

Executive Summary

The problem that I am looking to address is the overuse of plastic bags on and around the campus of Western Michigan University. I propose to eliminate the use of plastic bags on the campus in favor of reusable cloth bags by way of encouraging students to avoid the plastic bag. Each year at Western, between one and two hundred thousand plastic bags are used throughout campus stores, cafes, and cafeterias (Appendix 3). Students use these bags to take their goods back to their dorm or apartment and only use most of the bags once; they are then thrown away. My ultimate goal is to start up a reusable bag initiative at Western Michigan University, designed to inform students about the harm that plastic bags do to the environment. This would hopefully get them to change their way of thinking to value the benefits of reusable goods. In addition, it would show another strong case of Western's strides towards sustainability, as well as persuading local businesses to consider encouraging reusable bags in their stores. If students are nudged towards sustainability by making them aware of their actions and/or offering small incentives, they may begin to recognize the values of making eco-friendly choices and use the cloth bag accordingly. This should result in Western having a noticeable reduction in plastic bag related waste while improving its image.

One of the best qualities about starting up a reusable bag initiative is that one of the main materials needed to get it going is already readily available to us. If Western Michigan University were to start a reusable bag initiative, the biggest thing that we would need to get would be a bulk shipment of reusable bags that could be sold in stores. Fortunately, Terry Hudson, the director of the WMU Bookstore, Textbook Alley, and Campus Trends in the Bernhard Center, already has roughly 4,000 bags that he has ordered that are waiting to be sold. In addition to this, he has already sold or given away roughly 1,000 bags to students and parents (Hudson Interview). This means that a WMU sponsored reusable bag is already in the hands of students, and the cost of purchasing these bags has already been paid.

One possible problem with the reusable bags is that there may be little motivation for students to use them on a consistent basis. With the exception of students who are aware of the environmental dangers of regular plastic bags, the typical student may not see a reason to spend a dollar to get the same service that they could get for free with a

plastic bag. My plan is to get information to students about the harms of plastic bags, which include polluting local soil and groundwater systems. This would hopefully motivate the students to think more sustainable. This information could be in the form of posters, emails, etc. If students are given the information about the environmental harms of plastic bags, especially at the cash register when making a purchase, they may be more likely to make the responsible choice and avoid using a plastic bag.

Another aspect about this project that helps prove its potential success is that students do not necessarily need to purchase anything at all. Though the reusable bags being sold at the Bernhard Center could be advertised and encouraged, the most essential point in fighting plastic bags is making sure that they do not get used. This means that students could use a reusable bag sold by another store or even their backpacks to carry their purchased items. If it was appropriate, students could even choose not to use a bag at all and carry their items by hand. No matter what method they choose, the most important part of getting people to live a sustainable lifestyle is to make them choose an option that is not harmful to the environment.

I think that it is very important to implement this reusable bag initiative as quickly as possible. Western Michigan students need to realize the problems that they are causing sooner rather than later, and a distribution of critical information could be a very effective way to solve the problem. As for the future of this project, further research can be done to improve it by convincing stores on and around campus to offer incentives for using a reusable bag. While compiling this project, I was able to find several businesses that said they would be willing to offer some sort of incentive, such as five to ten cents off their purchase. However, without a person of authority giving them information, some other stores dismissed the idea. I feel that if environmental leaders at Western started a reusable bag movement, campus stores would be more willing to join in. Another way to improve the project would be to find a bag that has more environmentally friendly production practices. I feel that it is currently most important to both sell and use the reusable bags that are ready and available for use now, and to educate students that their actions can and does have a heavy impact on the world around them. If the goals of the project become popular enough with students, then these other ideal aspects such as eco-friendly production methods can be used in future projects.

Introduction

It is easy to say that the right thing to do is to use reusable bags when making a purchase, but often times the facts behind the reason why can be overlooked. It is possible that a majority of students may not consider making a purchase without a plastic bag simply because they do not recognize the harm that one plastic bag will do after they are done using it. In fact, the estimated use of plastic bags is over 500,000,000 bags annually used worldwide, and few stop to consider the effects (reusablebags.com). This means that one million plastic bags are used each minute worldwide. The fact remains that plastic bags are thought to be a given in our lives; that with so many bags being used, why would it do the world any good if one less bag is used on the campus of Western Michigan University? It is my hope that this project helps fight that way of thinking, and helps students to realize that their actions, no matter how small, can make a difference in the big picture.

With so many bags being used worldwide, it can be startling to find out what harms plastic bags produce in their long lifetime. For example, plastic bags require the use of petroleum to be produced. With the whole process included, the amount of petroleum needed to produce 14 disposable plastic bags is enough to drive a car one mile (One Bag at a Time). According to the EPA, United States citizens throw away roughly 380 billion plastic bags per year. That being said, the amount of petroleum used to make plastic bags used in the United States alone could drive 2.26×10^6 cars an average of 12,000 miles per year. When this many plastic bags must be produced to meet the need of our throwaway lifestyle, it should be an obvious sign that we should change our way of thinking. This cycle contributes to global warming, as well as depleting natural resources and driving the cost of oil up.

After production of the bags, the environmental damages continue to escalate. Even though most plastic bags are only used one time and then thrown away, they are far from being gone from this planet at this point. Once thrown away, plastic bags accumulate in landfills, and just like all other garbage, they cost money to be transported to the landfill and be disposed of. Once in the landfills, the bags do not biodegrade, but rather they photodegrade. This means that they slowly break down to a smaller size but never completely go away. Instead they stay as condensed masses of harmful

contaminants. It takes the typical plastic bag 1,000 years to reach this point, and therefore takes up space in landfills for all of this time. These tainted remains of plastic bags will ultimately pollute our soil, and possibly even find a way into local ground water (reusablebags.com).

These facts make it abundantly clear that disposable plastic bags are continuously taking a toll on our environment, and will continue to do so for many years to come. An even more disturbing thought is that these bags are only used once, and many bags must be used if a customer purchases several items at once. Here at Western Michigan, it is the duty of those in power to initiate programs and goals that will improve the quality of life for residents and for the efficiency of the university as a whole. In this sense, this can be accomplished by taking an official stance against the use of plastic bags in and around campus.

When I took a look into the statistics of plastic bag consumption at Western Michigan University, I was truly shocked at the results. WMU Dining Services alone goes through nearly 100,000 plastic bags per year (Gipper Interview). Purchased in cases of 1,000 bags each for fewer than two cents per bag, dining services used 86 cases in the 2006-07 school year, 98 cases in 2007-08, and 60 cases in the first semester of the 2008-09 school year alone. This great rise in plastic bag usage inspired WSA to initiate a ban of the use of non-biodegradable plastic bags in WMU Dining Services. The passing of this movement marked a great turning point in Western's goals towards sustainability on campus. However, more progress can be made in other areas of campus.

In bookstores across the campus of Western Michigan University, many plastic bags are still being used instead of more sturdy reusable bags. In an interview with Terry Hudson, director of the WMU bookstore, Campus Trends, and Textbook Alley of the Bernhard Center, I discovered that in a typical year, these stores go through roughly 100,000 plastic bags to meet the needs of customers (Hudson Interview). However, at twelve cents per bag, these bags that are used have several advantages over the bags used at Dining Services, through both a practicality and environmentally conscious standpoint. One of these advantages is in durability. These plastic bags are made from a thicker material and can hold more weight than a typical bag. In addition to this, the bags show strides towards sustainability, as they are produced with 25% recycled material. Hudson

also says that, with a large “W” printed on the bag, the design of the bag itself acts well for advertising.

A reusable bag initiative from Western Michigan University could solve many sustainability-related problems across campus. First, it would give students an abundance of information that they may not know about the harmful effects that non-biodegradable plastic bags have on the health of local soil and groundwater systems. This information would be made readily accessible to students through bulletin boards, posters, emails, or even in a plastic bag fact sheet, given out to students who purchase a WMU reusable bag (Appendix 4). Also, it would be another important step that Western would take in following the goals of the Talloires Declaration. These goals call for increasing awareness of environmentally sustainable development and practicing institutional ecology. In addition, this project would also meet some of the missions of the university by “forging a responsive and ethical academic community,” (WMU Mission and Goals). Making efforts to reduce waste and live a sustainable lifestyle is one of the responsible ethics that Western demonstrates. This project would also accomplish goals of the university by “conducting ongoing assessment activities and engaging in continuous improvement initiatives within the university,” (WMU Mission and Goals). Another goal that Western aims to accomplish is “to advance responsible environmental stewardship,” (WMU Mission and Goals). These high potential benefit aspects of a reusable bag initiative could inspire many students to follow in the direction of Western’s environmentally conscious example.

Methodology and Data

In order to acquire my data, I chose to pass out surveys to 200 Western Michigan students for a number of reasons. First, I knew that the data would tell me whether or not the majority of students think that it is a problem that we use so many plastic bags as a society. If the majority of students did not share my enthusiasm about the benefits of a reusable bag, then I would know right away that the success of this project proposal would be in jeopardy. However, the most important reason that I chose to conduct surveys was because I know that proposing a project like this isn't something to take for granted. I realize that the implementation of this project will affect a lot of people on campus to a certain extent, and I wanted to be sure that I was not the only one that a project like this would please. Implementing this project will also require some work, work that I do not want to be wasted pleasing just a select few.

I thought that it would be very important to do some research on similar projects that have been implemented at other campuses in order to get some inspiration for different directions that I could go with the project. I was fortunate to find that several universities across the country have tried doing similar projects with varying levels of success, though I can say with certainty that all of them created positive change. Another advantage of researching these programs is that it gives a good indication as to how students may respond to them once implemented.

In order to help predict whether or not a reusable bag project at Western Michigan would be successful, I knew that I would have to establish contact with people in powerful positions on campus, particularly in the bookstores and dining services. Talking with Terry Hudson made me feel immediately confident about this project because I could tell that he was very environmentally conscious. Hudson had already started selling reusable bags in his stores, and even sold them below cost in an effort to get students to buy them. Hudson's attitude towards campus greening truly sets a fine example of what great things can be done with the right attitude towards sustainability. Talking with Terry Hudson also gave me some important facts, such as how much money his stores spend on plastic bags. Hudson's bags are purchased for twelve cents per bag, and with roughly 100,000 bags used per year, that equates to \$12,000 spent on plastic bags for one year alone.

Meeting with Judy Gipper, the director of WMU Dining Services, was another important step in establishing contact with helpful campus faculty. This meeting with Judy also reassured me that this project could be a success because she informed me that she was already looking to implement the use of reusable bags in late night carry out locations on campus. Since the over-consumption of plastic bags in Dining Services was what originally drew me towards this project, I was interested to find out that the use of plastic bags has grown steadily since the 2006-2007 scholastic year (Appendix 3). The cost of these bags over the years has come out to \$1,457.70 in 2006-2007, \$1,661.10 in 2007-2008, and \$1,020 through January 1, 2009 in the 2008-2009 scholastic year. With the majority of these bags being used through late night carry out stations, it seems logical to encourage the use of reusable bags because many students who use the carry out service do so on a regular basis.

Another important part of this project lays in getting students the information that will persuade them to make the responsible decision. I thought that it was vital to the potential success of this project to get some startling information to students so that they might realize the effects of plastic bags on the environment, particularly in their own groundwater and soil systems. This information could be distributed in informational areas across campus, as well as in an informational handout given to students when purchasing a reusable bag (Appendix 4). Perhaps getting these facts to students will motivate them to live more sustainable because it shows the direct connection of plastic bag waste to their lives.

I was happy to find that most students that I surveyed, upwards of 90%, said that they would use a reusable bag at different locations on campus (Appendix 2). By conducting this survey, it was easy to see that many students do care about doing the right thing, and would be willing to do so when given the option. The results go to show that when this option is presented to them, most people's hearts are in the right place. This gives me confidence that if more information was presented to students when making their purchase, they would choose not to use a plastic bag.

Examples of Best Practice on Campus

The biggest step that Western Michigan University has taken against plastic bags thus far has actually happened quite recently, when the WSA agreed to ban the use of plastic bags in Dining Services. This is a very important step in eliminating plastic bags across campus because Dining Services one of the two largest sources of plastic bag consumption on campus. In addition to this, these bags are also the least ecologically friendly bags on campus, as they contain no recycled material. It is important to mention that with the passing of this movement, plastic bags may still be used in Dining Services, but they must be biodegradable from this point on. It is my hope that we can use this as a launching point to encourage the use of reusable bags campus wide, as this movement will certainly have students thinking about the problem once it comes into effect.

Besides the important step of banning non-biodegradable plastic bags from Dining Services, there have been other small steps towards sustainability that may not be as easily noticed. For instance, a cheap yet functional reusable bag has been sold in the Bernhard Center bookstore since September. These bright, colorful bags are sold by Terry Hudson for only one dollar and are strong enough to carry any amount of books that a student would likely take to class. The success of these bags has been slight so far, but according to my survey, 83% of students did not even know that these bags were being sold (Appendix 2). With some recognition and advertising across campus, students should become aware of these bags, and sales may likely increase.

In addition to these sustainable practices, the bookstore in the Bernhard Center has begun using a plastic bag that contains 25% recycled content (Hudson Interview). These bags may cost a bit more per unit, but store director Terry Hudson says that it is worth it to get a better, well received product that sends the right message to its users. Cashiers at the store also ask if a bag is needed first, and do not just assume that one is necessary.

Examples of Best Practice on Other Campuses

In an effort to determine what method of distributing reusable bags is best for Western Michigan University, it is important to look into different universities across the country or indeed across the world to learn about different approaches to the problem, and the success rates of those approaches.

When looking for information on these places, I came across a project run at the University of Colorado where students were given a reusable bag instead of a plastic bag at their “Grab-n-Go” meal locations. These locations seem to be fairly comparable to Western’s late night carry out services. One key difference between the two projects is that the reusable bags at Colorado were given away for free. The only thing that the students were expected to give was their email address, to participate in any follow up information, as well as their signature to a pledge to use those bags regularly instead of plastic bags. The fact that they were essentially given away may make this project a bit different from this project that I am proposing, but I think that certain key aspects, such as the student’s tendency to remember to use the bag, or their willingness to even try using them, may still run parallel to Western.

Lisa Barlow, a leader of the environmental studies program at the University of Colorado, says that the program has worked very well. Upon implementation of this program, the students acted accordingly and accepted the change quite well. Students have not had any major complaints, and usually forgo any sort of bag in favor of carrying their food to nearby eating locations. Those who do use bags will use a reusable bag or their backpacks to carry their goods. The project still has some time to be tweaked as small details are being worked out, but the overall success of the project cannot be questioned.

Though the project at the University of Colorado is possibly the most similar to the project that I am proposing, there are other schools that have done similar projects that perhaps we can learn from. For example:

- In an effort to reduce campus-wide waste by 50% in two years, the University of Calgary completely stopped ordering plastic bags and left students to find other

means of carrying their goods. Reusable bags were sold for two dollars a piece. This project could be used as a model because it shows that students will adapt to radical changes when they are given. It is also proof that a large change can be accomplished quickly.

- The National University of Singapore began charging ten cents for each plastic bag used at their stores. Two months after the project was implemented, a 90% reduction in plastic bag use was shown. This project can be used as a model because it shows that a small disincentive can go a long way in changing behavior.
- University of Pennsylvania ran a “Ban the Bag” program. Students who refused to use a plastic bag were rewarded with a “Ban the Bag Buck,” that could be used on clearance items in the university bookstore. This project is an effective model because it helps sell clearance items while giving an incentive to students for buying a reusable bag.

Discussion

Despite the before-mentioned efforts of different individuals of Western Michigan University, the use of plastic versus reusable bags is still not where it should be. The time has come that we need to realize that the majority of students may not go out of their way to learn about how they can better their own actions, especially in ways that may seem unimportant. In this case, most people may not learn about the negative effects of the use of plastic bags unless the information is presented to them in an obvious way.

To this point, individuals such as Terry Hudson should be praised for their efforts to make campus a more sustainable place by offering cheap, attractive alternatives to plastic bags. However, offering bags alone is not enough. In a survey that I conducted with 200 Western Michigan students, 83% of the participants (84% male, 82% female) did not even know that reusable bags were being sold in the Bernhard Center bookstore (Appendix 2). In order for this to be effective, a campus-wide reusable bag initiative must be implemented. This information about reusable bags would be widely advertised across campus, in stores, emails, bulletin boards, and the campus sustainability website. In addition, an informational hand out could be included with the purchase of a WMU reusable bag that would give even more information to environmentally conscious students (Appendix 4). These methods should grab the students' attention and will teach them that there are better, smarter options than using a new plastic bag with every purchase.

Considering the results of the survey that I conducted, I am confident in saying that if reusable bags were made widely and readily available to students, they would become popular with many students on campus. More than 90% of students surveyed said that they would choose to use a reusable bag in campus stores and in Dining Services (Appendix 2). In talking with people like Judy Gipper and Terry Hudson, it has already been decided that the reusable bags will be advertised at late night carry out locations. However, the last and possibly most important step would be getting support from key administrators on campus, which would almost certainly help to get the word out and get students educated about the advantages of reusable bags.

Limitations on Analysis and Future Work

Though I believe that the information presented is a good indication to the possible success of this project, there is always more that could be done. For starters, the group of students that I surveyed could possibly be extended to represent a more accurate indication of the feelings of more students campus-wide. Surveying 200 students at Western Michigan University is a relatively small percentage, though I felt that due to the variety of locations surveyed, it was a good starting point for the project. In addition to this, I felt that perhaps it would have been a good idea to include a question on the survey about whether or not students already use or would consider using a reusable bag even without incentives, as some complications came up with Terry Hudson and Judy Gipper during the survey process. If I had included a question about using the bags without incentives, it would give a good indication about how important the incentive is. However, I do not feel that this was extremely important because if the students would use a reusable bag without incentives, chances are that they are doing it already.

Also, the survey that I conducted was done by setting up a stand at Dining Service locations and classrooms and handing the questions out on paper. However, if a greater scale survey was done, perhaps it could be sent out to students through university email, or passed out to dorm students in their mailboxes.

In addition to the method of passing out surveys, it should be noted that the true honesty of students is never known for sure until the decision whether or not to use a reusable bag comes to them in their day-to-day lives. It is entirely possible that some, if not all students felt pressured to answer in favor of reusable bags because I was there watching them fill it out. The true accuracy of the survey will be determined when the students encounter a situation where they have to decide to use the “less convenient” reusable bag. For this reason, there is an inevitable margin of error that may or may not predict the results of the program accurately.

Much like any large project, the first stages of this project may not work perfectly right away. Any future work should involve polling students to find out the positive and negative aspects, as well as what can be done to make the project more popular with the average student. It is entirely possible that the project could be more or less popular than imagined, and may need to adapt occasionally to be successful.

Conclusions/Recommendations

Western Michigan University has taken many great strides in an effort to become a more sustainable campus in recent years. However, it is clear that more can be done in an effort to reach our goals of sustainability. In that spirit, here is a short list of recommendations that could make Western more sustainable.

Short-term recommendations:

- In relation to a reusable bag initiative, I think it would be useful to add a small charge to campus store purchases that require the use of a plastic bag. Though most store owners that I talked to tended to shy away from this kind of disincentive, I think that it would be yet another reason to get students to avoid using plastic bags. I think that a small charge, somewhere around ten cents, would be enough to make students avoid the plastic bag; but if a plastic bag was undoubtedly required, it would not be enough to make the student resent purchasing items from that store. In my research, I discovered that the National University of Singapore charged ten cents for each plastic bag used in bookstores, and found a 90% reduction in plastic bag use over the course of just a couple months.
- If a reusable bag initiative was implemented at Western, I feel that it would greatly help the project if it were required for campus stores and dining services to offer some sort of incentive. I feel that small incentives would greatly help the success of the project because it could give students a reason to remember to bring the reusable bag with them on all occasions. This might get students to think more sustainable on a regular basis, which could carry over to other aspects of their daily lives. During my research, many store owners were willing to offer an incentive, but if it were required, then I think that many more stores would be willing to join in.
- If these two methods still did not succeed in making students avoid plastic bags, it would then be a good idea for the university to completely ban the use of non-biodegradable plastic bags campus wide. Fortunately, the WSA has already ensured that dining services will no longer use non-biodegradable bags, so I feel that making it a campus wide movement is not too far out of reach. Meetings with

environmentally conscious store owners such as Terry Hudson only makes me more confident that biodegradable plastic bags would not be out of the question.

Long-term recommendations:

- One project that has been in the works for quite some time is the Ecomug. For me, it comes naturally to fully support the Ecomug because it represents the same values that reusable bags do. Both projects aim to change the throwaway lifestyle of many students by showing value in reusing products. The Ecomug would eliminate waste in the form of Styrofoam cups, which also take their toll on the environment by filling up landfills. The implementation of the Ecomug project would help students think differently by teaching them to keep their goods instead of throwing them away.
- Another long-term investment that WMU should consider is purchasing reusable bags with more environmentally friendly production practices. In talking with Terry Hudson, I found out that these kinds of bags would cost significantly more money. When he was already going to be selling bags below cost, Terry chose not to sell these bags in his stores. However, if the use of reusable bags becomes more popular with students throughout popular campus locations, perhaps a new group of more eco-friendly bags can be sold at higher costs.
- One last long term goal the Western can set is to ban the use of non-biodegradable plastic bags at the annual Bronco Bash celebration. Each year, many businesses hand out large plastic bags to students to give them something to carry the abundance of other small items in. However, in getting their company's name out to students, they are also promoting the use of plastic bags. Perhaps in time, all bags used at Bronco Bash can be, at the least, biodegradable plastic bags.

References

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www.reusablebags.com

Gipper, Judy. Personal interview. May 13, 2009.

Hudson, Terry. Personal Interview. May 11, 2009.

“The Problem.” Petroleum Depletion, Global Warming. One Bag at a Time.
www.onebagatatime.com

“WMU Mission and Goals.” Western Michigan University.
<http://www.wmich.edu/about/mission/>

Appendices

Appendix 1: Survey form

REUSABLE BAG STUDENT SURVEY

Male

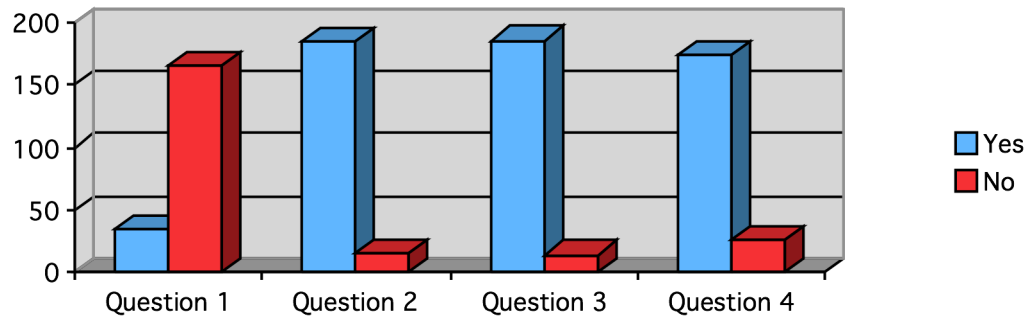
Female

1. Did you know that reusable bags are being sold in the Bernhard Center? Y or N
2. If stores on and around campus offered small cash back incentives to use a reusable bag, would you use one regularly? Y or N
3. If the dining services offered a different incentive, like more food or special food at late night carry out, would you bring a reusable bag regularly? Y or N
4. Considering these incentives, would you be willing to pay \$1 for the bag? Y or N

Thank you for your participation! Any additional comments would be appreciated.

Appendix 2: Survey Results

All Students-200 total:



- Question 1: 34 (17%) say Yes, 166 (83%) say No.
Question 2: 185 (92.5%) say Yes, 15 (7.5%) say No.
Question 3: 186 (93%) say Yes, 14 (7%) say No.
Question 4: 175 (87.5%) say Yes, 25 (12.5%) say No.

Males-103 total:

- Question 1: 16 (15.5%) say Yes, 87 (84.5%) say No.
Question 2: 91 (88.4%) say Yes, 12 (11.6%) say No.
Question 3: 94 (91.2%) say Yes, 9 (8.8%) say No.
Question 4: 89 (86.4%) say Yes, 14 (13.6%) say No.

Females-97 total:

- Question 1: 18 (18.5%) say Yes, 79 (81.4%) say No.
Question 2: 94 (96.9%) say Yes, 3 (3.1%) say No.
Question 3: 92 (94.8%) say Yes, 5 (5.2%) say No.
Question 4: 86 (88.7%) say Yes, 11 (11.3%) say No.

Appendix 3: Plastic bag Usage on WMU campus

Dining Services: 1,000 plastic bags per case; 1.7¢ per bag.

2006-07: 86 cases (\$1,457.70)

2007-08: 98 cases (\$1,661.10)

2008-09: 60 cases thru Jan. 1, 2009 (\$1,020)

WMU bookstore: 1,000 bags per case.

Bookstore purchases 100,000 plastic bags at 12¢ per bag plus shipping per year.

Bookstore gives away 12,000-15,000 plastic bags to student groups, etc. every year.

Source: Terry Hudson

Appendix 4: Reusable Bag Insert Page

The WMU Reusable Bag

Thank you for making the responsible choice by purchasing this WMU reusable bag! We hope that you continue to use this bag across campus at any bookstore or WMU Dining Service location. Here are some facts about plastic bags that will make you glad that WMU enthusiastically encourages the use of reusable bags, like the one you just bought!

- Plastic bags don't biodegrade, they photodegrade - breaking down into smaller and smaller toxic bits contaminating soil and waterways and entering the food web when animals accidentally ingest. It takes the typical plastic bag 1,000 years to reach this point.
- Each year, an estimated 500 billion to 1 trillion plastic bags are consumed worldwide. That comes out to over one million per minute.
- Each high quality reusable bag you use has the potential to eliminate an average of 1,000 plastic bags over its lifetime.
- According to the EPA, over 380 billion plastic bags, sacks and wraps are consumed in the U.S. each year.
- The amount of petroleum used to make 14 plastic bags is enough to drive a car one mile.

Again, thank you for purchasing this reusable bag, the more environmentally friendly choice! We encourage you to keep using this bag and keep helping our mother earth, one bag at a time.

Appendix 5: Contact Information

This project has been researched and proposed by Andrew Furton. Any questions, comments, or concerns can be addressed through the following contact information.

Andrew Furton

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