use plastics cause on and off campus, and the extent to which economic and environmental benefits can be realized via “going plastic-free.” Additionally, by working with Oceana, we were hoping to broaden our outreach to include the larger NY-21 Congressional District, peer and aspirant schools, and influence broader plastic policies at the municipal, district, county, and state levels.

Through source and method triangulation we have compiled our data into a feasibility report/executive summary that culminates in a suite of recommendations that Skidmore College can implement to go “plastic-free.” Our discussion and recommendations explore the diversity of factors that currently serve as barriers to going plastic-free, the opinions and perceptions of students, faculty, staff, and college officials regarding making Skidmore College a plastic-free campus, a cost/benefit analysis of the college going plastic free, and easy first steps the college can take to start the initiative.

## 5.) Research Questions

Five overarching research questions guided this qualitative case study action Research effort:

### 1. To what extent can Skidmore College reduce its reliance on single-use plastics?

This is a question that needs to be considered holistically. Our research explored Skidmore College’s capabilities based on existing student/administrative needs, campus infrastructure, Skidmore’s relationships with Casella and the plastic supplier/s, and finances. This question could be reevaluated/reconsidered on an annual basis to sustain pressure on campus to embrace stronger sustainability initiatives. Apart from Skidmore’s **ability** to go plastic free, our research analyzes Skidmore’s **willingness** to go plastic free, as well as student demand and preferences.

### 2. What social and economic factors currently inhibit the college’s ability to go single-use plastic-free?

We hypothesized that these factors might include, but are not limited to: Skidmore’s path dependency (the prospect that Skidmore’s only history has included plastics; the administration might face difficulty in considering/implementing sweeping policy change), student behavior/culture (unwillingness/inability to change/lack of interest), and financial concerns (cost of alternatives being more expensive than single-use plastics).

### 3. To what extent can alternatives to single-use plastics be implemented?



social media, including Facebook, and Instagram. Campus community members responding to the online survey were entered into a raffle for gift cards as an incentive. Out of all survey recipients, we received a total of 210 responses.

## 7.2 Semi-Structured Interviews and Focus Groups

Semi-structured interviews consisted of approximately four items and took an average 60 minutes to complete. Interview respondents included Young Grguras, from the Post Landfill Action Network; Karina Berkley, a student activist from George Washington University; Jen Natyzak and Levi Rogers, from Skidmore's Sustainability Office; and Charlie Uras, owner of the Barrelhouse Restaurant in Saratoga Springs, New York. Semi-structured interviews were



Charlie Uras

obesity, and cancer.

**Global Goal #10: Reduced inequalities**--Plastic production and plastic pollution are environmental and social justice issues

Plastic production damages local communities where plastic is made with toxic air and water pollution.

Fossil fuel companies are locating new and expanded plastic production facilities near existing fossil fuel infrastructure, which includes targeting the Gulf Coast, the Ohio River Valley, Appalachia, and other frontline and fenceline environmental justice communities. These plastic industrial sites have a disproportionate impact on low-income communities, rural communities, and communities of color

**Global Goal #12: Responsible Consumption & Production**

Compostable and reusable alternatives mitigate the impacts of the broken recyclable market, whereas plastic bottles are “downcycled” into other materials such as polyester clothing, carpeting, decking material, etc., that are most likely never recycled again

**Global Goal #13: Climate Action**

Most plastics are made from virgin (not recycled) materials created from chemicals sourced from fossil fuels, including an oversupply of fracked gas, which is leading to a global boom in new plastic production. Plastic production fuels the climate crisis through the release of greenhouse gases.

**Global Goal #14 and #15: Life Below Water and Life on Land**

Plastics and microplastics harm wildlife, land, rivers, lakes, shorelines, and oceans.

The institutional shift towards plastic-free spaces has commenced, and there little case to be made relating the success of this transition to the location, focus, and size of institutions that have embraced this shift. Table 2 is a visualization of several colleges and universities that employ plastic-free initiatives. We expected a disproportionately high concentration of initiatives to be among small, coastal institutions that are environmentally focused. However, the shift is just as prevalent within institutions that: don't see the impacts of plastics in oceans; have a high number of undergraduate students; and are not necessarily environmentally-focused. The plastic catastrophe is not going anywhere, and this transition will continue to popularize among institutions. Grguras's job with PLAN didn't exist ten years ago, and “campuses didn't even think about eliminating single-use plastic ten years ago. So, the change can happen q“inoX

SUNY ESF	Inland	Environmentally Focused	1812
Sterling College	Inland	Environmentally Focused	643
University of California	Inland	Non-Environmentally Focused	31543
Marshall University	Inland	Non-Environmentally Focused	9415
Emory College	Inland	Non-Environmentally Focused	7118

Table 2: Institutions of Higher Education with Plastic Free Initiatives

### 9.3 Economic Findings:

We reached out to Dining Services during our research, who provided us with the following invoice data for single-use plastic items for the 2018-2019 school year. We wanted to make sure this reflected a typical year of operations, instead of the most recent invoice, which

Figure 3: Skidmore College Dining Hall's 2018-2019 Invoice for Single-Use Plastics. The invoice of the largest provider of single-use plastics on campus--the Dining Hall--was instrumental in our quantitative research. Annually, Skidmore spends \$25,000 for single-use plastics to be implemented in the Dining Hall, with the average item priced at \$0.26. This is a cost isolated to this institution, but even further: when we consider the life of this plastic after it leaves Skidmore campus, the cost climbs and accumulates between waste disposal costs, human and environmental health impacts (which are far less quantifiable). The economic, social, and environmental burdens will be shifted to less-equipped communities and ecosystems when these single-use plastics leave Skidmore.

Cost/Piece	Cost/Piece	Cost/1000sets
DiningHall SingleUse Plastic		
SustainableAlternative		
PlasticClamshell	\$0.32	\$320.00







Everyone needs to do their part to create a more sustainable world and getting rid of single-use plastic items is a step in the right direction.

I feel that reusable utensils and takeout containers would be just as useful as well as hygienic and i think it would be more beneficial to the environment

There are so many other plastics alternatives that are cheaper AND better for the environment

Mainly, again, access, as it would make certain things more mental labour heavy for me. Some products that are single use plastics are ones I use when I physically don't have the energy to make the better choice and need a quick solve because I'm too overwhelmed.

Banning plastic bottles would negatively affect me because plastic bottles can be closed but aluminum cans cannot make it a potential spill hazard on my desk and keyboard. However, the availability of fountain drinks that can be poured into non-disposable containers would make this less of a negative but it would have to be widely available like the soda machines are.

Just cost and resources. There's not enough time to eat

Everyone needs to  
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We use way too much plastic on campus and there are not enough efforts to look for other effective products that can do the same job as the plastics sustainably .

This would restrict dining services in a lot of way, plus the vending would be impacted going plastic free. I think it's a great idea to reduce, but plastic free is a bit drastic in the reality of what is going on and the situation in the virus.

Skidmore's student, staff, and faculty culture is defined by people who are dedicated to social change. Transitioning to non-plastic products and reusable items aligns with these values, since plastics rely on climate- and community-destructive fossil fuels and pollution.

Table 5: Qs 2A / 2B “Please describe the reasons why or why not you would be supportive of Skidmore College becoming a “Plastic Free Campus” Responses by Category. Positive responses are colored green, and negative responses are colored red.

<b>Sustainability</b>	<b>Accessibility/ Convenience</b>	<b>Economic Costs</b>	<b>Skidmore College Culture</b>	<b>Behavior</b>	<b>Mental Health</b>
I would feel better about my carbon footprint	The reduction of single-use plastics would positively affect me because it would not consume so much space in my trash can and I wouldn't have to keep all the utensils I had to get from the breakfast bags	Food price items will increase	I would be happy to live on a campus that is conscious of its plastic use and dedicated to finding alternatives and reducing its plastic waste. I would prefer to use reusable items and not have to waste single-use items.	It would force me to get in the habit of not relying on single use plastics and get me ready for transitioning out to a low impact lifestyle	I don't think it would make much of a difference in my daily life but it would make me feel better about my impact on the environment.
Getting rid of single use plastic will help all of us.	I think right now especially during COVID reducing single use plastic is better than banning. Students need to be in the go, and food needs to be transported efficiently.		I'll feel better about the college I chose. I'll feel better about the planet and my future. I want Skidmore to be more green.	It would both force me to stao	

It



We found that it is extremely important to have student surveys & solidarity/support regarding the Plastics Free movement. According to George Washington University's student activist Karina Berkley, "the trajectory of student involvement at GW first took place in our student association, where our student association passed a resolution saying that it would not give any money to student organizations that used Single-Use Plastics at their events. And so from there, the student association then passed another resolution that just called for the university to have more water refilling stations so that we could reduce and eventually phased out our use of single use, plastic water." Young Grguras states, "administrators want to know about what the students want...and that's where a lot of the campaign work happens."

In order for change to occur, Skidmore's bureaucracy has to be involved and actively support the initiative. According to Young, "the idea behind having a presidential commitment is that it gets the whole school on the same page in regards to what we're doing with plastic. And it prevents any type of pushback that you'd get from just like players in it." At George Washington University, "the university started a single use plastics task force. And the aim of this task force was to develop some plan of how the university would either reduce or eventually phase out or use plastics" (Karina Berkley). Students, faculty, staff, and others need to be on the same page; "Everybody who's involved with plastic on campus needs to be in the same room so we all understand where we're headed. If you think about the way plastic moves on campus, it's touched so many hands" (Young Grguras).

There must be a continued collaboration between students, administration, sustainability office, procurement, dining hall and all other groups on campus. Young Grguras states, "the purpose of this proposal is to aspire: It's not going to be perfect, and the college and students are going to figure it out as it goes along" and "the movement works at the city level, the community level, and the national level. This is the essential mindset to getting the groundwork of the plastics reduction established, and working in conjunction with all campus community groups with this in mind is very important." Karina Berkley states, "collective support and collective effort is definitely one of the morals of the story." Therefore, inducing a positive communal impact should be considered or incorporated into each decision made. Skidmore. On the other hand, we also recommend that Skidmore College takes the initiative to reduce or ban single-use plastics by a certain deadline that they specify to the students, faculty, and staff, so that they be held accountable.

Regarding some of the concerns about Skidmore College becoming plastic free, one described people with disabilities such as, "many people with disabilities need items such as straws for various reasons and cannot use alternatives." Similar to George Washington University, "there were logistical issues and concerns surrounding the ban, specifically accessibility for students with certain disabilities who often rely on single-use plastic straws. That was the main concern. And so, we eventually communicated this concern to members on the Single-Use Plastics Taskforce and there would be, I guess, like, an exception for Single-Use plastic straws, considering that one, they don't really comprise that big a proportion of plastic waste anyway and to the whole point of environmental justice is to improve the material conditions of the people who need it most. And making accessibility to straws harder isn't making anybody's life any easier" (Karina Berkley). We are not looking to exacerbate the



hardships of those with disabilities, and we will make an exception, so they will still be able to use any single-use plastic items they need.

## **11.) Discussions/Conclusions:**

### 11.1 Research Discussions

Overall, the sources that we uncovered in our literature review provided us with the base framework to conduct our research. For example, Thompson provides a lot of good detail and backgrounds on all of the listed focuses of the paper, and is very useful in justifying plastic banning, correcting misconceptions, and recommending courses of actions. The proposed solutions in this paper fall a bit short, however, for the purposes of our paper, in that they describe        should be done, rather than       , and/or they focus on groups (I.E. scientific design and industry).

Additionally, sources like Choate's paper and findings can be specifically useful to Skidmore's future efforts to go plastic free for a variety of reasons. To start, Allegheny College could be added to a list of aspirant colleges to look towards when designing plastic reduction on Skidmore's campus, and their work can be mirrored here. Second, what applies to plastic water bottles can also apply to plastic bags or other single-use plastics. More research is needed linking behaviors surrounding these objects, but like plastic bags, can be used as a case study or mirror for the larger problem of plastics. Third, the detailed data gathering survey methods and data analysis might be used to guide our survey process and data analysis. Fourth, the paper briefly provides some additional direct research on green college campuses and responsibility of higher education to support social changes. Finally, the paper offers a comparable counter-perspective to the idea of plastic-reductions or banning on Skidmore's Campus, outlining a potential pitfall to actually increase single use items existing on campus or brought in from outside. This may require us to rethink our strategy to prevent this or include additional programs to affect single-use plastic behavior beyond the ban, as outlined in the paper.





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