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On The Plastic-Free Path: Plastic-Free Living

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HONORS PROJECT: On The Plastic-Free Path: Plastic-Free Living

What is My Honors Project?

My Honors Project's focus will be on environmental issues, specifically plastic waste. My original idea for the project came when I decided that I wanted to volunteer with a company called 4Ocean to clean the coastlines of plastic waste. I planned to pair my volunteering with an active effort to implement changes on Bowling Green State University's (BGSU) campus to prevent plastic pollution. After investigating further, I realized that volunteering with 4Ocean would not be a reasonable expectation for this project because their only volunteering opportunities are on weekends that are not known until a month in advance, which would not allow me to properly plan for the volunteering as a part of my project. Instead, I decided to solely focus on the reduction of plastic waste on BGSU's campus by implementing a tax/fee on all single-use plastic bags used on campus. This would include plastic bags at all dining halls, the Falcon's Nest, the Sundial, The Market(s), Falcon Outfitters, etc. This tax/fee would serve several purposes. First, it would incentivize students, faculty, staff, and visitors to reduce their use of plastic bags. In a way, this fee would act as a "sin tax" on our campus. Secondly, this tax/fee would provide additional funding for the Student Green Initiatives Fund. I had done some preliminary research about the effects of taxes versus bans on single use plastic bags to support this idea. Upon further research through speaking with Michael Paulus, the director of BGSU Dining, and Nick Hennessey, the director of Campus Sustainability, I learned that BGSU Dining has removed single use plastic bags from all Market locations, and plans to phase the single use bags out of the Falcon's Nest by the end of the semester. Due to this new information, this idea would not be a possibility.

After going over several other ideas, I have decided to change my project again while remaining in the realm of environmental awareness and conservation. In speaking with Sean Oros, the director of the Honors Learning Community, I decided to implement a yearly trip for Honors College students that would be environmentally focused, specifically geared towards the ocean or water since that was my initial area of interest. This trip would act much like an Alternative Break, but it would always be environmentally oriented as opposed to Alternative Breaks, which have varying scopes. For example, the trip could focus on ocean or Great Lakes cleanups, water quality in rivers or lakes, etc. The main focus would be on water and water quality, but I would have also been happy to see this trip focus on other environmental areas in future years. To give one example, there could be trips focused on National Park restorations. Sean and I discussed that I would write a grant proposal, most likely to the Student Green Fund at BGSU, to gain yearly funding for this trip. Participating students would then fill out an application to attend the trip. We would form the application so that it resembled a grant proposal, so that the participating students could practice writing proposals.

Initially I contemplated organizing an event during Earth Week to promote environmental awareness, but I realized that that would only affect BGSU students once. This yearly trip would allow continued awareness of environmental issues and build a community of students within the Honors College that

would be aware of the environmental consequences of their actions. I think it's important for students to know what their daily habits are doing. For example, do the students know that a garbage truck amount of plastic enters the ocean ever minute? Do they know that there are now 5 massive garbage patches? Do they know that coral reefs are 89% likely to get diseases if marine plastic enters their ecosystem ("Fact Sheet")? Do they know that microplastics have found their way into our bodies through the food chain of marine animals, and scientists still do not know what that means for human health (Schneider)? I did not know any of these things until I took personal time to research it. People may have no idea that this kind of data even exists, which is why I would love to create something that helps people understand and become aware of just what human actions have done to the environment.

Based on my discussions with Sean Oros, I believed that this trip could easily become a yearly event. He and I discussed that there would be several logistical and financial things that would need to be ironed out, but he was confident that the Honors College and I could create this yearly trip. He was also confident that students would be interested in this trip because Honors students tend to want to become more involved in a variety of areas.

However, with the onset of the COVID-19 pandemic, I once again changed my Honors Project. For obvious reasons, I would not be able to lead students on an environmental service trip to the ocean during a global pandemic. Although I could have continued to plan an annual environmental service trip for future years, there was no certainty this could happen in the future due to the uncertainty surrounding the pandemic. So, I decided to redesign my project again while maintaining the core focus of the project: plastic waste.

Coming up with a new idea proved to be difficult, and it took me a while to formulate an idea that I felt would still have an impact on people yet was limited to my sole participation. The idea, funnily enough, came to me in the shower one day on vacation. Instead of dealing with the plastic problem at the end of the cycle, why not tackle it at the beginning of the cycle? Why not stop buying plastic?

So, my new idea was born. Originally, I thought to live plastic-free for the entire semester, but I realized quickly that that would not work for several reasons. First, I had no idea how difficult it was going to be, and four months would be an incredibly long time to not buy any plastic. Second, I would have no data to compare my plastic-free semester with. Due to those two complications, I decided on my final Honors Project.

During my first month back in Bowling Green (August 19-September 19), I would continue to live my life as usual with one difference: I would measure and weigh all of the plastic that I buy. Additionally, I would keep track of the type of plastic that I am using by breaking it into categories such as: recyclables, single-use plastics, multiple use plastics, etc.

Then, during my second month (September 20-October 20), I would live life as plastic free as I possibly could manage. This means I would not buy any plastic unless I simply cannot get around it. Any plastic that I am forced to buy, I would measure and categorize.

To track these months, I created a [blog](#) where I post about a variety of topics including what new products I am buying, how the process has been so far, how much plastic I used during my first month, and some research about plastic use.

I have given myself several rules for the plastic-free month. They are as follows:

1. I will not buy any new plastic; however, I am allowed to use any plastic that I already own. For example, I can't buy a new reusable plastic cup, but I can continue to use the one that I own.
2. I can eat at restaurants as long as I am not personally purchasing any plastic. For example, I can go to Pizza Hut and buy a pizza even though the dough, pepperonis, cheese, etc. came in plastic; however, I cannot purchase a to-go plastic cup because then I would be buying that plastic cup.
3. Similar to Rule 2, I can eat at a friend's apartment or with family as long as I am not directly purchasing any plastic.
4. A caveat to Rule 2 and 3: during my first, plastic-use month, I kept track of how many times I ate out, and I will try to keep that number as equal as I can during this plastic free month so I am not "cheating". During my first month, I ate out/with family between 15-20 times, so I will not eat out/with family more than that during my plastic free month.
5. No part of what I purchase can be plastic. For example, I cannot buy a shirt in which the tag is attached with a plastic cord. One exception to this rule is fresh food: many times in grocery stores, fresh produce will have the small barcode sticker on it. While that sticker is probably made of plastic, I recognize that I do need to be able to eat something, and that is probably the smallest amount of plastic I can get in the grocery store.
6. I will attempt to buy food from local options as much as possible. This would include farmer's markets.

Research Questions and Methodology

Below are the research questions and methodologies that arose out of formulating this project.

What is living plastic-free like in a general sense?

The month of living plastic-free will provide answers to this question. While this is not a research question in a way that it requires secondary research, I am closely monitoring my own life, and therefore conducting primary research on what life looks like without buying plastic. Some topics that will be looked at to answer this question include how does plastic-free life affect:

- Social situations
- Food restrictions
- Everyday practices (such as waste disposal)
- Mental and physical health

Is it practical in today's world?

The practicality of living plastic-free will be answered subjectively based on my personal reflections, and therefore it mostly will be my own interpretation of how practical it is.

To better explain this, picture yourself walking into the grocery store. If you take a look around, you will notice nearly *everything* is packaged in plastic, is plastic, and/or somehow incorporates plastic. In fact, until you are trying not to buy plastic, you do not even realize how true that is. Given that information, how practical is it to never buy plastic? Are there products out there that we need that have no plastic-free alternative?

I will explore these types of issues while answering this question.

Is it economical?

To answer this question, I am comparing the costs of normal life and plastic-free life. For example, I will look at how much money I have spent, on average, at the grocery store in the past. I keep a well-documented budget and spending analysis for each month, so this information is readily available to me. To compare this, I am keeping track of how much money I spend at the grocery store during my plastic-free month. Which option was less expensive? I will also compare the costs of other items such as laundry detergent, deodorant, feminine hygiene, etc. These items will be compared on an individual basis, since they cannot easily be grouped together.

Does plastic-free living impact the environment?

Excluding the practicality, cost, and emotional factors, is this project worth it? Does it actually have a significant impact on the environment? More accurately, I know it is having an impact on the environment, but do I believe that it has a significant enough impact to be worthwhile.

Answering this question will require that I do some research regarding plastic usage of a variety of products. It will also require that I recognize how much of this product I use and therefore how much

plastic am I keeping out of the environment by not purchasing it. Of the four questions, I think that this one will involve the most secondary research.

Research Question Conclusions

Below, I have detailed how I conducted the Honors Project and the conclusions I reached regarding each research question.

To answer each of these questions, I used my experiences during my regular first month and my second, plastic-free month. This allowed me to compare data and experiences.

What is living plastic-free like in a general sense?

Social situations

Restrictions on buying plastic did affect a variety of social situations. The biggest social situation it impacted was eating out or going to the bars with friends. It was not hard to ask for real plates, cutlery, cups, or avoid buying sauces that came in plastic containers, but it was hard to remember to do those things. For example, I bought a pizza one day and nearly forgot that while it was acceptable for me to buy a pizza because there is only a cardboard box, it was not acceptable for me to ask for dipping sauce for my pizza because that was provided to me in small plastic cups. Additionally, there were several occasions when I almost bought drinks or to go containers. As mentioned, it is not hard to find plastic-free alternatives when eating or drinking out, but it is just hard to remember to do so.

Another significant impact on social behavior was buying gifts. During my plastic free month, one of my close friends had her bridal shower, and it took me a very long time to find a gift that was not plastic, was not packaged in plastic, or did not come with plastic in some way shape or form.

Other than these two instances, I did not experience plastic-free living affecting social situations; however, this would not be the case if I were living permanently plastic free. If this project were long term, I would run into a lot more problems socially. For example, I would struggle to plan or attend parties of any sort since almost all decorations and gifts are plastic. I would run into social struggles of explaining myself endlessly to people. I would be very limited in the places I could go to eat, which was not a problem I experienced too heavily because I knew the project was only a month so I could easily forgo going to restaurants that do not have many plastic free options, especially fast food. Additionally, a long term plastic-free lifestyle would mean that I would be buying very different products than my peers and my home would look very different than theirs, which could cause social issues.

Food restrictions

Since March, I have been experiencing severe back pain. Around September, I decided to start experimenting with cutting out a variety of foods from my diet to see if this caused my back pain to improve. At the start of my plastic-free, I started not eating gluten. This new food restriction made plastic-free living much harder.

As I prepared for my plastic-free month, I had been planning to make a lot of my own bread and pasta from scratch. Flour and sugar come in paper bags, so this would be a good alternative to the plastic that

premade bread and pasta come packaged in. Unable to eat gluten, this eliminated all bread and pasta type food from my diet because all gluten free flour comes in plastic bags or containers.

Everyday practices

One of the biggest questions people asked when I told them I would be living plastic-free was how I was going to handle waste disposal. How would that look if I could not buy plastic trash bags? Initially, I planned to just not use trash bags. My thought process was: what was the problem with dumping the trash can into the dumpster and then washing it out?

Living without plastic, however, changed my waste disposal more than I imagined it would. I quickly realized that I did not matter that I did not have trash bags because I did not need a trash can. Since I was not buying plastic, the only waste I had was fruit or vegetable waste. I downsized my trash can to an old plastic Dunkin cup. I would fill up the Dunkin cup with my fruit or vegetable waste, empty the cup into the dumpster, wash it out, and repeat the process. In hindsight, this shift makes perfect sense, but it never occurred to me before the plastic-free month that I would have little to no waste without plastic.

Like plastic-free living changing social situations, everyday practices would be changed much more if this project was long term. I would have to start using different laundry detergents, dish soaps, cleaning products and methods, and I would have to buy different clothes than most people (because clothes both come on plastic hangers and some clothes even contain plastic in the material). As you can imagine, almost everything about everyday life would change if I were living plastic-free long term.

Mental and physical health

Mentally, living plastic-free did not have much of an effect on me. I expected that I might start to “crave” buying plastic at some point during the month, but I did not experience any real cravings like this. There were, of course, times when I wanted something that I could not buy, but I did not dwell on that desire longer than it took to remember that I could not buy it and move on.

Interesting, if living plastic-free did have any effect on me, I think it was a positive effect. The amount of plastic available for purchase became very apparent to me when I could no longer buy it, so I began to feel good about myself when I knew that I was making a conscious decision to protect the environment.

Over the course of this project, I learned about a phenomenon known as environmental or green guilt, which is generally defined as the feeling that you should be doing more for the environment or feeling guilty for how modern life is negatively impacting the environment. According the Environment Journal, 89% of adults have, at some point, experienced environmental guilt during their life (Neill). I found it interesting that I expected living plastic free to cause cravings to buy plastic when, in reality, I experienced relief from an environmental guilt that I did not realize I had.

In terms of physical changes, I expected to lose some weight since I no longer would be able to eat unhealthy foods due to their plastic packaging, and while I did not lose a drastic amount of weight, I did lose some. This makes perfect sense because my diet shifted from a more-or-less balanced diet to almost

entirely vegetable and meat diet. Other than that, I did not experience many physical changes during the month.

Is it practical in today's world?

A big question: is living plastic-free practical in the 21st century? The answer is a bit complicated, but it really boils down to how convenient a person wants their life to be.

Any store, grocery or retail or appliance or office or anything, you walk into is covered is covered from floor to ceiling with plastic products. Seemingly, there is no way to avoid buying an enormous amount of plastic; however, I discovered over the course of this project that there is plastic-free alternatives to most products, especially anything you use on a daily basis. With that in mind, plastic-free living can be quite practical. Now, there are some products that you probably cannot find without plastic. For example, it probably is difficult to find a chainsaw without plastic coverings, but chainsaws are always used for 15 years before you get rid of them. This is the trend amongst most products I have found: the longer it is used for, the less plastic free alternatives there are.

This fact of life is good. If there were an endless amount of plastic free chainsaw options and no plastic free options for shampoo, we would have so much more plastic entering the environment each year. So, my view is that while it may be unpractical to live completely plastic free, it is very practical to live mostly to nearly plastic free.

However, that says nothing of convenience. Living plastic-free is incredibly inconvenient. You must search online for alternatives and then research which one is the best since most of the alternatives are more expensive than the plastic options. You have to get creative about how you live life. You must explain to other people why you are not going to buy things. So, while it is practical to life plastic-free, it is not convenient in the slightest.

Is it economical?

In my experience, this was an economical experiment. I did not expect to save money by living plastic-free, but I did end up saving quite a bit of money. For example, on average, I spend \$157 (Appendix B) at stores like Walmart or Meijer before living plastic free. During the plastic-free month, I only spent \$83. At the grocery store, I expected to save money simply because I would not be able to buy as many products, but I was shocked at how little I really did spend. Most weeks I only bought fruits and vegetables, and I would leave the grocery store having only spent around \$10. The more expensive trips to the grocery store were a result of canned goods such as canned meat and soups. Despite this occasional more expensive trip, I was pleasantly surprised by how much money I saved at the grocery store.

Beyond food, plastic-free products do get a little more expensive. To illustrate the differences, I have created a table to compare the plastic and plastic-free products. These costs are based on the products that I buy and may vary depending on each person's purchasing behavior. I also tried to compare equivalent sizes and amounts of each product.

Negative differences indicate the plastic-free option is more expensive

PRODUCT	PLASTIC COST	PLASTIC-FREE COST	DIFFERENCE
Deodorant	\$1.47	\$12.24	-\$10.77
Shampoo	\$9.99	\$15.07	-\$5.08

Toilet Paper	\$19.99	\$21.99	-\$1
Laundry Detergent	\$19.59	\$19.95	-\$0.36
Toothpaste	\$2.79	\$30.00	-\$27.21

Even from this short table, you can see that most plastic-free options are more expensive, but some are comparable to the plastic-options. Moving past my plastic-free month, I have decided to live a low-plastic life, so part of my decision-making process of whether to buy a plastic item would be the price differential. For example, I would purchase the plastic-free laundry detergent because it is nearly the same price; however, I would consider more options before switching to plastic-free toothpaste.

Obviously, this is nowhere near to a comprehensive list of products, but it highlights some of the products I did buy during my plastic-free month (deodorant and shampoo) and others that I plan to buy in the near future (toilet paper and laundry detergent).

In conclusion, strictly during the plastic-free month, I did save a considerable amount of money at the grocery store. I also was not able to buy clothes and other impulse buys that I otherwise would purchase. Over a longer period of time, I think that the cost would begin to even out and eventually become slightly more expensive if you committed to a fully plastic-free lifestyle (and therefore would have to purchase things like the toothpaste).

Does plastic-free living impact the environment?

Obviously, even going one day without buying plastic impacts the environment. It causes that much less plastic to enter the environment. Plastic-free living long-term would have a greater effect, especially since it would start to signal manufacturers to shift packaging and plastic use in their products.

For the purposes of this project, I would like to highlight a few areas of impact that were of significant interest to me. The following topics highlight how living plastic-free in specific areas is impacting the environment, how plastic-free living changes during the pandemic and how the pandemic has changed environmentally friendly practices, and how the manufacturing landscape has begun to change. There areas are feminine hygiene, eco-friendly options during the COVID-19 pandemic, and deodorant.

Feminine Hygiene

During my first, non-plastic-free month, I used 50 grams worth of feminine hygiene products. That equates to 0.1 pounds of plastic. While that does not sound like much plastic, it adds up over the course of one's life.

National Geographic researched questions surrounding the rise in plastic use in feminine hygiene. They found: "In 2018 alone, people in the U.S. bought 5.8 billion tampons..." (Borunda) Each tampon (the plastic parts) weigh approximately 2 grams. That means that 11.6 billion grams of plastic are being thrown away in the U.S. every year. That equates to 25,573,592 pounds of tampon plastic entering the oceans, landfills, and environment each year from the United States alone.

25.6 million pounds of plastic each year from tampons.

The U.S. tampon consumption accounts for a third of global use, which means about 76.7 million pounds of tampon plastic enter the environment each year worldwide. Nearly none of this plastic is recycled either due to sanitary reasons, which makes sense (Borunda).

There is hope, though. In a recent National Geographic survey, they found that 20% of the surveyed women were using reusable options such as menstrual cups, and 60% were considering using such a product (Borunda). This transition to single use feminine hygiene to reusable, eco-friendly options means a drastic reduction in the amount of plastic produced each year.

A few years ago, I decided to switch to menstrual cups to save money. A typical menstrual cup costs around \$25-40 dollars. A typical box of tampons costs around \$8. Do the math; you save money quickly.

Unfortunately, I quickly discovered that the menstrual cup I purchased was not working for me. This was due to a possible silicone allergy, as most menstrual cups are made from silicone, rubber or latex. So, I had to begrudgingly switch back to the expensive tampons.

With my plastic-free month looming ahead of me, I realized I needed to come up with a solution since I would no longer be able to buy tampons. So, I did my research and found a possible solution. There are a few select companies that make and sell menstrual cups from a material called thermoplastic elastomer (TPE), which is a type of plastic that supposedly is very unlikely to cause allergies. So, I decided to give it a shot and it seems to have solved the problem.

While I do recognize that TPE is plastic, my menstrual cup only weighed 8 grams, and should last a minimum of 3-5 years. 50 grams of tampon waste per cycle, times 12 cycles, times 3 years amounts to 1,800 grams or 4 pounds of plastic. To say the least, I feel good about buying 8 grams of plastic as opposed to 1,800 grams.

Researching the variety of plastic-free feminine hygiene options gave me hope. There are several other options for plastic free feminine hygiene in addition to menstrual cups, which include cardboard applicator tampons or tampons without applicators all-together, which is a very popular option in Europe. These options mean that women like me are not forced to contribute to the plastic pollution problem in our world. We now have eco-friendly, cost effective options.

Eco-Friendly Options during the COVID-19 pandemic

So many things have changed during the global pandemic. One of those many things is the fact that many restaurants, bars, and even grocery stores are using all single-use dishes, cups, bags, etc. This is because it is more save and sanitary to use throw-away options than to wash plates, silverware, and cups. Grocery stores no longer allow reusable bags except in self-check-out so that the cashiers have limited contact with the customer's germs.

This of course, makes it rather difficult to be plastic-free with these new restrictions in place. Before COVID-19, I could go to my local coffee shop and they would give me a real mug without me asking as long as I said my coffee was not take out. Now, however, I must explicitly ask to be served in a real mug.

During the plastic-free month, my best friend came back to Bowling Green to celebrate her 22nd birthday. This, of course, involved going to a few of our favorite bars. I was nervous that I would not be able to

partake in her birthday celebrations due to my plastic restrictions. Thankfully, I was able to participate by simply asking the bartenders: "Can I have my drink in a glass cup with no straw?" or "Can I have that drink in a glass cup?" I fully expected them to tell me no due to COVID, but none of them even questioned why I asked. Similarly, I asked the baristas at the local coffee shop if I could have a real mug, and they were excited to be able to pour the coffee in a real mug compared to the now-usual throw-away cups.

While these reusable options may not be as sanitary as their single use counterparts, I was so excited that we still have eco-friendly options during this pandemic. After all, the global pandemic has caused a huge increase in plastic pollution. According to Scientific American, COVID-19 has caused 129 billion face masks and 65 billion gloves to be produced each month. Those numbers are hard to comprehend. The writers at Scientific American put it into perspective: "If we stitched together all of the masks manufactured already, and projected to be produced, we'd be able to cover the entire landmass of Switzerland" (Ford).

Switzerland is 15,940 square miles.

That amount could cover Rhode Island (1,034 square miles) almost 16 times.

The scary part? The pandemic is not over, and the number of masks and gloves being produced will only continue to grow, and that only accounts for PPE. Other increased plastic use will produce 30% more waste than it generated in 2019 (Ford). CNBC estimates that plastic pollution caused by the pandemic will increase by 40% in the next decade (Newburger).

These numbers devastate me. Pre-pandemic, so many companies were shifting gears to become more environmentally friendly; they were working hard to roll out zero-waste plans. With the onset of the pandemic, all those plans were halted or thrown out the window. CNBC illustrates this with the popular food chain Just Salad. Before the pandemic, Just Salad gave customers reusable bowls, which saved them from handing out about 75,000 pounds of plastic each year (Newburger). This was an amazing example of eco-friendly behavior; however, when the pandemic changed everything, these practices stopped to accommodate for more sanitary, single-use options.

Another area where the pandemic and plastic free living clashed for me personally was in my food restrictions. As I mentioned, I was not eating gluten during this plastic-free month and all non-gluten flour and products are packaged in plastic. Whole Foods Market is known for their healthy, organic food. They allow customers to fill bags of a variety of products from large bins. During the plastic-free month, I called the nearest Whole Foods Market and asked them if I could bring in my own container to fill up with gluten free flour. They informed me this was not a possibility due to COVID-19 restrictions.

In so many ways, the pandemic and living plastic free are contradictory. It is important to wear masks to protect our communities, but it is also important to make sure our masks are plastic free and responsibly sourced. It is important to support local businesses during this difficult financial time, but it is also important to avoid buying plastic and single use items. It is important to remain social and connection, but it is equally important to do so in a way that protects the environment.

So, while it cannot always be avoided, it is so important to be eco-friendly, especially during the pandemic. Our oceans and planet will thank us if even if we are only able to avoid using plastic at one of our many stops during the day.

Deodorant

The deodorant industry is worth 74 billion dollars (“Size”), and the vast majority of that deodorant is packaged in plastic. Unfortunately, there are very few brands that sell plastic-free deodorant.

In recent years, the number of plastic-free deodorant options has increased, but many of those options are only available in online stores and are quite expensive. To illustrate, I typically spend about \$2-3 on my regular, plastic-packaged deodorant, and I spent \$12 on the Native Co. plastic-free option.

Obviously, I'm super excited to try out this plastic and aluminum free option, but I'm not super excited about the price. While searching for plastic-free deodorants, I noticed that almost all the options they were around this \$10-15 range.

This is not ideal, but there is good news. First, there are options, which means that companies are noticing customer demand for environmentally friendly products. 10 years ago, I would not have had the option of plastic-free deodorant. Second, big companies have slowly started to manufacture plastic-free options. For example, P&G released their first ever plastic-free deodorant options this year. There are now two of such options, one for Old Spice and one for Secret.

Anitra Marsh, Associate Director of Global Sustainability and Brand Communications, P&G Beauty, talks about how much of an impact switching to plastic-free packaging will make on the environment. She says: “If we convert just 10 percent of our current deodorant packages to recycled paper or another recyclable material, it could eliminate up to 1.5 million pounds of plastic waste annually,” (“Old”).

If P&G can eliminate that amount of plastic by converting only 10% of their packaging, imagine the possibilities with a 100% switch. As I'm a business major, I know the expense and hassle of converting such a large amount of packaging, but I am hopeful that big companies, such as P&G, will see the importance of this switch and follow through completely.

Project Strengths

First and Second Month Comparisons

The first major strength of this project was the comparison between my first and second months. By tracking my plastic use during my first month, I was able to get a great visual on what my plastic consumption looked like and then how much less I used during the second month.

During my first month, I bought a total of 2563 grams or 5.65 pounds of plastic (Appendix A). This amount of plastic shocked me. I knew that I was buying a lot of plastic, but I never would have guessed that it would weigh almost 6 pounds. According to The Globalist, the average person living in North America or Europe uses about 220 pounds of plastic each year. That means that the average person uses about 18 pounds of plastic each month ("Plastic"). While that makes me feel a little better about my just-under 6-pound consumption, it opens my eyes to the huge amount of plastic we are using. It is terrible.

The sad part is that only 43% of that plastic was recyclable (Appendix A), and I was only able to recycle about 15-20% because of restrictions at my local recycling center. That is truly a pitiful amount of recyclable plastic. By keeping track of these numbers, I was able to get an understanding of how much plastic I was buying, which made me very excited for the plastic free month.

During the second month, I only purchased 8 grams or 0.02 pounds of plastic (Appendix A), and these 8 grams were solely from stickers, labels, or missed pieces of plastic from vegetables and fruits. I was incredibly pleased with the striking difference between the two months.

Short Project

While the length of the project is also a limitation, it also served as a great strength. If my project required a longer plastic-free period than a month, it might have been very difficult to do in college. Many of the blogs I have read of people who live entirely plastic-free highlight the fact that these people live on farms where they can grow or raise most of their own food and/or plants used in cleaning, cosmetics and more.

Since I live in a small apartment in a college town, it obviously is not a possibility for me to start a garden or raise livestock, so only doing a month long plastic-free project was perfect for my current living situation.

Applicable to Large Number of People

A definite strength of this project is that anyone and everyone could do it. There is nothing that would hold anyone back from trying at least a low plastic lifestyle. While there are things that might prevent someone from living completely plastic free such as medical conditions, food restrictions, or mental

health, there are numerous ways for everyone to reduce their plastic consumption. This project highlights some of those numerous areas, including food and household products.

Each person would experience their own struggles, but like I said, most people could replicate this project. For example, men would face different struggles than women because while they would not have to worry about feminine hygiene, they might struggle to find affordable plastic free razor options (women also use razors but with much less frequency than men, so men would struggle more so with this). As I mentioned above, people with medical conditions would also face a particular set of struggles, but they could still live plastic-free in other areas of their life even though their medical equipment or medicine has to be plastic.

Environmental Guilt Relief

As I mentioned before, a major yet unexpected strength of the project was the relief from environmental guilt that I experienced. This is a phenomenon that many people experience, and if they are anything like me, they do not even realize they are experiencing it. In the survey conducted by Environment Journal, it was discovered that "...78% of those surveyed said they feel guilty for unnecessary use of plastic..." (Neill). I can understand why now. During the project I became acutely aware of all the unnecessary plastic in modern life. An easy example is the produce section of supermarkets. Why are individual potatoes or zucchini wrapped in plastic? They grew in the ground!

Since this project is so applicable to so many people, relief from environmental guilt is a strength. This project could be a viable opportunity for people to have a break from the guilt and have an eye-opening month about the unnecessary things we do that are contributing to the harm and pollution of the planet.

Project Limitations

Limited Audience

My project has a few limitations that prevented it from being the best it could possibly be. The first major limitation was that it does not reach very many people. The previous version of my Honors Project had several audiences and stakeholders, including BGSU Honors Students, BGSU Honors Faculty/Staff, the group(s) that would fund the project, and the communities affected by the ocean cleanups.

While I do still believe that my Honors Project has made an impact on people, it is not nearly as far reaching as the previous version. The main audience for my current Honors Project is my family and friends. It has been fun to see how this project has impacted them. For example, my project prompted my sister to greatly reduce her plastic consumption. Although she did not go completely plastic-free like I did, her consumption is much less than it used to be, and we have been able to share our experiences during the process. Additionally, I have been able to impact my friends through my project. An area where I felt I made a large impact was in my conversations about feminine hygiene. Several of my friends asked how I was handling that aspect, and I was able to tell them about how I purchased a reusable menstrual cup instead of tampons. After telling them about the amount of plastic that is wasted on feminine hygiene, many of my friends also decided to make the switch.

Limited Time

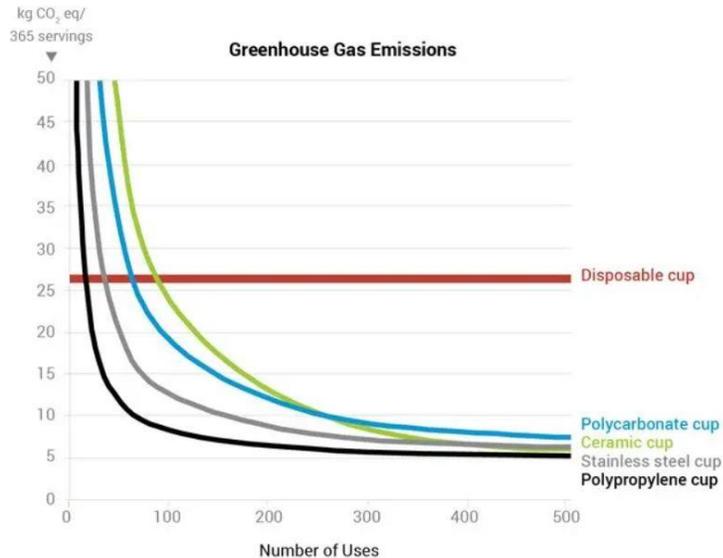
Another major limitation of my project was a lack of time. One thing that has made the project much easier is my rule that if I already owned the plastic, I could continue to use it. For example, I've had the same jug of Tide laundry detergent since my sophomore year of college, so I have continued to use it. Likewise, I still had a large package of toilet paper left over from quarantine (no, I didn't hoard, I just go through toilet paper very slowly), so I didn't have to worry about finding toilet paper packaged in non-plastic.

If I had more time (which I feel I don't with due dates), I would attempt to go for another month or maybe two so that I ran out of those types of items and therefore was truly forced to go plastic-free. However, since I don't logistically have the time to do another few months, I won't be able to experience that (for the project purposes anyway).

Limited Scope

The project has another limitation because it only looks at environmental impact from one perspective, namely plastic pollution. Environmentally friendly choices are not always clear.; sometimes plastic free options use more water or result in higher carbon emissions.

To explain this, let us take a look at a popular topic among environmentally friendly people: coffee cups. There are a variety of options for a coffee cup including paper, plastic, and all sorts of reusable options. Many of us believe that we are doing the Earth a service by using a reusable cup, but are we really?



It would take between 20 and 100 uses for a reusable cup to make up for the greenhouse gas emissions of a single-use cup. For ecosystem quality indicators, it could take more than 1,000 uses.

Figure 1: (Roy)

Anthropocene Magazine highlights this exact issue. Looking at Figure 1, we see that the answer is not black and white. According to the magazine, if you drink coffee every day, it is better to use a reusable mug in terms of greenhouse gas emissions, but in terms of water use (and other ecosystem quality indicators), the paper cup may be a better option. In fact, a reusable mug must be used 1,000 times before it is better than the disposable cup when looking at ecosystem quality indicators (Roy).

While this project did make a positive environmental impact, it may have only done so through one perspective. For example, I wrote about how I would ask for real cups at coffee shops or bars, but if those cups are throw away or broken before 1,000 uses, it may be better for the environment for me to use the disposable option.

This project has taught me that you have to sometimes pick and choose the ways in which you want to help the environment, because it is rare that one option is far superior to another for the environment. With a large variety of factors ranging from material pollution, water use, emissions, energy used, land use, and so much more, it is hard to know which options are better, so you have to pick and choose and do your best to be sustainable.

Limited Continuity

A similar limitation is that because this project is because it only involves a month of plastic-free living, there is no continuity. A question I have asked myself since the start of the project is: will I continue living practical this lifestyle is.

I have ultimately decided to continue living a low-plastic lifestyle. Without proper funds, I do not think it makes sense for me to commit to plastic free living completely. As discussed previously, some plastic-free options can be quite a bit more expensive. I also am not in a place in life where I can commit to it while also being healthy. If I owned land and was able to raise animals and produce, I would be more apt to continue.

I also found it to be inconvenient, as I mentioned before. So, instead of plastic-free, I am now living on a low plastic "diet". Instead of buying plastic milk jugs, I buy the cardboard with the plastic cap. Instead of buying small packages, try to buy in bulk when I can, which can sometimes be difficult as I am only buying for myself. The switch to low plastic is much more convenient while still making a positive difference in the plastic I buy.

So, the project lacks continuity. How do I affect audiences besides close friends and family? How do I continue this project into the future? These are questions that I have been thinking about since the beginning of the project, and honestly, I do not have great answers. It is not easy to get people to give up plastic; after all, that would mean asking them to give up a lot of things in their life. I think the best we can do is try to educate those around us about the impacts of our everyday lives and then educate them about some easy ways to reduce their negative impact on the environment.

Works Cited

- Borunda, Alejandra. "How Tampons and Pads Became so Unsustainable." *How Tampons and Pads Became Unsustainable and Filled with Plastic*, 18 Oct. 2019, www.nationalgeographic.com/environment/2019/09/how-tampons-pads-became-unsustainable-story-of-plastic/.
- "Fact Sheet: Plastics in the Ocean." Earth Day Network, 5 Apr. 2018, www.earthday.org/2018/04/05/fact-sheet-plastics-in-the-ocean/.
- Ford, Dave. "COVID-19 Has Worsened the Ocean Plastic Pollution Problem." *Scientific American*, Scientific American, 17 Aug. 2020, www.scientificamerican.com/article/covid-19-has-worsened-the-ocean-plastic-pollution-problem/.
- Neill, Pippa. "Over Half of Adults Feel 'Green Guilt' While at Work." *Environment Journal*, 20 Nov. 2019, environmentjournal.online/articles/over-half-of-adults-feel-green-guilt-while-at-work/.
- Newburger, Emma. "Plastic Waste Surges as Coronavirus Prompts Restaurants to Use More Disposable Packaging." *CNBC*, CNBC, 28 June 2020, www.cnn.com/2020/06/28/coronavirus-plastic-waste-surges-as-restaurants-use-more-disposable-packaging.html.
- "Old Spice and Secret Become First Major Brands to Introduce All-Paper, Plastic-Free Deodorant Packaging." Procter & Gamble, us.pg.com/blogs/major-brands-introduce-all-paper-packaging/.
- "Plastic Consumption: The Good, the Bad and the Ugly." *The Globalist*, 12 Oct. 2017, www.theglobalist.com/plastic-consumption-the-good-the-bad-and-the-ugly/.
- Roy, Pierre-Olivier. "Reusable or Disposable: Which Coffee Cup Has a Smaller Footprint?" *Anthropocene*, www.anthropocenemagazine.org/2017/07/reusable-or-disposable-which-coffee-cup-has-a-smaller-footprint/.
- Schneider, Falk, et al. "Collected Marine Litter — A Growing Waste Challenge." *Marine Pollution Bulletin*, vol. 128, May 2018, pp. 162–174., doi:<https://doi.org/10.1016/j.marpolbul.2018.01.011>.
- "Size of the Global Antiperspirant and Deodorant Market 2012-2025." *Statista*, 8 Sept. 2020, www.statista.com/statistics/254668/size-of-the-global-antiperspirant-and-deodorant-market/.

Appendix A

Month 1

ITEM	WEIGHT (grams)	RECYCLABLE	TOTAL GRAMS	CONVERTED TO POUNDS	PERCENT OF GRAMS RECYCLABLE
wax warmer case	11	R	2563	5.65	43%
Vitamin C container	42	R			
fake succulent	15				
acrylic paint	112		GRAMS	POUNDS	
water filter	176		1	0.0022046	
shoe hanger	8				
grocery bag	142	R			
misc. plastic wrappers/packaging	204				
permanent markers	27				
toilet cleaner	98	R			
spray bottle	60	R			
salad dressing	30	R			
BBQ sauce	28	R			
miracle whip	60	R			
bottle cap	2				
flower pot	102	R			
strawberry container	48	R			
ice cream cup	30				
spinach container	80	R			
OJ Container	67	R			
Plastic Baggie	3				
1/2 gallon milk jug	50	R			
water filter	104				

blueberry bag	11	
seasoning	105	
feminine hygiene	50	
meat bag	10	
dental floss picks	8	
coffee cup	11	
take out container	270	
toothbrush	10	
plastic cups	75	
chip bag	16	
blueberry container	45	R
strawberry container	55	R
salmon package	58	
ham container	45	
dunkin cup	19	R
yogurt container	35	R
creamer container	53	R
diva cup	8	
almond milk	80	R
Misc that I missed to record	100	

Month 2

GRAMS

POUNDS

8 *

0.0176370

missed pieces of plastic

*These 8 grams were from stickers, labels, or a few

Appendix B

Month	Grocery Cost
Sep-19	\$ 237.10
Oct-19	\$ 351.37
Nov-19	\$ 115.96
Dec-19	\$ 52.99
Jan-20	\$ 61.14
Feb-20	\$ 96.02
Mar-20	\$ 204.04
Apr-20	\$ 194.19
May-20	\$ 49.50
Aug-20	\$ 209.89
Sep-20	\$ 83.70
Average Cost	\$ 157.22